Appendix A

NOPs and Comments Received

NOP and Comments Received

NOP Date: March 24, 2023

NOTICE OF PREPARATION

SUPPLEMENTAL ENVIRONMENTAL IMPACT REPORT
THE FIELDS AT ALAMO CREEK PROJECT

DATE OF NOTICE: **Friday, March 24, 2023**

MEETING DATE: **Thursday, April 13, 2023**

MEETING TIME: **6:00 pm**

SUBJECT: **NOTICE OF PREPARATION (NOP) OF AN INITIAL STUDY AND SUPPLEMENTAL ENVIRONMENTAL IMPACT REPORT (SEIR) FOR THE FIELDS AT ALAMO CREEK PROJECT.**

LEAD AGENCY: City of Vacaville, Community Development Department

PROJECT TITLE: The Fields at Alamo Creek

PROJECT LOCATION: East of Leisure Town Road, City of Vacaville (APN: 0138-010-040)

COMMENT PERIOD: March 24, 2023 through April 24, 2023

Notice is hereby given that the City of Vacaville (City) will be the lead agency and will prepare a Supplemental Environmental Impact Report (SEIR) for the proposed Fields at Alamo Creek Project (Project). This Notice of Preparation (NOP) has been issued to notify responsible and trustee agencies and other interested parties that the City will be preparing an SEIR to The Farm at Alamo Creek Specific Plan EIR, which is a larger development project that was previously approved in 2019 on the adjoining site to the west. The Project will be relying on future improvements from the Farm at Alamo Creek. The purpose of this NOP is to request feedback on the scope and content of the analysis to be evaluated in the SEIR.

A scoping session meeting will be held online via Zoom on April 13, 2023 at 6:00 pm. The scoping session, which is part of the SEIR process, is the time when the City gathers input from the public and agencies on specific topics that may need to be addressed in the environmental analysis. The scoping process is designed to enable the City to determine the scope and content of the SEIR, identify the range of actions, and identify potentially significant environmental effects, alternatives, and mitigation measures to be analyzed.

Written comments on the scope of the SEIR may be sent to:

Albert Enault
Senior Planner
City of Vacaville
650 Merchant Street
Vacaville, CA 95688
albert.enault@cityofvacaville.com
Phone: (707) 449-5364

The 30-day comment period for the NOP is extended to account for holidays and runs from **March 24, 2023** through **April 24, 2023**. Comments on the NOP are due no later than 5:30 PM on Monday, April 24, 2023. Public agencies that provide comments are asked to include a contact person for the agency.

PROJECT LOCATION AND EXISTING CONDITIONS: The project site is located within unincorporated Solano County immediately adjacent to the eastern city limits bordered by Hawkins Road to the north, the adopted The Farm at Alamo Creek Specific Plan to the west and to the south, and PG&E overhead transmission lines and undeveloped agricultural lands to the east. The project site is undeveloped agricultural land designated by the Department of Conservation as Prime Farmland that does not contain any trees or buildings. A Solano Irrigation District canal runs adjacent to Hawkins Road along the north side of the property. The project site is located within the City's Sphere of Influence and Urban Growth boundary.

PROJECT DESCRIPTION: The Fields at Alamo Creek proposal includes a tentative subdivision map for the development of up to 223 detached single-family residential units, a 0.52-acre park, and 6.71 acres of open space agricultural buffer on a 33.6-acre parcel of land located immediately adjacent to the eastern boundary of The Farm at Alamo Creek Specific Plan. There would be two available lot sizes, providing for homes less than 2,000 square feet on small lots and up to 2,300 square feet on the larger lots. The proposed park would be centrally located on the site, and the 300-foot-wide open space agricultural buffer would border the eastern project boundary.

Development of the proposed project would require annexation to the City to access municipal services, such as water, sewer, and storm drainage. The project applicant is requesting to amend the General Plan Land Use designation from Urban Reserve to Residential Medium Density where the residential units are proposed and Agricultural Buffer where the open space agricultural buffer is proposed. Additional text amendments to the General Plan are proposed, related to lot counts and size requirements for lots adjacent to an agricultural buffer. The project site is zoned A-40, Exclusive Agricultural 40 acres in the Solano County General Plan (Solano County 2008). The project is requesting the site be zoned Residential Medium Density and Public Facilities (for the agricultural buffer). Because the project site is designated as Prime Farmland, the project would be required to purchase conservation easements or fund the creation of new irrigated Prime Farmland, pursuant to the General Plan. The project also requests a Specific Plan Amendment which would incorporate the proposed project within The Farm at Alamo Creek Specific Plan. The Farm at Alamo Creek Specific Plan assumed future development would occur at the project site and provided for road and utility connections. The proposed project would integrate the planned connections into the project design, as well as land use patterns and design characteristics that are included in The Farm at Alamo Creek Specific Plan.

WEBSITE INFORMATION: https://bit.ly/FieldsAtAlamoCreek

POTENTIAL ENVIRONMENTAL EFFECTS: The SEIR will evaluate changes in the physical environment that could occur as a result of the approval of the proposed project and whether these issues would result in new or substantially more severe significant impacts than identified in The Farm at Alamo Creek Specific Plan EIR. It is anticipated that the preparation of an SEIR, per CEQA Guidelines Section 15163 would address, at a minimum, the following environmental topics: Air Quality, Biological Resources, Land Use, Utilities and Service Systems, and Transportation.

For the following environmental topics, it is anticipated that the proposed project would not involve new or more severe environmental impacts that were not evaluated in The Farm at Alamo Creek Specific Plan EIR, and therefore would not be evaluated in the SEIR. These environmental topics not evaluated in the SEIR would be described and an explanation would be provided describing why the analysis in The Farm at Alamo Creek Specific Plan EIR adequately addresses the proposed project.

- Aesthetics
- Agriculture and Forestry Resources
- Cultural Resources
- Geology, Soils, Seismicity
- Greenhouse Gases
- Mineral Resources
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Population and Housing
- Public Services and Recreation
- Wildfire

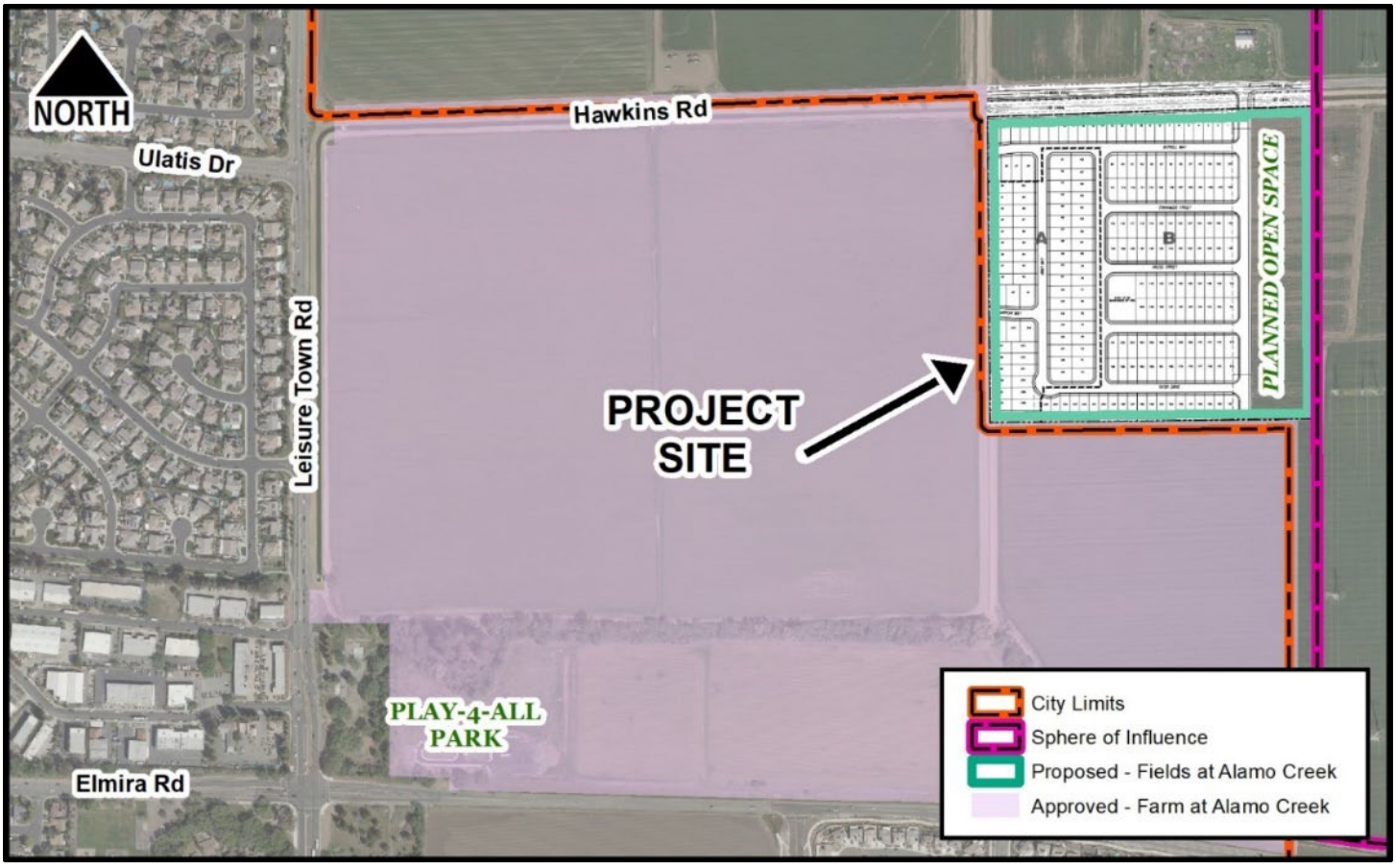
SCOPING MEETING INSTRUCTIONS

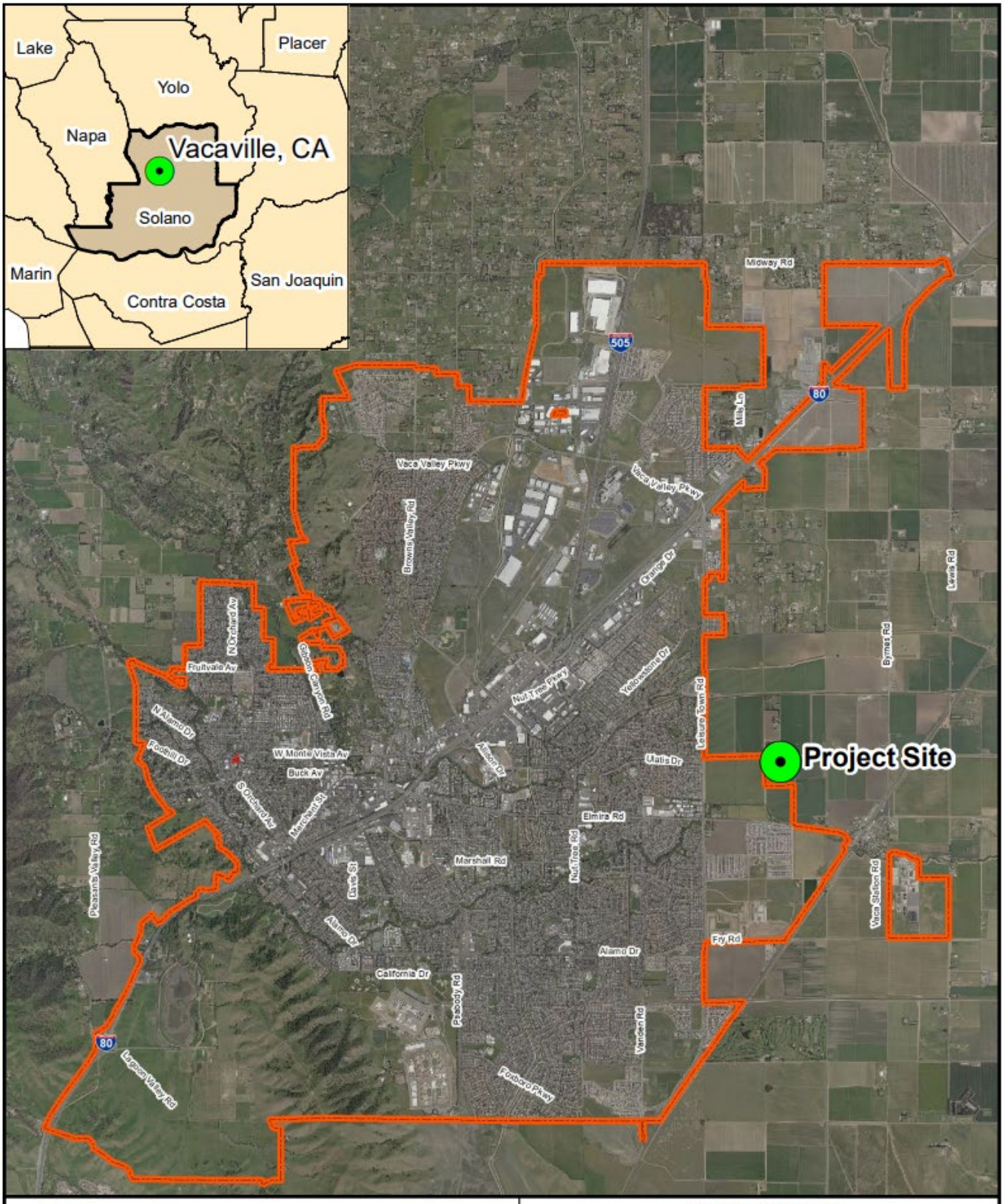
A Scoping Meeting will be held remotely via Zoom conferencing, which may be accessed using the instructions below:

Step 1) In an internet browser, go to **cov.zoom.us/join** and enter 11 digit meeting ID number **823 3930 1428**; and password **067631**

Step 2) On the phone, call **(669) 219-2599** and dial meeting ID number **823 3930 1428**

This is an informational meeting, and no decision will be made on the project. Both City staff and the applicant will be present to review the plans and answer questions related to the proposal. We encourage your participation throughout the review process. You may submit comments by attending the meeting, emailing the Project Planner, or mailing them to the Community Development Department located at 650 Merchant Street prior to the scheduled meeting date listed above. Please feel free to contact the Project Planner, Albert Enault, to ask questions or be added to the mailing list. Additional information about the project is available on the website noted above. You may also visit the Community Development Department in City Hall located at 650 Merchant Street, Vacaville, CA 95688. Our offices are open between the hours of 8:00 am to 5:30 pm, Monday through Friday, excluding every other Friday.





CITY OF VACAVILLE
COMMUNITY DEVELOPMENT DEPT.
PLANNING DIVISION

NORTH

LOCATION MAP

THE FIELDS AT ALAMO CREEK
SOUTH OF HAWKINS ROAD & KATLEBA LANE
(APN 0138-010-040)

EARTHJUSTICE
BECAUSE THE EARTH NEEDS A GOOD LAWYER

Via Electronic Mail

March 28, 2023

Albert Enault
Senior Planner
City of Vacaville
650 Merchant Street
Vacaville, CA 95688
albert.enault@cityofvacaville.com

Re: Earthjustice Comments on the Notice of Preparation of a Draft Environmental Impact Report for The Fields at Alamo Creek Project

Earthjustice appreciates the opportunity to comment on the Notice of Preparation of a Draft Environmental Impact Report ("DEIR") for the Fields at Alamo Creek Project ("Project"), which contemplates the development of up to 223 detached single-family homes with accompanying open spaces. Our initial comments focus on the importance of incorporating building electrification requirements into the Project. New construction that relies on burning gas for end uses such as cooking and space and water heating has significant greenhouse gas ("GHG"), energy, and health impacts under the California Environmental Quality Act ("CEQA"). All-electric buildings avoid these impacts. Moreover, all-electric buildings are typically less costly to construct due to avoided costs of gas infrastructure. With the California Public Utilities Commission ("CPUC") now ending subsidies for gas lines to new development, cost savings from all-electric construction will further increase. Accordingly, to comply with CEQA's obligation to adopt all feasible mitigation to reduce significant environmental impacts, the City must require an all-electric Project design that is not connected to the gas system.

I. Projects Connecting to the Gas System Have Significant GHG, Energy and Public Health Impacts.

A. The GHG Impacts of Projects Connecting to the Gas System Are Significant.

CEQA requires a DEIR to identify all the significant impacts of a proposed project, including impacts from the project's GHG emissions.[1] One option to determine the significance of the Project's GHG impacts is to apply a net-zero emissions threshold. In addition to being CEQA-compliant, a net-zero threshold is also consistent with the severity of the climate crisis and the recognition that any increase in GHG emissions exacerbates the cumulative impacts of climate change.

[1] CEQA Guidelines § 15126.2; Appendix F.

Another option is to apply the approach recently adopted by the Bay Area Quality Management District ("BAAQMD"). In determining the significance of project impacts, a lead agency "must ensure that CEQA analysis stays in step with evolving scientific knowledge and state regulatory schemes." *Cleveland National Forest Foundation v. San Diego Assn. of Gov'ts* (2017) 3 Cal.5th 497, 519. To stay in step with evolving scientific knowledge and state policy, the Bay Area Quality Management District ("BAAQMD") updated its previous CEQA GHG guidance for buildings this year to require all new projects to be built without natural gas and with no inefficient or wasteful energy usage in order to receive a finding of no significant impact.[2] BAAQMD's previous 1,100 MT GHG significance threshold was derived from Assembly Bill ("AB") 32's 2020 GHG reduction targets, but did not reflect later developments, such as Senate Bill ("SB") 32's requirement to reduce GHGs to 40 percent below 1990 levels by 2030, nor Executive Order B-55-18's requirement to achieve carbon neutrality by 2045.[3] As BAAQMD properly noted in its justifications for its updated GHG threshold, "[f]or California to successfully eliminate natural gas usage by 2045, it will need to focus available resources on retrofitting existing natural gas infrastructure. This task will become virtually impossible if we continue to build more natural gas infrastructure that will also need to be retrofit within the next few years."[4]

Even outside of BAAQMD's jurisdiction, the analysis supporting its zero-gas threshold provides substantial evidence to support an EIR' s finding of significance, particularly where, as here, GHGs are a globally dispersed pollutant. Indeed, state agencies have made similar findings regarding the incompatibility of gas in new construction with achievement of state climate requirements. As the California Energy Commission ("CEC") determined in its 2018 Integrated Energy Policy Report ("IEPR") Update:

> New construction projects, retrofitting existing buildings, and replacing appliances and other energy-consuming equipment essentially lock in energy system infrastructure for many years. As a result, each new opportunity for truly impactful investment in energy efficiency and fuel choice is precious. If the decisions made for new buildings result in new and continued fossil fuel use, it will be that much more difficult for California to meet its GHG emission reduction goals. Parties planning new construction have

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[2] *See* BAAQMD, *Justification Report: CEQA Thresholds for Evaluating the Significance of Climate Impacts from Land Use Projects and Plans*, at 11 (Apr. 2022) ("BAAQMD 2022 Update"), https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa-thresholds-2022/justification-report-pdf.pdf?la=en.

[3] *See* BAAQMD, *CEQA Guidelines Update, Proposed Thresholds of Significance* at 10-22 (Dec 7, 2009), http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/proposed-thresholds-of-significance-dec-7-09.pdf?la=en (explaining methodology for previous project-level GHG threshold).

[4] Justification Report at 12.

> the opportunity instead to lock in a zero- or low-carbon emission outcome that will persist for decades.[5]

Consistent with the CEC's findings, the California Public Utilities Commission ("CPUC") recently adopted a Decision that would end gas line extension allowances, finding that "gas line subsidies encourage gas use by providing incentives to builders to install more gas appliances, perpetuating a continued reliance on the gas system both now and over the life of the appliance, and offsetting if not reversing any GHG emission reduction benefits secured through other decarbonization measures."[6] Accordingly, the CPUC found, subsidies for these new gas connections "work against today's climate goals and conflict[] with SB 32 and 1477."[7] This reflects the growing consensus that aggressive electrification will be needed to achieve the state's climate goals. Indeed, the 2022 Title 24 update already requires heat pumps as a baseline for either space or water heating in single-family homes, as well as a heat pump space heating standard for new muti-family homes and businesses.[8] In addition, any new mixed-fuel single-family homes must already be electric-ready so they can "easily convert from natural gas to electric in the future."[9]

Earthjustice strongly cautions against using approaches to determine the significance of Project GHG impacts that involve comparisons against "business-as-usual" emissions or a per capita emissions metric. In *Center for Biological Diversity v. Cal. Dept of Fish & Wildlife* (2015) 62 Cal.4th 204, the California Supreme Court held that determining the significance of project GHG impacts by comparing project emissions with emissions under a business-as-usual scenario derived from statewide emissions reduction goals under AB 32 lacked substantial evidence. For similar reasons, use of statewide per capita emissions metrics to determine the significance of project emissions has also been rejected for the purpose of determining project GHG impacts under CEQA. As the court held in *Golden Door Properties LLC*, "using a statewide criterion requires substantial evidence and reasoned explanation to close the analytical gap left by the assumption that the 'level of effort required in one [statewide] context . . . will suffice in the other, a specific land use development.'" *Golden Door Properties LLC v. County of San Diego* (2018) 27 Cal.App.5th 892, 904 (quoting *Center for Biological Diversity*, 62 Cal.4th at 227). While use of a statewide per capita metric to determine the significance of GHG impacts may be useful for a General Plan, which examines collective community emissions of

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[5] CEC, *2018 Integrated Energy Policy Report Update, Vol. II* at 18 (Jan. 2019)("2018 IEPR Update"), https://efiling.energy.ca.gov/getdocument.aspx?tn=226392

[6] D.22-09-026, Phase III Decision Eliminating Gas Line Extension Allowances, Ten-Year Refundable Payment Option, and Fifty Percent Discount Payment Option Under Gas Line Extension Rules, at 27 (Sep. 20, 2022), https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M496/K987/496987290.PDF.

[7] *Id*.

[8] *See* CEC, 2022 Building Energy Efficiency Standards Summary, at 9 (Aug. 2021), https://www.energy.ca.gov/sites/default/files/2021-08/CEC_2022_EnergyCodeUpdateSummary_ADA.pdf.

[9] Id.

existing and proposed new development, it is not appropriate for projects that only govern new development.

B. The Energy Impacts of Projects Connecting to the Gas System are Significant.

A key purpose of the evaluation of project energy impacts under CEQA is "decreasing reliance on fossil fuels, such as coal, natural gas and oil."[10] Addressing energy impacts of proposed projects requires more than mere compliance with Title 24 Building Energy Efficiency Standards.[11] Including gas hook-ups in new projects, and thereby perpetuating reliance on fossil fuels, is contrary to California's energy objectives and should be considered a significant impact under CEQA.

In addition to the lock-in effect discussed above and its perpetuation of reliance on fossil fuel infrastructure, gas appliances are also inherently wasteful because they are significantly less efficient than their electric alternatives. Heat pumps for space and water heating are substantially more efficient than their gas counterparts. Because heat pumps use electricity to move heat around rather than creating heat, their efficiency is far greater than 100 percent (energy services delivered are much greater than energy input). For example, gas water heaters advertised by Rheem, a major water heating manufacturer, have uniform efficiency factor ("UEF") of 0.58 – 0.83.[12] In contrast, Rheem's heat pump water heaters have UEFs between 3.7 and 4.0, making them roughly four to seven times more efficient than gas alternatives.[13] As recognized by the CEC, "[u]sing heat pumps for space and water heating, as well as other uses, is cost-effective in the long run simply because electrification technologies can be significantly more efficient than natural gas technologies."[14] Given the low inherent efficiencies of gas space and water heating as compared to heat pump options, homes that continue to rely on gas cannot be reasonably construed as "the wise and efficient use of energy" and therefore result in significant energy impacts under CEQA.

C. The Health/Air Quality Impacts of Projects Connecting to the Gas System are Significant.

CEQA also requires consideration of "health and safety problems" that may result from a project's emissions.[15] Indeed, Section III.(d) of Appendix G of the CEQA Guidelines

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[10] CEQA Guidelines, Appendix F, Sec. I.
[11] See California Clean Energy Committee v. City of Woodland (2014) 225 Cal.App.4th 173, 211.
[12] Rheem, *Gas Water Heaters*, https://www.rheem.com/products/residential/water-heating/tank/residential_gas/.
[13] Rheem, *Professional Prestige Series ProTerra Hybrid Electric Water Heater with LeakGuard, https://www.rheem.com/group/rheem-hybrid-electric-water-heater-professional-prestige-series-hybrid-electric-water-heater*.
[14] 2018 IEPR Update at 32.
[15] CEQA Guidelines § 15126.2; *see also Sierra Club v. County of Fresno* (2018) 6 Cal. 5th 502, 520 (requiring an EIR to not only discuss air quality impacts and human health impacts separately, but to draw a connection between the two segments of information, to "meet CEQA's requirements.").

specifically asks a lead agency to evaluate if the project would "[e]xpose sensitive receptors to substantial pollutant concentrations."[16] The health and safety hazards of gas-burning appliances in buildings are well-documented by the California Air Resources Board ("CARB"), the CEC, and numerous peer-reviewed academic studies. In a Board-adopted resolution, CARB determined that that "cooking emissions, especially from gas stoves, are associated with increased respiratory disease."[17] Children in homes with gas stoves are particularly at risk. A meta-analysis examining the association between gas stoves and childhood asthma found that "children in homes with gas stoves have a 42 percent increased risk of experiencing asthma symptoms (current asthma)" and "a 24 percent increased risk of ever being diagnosed with asthma by a doctor (lifetime asthma)."[18] Other health effects observed in children from exposure to nitrogen dioxide ("NO_x"), which is a byproduct of gas combustion, include cardiovascular effects, increased susceptibility to allergens and lung infections, irritated airways and other aggravated respiratory symptoms, and learning deficits.[19] As found repeatedly by peer-reviewed studies, combustion of gas in household appliances produces harmful indoor air pollution, including carbon monoxide, nitric oxide and nitrogen dioxide, formaldehyde, acetaldehyde, and ultrafine particles, often in excess of the levels set out by the California Ambient Air Quality Standards and the National Ambient Air Quality Standards.[20] CARB has therefore recognized "the conclusion of recent studies that 100 percent electrification of natural gas appliances in

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[16] CEQA Guidelines, Appendix G, Sec. III(d).

[17] CARB, *Combustion Pollutants & Indoor Air Quality*, https://perma.cc/J6YH-VVZH (as of March 30, 2022).

[18] Brady Seals & Andee Krasner, *Gas Stoves: Health and Air Quality Impacts and Solutions*, Rocky Mountain Institute, Physicians for Social Responsibility, and Sierra Club, at 13 (2020), https://rmi.org/insight/gas-stoves-pollution-health/.

[19] *Id.*

[20] *See, e.g.*, Jennifer M. Logue et al., *Pollutant Exposures from Natural Gas Cooking Burners: A Simulation-Based Assessment for Southern California*, 122 Env't Health Perspectives 43, 43–50 (2014), http://dx.doi.org/10.1289/ehp.1306673 (modeling exposure rates for gas stove pollutants and finding that "62%, 9%, and 53% of occupants are routinely exposed to NO_2, CO, and HCHO levels that exceed acute health-based standards and guidelines" and that "reducing pollutant exposures from [gas stoves] should be a public health priority."); John Manuel, *A Healthy Home Environment?*, 107 Env'tl. Health Perspectives 352, 352–57 (1999), https://doi.org/10.1289/ehp.99107a352 (finding that gas furnaces and other gas appliances can be sources of unsafe indoor carbon monoxide concentrations); Nasim A. Mullen et al., *Impact of Natural Gas Appliances on Pollutant Levels in California Homes*, Lawrence Berkeley Nat'l Lab'y (Dec. 2012), https://eta-publications.lbl.gov/sites/default/files/impact_of_natural_gas_appliances.pdf (finding that concentrations of NO_2, NO_x, and carbon monoxide were associates with use of gas appliances); Dr. Zhu et al., *Effects of Residential Gas Appliances on Indoor and Outdoor Air Quality and Public Health in California*, UCLA Fielding School of Pub. Health, (Apr. 2020), https://ucla.app.box.com/s/xyzt8jc1ixnetiv0269qe704wu0ihif7 (finding that gas combustion appliances are associated with higher concentrations of NO_2, NO_x, CO, fine particulate matter, and formaldehyde in indoor air, and discussing the health impacts of acute and chronic exposure to each pollutant).

California would result in significant health benefits."[21] Accordingly, projects that permit gas appliances such as stoves have significant air quality impacts under CEQA.

Gas appliances contribute to indoor air pollution even when they are not turned on. A recent study sampling the gas supply to home appliances also found additional harmful pollutants present, including the Hazardous Air Pollutants benzene and hexane in 95% and 98% of samples, respectively, among others.[22] These pollutants have serious health impacts, particularly given that residential appliances can last for upwards of ten years, and residents may be repeatedly exposed to their pollution multiple times daily. For example, in addition to being a known carcinogen, non-cancer long-term health effects of exposure to benzene include "harmful effects on the bone marrow," "excessive bleeding," and can compromise the immune system.[23] Similarly, "[c]hronic inhalation exposure to hexane is associated with sensorimotor polyneuropathy in humans, with numbness in the extremities, muscular weakness, blurred vision, headache, and fatigue," and animal studies have shown "pulmonary lesions" as well as damage to reproductive organs following chronic inhalation exposure.[24] These pollutants were present in the gas supplied to home appliances prior to combustion, and a 2022 study also found that most gas stoves leak supply gas "continuously" even while turned off.[25]

II. Building Electrification is Feasible and Effective Mitigation to Reduce Project GHG, Energy, and Health Impacts.

A lead agency may not lawfully approve a project where "there are feasible alternatives or feasible mitigation measures available which would substantially lessen [its] significant environmental effects."[26] Only when feasible mitigation measures have been exhausted may an agency find that overriding considerations exist that outweigh the significant environmental effects. [27] This mandate—to avoid, minimize and mitigate significant adverse effects where feasible—has been described as the "most important" provision of the law.[28]

Eliminating natural gas use in new buildings is feasible mitigation that will substantially lessen the Project's GHG, energy, and air quality/health impacts. For example, in *Residential*

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[21] CARB Resolution 20-32, *California Indoor Air Quality Program Update*, at 2 (Nov. 19, 2020), https://ww3.arb.ca.gov/board/res/2020/res20-32.pdf.
[22] Drew R. Michanowicz et al., *Home is Where the Pipeline Ends: Characterization of Volatile Organic Compounds Present in Natural Gas at the Point of the Residential End User*, Environ. Sci. Technol. 2022, 56, 10258–10268 at 10262 (Jun. 2022), https://pubs.acs.org/doi/pdf/10.1021/acs.est.1c08298.
[23] *See* Centers for Disease Control and Prevention, *Facts about Benzene*, https://emergency.cdc.gov/agent/benzene/basics/facts.asp#:~:text=(Long%2Dterm%20exposure%20means%20exposure,increasing%20the%20chance%20for%20infection.
[24] U.S. Env. Prot. Agency, *Hexane*, https://www.epa.gov/sites/default/files/2016-09/documents/hexane.pdf.
[25] Eric D. Lebel, et al., Methane and NO_x Emissions from Natural Gas Stoves, Cooktops, and Ovens in Residential Homes, Environ. Sci. Technol. 2022, 56, 4, at 2534 (Jan. 27, 2022), https://doi.org/10.1021/acs.est.1c04707.
[26] Pub. Res. Code § 21002.
[27] *Id.* § 21081; *see also* CEQA Guidelines 15091(a).
[28] *Sierra Club v. Gilroy City Council*, 222 Cal. App. 3d 30, 41 (1990).

Building Electrification in California, Energy and Environmental Economics ("E3") determined that "electrification is found to reduce total greenhouse gas emissions in single family homes by approximately 30 to 60 percent in 2020, relative to a natural gas-fueled home."[29] Moreover, "[a]s the carbon intensity of the grid decreases over time, these savings are estimated to increase to approximately 80 to 90 percent by 2050, including the impacts of upstream methane leakage and refrigerant gas leakage from air conditioners and heat pumps."[30] As shown in the graph below, the GHG savings from heat pumps are substantial today and will only increase as California continues to decarbonize its grid as required under SB 100.

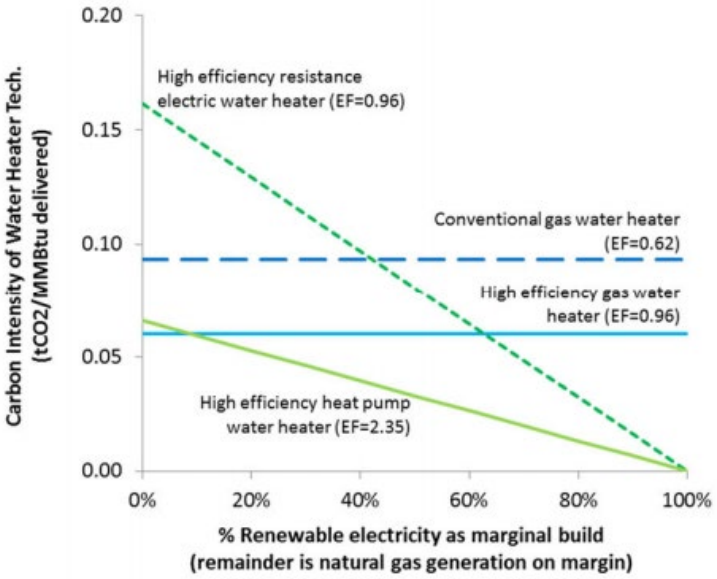

Figure 3. Carbon intensity of water heater technologies, as a function of renewable electricity percentage.
Source: Author's calculations [31]

In contrast, because gas appliances will generate the same level of pollution over their lifetime, their emissions relative to electric alternatives will increase over time and increasingly interfere with achievement of California's climate objectives.

Numerous local jurisdictions have also adopted all-electric building policies for a variety of building types, demonstrating the feasibility of all-electric new construction. For example, San Francisco adopted an ordinance effective June 2021 prohibiting gas in new construction for all building types, with narrow exceptions.[32] Several other California municipalities have

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[29] E3, *Residential Building Electrification in California*, at iv (Apr. 2019), https://www.ethree.com/wp-content/uploads/2019/04/E3_Residential_Building_Electrification_in_California_April_2019.pdf.
[30] *Id.*
[31] Amber Mahone et al., *What If Efficiency Goals Were Carbon Goals*, at 9-7, American Council for an Energy-Efficient Economy (2016), https://aceee.org/files/proceedings/2016/data/papers/9_284.pdf.
[32] San Francisco Building Code § 106A.1.17.1, https://codelibrary.amlegal.com/codes/san_francisco/latest/sf_building/0-0-0-92027.

adopted similar legislation, including Berkeley, San Luis Obispo, Half Moon Bay, and the City of Los Angeles.[33]

All-electric new construction is also a feasible mitigation measure to avoid the health impacts of gas, particularly the indoor air pollution impacts in residential buildings. For example, Marin Clean Energy developed its Low-Income Families and Tenants ("LIFT") Pilot Program to reduce energy burdens and improve quality of life for residents in income-qualified multifamily properties through energy efficiency, electrification, and health, safety, and comfort upgrades.[34] An evaluation of the LIFT Pilot found that on a per dwelling basis, participants who received heat pump replacements for gas or propane heating equipment saw reductions of greenhouse gases by over one ton of CO_2 per dwelling, NO_x reductions of close to 1 pound, and carbon monoxide reductions of more than 2 pounds.[35] Notably, because the national health and safety limit for carbon monoxide is 1 pound annually, residents had been living with unsafe carbon monoxide levels. Heat pump installation virtually eliminated this pollution source.[36] In addition to direct health benefits from reduced pollution, tenants reported increased comfort, with "indoor air temperature being just right even on very hot days," better air quality and reduced noise.[37] Electrifying gas end uses in buildings demonstrably mitigates not only building emissions but their associated health and safety impacts.

All-electric building design is also economically feasible under CEQA. When considering economic feasibility of alternatives under CEQA, courts consider "whether the marginal costs of the alternative as compared to the cost of the proposed project are so great that a reasonably prudent [person] would not proceed with the [altered project]."[38] That is, even if an alternative is *more* expensive than the original plan, "[t]he fact that an alternative may be more

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[33] *See, e.g.,* San Luis Obispo Ordinance No. 1717, http://opengov.slocity.org/WebLink/DocView.aspx?id=162695&dbid=0&repo=CityClerk, (prohibiting natural gas in new construction effective January 1, 2023, with narrow commercial availability and viability exceptions); Los Angeles Ordinance No. 187714 (approved Dec. 10, 2022) (requiring all newly constructed buildings to be all-electric with narrow exceptions for certain food service establishments, effective January 23, 2023), https://clkrep.lacity.org/onlinedocs/2022/22-0151_ord_187714_1-23-23.pdf; Half Moon Bay Municipal Code § 14.06.030, https://www.codepublishing.com/CA/HalfMoonBay/#!/HalfMoonBay14/HalfMoonBay1406.html#14.06.030, (requiring all-electric construction for all new buildings, effective March 17, 2022). *See also* Sierra Club, *California's Cities Lead the Way on Pollution-Free Homes and Buildings*, https://www.sierraclub.org/articles/2021/07/californias-cities-lead-way-pollution-free-homes-and-buildings, (running list of California municipalities with gas-free buildings commitments and electrification building codes).

[34] DNV, MCE Low-Income Families and Tenants Pilot Program Evaluation at 1 (Aug 5. 2021), https://www.mcecleanenergy.org/wp-content/uploads/2022/08/MCE-Low-Income-Families-and-Tenants-Pilot-Program-Evaluation_08262022.pdf.

[35] *Id.* at 28.

[36] *Id.* at 29.

[37] *Id.* at 4, 35.

[38] *SPRAWLDEF v. San Francisco Bay Conservation and Development Comm'n* (2014) 226 Cal. App. 4th 905, 918 (citing *Uphold Our Heritage v. Town of Woodside* (2007) 147 Cal. App. 4th 587, 600).

expensive or less profitable is not sufficient to show that the alternative is financially infeasible."[39]

All-electric building design for new construction is financially feasible because it is now cheaper than mixed-fuel construction.[40] The CEC has found that capital costs for all-electric single family homes are "several thousand dollars less expensive than mixed-fuel homes."[41] For mid-rise multi-family homes, "[a]n average reduction of $3,300 per unit was found" by avoiding the costs of gas piping, venting, and trenching to connect to the gas system.[42] Indeed, as noted in Redwood Energy's A Zero Emissions All-Electric Multifamily Construction Guide, "[i]n the downtown of a city like Los Angeles, just trenching and piping gas to an apartment building in a busy street can cost $140,000."[43] Moreover, there are additional embedded savings from faster build-out (related to not having to install gas plumbing and piping inside of the home), and by installing one heat pump instead of a separate furnace and air conditioning. As the CPUC is eliminating gas line extension allowances for all customer classes starting in July 2023, the infrastructure buildout to support gas hookups will raise costs of projects connecting to the gas system even more than before, when line extensions were subsidized.[44] Additionally, as discussed above, the 2022 update to the Title 24 Building Code already requires heat pumps as a baseline for space or water heating, and requires panel upgrades and other space modifications in any new mixed-fuel homes to ensure they are electric-ready when they inevitably convert to all-electric.[45] As a result, mixed-fuel design in new construction is likely *less* financially feasible than all-electric design, in addition to imposing significant GHG, energy, and health impacts.

Now is the critical window for the City to jump-start this transition away from gas to clean energy buildings. CEQA is an essential vehicle to take all feasible action to reduce GHGs

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[39] *Id.* (citing *Center for Biological Diversity v. Cty. of San Bernardino* (2010) 185 Cal. App. 4th 866, 833).

[40] *See* CARB, Draft 2022 Scoping Plan, Appendix F: Building Decarbonization, at 14–15 (May 2022) (finding that "all-electric new construction is one of the most cost-effective near-term applications for building decarbonization efforts," and that all-electric new construction is crucial in particular because "it is less costly to build, avoids new pipeline costs to ratepayers, and avoids expensive retrofits later."), https://ww2.arb.ca.gov/sites/default/files/2022-05/2022-draft-sp-appendix-f-building-decarbonization.pdf.

[41] *See* CEC, Final 2021 Integrated Energy Policy Report Volume I: Building Decarbonization at 89 (Feb. 2022), https://efiling.energy.ca.gov/GetDocument.aspx?tn=241599, (citing E3, *Residential Building Electrification in California: Consumer Economics, Greenhouse Gases and Grid Impacts*, https://www.ethree.com/wp-content/uploads/2019/04/E3_Residential_Building_Electrification_in_California_April_2019.pdf.).

[42] CEC, *California Building Decarbonization Assessment*, at 83 (Aug. 13, 2021) ("CEC Building Decarbonization Assessment"), https://efiling.energy.ca.gov/GetDocument.aspx?tn=239311.

[43] Redwood Energy, A Zero Emissions All-Electric Multifamily Construction Guide at 2 (2019), https://fossilfreebuildings.org/ElectricMFGuide.pdf

[44] R. 19-01-011, Phase III Decision Eliminating Gas Line Extension Allowances, Ten-Year Refundable Payment Option, and Fifty Percent Discount Payment Option Under Gas Line Extension Rules, (Aug. 8, 2022), https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M496/K415/496415627.PDF.

[45] *See* CEC, 2022 Building Energy Efficiency Standards Summary, at 9 (Aug. 2021), https://www.energy.ca.gov/sites/default/files/2021-08/CEC_2022_EnergyCodeUpdateSummary_ADA.pdf.

and limit further expansion of gas infrastructure. To comply with CEQA, we urge incorporation of all-electric building design into the Project.

Please contact Rebecca Barker at rbarker@earthjustice.org, and Matt Vespa at mvespa@earthjustice.org with any questions or concerns, and please include each of us in future notifications on the Project's development.

Sincerely,

Matt Vespa
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Earthjustice
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San Francisco, CA 94111
Email: mvespa@earthjustice.org
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Rebecca Barker
Senior Associate Attorney
Earthjustice
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Telephone: (415) 217-2056

NATIVE AMERICAN HERITAGE COMMISSION

March 29, 2023

Albert Enault
City of Vacaville
650 Merchant St.
Vacaville, CA 95688

Re: 2023030657, The Fields at Alamo Creek Project, Solano County

Dear Mr. Enault:

The Native American Heritage Commission (NAHC) has received the Notice of Preparation (NOP), Draft Environmental Impact Report (DEIR) or Early Consultation for the project referenced above. The California Environmental Quality Act (CEQA) (Pub. Resources Code §21000 et seq.), specifically Public Resources Code §21084.1, states that a project that may cause a substantial adverse change in the significance of a historical resource, is a project that may have a significant effect on the environment. (Pub. Resources Code § 21084.1; Cal. Code Regs., tit.14, §15064.5 (b) (CEQA Guidelines §15064.5 (b)). If there is substantial evidence, in light of the whole record before a lead agency, that a project may have a significant effect on the environment, an Environmental Impact Report (EIR) shall be prepared. (Pub. Resources Code §21080 (d); Cal. Code Regs., tit. 14, § 5064 subd.(a)(1) (CEQA Guidelines §15064 (a)(1)). In order to determine whether a project will cause a substantial adverse change in the significance of a historical resource, a lead agency will need to determine whether there are historical resources within the area of potential effect (APE).

CEQA was amended significantly in 2014. Assembly Bill 52 (Gatto, Chapter 532, Statutes of 2014) (AB 52) amended CEQA to create a separate category of cultural resources, "tribal cultural resources" (Pub. Resources Code §21074) and provides that a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment. (Pub. Resources Code §21084.2). Public agencies shall, when feasible, avoid damaging effects to any tribal cultural resource. (Pub. Resources Code §21084.3 (a)). **AB 52 applies to any project for which a notice of preparation, a notice of negative declaration, or a mitigated negative declaration is filed on or after July 1, 2015.** If your project involves the adoption of or amendment to a general plan or a specific plan, or the designation or proposed designation of open space, on or after March 1, 2005, it may also be subject to Senate Bill 18 (Burton, Chapter 905, Statutes of 2004) (SB 18). **Both SB 18 and AB 52 have tribal consultation requirements**. If your project is also subject to the federal National Environmental Policy Act (42 U.S.C. § 4321 et seq.) (NEPA), the tribal consultation requirements of Section 106 of the National Historic Preservation Act of 1966 (154 U.S.C. 300101, 36 C.F.R. §800 et seq.) may also apply.

The NAHC recommends consultation with California Native American tribes that are traditionally and culturally affiliated with the geographic area of your proposed project as early as possible in order to avoid inadvertent discoveries of Native American human remains and best protect tribal cultural resources. Below is a brief summary of portions of AB 52 and SB 18 as well as the NAHC's recommendations for conducting cultural resources assessments.

Consult your legal counsel about compliance with AB 52 and SB 18 as well as compliance with any other applicable laws.

AB 52

NAHC HEADQUARTERS
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov
NAHC.ca.gov

AB 52 has added to CEQA the additional requirements listed below, along with many other requirements:

1. Fourteen Day Period to Provide Notice of Completion of an Application/Decision to Undertake a Project: Within fourteen (14) days of determining that an application for a project is complete or of a decision by a public agency to undertake a project, a lead agency shall provide formal notification to a designated contact of, or tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, to be accomplished by at least one written notice that includes:

- **a.** A brief description of the project.
- **b.** The lead agency contact information.
- **c.** Notification that the California Native American tribe has 30 days to request consultation. (Pub. Resources Code §21080.3.1 (d)).
- **d.** A "California Native American tribe" is defined as a Native American tribe located in California that is on the contact list maintained by the NAHC for the purposes of Chapter 905 of Statutes of 2004 (SB 18). (Pub. Resources Code §21073).

2. Begin Consultation Within 30 Days of Receiving a Tribe's Request for Consultation and Before Releasing a Negative Declaration, Mitigated Negative Declaration, or Environmental Impact Report: A lead agency shall begin the consultation process within 30 days of receiving a request for consultation from a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project. (Pub. Resources Code §21080.3.1, subds. (d) and (e)) and prior to the release of a negative declaration, mitigated negative declaration or Environmental Impact Report. (Pub. Resources Code §21080.3.1(b)).

- **a.** For purposes of AB 52, "consultation shall have the same meaning as provided in Gov. Code §65352.4 (SB 18). (Pub. Resources Code §21080.3.1 (b)).

3. Mandatory Topics of Consultation If Requested by a Tribe: The following topics of consultation, if a tribe requests to discuss them, are mandatory topics of consultation:

- **a.** Alternatives to the project.
- **b.** Recommended mitigation measures.
- **c.** Significant effects. (Pub. Resources Code §21080.3.2 (a)).

4. Discretionary Topics of Consultation: The following topics are discretionary topics of consultation:

- **a.** Type of environmental review necessary.
- **b.** Significance of the tribal cultural resources.
- **c.** Significance of the project's impacts on tribal cultural resources.
- **d.** If necessary, project alternatives or appropriate measures for preservation or mitigation that the tribe may recommend to the lead agency. (Pub. Resources Code §21080.3.2 (a)).

5. Confidentiality of Information Submitted by a Tribe During the Environmental Review Process: With some exceptions, any information, including but not limited to, the location, description, and use of tribal cultural resources submitted by a California Native American tribe during the environmental review process shall not be included in the environmental document or otherwise disclosed by the lead agency or any other public agency to the public, consistent with Government Code §6254 (r) and §6254.10. Any information submitted by a California Native American tribe during the consultation or environmental review process shall be published in a confidential appendix to the environmental document unless the tribe that provided the information consents, in writing, to the disclosure of some or all of the information to the public. (Pub. Resources Code §21082.3 (c)(1)).

6. Discussion of Impacts to Tribal Cultural Resources in the Environmental Document: If a project may have a significant impact on a tribal cultural resource, the lead agency's environmental document shall discuss both of the following:

- **a.** Whether the proposed project has a significant impact on an identified tribal cultural resource.
- **b.** Whether feasible alternatives or mitigation measures, including those measures that may be agreed to pursuant to Public Resources Code §21082.3, subdivision (a), avoid or substantially lessen the impact on the identified tribal cultural resource. (Pub. Resources Code §21082.3 (b)).

7. Conclusion of Consultation: Consultation with a tribe shall be considered concluded when either of the following occurs:

a. The parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource; or

b. A party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached. (Pub. Resources Code §21080.3.2 (b)).

8. Recommending Mitigation Measures Agreed Upon in Consultation in the Environmental Document: Any mitigation measures agreed upon in the consultation conducted pursuant to Public Resources Code §21080.3.2 shall be recommended for inclusion in the environmental document and in an adopted mitigation monitoring and reporting program, if determined to avoid or lessen the impact pursuant to Public Resources Code §21082.3, subdivision (b), paragraph 2, and shall be fully enforceable. (Pub. Resources Code §21082.3 (a)).

9. Required Consideration of Feasible Mitigation: If mitigation measures recommended by the staff of the lead agency as a result of the consultation process are not included in the environmental document or if there are no agreed upon mitigation measures at the conclusion of consultation, or if consultation does not occur, and if substantial evidence demonstrates that a project will cause a significant effect to a tribal cultural resource, the lead agency shall consider feasible mitigation pursuant to Public Resources Code §21084.3 (b). (Pub. Resources Code §21082.3 (e)).

10. Examples of Mitigation Measures That, If Feasible, May Be Considered to Avoid or Minimize Significant Adverse Impacts to Tribal Cultural Resources:

a. Avoidance and preservation of the resources in place, including, but not limited to:

i. Planning and construction to avoid the resources and protect the cultural and natural context.

ii. Planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria.

b. Treating the resource with culturally appropriate dignity, taking into account the tribal cultural values and meaning of the resource, including, but not limited to, the following:

i. Protecting the cultural character and integrity of the resource.

ii. Protecting the traditional use of the resource.

iii. Protecting the confidentiality of the resource.

c. Permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places.

d. Protecting the resource. (Pub. Resource Code §21084.3 (b)).

e. Please note that a federally recognized California Native American tribe or a non-federally recognized California Native American tribe that is on the contact list maintained by the NAHC to protect a California prehistoric, archaeological, cultural, spiritual, or ceremonial place may acquire and hold conservation easements if the conservation easement is voluntarily conveyed. (Civ. Code §815.3 (c)).

f. Please note that it is the policy of the state that Native American remains and associated grave artifacts shall be repatriated. (Pub. Resources Code §5097.991).

11. Prerequisites for Certifying an Environmental Impact Report or Adopting a Mitigated Negative Declaration or Negative Declaration with a Significant Impact on an Identified Tribal Cultural Resource: An Environmental Impact Report may not be certified, nor may a mitigated negative declaration or a negative declaration be adopted unless one of the following occurs:

a. The consultation process between the tribes and the lead agency has occurred as provided in Public Resources Code §21080.3.1 and §21080.3.2 and concluded pursuant to Public Resources Code §21080.3.2.

b. The tribe that requested consultation failed to provide comments to the lead agency or otherwise failed to engage in the consultation process.

c. The lead agency provided notice of the project to the tribe in compliance with Public Resources Code §21080.3.1 (d) and the tribe failed to request consultation within 30 days. (Pub. Resources Code §21082.3 (d)).

The NAHC's PowerPoint presentation titled, "Tribal Consultation Under AB 52: Requirements and Best Practices" may be found online at: http://nahc.ca.gov/wp-content/uploads/2015/10/AB52TribalConsultation_CalEPAPDF.pdf

SB 18

SB 18 applies to local governments and requires local governments to contact, provide notice to, refer plans to, and consult with tribes prior to the adoption or amendment of a general plan or a specific plan, or the designation of open space. (Gov. Code §65352.3). Local governments should consult the Governor's Office of Planning and Research's "Tribal Consultation Guidelines," which can be found online at: https://www.opr.ca.gov/docs/09_14_05_Updated_Guidelines_922.pdf.

Some of SB 18's provisions include:

1. Tribal Consultation: If a local government considers a proposal to adopt or amend a general plan or a specific plan, or to designate open space it is required to contact the appropriate tribes identified by the NAHC by requesting a "Tribal Consultation List." If a tribe, once contacted, requests consultation the local government must consult with the tribe on the plan proposal. **A tribe has 90 days from the date of receipt of notification to request consultation unless a shorter timeframe has been agreed to by the tribe.** (Gov. Code §65352.3 (a)(2)).

2. No Statutory Time Limit on SB 18 Tribal Consultation. There is no statutory time limit on SB 18 tribal consultation.

3. Confidentiality: Consistent with the guidelines developed and adopted by the Office of Planning and Research pursuant to Gov. Code §65040.2, the city or county shall protect the confidentiality of the information concerning the specific identity, location, character, and use of places, features and objects described in Public Resources Code §5097.9 and §5097.993 that are within the city's or county's jurisdiction. (Gov. Code §65352.3 (b)).

4. Conclusion of SB 18 Tribal Consultation: Consultation should be concluded at the point in which:

- **a.** The parties to the consultation come to a mutual agreement concerning the appropriate measures for preservation or mitigation; or
- **b.** Either the local government or the tribe, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached concerning the appropriate measures of preservation or mitigation. (Tribal Consultation Guidelines, Governor's Office of Planning and Research (2005) at p. 18).

Agencies should be aware that neither AB 52 nor SB 18 precludes agencies from initiating tribal consultation with tribes that are traditionally and culturally affiliated with their jurisdictions before the timeframes provided in AB 52 and SB 18. For that reason, we urge you to continue to request Native American Tribal Contact Lists and "Sacred Lands File" searches from the NAHC. The request forms can be found online at: http://nahc.ca.gov/resources/forms/.

NAHC Recommendations for Cultural Resources Assessments

To adequately assess the existence and significance of tribal cultural resources and plan for avoidance, preservation in place, or barring both, mitigation of project-related impacts to tribal cultural resources, the NAHC recommends the following actions:

1. Contact the appropriate regional California Historical Research Information System (CHRIS) Center (https://ohp.parks.ca.gov/?page_id=30331) for an archaeological records search. The records search will determine:

- **a.** If part or all of the APE has been previously surveyed for cultural resources.
- **b.** If any known cultural resources have already been recorded on or adjacent to the APE.
- **c.** If the probability is low, moderate, or high that cultural resources are located in the APE.
- **d.** If a survey is required to determine whether previously unrecorded cultural resources are present.

2. If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.

- **a.** The final report containing site forms, site significance, and mitigation measures should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum and not be made available for public disclosure.
- **b.** The final written report should be submitted within 3 months after work has been completed to the appropriate regional CHRIS center.

3. Contact the NAHC for:

a. A Sacred Lands File search. Remember that tribes do not always record their sacred sites in the Sacred Lands File, nor are they required to do so. A Sacred Lands File search is not a substitute for consultation with tribes that are traditionally and culturally affiliated with the geographic area of the project's APE.

b. A Native American Tribal Consultation List of appropriate tribes for consultation concerning the project site and to assist in planning for avoidance, preservation in place, or, failing both, mitigation measures.

4. Remember that the lack of surface evidence of archaeological resources (including tribal cultural resources) does not preclude their subsurface existence.

a. Lead agencies should include in their mitigation and monitoring reporting program plan provisions for the identification and evaluation of inadvertently discovered archaeological resources per Cal. Code Regs., tit. 14, §15064.5(f) (CEQA Guidelines §15064.5(f)). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American with knowledge of cultural resources should monitor all ground-disturbing activities.

b. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the disposition of recovered cultural items that are not burial associated in consultation with culturally affiliated Native Americans.

c. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the treatment and disposition of inadvertently discovered Native American human remains. Health and Safety Code §7050.5, Public Resources Code §5097.98, and Cal. Code Regs., tit. 14, §15064.5, subdivisions (d) and (e) (CEQA Guidelines §15064.5, subds. (d) and (e)) address the processes to be followed in the event of an inadvertent discovery of any Native American human remains and associated grave goods in a location other than a dedicated cemetery.

If you have any questions or need additional information, please contact me at my email address: Pricilla.Torres-Fuentes@nahc.ca.gov.

Sincerely,

Pricilla Torres-Fuentes

Pricilla Torres-Fuentes
Cultural Resources Analyst

cc: State Clearinghouse

YOCHA DEHE
CULTURAL RESOURCES

April 5, 2023

City of Vacaville – Community Development Department
Attn: Albert Enault, Senior Planner
650 Merchant Street
Vacaville, CA 95688

RE: Fields At Alamo Creek YD-12022022-05

Dear Mr. Enault:

Thank you for your project notification letter dated, March 23, 2023, regarding cultural information on or near the proposed Fields At Alamo Creek. We appreciate your effort to contact us and wish to respond.

The Cultural Resources Department has reviewed the project and concluded it is within the aboriginal territories of the Yocha Dehe Wintun Nation. Therefore, we have a cultural interest and authority in the proposed project area.

Based on the information provided, the Tribe has concerns that the project could impact known cultural resources. Yocha Dehe Wintun Nation highly recommends including cultural monitors during development and ground disturbance. In addition, we recommend cultural sensitivity training for all project personnel.

To schedule cultural sensitivity training, please contact:

Eric Hernandez, Site Protection Manager
Yocha Dehe Wintun Nation
Phone: (530) 723-3313
Email: ehernandez@yochadehe.gov

Please refer to identification number YD–12022022-05in any correspondence concerning this project.

Thank you for providing us the opportunity to comment.

Sincerely,

DocuSigned by:
Yvonne Perkins
8DD0BD089ED6438...

Tribal Historic Preservation Officer

Solano Local Agency Formation Commission
675 Texas St. Ste. 6700 • Fairfield, California 94533
(707) 439-3897 • FAX: (707) 438-1788

Original via email

April 18, 2023

Albert Enault, Senior Planner
City of Vacaville
650 Merchant Street
Vacaville, CA 95688
Albert.enault@cityofvacavlile.com

Subject: Comments for NOP of an SEIR for Fields at Alamo Creek Project

Dear Mr. Enault:

We received the NOP for the Fields at Alamo Creek SEIR. A full project review will be initiated when we receive the City's annexation application and relevant submittal documents. Until then, the following are comments we have based on the early status of the development project, and for the SEIR. When the City is ready to submit the application, we can schedule a pre-application consultation.

The following are preliminary comments on the NOP for Fields at Alamo Creek, and six highlights related to the future annexation application for LAFCO that might be of particular interest to the project.

1. SEIR for Development Project

- LAFCO will be a Responsible Agency for the Project and must be identified as such within the document.

- In addition to annexation to the City of Vacaville, the boundaries of several special districts will be changed. The Project will include reorganization of services provided by the affected districts. Agencies affected by the reorganization include Solano Irrigation District, County Lighting Service Area, Vacaville Fire Protection District, Vacaville Elmira Cemetery District and Solano Resource Conservation District.

    - Any potential impacts should be addressed in the Public Services section of the EIR. Fiscal impacts on the special districts serving the project area may result in environmental impacts. Mitigations to address the potential environmental impacts of detachment from the affected districts should be included.

- Mitigation measures to address the loss of prime agricultural lands in the project area should be included for any land that meets the definition of prime agricultural land as defined by Government Code Section 56064 including:

1) Land the qualifies for a class I or class II rating in the USDA Natural Resources Conservation Service classification if irrigated or has potential to be irrigated.
2) Land with a Storie Index rating of between 80 and 100.
3) Land that supports livestock with a carrying capacity of one animal per acre.
4) Land planted with fruit or nut-bearing trees, vines, bushes or crops with a non-bearing period of less than 5 years with a return of at least $400 per acre.
5) Land that has returned from the production of unprocessed agricultural plant products $400 per acre for three of the last five years.

2. Pre-application process

Prior to any application submittal, the City should consult with other affected agencies – such as Solano Irrigation District, Vacaville Rural Fire District, and Solano County. Consultation with these agencies will be necessary for agreements and actions related to a reorganization – specifically for detachments from the agencies.

Additionally, a comprehensive review and analysis of existing land inventory, development projects, and construction/development rate should be included to complete the findings necessary for approving a reorganization.

3. Sphere of Influence (SOI) Update

A Sphere of Influence is the "plan for the probable physical boundary and service area of a local government agency, as determined by the Commission" (Gov. Code Section 56076). The establishment of this boundary is necessary to determine which governmental agencies can provide services in the most efficient way to the people and property in any given area.

According to LAFCO's records, Vacaville last updated the Comprehensive Municipal Service Review (MSR) in 2017 and subsequently adopted the current Sphere of Influence. LAFCO law (Govt. Code 56000 et.al) requires that MSR and SOI are reviewed and updated every five years. Therefore, Vacaville must complete the comprehensive update to the MSR/SOI prior to or contemporaneously with any reorganizations (annexations).

Having reviewed the 2017 MSR, page 20 lists applicable General Plan Policies that specifically state that any area that is designated as Urban Reserve is to be identified as a long-term annexation area. For the proposed annexation to be internally consistent with the General Plan and the MSR, then Urban Reserve areas would need to be re-designated with a new General Plan Land Use Designation. Further, according to the 2017 MSR page 25, Urban Reserve designated areas are stated to require comprehensive planning with a General Plan amendment and creation of a specific plan.

According to the Findings and Determinations, the MSR did not analyze any of the six determination factors for areas identified as long-term annexation areas (page 26). The proposal submitted for review will require an MSR and SOI update that includes a comprehensive analysis of the General Plan amendments and changes to the short-term and long-term annexation areas in the SOI.

4. CEQA for MSR/SOI

Consistent with CEQA regulations, any governmental agency's action is required to conduct a CEQA determination. CEQA determinations are required for MSRs and SOIs, and reorganizations. For LAFCOs, this typically means reaffirming the CEQA determination of the applying agency. Please include Solano LAFCO on any CEQA-related document notices.

The 2017 MSR was based on the 2015 General Plan EIR and land use assumptions, which included a complete analysis of areas identified as "short-term annexation areas" within the MSR, but not the "long-term annexation area." Further, according to the City of Vacaville's Community Development webpage, there have been amendments to the General Plan Land Use Designations that were not considered in the 2017 MSR. As such, new CEQA determinations are also necessary for an updated MSR/SOI.

5. Solano LAFCO Standards 1-11

LAFCO law also encourages LAFCOs to adopt local policies and standards that address local regional concerns and goals. Solano LAFCO has eleven such standards. Standards 1- 6 are mandatory and require full compliance for a project to be approved. Standards 7- 11 are discretionary where LAFCO may make determinations of less than full compliance with one or more of the discretionary standards and still have the discretion to approve or deny a proposal.

Section IV of the attached Standards and Procedures contains complete explanations and discussions for each standard and defines the necessary documentation.

<u>Mandatory:</u>

1. Consistency with Sphere of Influence Boundaries
    - *Area affected must be in the agency's SOI as a "near-term" annexation area or may be considered concurrently with a request to amend/update SOI, such as changing "long-term" to "near-term" annexation areas. Updating the SOI will require a comprehensive MSR update as noted above.*
2. Change of Organization and Reorganization to the limits of the Sphere of Influence Boundaries
    - *Annexation to the limits of the SOI boundary shall not be allowed if the proposal includes land designated for open space use by the affected city's general plan for city change of organization or reorganization.*
3. Consistency with Appropriate City General Plan, Specific Plan, Area-wide Plan, and zoning ordinance.
    - *The determination of consistency shall be the responsibility of the affected agency, and shall be met by a resolution approved by the agency council certifying that the proposed change of organization or reorganization meets all applicable consistency requirements of State Law, including internal consistency between the agency's adopted plans and the zoning ordinance.*

4. Consistency with the County General Plan of the proposed change of organization of reorganization outside of a City's SOI.
    - {not applicable here}
5. Requirement for pre-approval
    - *Prior to approval by LAFCO of a city change or organization or reorganization, the affected agency shall have approved, a specific plan, pre-zoning or an equivalent level of detailed information for the affected area.*
6. Effect on natural resources.
    - *Agency shall take necessary CEQA action and include CEQA documentation with proof of filing fee payment.*

<u>Discretionary:</u>

7. Establishing proposal boundaries, map and geography description requirements, other required maps.
    - *LAFCO actions must assure planned, orderly, and efficient patterns of urban growth by avoiding annexing or detaching portions of parcels, avoiding conditions that would make the annexation of adjacent parcels difficult at a later date, and avoiding excluding parcels that are necessary to promote efficient patterns of urban growth. Inconsistencies with any of these requirements need to be thoroughly explained and justified.*
8. Likelihood of significant growth and effect on other incorporated or unincorporated territory.
    - *Prior to approving an annexation, LAFCO shall make a determination that the proposed conversion of open space lands to urban use is justified by probable urban growth within a 10-year period of time. A determination on the likelihood of significant growth justifying the conversion shall be based on an analysis of local and regional demand for the proposed use. (Open space lands are defined in Govt. Code Section 65560.)*
9. Protection of Prime Agricultural Land
    - *Prime Agricultural land is defined in Govt. Code. Section 56064 as any land that can be irrigated (regardless of current status) and has soil with USDA Natural Resources Conservation Service Land Class I or Class II; or Storie Index Rating of 80-100. (Please note that this is substantially different from CEQA definitions of agricultural land.)*
    - *Cortese-Knox Hertzberg policies call for "infill" on vacant lands within municipal boundaries before extending further out into agricultural areas. Page 23 of the Standards and Policies lists the six factors that must be analyzed in considering existing developable lands within a jurisdiction.*
10. Provision and cost of community services.
    - *Adequate urban services shall be available to areas proposed for a change of organization or reorganization.*

11. The effect of the proposed action on the adjacent, mutual social and economic interests and on local governmental structure.

    - *The application shall describe the effect that the annexation could have on adjacent areas and outside the agency. It shall also describe any social and economic benefits, or detriments, which will accrue to the agency and other affected agencies.*

6. Vacaville General Plan and Zoning

Any LAFCO proposal must identify the adopted pre-zoning for the site, and general plan amendments if applicable. Maps identifying the current and pre-approved General Plan Land Use Designation and Zoning Designation are required. Any reorganization requests are required to be consistent with the jurisdiction's general plan and land use regulations.

According to the City of Vacaville website and maps, the site has a General Plan Land Use designation of Urban Reserve. However, the preliminary proposal information shared with LAFCO indicates that it will be annexed for residential development. A careful analysis of consistency with the Vacaville General Plan will be necessary for LAFCO to incorporate in any considerations and determinations.

The 2017 MSR maps also indicate there is an Urban Service Boundary. According to the Vacaville General Plan, this Urban Service Boundary is part of a Master Water Agreement with Solano Irrigation District. Page LU-10 of the Vacaville General Plan states that both parties are supposed to be committed to not supporting urban development outside of this Boundary because SID considers it to be part of their agricultural service area.

7. Findings for approval for Re-organizations

Gov. Code 56668 lists the 17 factors (a-q) that LAFCO Commissioners must consider when reviewing a proposal for reorganization (the complete list is included in the attached Standards and Procedures). Careful analysis of each factor should be included to assist LAFCO review. While all factors are important in the consideration, the following may be of particular interest:

a. Population, population density; land area and land use; per capita assessed valuation; topography, natural boundaries, and drainage basins; proximity to other populated areas; the likelihood of significant growth in the area, and in adjacent incorporated and unincorporated areas, during the next 10 years. (Analysis of vacant land inventory, approved developments, construction rate, and market analysis)

b. The need for organized community services; the present cost and adequacy of governmental services and controls in the area; probable future needs for those services and controls; probable effect of the proposed incorporation, formation, annexation, or exclusion and of alternative courses of action on the cost and adequacy of services controls in the area and adjacent areas.

c. The effect of the proposed action – and of alternative actions – on adjacent areas, on mutual social and economic interests, and on the local governmental structure of the county.

h. Consistency with city or county general and specific plans.

k. The ability of the newly formed or receiving entity to provide the services which are the subject of the application to the area, including the sufficiency of revenues for those services following the boundary change.

m. The extent to which the proposal will assist the receiving entity in achieving its fair share of the regional housing needs as determined by the appropriate council of governments.

o. Any information relating to the existing land use designations.

p. The extent to which the proposal will promote environmental justice. As used in this subdivision, "environmental justice" means the fair treatment of people of all races, cultures, and incomes with respect to the location of public facilities and the provision of public services.

q. Information contained in a local hazard mitigation plan, information contained in a safety element of a general plan, and any maps that identify land as a very high fire hazard zone pursuant to Section 51178 or maps that identify land determined to be in a state responsibility area pursuant to Section 4102 of the Public Resources Code, if it is determined that such information is relevant to the area that is the subject of the proposal.

We appreciate the opportunity to comment on the potential reorganization request. We hope you find these comments helpful in preparing your LAFCO application.

Sincerely,

Richard J. Seithel

Rich Seithel
LAFCO Executive Officer
(707) 439-3897

Attached: Solano LAFCO Standards and Procedures

SOLANO
LOCAL AGENCY FORMATION COMMISSION

STANDARDS AND PROCEDURES, GLOSSARY OF TERMS, FEES AND FORMS, MEETING SCHEDULE And MAP AND DESCRIPTION REQUIREMENTS

Adopted by the Solano Local Agency Formation Commission
March 1, 1999

Amended by the Solano Local Agency Formation Commission:
December 11, 2000, March 3, 2003, November 10, 2008, December 8, 2008,
June 11, 2012, August 13, 2012, April 8, 2013, June 10, 2019

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SECTION I. INTRODUCTION

BACKGROUND

The Solano Local Agency Formation Commission (LAFCO) is a state mandated boundary commission responsible for coordinating logical and timely changes in local government boundaries. The Commission, in the consideration of proposals, has to observe four basic statutory purposes: the discouragement of urban sprawl; the preservation of open space and prime agricultural land resources; the efficient provision of government services; and the encouragement of orderly growth boundaries based upon local conditions and circumstances.

LAFCO's powers, procedures, and functions are set forth in the Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000, (Government Code Section 56000 et seq.).

THE COMMISSION

Solano LAFCO consists of five voting members selected as follows: two members of the City Councils, who are chosen by the mayors of all cities in the County; two members of the Board of Supervisors, who are chosen by the entire Board; and a member representing the general public, who is selected by the other four LAFCO members. In addition, there are alternate city, county, and public members who vote whenever a regular member is absent or disqualified.

The Commission meetings are typically held on the second Monday of February, April, June, August, October, and December at 10:00 a.m. in the Board of Supervisors' Chambers, Government Center, 675 Texas Street, Fairfield, CA. If a holiday should fall on the second Monday of a month, the meeting is held on the following non-holiday Monday.

CHANGES OF ORGANIZATION AND REORGANIZATION

It is the role of LAFCO to either: approve, approve with conditions or deny proposals for changes of organization or reorganization after considering a number of factors. Among the issues to be considered are: The Legislature's policies and priorities for LAFCO, the proposal's relationship to the affected agency's Sphere of Influence; the application's compliance with the California Environmental Quality Act (CEQA); and the submitted responses to Solano LAFCO's Standards.

A change of organization includes any one of the following actions:

1) A city incorporation.
2) A district formation.
3) An annexation to or detachment from a city or district.
4) A disincorporation of a city.
5) A district dissolution.
6) A consolidation of cities or special districts
7) A merger or establishment of a subsidiary district
8) A reorganization which includes two (2) or more changes of organization initiated in a single proposal.

SPHERES OF INFLUENCE

Spheres of Influence are required to be established by LAFCO for each city and special district which must come before the Commission for boundary changes. A Sphere of Influence means "a plan for the probable physical boundary and service area of a local government agency, as determined by the Commission" (56076). Establishment of this boundary is necessary to determine which governmental agencies can provide services in the most efficient way to the people and property in any given area. An annexation proposal must be within the affected agency's Sphere of Influence in order for LAFCO to act favorably on the application. LAFCO must undertake a review and update, as necessary, of spheres of influence, no less than once every 5 years, and prepare written statements of determinations when adopting spheres.

SERVICE REVIEWS

In order to prepare and update spheres of influence, the commission must conduct a service review of municipal services provided in the county or other appropriate area as designated by the commission. The commission shall prepare a written statement of its determination with respect to each of the following:

1. Growth and population projections for the affected area.

2. Present and planned capacity of public facilities and adequacy of public services, including infrastructure needs or deficiencies.

3. Financial ability of agencies to provide services.

4. Status of, and opportunities for, shared facilities.

5. Accountability for community services needs, including governmental structure and operational efficiencies.

6. Any other matter related to effective or efficient service delivery, as required by commission policy

CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)

Each proposal for a change of organization or reorganization must be reviewed to ensure that it complies with the requirements of CEQA. This involves the preparation of an environmental document which is normally processed by the annexing agency in advance of LAFCO consideration (see discussion in Chapter IV Pre-application considerations).

SECTION II. PURPOSE AND INTENT

The Cortese-Knox-Hertzberg Act Authorizes LAFCO to adopt written procedures for the evaluation of proposals, including definitions consistent with existing State laws. The Commission may adopt standards for any of the factors enumerated in Section 56668, [see Section VI of this manual]. Any Standards adopted by the Commission shall be written. (Section 56375 (g))

This report provides both general and specific standards in meeting the requirements of the Cortese-Knox-Hertzberg Act, and in assuring a rational and consistent process of review by the Solano LAFCO which can be applied to all proposals for reorganization or change of organization within Solano County.

Standards have been developed in light of varying conditions of land use policy among the agencies of the County in recognition that decisions by LAFCO will be judgmental—based on the facts in evidence as they relate to these standards and procedures. No standard can be universally absolute with respect to a given proposal, for the facts and circumstances will necessarily differ among communities and annexation requests. The standards reflect the many circumstances which can affect the process, leaving final decision to objective analysis based on the evidence submitted as a whole in support or in opposition in a given case.

FORMAT AND CONTENT

Chapter III presents an outline of the LAFCO decision making process. The standards are then presented in Chapter IV, with a description of the circumstances which may come into play in reaching a decision. Chapter V presents the requirements for adopting Municipal Service Reviews. Chapter VI sets forth the primary requirements of the Cortese-Knox Act and the factors to be considered under Section 56668.

USE AND APPLICATION OF THE STANDARDS

The Standards adopted by LAFCO are to be seen as guidelines against which to measure that appropriateness and correctness of a proposal. Some Standards are quantitative in that specific information and minimum submittal requirements are stipulated. Other standards are qualitative and require specific documentation by the applicant.

The concept of adopting standards implies an assessment of a proposal to determine conformity. Each standard must have sufficient clarity and specific so that compliance can be determined with a degree of certainty and reasonableness. And yet, it is not possible or desirable in issues as complex as land use planning and annexation to have standards that are literally absolute; flexibility must be retained if only because no two proposals are alike.

One of the objects of the LAFCO, according to the Cortese-Knox Hertzberg Act, is to make studies and to obtain and furnish information which will contribute to the "logical and reasonable" development of local government. This implies and analytical process that weighs the merits of each proposal on an individual basis. Indeed, the legislative purpose of Cortese-Knox Hertzberg was to vest the LAFCO with substantial "authority and discretion" to review proposals in keeping with specific public purposes. The standards, then, must encourage independent judgment by LAFCO based on a reasoned analysis of required documentation.

For each proposal the LAFCO staff should determine the completeness of the application and provide analysis and recommendation as to the compliance of the proposal with each Standard. For most proposals of a smaller nature, compliance with the Standards will be obvious. For larger projects, including those which are to be phased over a several-year period, full compliance with each Standard may not be as obvious. For example, a project may lead to the conversion of prime agricultural land to urban use; if, however, guiding development away from prime agricultural lands should not promote the planned, orderly, efficient development of the area, such conversion could be approved.

In another instance, a full range of services may not be available based on "will serve" letters from affected agencies. LAFCO, based on its discretion and on analysis of additional information, could determine that adequate alternative services can or will be made available.

In the final analysis, the reasoned judgment of LAFCO will be required to determine compliance with each standard. In deciding on annexation proposals, LAFCO shall make determinations on the degree of compliance or non-compliance for each Standard citing facts to support each determination. Six of the Standards (numbers 1- 6) are mandatory; LAFCO must make determinations of full compliance with the mandatory Standards to approve a proposal. The other five standards (numbers 7- 11) are discretionary; LAFCO may make determinations of less than full compliance with one or more of the discretionary standards and still have the discretion to approve or deny a proposal. In the final analysis, the determinations under each discretionary standard must be weighted against each other and that when taken as a whole, the proposal must meet the purpose and intent of LAFCO in providing for planned, orderly and efficient patterns of urban development. Therefore, in the event that determinations of less than full compliance have been made on one or more of the discretionary Standards, LAFCO must make specific findings of fact identifying overriding considerations that justify the decision to approve the proposal.

SECTION III. THE LAFCO DECISION MAKING PROCESS

This chapter provides a brief description of the LAFCO decision making process in considering proposals for changes of organization or reorganization.

PRE-APPLICATION CONSIDERATION

Prior to formal submittal of an application to LAFCO, the applicant should first consult with the appropriate city and/or districts that will be affected by the proposal. The purpose of this early consultation is to establish the affected agencies interest in the proposal. Secondly, in those applications proposing annexation, it provides the affected agency the opportunity to prepare environmental documentation associated with pre-approvals. (see Section IV, Standard No. 5). In most instances, the environmental document used for the agency's consideration of the proposal will also be used by LAFCO in its hearing on the application. Accordingly, an applicant and the affected agency should ensure that those issues pertinent to LAFCO's action are discussed in the environmental document. In addition, it is suggested that a proponent consult with LAFCO staff in the early stages of the consideration of a proposal. This is to ensure that the process and application requirements are clearly understood and to establish a line of communication to facilitate the processing of the application.

APPLICATION PROCESS

An application for a change of organization or reorganization may be initiated either by:

1) Resolution and application adopted by the legislative body of any affected local agency (Section 56654(a)).

2) A petition and application of either landowners or registered voters within the affected territory (Section 56700).

An application to LAFCO would include the following basic components

1) A petition or resolution and application for proceedings.
2) A map and legal description of the affected territory
3) Response to Solano LAFCO standards with supporting documentation
4) Application processing fee.

Extensive discussion on the Solano LAFCO Standards and the required documentation is provided in Chapter V.

Upon submittal of an application to LAFCO, the Executive Officer reviews the application to determine if the application is complete. If the application is determined not to be complete, the Executive Officer informs the applicant of the additional necessary material needed to complete the application. The Executive Officer must also determine what environmental documents may be necessary to process the application (See Chapter V, Standard No. 6). After the application is accepted as complete, a Certificate of Filing is issued and the application is scheduled for hearing before the Commission.

The Executive Officer notifies affected agencies of the pending application; reviews the application and prepares a staff report for the Commission based on the provision of the Cortese/Knox Hertzberg Act and the Standards set forth in Section IV.

LAFCO PUBLIC HEARING AND DECISION

The Commission conducts a public hearing on the application during which the applicant, affected agencies, and public may testify. The Commission may amend an application's proposed boundaries and/or recommended conditions, and may either deny, approve, or approve with conditions the application.

After the Commission's action, any person may file a Request for Reconsideration within thirty (30) days. The Commission may approve or deny with or without conditions the Request for Reconsideration after the required public notice and hearing. In the case of denial, an application substantially similar to the original proposed change of organization or reorganization can not be made to LAFCO for a period of one year.

CONDUCTING AUTHORITY PROCEEDINGS

The Commission, in most cases, becomes the conducting authority for the protest hearing after approval of an application. Within 35 days of the adoption of the commission's resolution making determinations, and following the 30 day reconsideration period, the executive officer shall set the proposal for hearing and give proper notice. The date of the protest hearing will be no less then 15 days, or more than 60 days, after the date the notice is given. (Section 57002) If the Commission receives no objection from land owners and registered voters and gains consent from the affected agencies the Commission may choose to waive the protest hearing. (Section 56663)

FINAL LAFCO ACTIONS

If a proposal has not been terminated or brought to an election through the protest hearing phase and unless otherwise conditioned by the Commission, the effective date of the change or organization or reorganization is the date the Certificate of Completion is recorded.

SECTION IV. STANDARD AND PROCEDURES FOR THE EVALUATION OF PROPOSALS FOR CHANGES OF ORGANIZATION OR REORGANIZATION

MANDATORY STANDARDS

STANDARD NO. 1: CONSISTENCY WITH SPHERE OF INFLUENCE (SOI) BOUNDARIES

An area proposed for change of organization or reorganization shall be within the affected agency's Sphere of Influence. An application for change of organization or reorganization for lands outside an adopted Sphere of Influence may be considered concurrently with a request for amendment to the Sphere of Influence, at LAFCO's discretion.

Explanation and Discussion

A finding of consistency with adopted Sphere of Influence (SOI) boundaries becomes the first test in evaluating an annexation proposal. Section 56375.5 of the Government Code requires a determination by LAFCO regarding the proposal's consistency with the Spheres of Influence of the affected local agency. In most cases, location within or outside the boundary will determine whether the application should be approved.

The SOI concept provides a rational basis for a determination whether a given agency has the most appropriate interest in providing governmental services to territory in proximity to its boundaries. The SOI boundary is not necessarily intended by law to be coterminous with the area which a given agency may eventually annex and serve. Rather, it should refer to the area which most directly involves the interest of the agency as to future urbanization, the management of resources of concern to the agency, or land use proposals of an essentially non-urban character considered by the County.

LAFCO has adopted separate Guidelines for establishing and amending SOI's. Generally, LAFCO reviews and updates agency SOI's upon completion of city or county general plan updates or amendments separate from specific proposals for change of organization or reorganization. LAFCO retains the discretion as to whether SOI boundary amendments may be heard concurrently with change of organization or reorganization proposals. Minor amendments which have not resulted from general plan amendments may be heard concurrently. LAFCO staff shall advise the Commission at least 60 days in advance of request for such a concurrent hearing; at that time, LAFCO shall make a decision as to the appropriateness of a concurrent hearing.

Required Documentation

This Standard requires that the applicant shall demonstrate that the affected territory is within the Sphere of Influence of the affected agency. This is to be shown on the required mapping submittal in response to Standard No. 7. Sphere of Influence boundary information is available from the affected agency or LAFCO Staff.

STANDARD NO. 2: CHANGE OF ORGANIZATION AND REORGANIZATION TO THE LIMITS OF THE SPHERE OF INFLUENCE (SOI) BOUNDARIES

Annexation to the limits of the SOI boundary shall not be allowed if the proposal includes land designated for open space use by the affected city's general plan for city change of organization or reorganization or County General Plan for district change or organizations or reorganization unless such open space logically relates to existing or future needs of the agency. Open space uses which may be located within agency limits include but are not limited to community and city-wide parks, recreational facilities, permanently protected open space lands, reservoirs, and storm water detention basins.

Explanation and Discussion

The annexation of land by agencies out to their SOI boundaries may be justified under certain circumstances. However, the Sphere of Influence is not necessarily an entitlement to expand jurisdictional limits all the way to the SOI boundary.

In Solano County, cities in conjunction with the County and land trusts have taken on a more active role in permanently protecting open space buffers or green belts around their communities. LAFCO has recognized these efforts in designating "urban open space" lands as part of their SOI. These lands are not intended to be annexed to a city unless the city demonstrates how the open space area is to be protected and maintain by the city and/or other conservation agency as permanent open space or public use.

For the purposes of this Standard, open space is defined as open space per section 56059 of the Cortese-Knox-Hertzberg Act and/or improved recreation lands on adopted plans; it does not include common open space within subdivisions or vacant lands planned for urbanization.

Required Documentation

This Standard applies to any application for annexation that extends to the limits of the SOI boundary and contains lands designated for open space use under the applicable general plan. In such cases, the application shall include an analysis, justification, and/or appropriate mapping demonstration that the open-space lands relate to specific needs of the annexation agency or is an integral part of the project's design. This standard will generally not be applicable to district change or organization or reorganization unless it will result in the conversion or open space lands to urban use.

Proposals which contain lands designated as urban open space to be permanently protected must be accompanied by documentation demonstration how the lands will be permanently protected by the affected agency and/or other conservation agencies.

STANDARD NO. 3: CONSISTENCY WITH APPROPRIATE CITY GENERAL PLAN, SPECIFIC PLAN, AREA-WIDE PLAN AND ZONING ORDINANCE

An application for a city change of organization or reorganization which involves the conversion of open space lands to urban use shall be denied by LAFCO if the proposed conversion is not consistent with appropriate city plans (general plans, specific plans, area-wide plans and associated zoning ordinance). The determination of consistency shall be the responsibility of the affected agency, and shall be met by a resolution approved by the agency council certifying that the proposed change of organization or reorganization meets all applicable consistency requirements of State Law, including internal consistency between the agency's adopted plans and the zoning ordinance. In the event that plan consistency is contested, LAFCO shall retain the discretion to determine the consistency question and may require additional environmental information.

Required Documentation

This standard requires that the applicant submit copies of the resolution approved by the city council of an affected city which certifies that the proposed change of organization or reorganization is consistent with the agency's general plan or specific plans, area-wide plans and zoning ordinance.

STANDARD NO. 4: CONSISTENCY WITH THE COUNTY GENERAL PLAN OF PROPOSED CHANGE OF ORGANIZATION OR REORGANIZATION OUTSIDE OF A CITY'S SPHERE OF INFLUENCE BOUNDARY

An application for a change of organization or reorganization for lands outside an adopted city Sphere of Influence boundary in unincorporated territory shall be denied by LAFCO if the land use proposed within the affected territory is not consistent with the Solano County General Plan and Zoning Ordinance. A determination of consistency shall be the responsibility of the County, and shall be met by a resolution of the Board of Supervisors certifying that the proposed change or organization or reorganization meets all applicable consistency requirements of State Law, including internal consistency between the County's General Plan and Zoning Ordinance. This Standard shall also be made to apply to proposals for the formation or the incorporation of new agencies within unincorporated territory which lies outside adopted city Sphere of Influence boundaries.

Explanation and Discussion

This Standard is necessary to eliminate potential conflict posed by an agency change of organization or reorganization which is inconsistent with the County General Plan and to provide assurance of General Plan and zoning consistency of proposals for expanding or creating new development areas outside adopted Sphere of Influences.

There no longer is a requirement in State Planning Law that agency and county general plan policies for areas within a city's Sphere of Influence be consistent. Where conflicts exist between an agency and the County, sound planning practices suggest that the agency and County resolve their differences so that the general public is not confused.

Required Documentation

This standard requires that for district changes of organization or reorganizations in unincorporated territory outside cities' Sphere of Influence, the applicant submit copies of the resolution approved by the Board of Supervisors which certifies that the proposed change of organization or reorganization is consistent with the Solano County General Plan and Zoning Regulations.

STANDARD NO. 5: REQUIREMENT FOR PRE-APPROVAL

Prior to approval by LAFCO of a city change or organization or reorganization, the affected agency shall have approved, a specific plan, pre-zoning or an equivalent providing similar detail of information on the proposed land use for the affected territory and where the change of organization or reorganization process is clearly described. Prior to approval by LAFCO of a district change of organization or reorganization, the affected agency shall pass a resolution supporting the proposal.

Explanation and Discussion

Government Code Section 56375(a)(6) prohibits LAFCO from imposing "any conditions that would directly regulate land use density or intensity, property development, or subdivision requirements." Section 56375(a) (7), however, does require prezoning as a method to determine future land use, and consequently, to gauge the change of organization or reorganization's impact on service delivery and conversion of open space lands and agency support for the proposal. LAFCO, however, may not specify how or in what manner territory shall be prezoned.

A District change of organization or reorganization does not require pre-zoning. Pre-approval of the proposal shall be demonstrated in a resolution supporting the change of organization or reorganization from the affected agency governing board or a letter of support from the chief administrative officer of the affected agency.

Required Documentation

This standard requires that an application for a city change of organization or reorganization shall be accompanied by copies of the agency's ordinance prezoning the affected territory or a copy of a specific plan or equivalent and resolution of adoption. Applications for district change of organization or reorganization shall be accompanied by a copy of agency's resolution supporting the proposal.

STANDARD NO. 6: EFFECT ON NATURAL RESOURCES

An application for annexation shall describe the amount of land involved, and the land, water, air, and biological resources affected, including topography, slope, geology, soils, natural drainages, vegetative cover, and plant and animal populations. Effects to be covered include those which will be both positive and negative and the means proposed to offset potential negative impact. LAFCO shall certify that provisions of the Solano LAFCO Environmental Guidelines for the Implementation of the California Environmental Quality Act have been complied with.

Explanation and Discussion

This Standard may already be reflected in studies provided as part of a city's adoption of a General Plan and is akin to the analysis of impacts and mitigation measures which ordinarily are revealed in an environmental assessment or environmental impact report.

The State of California Local Guidelines for Implementing the California Environmental Quality Act as currently amended has been adopted by Solano LAFCO Resolution and incorporated by reference as the Solano LAFCO Environmental Guidelines.

Required Documentation

This Standard requires that the applicant submit copies of the environmental documentation adopted or certified by the lead agency and copies of the resolution making the required environmental findings, adopting the Negative Declaration or Certifying the EIR, and making any Statement of Overriding Considerations.

DISCRETIONARY STANDARDS

STANDARD NO. 7: ESTABLISHING PROPOSAL BOUNDARIES, MAP AND GEOGRAPHIC DESCRIPTION REQUIREMENTS, OTHER REQUIRED MAP EXHIBITS

Explanation and Discussion

This Standard sets forth guidelines for establishing the boundaries of proposals. The Legislature has delegated the authority to determine the boundary of any proposal to local LAFCOs. The purpose of this Standard is to assure planned, orderly, and efficient patterns of urban growth by when possible, avoid: annexing or detaching portions of parcels, avoid conditions that would make the annexation of adjacent parcels difficult at a later date, and avoid excluding parcels that are necessary to promote efficient patterns of urban growth. Inconsistencies with any of these requirements need to be thoroughly explained and justified.

ESTABLISHING PROPOSAL BOUNDARIES

City Proposals:

Solano LAFCO shall consider the following as factors favorable to approval of a city change of organization or reorganization:

A. The proposal would not: create islands, irregular, or illogical configuration of city limits.

1) Whether unincorporated territory is an "island," or "entire island," or "entire unincorporated island," or "part of a larger island," or "surrounded," or "substantially surrounded," or "irregular," or "illogical configuration" are determinations to be made by the Commission on a case by case basis, based on the evidence before it at the time those determinations are made.

2) A small island of unincorporated territory that is connected to and an integral or essential part of a large unincorporated island is not an entire island and may not be annexed to a city without a protest proceeding under Government Code section 56375.3(a).

3) A small island of unincorporated territory that is connected to, but not an integral or essential part of a large island, may be determined by the Commission to be an entire island or an entire unincorporated island under Government Code section 56375.3(b).

B. Cities shall annex entire street sections whenever possible. "Half-width" streets where the city boundary is located on the centerline of the thoroughfare area are not permitted.

1) When streets are used as a boundary for an annexation, the annexation proposal shall be designed to include a continuous section of roadway as far as possible and sufficient in length to provide single-agency jurisdiction for maintenance and law enforcement of the street.

2) When a proposal is adjacent to existing short segments of county road(s), annexation of said short segments will be required to provide single-agency jurisdiction for maintenance and law enforcement of the street.

C. Other favorable factors for city annexations:

1) The proposal is consistent with development approvals required under Standard No. 5.

2) The area will be urban within ten years consistent with the provisions under Standard No. 8.

3) The proposal area is adjacent to the city's boundary, within the city's sphere of influence, and adjacent to existing municipal services resulting in a logical extension of city growth.

District Proposals:

Solano LAFCO shall consider the following as factors favorable to approval of a district change of organization or reorganization:

A. The proposal would not create irregular or illogical configuration of existing district(s) boundaries.

B. The proposal considers the effect on adjacent incorporated and/or unincorporated communities of interest.

C. The proposal considers and identifies the financial effects to the subject agency(ies).[1]

MAP AND GEOGRAPHIC DESCRIPTION REQUIREMENTS:

LAFCO requires a sound boundary description that is acceptable to the Solano County Surveyor and the California State Board of Equalization. The map and geographic description of the proposal area shall meet the requirements set forth in Attachment A to Standard 7.

OTHER REQUIRED MAP EXHIBITS:

1. A map exhibit showing the relationship of the proposal area to an adjacent city and its sphere of influence.

2. A map exhibit showing the relationship of the proposal area to an adjacent affected special district(s) and their sphere of influence(s).

3. A map exhibit of nearby properties showing lands under Williamson Act contracts.

4. A map exhibit of the proposal area identifying soil types using the US Department of Agriculture symbols.

[1] An example is a proposed detachment from the Solano Irrigation District where the property involved is a party to the indebtedness of Monticello Dam and its irrigation facilities. In such an event, LAFCO shall impose detachment fees in accordance with a formula agreed upon with SID (or other district in a similar situation) to assure equity in meeting financial obligations of the district.

STANDARD 7 ATTACHMENT A

SOLANO LAFCO MAP & GEOGRAPHIC DESCRIPTION REQUIREMENTS

GENERAL: LAFCO requires a map and geographic description that is acceptable to the Solano County Surveyor and the California State Board of Equalization (BOE).

WHO CAN PREPARE: Maps and geographic descriptions may be prepared by any person or firm which holds a current and valid State of California license as a Registered Surveyor or Registered Civil Engineer (with a number 33965 or lower).

REVIEW REQUIREMENT: Map and geographic descriptions must be reviewed for form, content, and accuracy. Prior to preparation, please contact LAFCO if the engineer or surveyor has not previously prepared a map and geographic description for LAFCO. All map and geographic descriptions will have to be reviewed and the final must be stamped and signed by the County of Solano Surveyor.

GUIDELINES: All proposed city annexation boundaries should tie into existing city boundary. For district proposals, proposed boundaries should tie into an existing district boundary whenever possible. LAFCO staff can provide information on existing boundaries. The map and geographic description should be in agreement with each other and should independently convey the intended action(s).

COVER SHEET REQUIREMENTS:

- ☐ Title
  - ☐ "Exhibit A"
  - ☐ Project No. (as designated by LAFCO)
  - ☐ Project Name (as named by LAFCO)
  - ☐ Number of pages by exhibit identified.
- ☐ Wet signature and seal: The cover sheet, map, and geographic description must be signed and stamped by either a licensed surveyor or a registered civil engineer holding a license number 33965 or lower.
- ☐ Area for County Surveyor's signature, seal, and date.
- ☐ Area for LAFCO Executive Officer signature and date approved.
- ☐ Include the following statement: "This description and exhibit of the (insert name of project) boundary, it is not a legal property description as defined in the Subdivision Map Act and may not be used as a basis for an offer for sale of the land described. It is for assessment purposes only."

<u>GEOGRAPHICAL DESCRIPTION REQUIREMENTS:</u>

- ☐ Heading with "Exhibit A," project number, project name, number of pages.
- ☐ Include township and range, section number(s), or rancho(s).
- ☐ The point of beginning must reference a known major geographic position (for city annexations to an existing city boundary, for district proposals to an existing district when possible or to section corners or street centerline intersections when necessary)
- ☐ Do not write descriptions in one endless paragraph.
- ☐ Do not write descriptions in all capitals.
- ☐ Courses called from, along, and to the annexation boundary.
- ☐ State all courses required to close the traverse of the project area.
- ☐ Express specific parcel description in sectionalized land (e.g., "The SW ¼ of Section 22, T1N, R1W") or by metes and bounds. If by metes and bounds, all courses shall be numbered and listed individually in a consistent clockwise direction.

☐ For curves, list delta, arc length, chord, and radius, include radial bearings for all points of non-tangency. All elements required.
☐ Wet signature and seal

MAP REQUIREMENTS:
☐ Heading with "Exhibit A," project number, project name, number of pages.
☐ Property description (A portion of the __¼ of Section___, T. ___N., R. __E., M.D.M., and/or rancho, and optional: Lot, Tract, Map Name and Recorded Book, and Page)
☐ City, County, and State
☐ Month and Year
☐ No un-necessary data shown on map.
☐ All data on 8½"x11" Exhibit readable (½" border all around)
☐ Include a vicinity map and show the location of the project area in relationship to a larger geographic area that includes major streets and highways and other physical features.
☐ Include a scale and north arrow.
☐ Show and identify any portion of an existing district boundary in close proximity to the project area.
☐ Clearly show the point of beginning and it must match the geographic description.
☐ Line Type (New-solid and most predominant line, road/easements-dashed, others-broken) (all lines in black ink and cannot exceed 1.5 millimeter in width)
☐ Clearly show all existing streets, roads, and highways with their current names that are within and adjacent to the project area.
☐ Indicate each township and range, section lines and numbers, or ranchos that are in proximity of the project area.
☐ All dimensions needed to plot the boundaries must be given on the map of the project area. Each map shall have numbered courses matching the written geographic description. Index tables may be utilized.
☐ All parcels within the project area that touch the new boundary shall be clearly labeled with the assessor's parcel number. Interior parcels that do not touch the boundary need not be identified on the map.
☐ If more than one map sheet is needed, provide a key map giving the relationship of all sheets. Match lines between adjoining sheets must be used. The geography on adjoining sheets may overlap, the project boundaries must stop at the match lines.
☐ Wet signature and seal

STANDARD NO. 8: LIKELIHOOD OF SIGNIFICANT GROWTH AND AFFECT ON OTHER INCORPORATED OR UNINCORPORATED TERRITORY

Prior to approving an annexation, LAFCO shall make a determination that the proposed conversion of open space lands to urban use is justified by probable urban growth within a 10 year-period of time. A determination on the likelihood of significant growth justifying the conversion shall be based on analysis of local and regional demand for the proposed use.

Explanation and Discussion

To satisfy this standard an applicant is to provide data that supports a determination of the likelihood of significant growth within a 10-year period of time, justifying the conversion of the affected open space lands as defined under the Cortese-Knox-Hertzberg Act as an urban use, and that such conversion will not be detrimental to the development of existing open space lands already within the affected agency's jurisdiction. This Standard in conjunction with the other standards is designed to discourage urban sprawl, to preserve agricultural land resources and to encourage orderly growth boundaries based upon local conditions and circumstances. Under this Standard, the applicant is required.

a) To provide data supporting the proposed conversion of open space to urban use by analyzing appropriate factors of supply and demand, and the Municipal Service Review where applicable;

b) To discuss all lands currently within the city's jurisdiction which are intended for, or committed to similar land uses and how the proposal relates to them.

c) To submit data to explain how the annexation will not significantly inhibit the timely development of existing vacant land currently within the city limits or inhibit the city's ability to meet it's infill goals.

d) To submit data that supports a determination that the conversion of the land to urban use within a 10-year period of time.

In reviewing the demand analysis for a proposed use, the Commission recognizes that it is more difficult to make determinations on long term market absorption rates for multi-family residential, commercial, industrial and mix use (high density residential, commercial and industrial) land use projects than for residential land use projects.

Another basis for analyzing an annexation's compliance with this standard will be the proposal's relationship to the annexing agency's Municipal Service Review (MSR). LAFCO accepted MSRs are required prior to the consideration of annexations to agencies.

Compliance with the annexing agency's Municipal Service Review (MSR) will be based on an analysis of the proposal and its relation to the goals and policies of

the agency's MSR including the growth strategy, projected growth and infill goals. LAFCO will consider its resolution of review and comment on the MSR in reviewing a proposal's consistency with the MSR.

Where large-scale and long-term projects are proposed through annexation, LAFCO may consider the likelihood of significant growth over a 10 – 20 year period of time if the project applicant and the city have entered into a development agreement. With respect to the purpose of Cortese-Knox Hertzberg**,** key provisions and a development agreement would include:

1. Phasing of development over a 10-20 year period in keeping with reasonable analysis of the market for new housing or other urban use consistent with policies of the General Plan.

2. Reasonable phasing to avoid premature conversion of prime agricultural lands to urban use, particularly those prime lands of greatest importance in Solano County as identified under Standard No. 9.

3. Reasonable phasing which will assure agency capability to provide urban services required without negative financial impact upon existing property owners and residents of the agency.

Finally, consideration will also be given to ABAG projections and to the preceding 10 years or more of building permit activity. Consideration will be given to the market conditions in analyzing past building permit activity.

It is on comparative analysis of the market study, the Municipal Service Review, ABAG projections and past building permit activity that a judgment as to the likelihood of significant growth with a ten-year period will be made.

Required Documentation

This standard requires for any applications for a change of organization or reorganization which will convert open space lands to urban use, each application shall include the following documentation.

1. For a change of organization or reorganization where 40 acres of more of commercial or industrial land use is proposed or where 100 acres or more of residential land use is proposed, a market study is required to document this analysis. Substantial inhabited annexations are excluded from the requirement for a market analysis. The market study should:

    a) Clearly define the market area for the project. The level of detail provided in the market analysis shall be commensurate with the scale and complexity of the proposed development project.
    b) Identify anticipated demand over the next ten years within the market area and document the assumptions in preparing the demand projections;
    c) Identify the supply of land which can be put to the same use within the market area that is anticipated to be available within the next

ten years; including existing vacant land currently within the city limits; and

d) Consistency of the proposal with the city's growth strategy and infill goals contained within the City's Municipal Service Review.

2. For a change or organization or reorganization where less than 40 acres of commercial or industrial land use is proposed or where less than 100 acres of residential land use is proposed, the proponent shall provide an analysis of likelihood of significant growth based on available information in responding to this standard.

3. An analysis of consistency of the proposed project with the city's Municipal Service Review.

4. Documentation of the city's building permit activity over the past 10 years.

5. A copy of the development agreement (if applicable).

STANDARD NO. 9: PROTECTION OF PRIME AGRICULTURAL LAND

Urban growth shall be guided away from prime agricultural land unless such action would not promote planned, orderly, and efficient development for the agency. Development of existing vacant or non-prime agricultural lands within the agency limits should be encouraged before any proposal is approved for urbanization outside of the agency limits.

Explanation and Discussion

This Standard goes to the heart of the major objective of Cortese-Knox Hertzberg. To make the first sentence of the Standard operative, there has to be a finding as to what "planned, orderly, and effective development" means for each agency.

The second part of the Standard is permissive, in that it encourages rather than mandates the development of vacant or nonprime land already within the agency limits before pushing outward into unincorporated territory.

Maintaining the Integrity of Agricultural Lands

Maintaining the integrity of agricultural lands can only be construed as furthering the purpose of Cortese-Knox Hertzberg to avoid the premature conversion of commercial agricultural lands to urban purposes. LAFCO must evaluate the potential effect of a proposed annexation on neighboring lands in commercial agricultural use to avoid premature pressure for the conversion of such lands to urban use.

Lands included within agricultural preserves under the Williamson Act are to be protected except where land is proposed by the General Plan for eventual urbanization and where the owner had already filed a notice of non-renewal, or where an agency officially protested inclusion of the land under the Williamson Act. In the former situation, the filing of a notice of non-renewal by a landowner starts a ten-year period until the removal is completed, unless findings for cancellation of an agricultural preserve contract are made and penalty tax payments and other requirements for contract cancellation are met. In cases where cancellation of a contract will be required, evidence supporting the cancellation shall be provided to demonstrate that the findings can reasonably be made. In cases where lands were protested for inclusion in an agricultural preserve by an agency, the agency may choose not to succeed to the contract, in which case the agricultural preserve contract will terminate upon annexation.

Encouraging Infill Development

This Cortese-Knox Hertzberg policy calls for "infill" on vacant lands with in municipal boundaries before extending further out into agricultural areas. A reasoned assessment of this policy is needed when one or more of the following conditions exist.

1. Where owners of infill property are not willing to sell at a fair market rate.

2. Where too many recorded lots for single-family housing exists in relation to realistic market demands for all housing types.

3. Where available property is too small in an area to accommodate long-term building objectives of the developer.

4. Where surrounding land use may be incompatible.

5. Where surrounding older housing reflects a deteriorating environment.

6. Where established single-family areas object to higher densities often necessary to justify infill investment.

An absolute requirement for infill could have a negative impact through increases in land value and, in effect can retard growth. Conversely, where adequate lands exist to meet reasonable demands of the housing market for the range of housing types required, infill can be achieved.

Evaluation Criteria

In reviewing and evaluating proposals under this Standard, LAFCO will consider the following five criteria:

1. An annexation may be considered to guide development away from prime agricultural land or other productive lands if one of the following two conditions exists.

    a. It does not contain prime agricultural land as defined under the Cortese-Knox Hertzberg (Government code Section 56064). In determining whether or to what extent land is prime or productive a hierarchy of land classification shall be used based on the following criteria in descending order of importance.

        1) Land that qualifies for rating as class I or class II in the USDA Natural Resources Conservation Service land use capability classification, whether or not land is actually irrigated, provided that irrigation is feasible.

        2) Land that qualifies for rating 80 through 100 in the Storie Index Rating.

        3) Land planted with fruit or nut-bearing trees, vines, bushes, or crops that have a nonbearing period of less than five years and that will

return during the commercial bearing period on an annual basis from the production of unprocessed agricultural plant production not less than four hundred dollars ($400) per acre.

4) Land that has returned from the production of unprocessed agricultural plant products an annual gross value of not less than four hundred dollars ($400) per acre for three of the previous given calendar years.

5) Land that supports livestock used for the production of food and fiber and that has an annual carrying capacity equivalent to at least one animal unit per acre as defined by the United States Department of Agriculture in the National Handbook on Range and Related Grazing Lands, July 1967, developed pursuant to Public Law 46, December 1935.

Lands which are defined under 1 and 2 above are considered prime agricultural lands and have the greatest importance within Solano County. In reviewing lands identified as prime agriculture, consideration will be given to the economic viability of the property and whether the land can be economically and productively farmed.

b. The area is wholly or largely surrounded by urban development.

2. If an annexation includes prime agricultural land, the annexation is considered to promote the planned orderly and efficient development of an area if:

a. The proposed annexation meets the requirements of Standard No. 8; and

b. The proposed annexation either abuts a developed portion of the agency or abuts properties which already are committed to urban development by the extension of streets and other public facilities where service extensions were predicted on adjacent lands within the proposed annexation area being developed to assist in meting bond obligations or other financial instruments against the property; and

c. It can be demonstrated that there are insufficient vacant non-prime lands within the Sphere of Influence planned for the same general purpose because of one or more of the following.

(1) Where land is unavailable at a reasonable market rate as determined by competent market analysis.

(2) Where insufficient land is currently available for the type of land used proposed, as determined by competent market analysis.

(3) Where surrounding land use clearly is incompatible because of the age and condition of structures or mixture of land uses.

3. Notwithstanding the factors listed above, it is the responsibility of an agency to undertake substantial actions to facilitate and encourage the infill of land within a city's limit so to minimize the need for further annexation. Such actions include, but are not limited to, the following:

    a. Redevelopment plans and action programs.

    b. Capital improvement programs.

    c. Changes in land use policies and regulations.

    d. Housing programs, including rehabilitations.

4. Consistency with the city's Municipal Service Review and provisions for guiding future growth away from prime agricultural lands.

5. Annexation shall be prohibited on land under an agricultural preserve contract unless an agency protested the establishment of the contract and the protest was upheld by LAFCO, and/or unless a notice of non-renewal has been filed; evidence that findings supporting cancellation have been made; and the adverse effects of the annexation on the economic integrity of lands in adjoining preserves are can be reasonably mitigated.

Required Documentation

This Standard requires that any application for a change of organization or reorganization containing open-space lands to be converted to an urban use shall provide the following documentation on its impact to prime agricultural land.

1. Documentation as to whether the affected territory contains prime agricultural land as defined under Government Code Section 56064 (evaluation criteria No. 1 above) and/or whether the affected territory is under an agricultural preserve contract.

2. If the affected territory contains prime agricultural land, provide demonstrate compliance with evaluation criteria 2, 3, and 4 above.

3. If the affected territory contains lands under agricultural preserve contract, provide documentation in compliance with evaluation criteria 5 above including a copy of the notice of non-renewal.

STANDARD NO. 10: PROVISION AND COST OF COMMUNITY SERVICES

Adequate urban services shall be available to areas proposed for a change of organization or reorganization

Explanation and Discussion

This standard requires that the applicant obtain verifications from the affected agency(ies) that the full range of services required to serve the affected territory can be provided. For city annexations that propose to convert open space lands to urban uses, the proposal shall be consistent with the city's Municipal Service Review.

A "will serve" letter from the manager/director of the affected agency is required for all changes of organization and reorganizations initiated by petition by registered voters or landowners. Where more than one agency is to provide services, a "will serve" letter, the manager/director of the agency shall provide LAFCO with a statement explaining why the agency is unable to do so.

Where open space lands are proposed to be converted to uses other than open space, LAFCO may "initiate and make studies of existing government agencies. Those studies shall include, but shall not be limited to, inventorying those agencies and determining their maximum service area and service capacities. In conducting those studies, the commission may ask for land use information, studies, and plans of cities, counties, districts, including school districts, community college districts, and regional agencies and state agencies and departments" (56378)

The Municipal Service Review and if applicable, "will serve" letters(s) are intended to resolve any potential service problems related to an application prior to its submittal to LAFCO. LAFCO will consider both the Municipal Service Review , environmental documentation, other studies (as previously noted) , and "will serve" letters(s) (if applicable)in reviewing this standard.

Required Documentation

For proposals initiated by petition, this standard requires that an application of a change of organization or reorganization shall be accompanied by a "will serve" letter or a statement from the affected agency(ies) as follows:

1. If a district change of organization or reorganization, a "will serve" letter from the affected district's director.
2. If a city change of organization or reorganization, a "will serve" letter from the city manager of the affected city and a "will serve" letter from the director of each special district providing services to the affected territory. (i.e. water agencies, sewer districts, recreation district).
3. If a city change of organization or reorganization that includes conversion of open space land to uses other than open space, LAFCO may "initiate and make studies of existing government agencies. Those studies shall include, but shall not be limited to, inventorying those agencies and determining their maximum service area and service capacities. In conducting those studies, the commission may ask for land use information, studies, and plans of cities, counties, districts, including school districts, community college districts, and regional agencies and state agencies and departments" (56378)

4. When an agency will not issue a “will serve” letter, the agency manager/director shall provide a statement explaining why it is unable to do so.

STANDARD NO. 11: THE AFFECT OF THE PROPOSED ACTION ON ADJACENT AREAS, MUTUAL SOCIAL AND ECONOMIC INTERESTS, AND ON LOCAL GOVERNMENTAL STRUCTURE

The application shall describe the effect which the annexation could have on adjacent areas and outside the agency. It shall also describe any social and economic benefits, or detriments, which will accrue to the agency and other affected agencies. The proposal should not be motivated by inter city rivalry, land speculation, or other motivates not in the public interest, and should create no significant negative social or economic effects on the County or neighboring agencies.

Explanation and Discussion

This Standard responds to the Cortese-Knox-Hertzberg factor listed under Section 56668(c). As worded in the law, the factor is somewhat vague and tends to overlap with the purpose of several other Standards, including those pertaining to the protection of agricultural land, meeting needs of the housing market, orderly growth, and the provision of urban services. Consequently, meeting this Standard requires placing in perspective the overall beneficial consequences of a proposal as compared to potential negative impacts, through qualitative analysis.

Examples of mutual social and economic benefits include achieving a balanced housing supply within the community, the provision of commercial areas where existing commercial development does not meet the needs residents, the creation of new employment opportunities to meet the needs of the unemployed or under-employed, protecting sensitive resources, advancing the time when public improvements needed by the larger community may be provided, improvement of levels of service within the community without incurring additional costs or harming other public service providers and protection of communities of regional/national economic and social importance, such as Travis Air Force Base, through the utilization of permanent open space and reserve areas.

These types of benefits may, in a given case, argue for a project as off-setting negative consequences or negative determinations identified in responding to other Discretionary Standards. The written response to this standard provides the opportunity to make a case for a proposal which, based on other standards, might appear to be questionable.

Potential negative impacts upon the County and neighboring agencies will also be considered. Examples include proposals that negatively impact Special District budgets or service provision or proposals that demand Special District services without the provision of adequate funding, threaten major employers, alter current/future military missions or otherwise cause hardship to communities of regional/national economic and social importance.

Required Documentation

In cases where Special Districts might be harmed, either though detachment or annexation, the applicant should work with the Executive Director to identify the affected agencies and work with those agencies to identify and mitigate the impacts. *LAFCO will not normally approve detachments from special districts or annexations that fail to provide for adequate mitigation of the adverse impacts on the district. Where the adverse impact is fiscal, adequate mitigation will normally include a permanent, funding source for lost revenues or increased costs to the affected Special District.* Where potential impacts on other agencies have been identified, the application may be deemed incomplete or the LAFCo hearing continued, until the applicant has met with the affected agencies and made a good faith effort to reach agreement with those agencies on appropriate mitigation.

This standard requires that an application for a change of organization or reorganization show the inter-relationship and effect of the proposed project on adjacent areas, both within and outside the boundaries of the affected agency, and to weigh the overall beneficial aspects of a proposal as compared to the potential negative impacts. The application shall provide a written response to this standard and all supporting documentation regarding mitigation.

LAFCO Action

If the applicant and the affected agencies have reached agreement on *permanent, annual* mitigation for the impacts to affected agencies, LAFCo will normally include the mitigation measures in its terms and conditions approving the change of organization. If the parties have failed to reach agreement, LAFCo shall hear from both sides and determine an appropriate mitigation, if any, and impose that mitigation to the extent it is within its powers. If the needed mitigation is not within LAFCo's authority and approval would, in the determination of the Commission, seriously impair the District's operation, the Commission may choose to deny the application.

SECTION V. MUNICIPAL SERVICE REVIEW

I. PURPOSE

To provide guidance to Solano LAFCO and agencies within its purview in preparing and conducting municipal service reviews (MSR).

II. BACKGROUND

The Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000 (CKH) requires LAFCO to review municipal services. The service review provides LAFCO and agencies within its purview with a tool to comprehensively study existing and future public service conditions and to evaluate organizational options for accommodating growth, preventing urban sprawl while supporting California's anticipated growth, and ensuring that critical services are efficiently and cost-effectively provided. CKH requires all LAFCOs to conduct the MSR prior to updating the spheres of influence (SOI) of the various cities and special districts in the County (Government Code Section 56430). CKH requires an MSR and SOI update every 5 years.

III. FUNCTION OF MUNICIPAL SERVICE REVIEW

Government Code Section 56430 requires LAFCo to conduct MSRs and prepare a written statement of determination with respect to each of the following:

1. **Growth and Population Projections for the Affected Area.** This section reviews projected growth within the existing service boundaries of the city or district and analyzes the city's or district's plans to accommodate future growth.

2. **The location and characteristics of any disadvantaged unincorporated communities within or contiguous to the sphere of influence.** A disadvantaged community is defined as one with a median household income of 80 percent or less of the statewide median income.

3. **Present and Planned Capacity of Public Facilities and Adequacy of Public Services Including Infrastructure Needs or Deficiencies.** This section discusses the services provided including the quality and the ability of the city or district to provide those services, and it will include a discussion of capital improvement projects currently underway and projects planned for the future where applicable.

4. **Financial Ability of Agencies to Provide Services.** This section reviews the city's ir district's fiscal data and rate structure to determine viability and ability to meet service demands. It also addresses funding for capital improvement projects.

5. **Status of and Opportunities for Shared Facilities.** This section examines efficiencies in service delivery that could include sharing facilities with other agencies to reduce costs by avoiding duplication.

6. **Accountability for Community Service Needs, including Government Structure and Operational Efficiencies.** This section examines the city's or district's current government structure, and considers the overall managerial practices. It also examines how well the city or district makes its processes transparent to the public and invites and encourages public participation.

7. **Matters Related to Effective or Efficient Service Delivery Required by Commission Policy.** This section includes a discussion of any Solano LAFCO policies that may affect the ability of a city or district to provide efficient services.

The MSR process does not require LAFCO to initiate changes of organization based on service reviews; it only requires that LAFCO make determinations regarding the provision of public services per the provisions of Government Code Section 56430. However, LAFCO, local agencies, and the public may subsequently use the determinations to pursue changes to services, local jurisdictions, or spheres of influence. Service Reviews are intended to provide a broad analysis of service provision.

IV. WHEN PREPARED

LAFCO will determine when municipal service reviews are necessary. Generally, reviews will be prepared prior to SOI studies or updates. Service reviews may also be conducted independent of the SOI update based on a number of factors, including but not limited to, concerns of affected agencies, the public or LAFCO; public demand for a service review; public health, safety, or welfare issues; service provision issues associated with areas of growth and/or development.

Minor amendments to SOI, as determined by LAFCO, will not require a municipal service review. An amendment to the SOI of any agency may be processed and acted upon by the Commission if all of the following are met:

- The requested amendment, considered along with all other amendments approved in the last 12 months for the agency in aggregate, are less than 40 acres.

- There are no objections from other agencies that are authorized to provide the services the subject agency provides and whose SOI underlies or is adjacent to the subject territory.

- The Commission finds that the proposed amendment would not significantly interfere with the development of the updated SOI of the agency.

VI. LAFCO REVIEW OF MSR PROCESS

It is LAFCO's policy that cities prepare their MSR absent determinations. Upon review of the data LAFCO may request additional information and will add the determinations.

The MSR should be produced in the following format. A sample Table of Contents is shown below along with the sections that LAFCO will complete.

Table of Contents

SECTION VI. ESSENTIAL REQUIREMENTS OF THE CORTESE-KNOX-HERTZBERG ACT

THE LEGISLATURE'S POLICY AND INTENT FOR LAFCO

The State Legislature has set forth specific policy direction to LAFCO in carrying out its duties and responsibilities under the Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000. Specifically LAFCO is directed to:

1) *"Encourage orderly growth and development ....logical formation and determination of local agency boundaries"* (Gov. Code Section 56001)

2) *Encourage and provide for "Planned, well-ordered, efficient urban development patterns with appropriate consideration of preserving open-space lands" (Section 56300).*

3) *"Discouragement of urban sprawl, preserving open space and prime agricultural lands, efficiently providing government services and encouraging the orderly formation and development of local agencies based upon local conditions and circumstances" (Section 56301.)*

In reviewing and approving or disapproving proposals, the legislature has established two priorities for LAFCO (Section 56377):

1) *"Development or use of land for other than open-space uses shall be guided away from existing prime agricultural lands in open-space use toward areas containing nonprime agricultural lands, unless that action would not promote the planned, orderly, efficient development of an area."*

2. *"Development of existing vacant or nonprime agricultural lands for urban uses within the existing jurisdiction of a local agency or within the sphere of influence of a local agency shall be encouraged before any proposal is approved which would allow for or lead to the development of existing open-space lands for non-open-space uses which are outside of the existing jurisdiction of the local agency or outside of the existing sphere of influence of the local agency."*

These policies and priorities are fundamental in their impact on LAFCO's decision process. They give critical dimension to the manner in which individual standards are applied to the factors prescribed by the Cortese-Knox Hertzberg Act.

In addition to the basic policies and priorities discussed above, the Cortese-Knox Hertzberg Act has identified the following factors to be considered in the review of a proposal under Section 56668:

"a. Population, population density; land area and land use; per capita assessed valuation; topography, natural boundaries, and drainage basins; proximity to other populated areas; the likelihood of significant growth in the area, and in adjacent incorporated and unincorporated areas, during the next 10 years.

b. The need for organized community services; the present cost and adequacy of governmental services and controls in the area; probable future needs for those services and controls; probable effect of the proposed incorporation, formation, annexation, or exclusion and of alternative courses of action on the cost and adequacy of services controls in the area and adjacent areas.

c. The effect of the proposed action – and of alternative actions – on adjacent areas, on mutual social and economic interests, and on the local governmental structure of the county.

d. The conformity of both the proposal and its anticipated effects with both the adopted commission policies on providing planned, orderly, efficient patterns of urban development, and the policies and priorities set fort in Section 56377 of this code.

e. The effect of the proposal on maintaining the physical and economic integrity of agricultural lands, as defined by Section 56016.

f. The definiteness and certainty of the boundaries of the territory, the non-conformance of proposed boundaries with lines of assessment or ownership, the creation of islands or corridors of unincorporated territory, and other similar matters affecting the proposed boundaries.

g. Consistency with city or county general and specific plans.

h. The "sphere of influence" of any local agency which may be applicable to the proposal being reviewed.

i. The comments of any affected local agency.

j. The ability of the newly formed or receiving entity to provide the services which are the subject of the application to the area, including the sufficiency of revenues for those services following the boundary change.

k. Timely availability of water supplies adequate for projected needs as specified in Section 65352.5

l. The extent to which the proposal will assist the receiving entity in achieving its fair share of the regional housing needs as determined by the appropriate council of governments.

m. Any information or comments from the landowner or owners, voters, or residents of the affected territory.

n. Any information relating to the existing land use designations.

o. The extent to which the proposal will promote environmental justice. As used in

this subdivision, "environmental justice" means the fair treatment of people of all races, cultures, and incomes with respect to the location of public facilities and the provision of public services.

State of California – Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
Bay Delta Region
2825 Cordelia Road, Suite 100
Fairfield, CA 94534
(707) 428-2002
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GAVIN NEWSOM, Governor
CHARLTON H. BONHAM, Director

April 19, 2023

Albert Enault
City of Vacaville
650 Merchant Street
Vacaville, CA 95688
Albert.Enault@cityofvacaville.com

Subject: The Fields at Alamo Creek Project, Notice of Preparation of a Draft Environmental Impact Report, SCH No. 2023030657, City of Vacaville, Solano County

Dear Mr. Enault:

The California Department of Fish and Wildlife (CDFW) received a Notice of Preparation (NOP) of a Draft Environmental Impact Report (EIR) from the City of Vacaville (City) for The Fields at Alamo Creek Project (Project).

CDFW is providing the City, as the Lead Agency, with specific detail about the scope and content of the environmental information related to CDFW's area of statutory responsibility that must be included in the EIR (Cal. Code Regs., tit. 14, § 15082, subd. (b)).

CDFW ROLE

CDFW is a **Trustee Agency** with responsibility under the California Environmental Quality Act (CEQA) for commenting on projects that could impact fish, plant, and wildlife resources (Pub. Resources Code, § 21000 et seq.; Cal. Code Regs., tit. 14, § 15386). CDFW is also considered a **Responsible Agency** if a project would require discretionary approval, such as a permit pursuant to the California Endangered Species Act (CESA) or Native Plant Protection Act (NPPA), the Lake and Streambed Alteration (LSA) Agreement, and other provisions of the Fish and Game Code that afford protection to the State's fish and wildlife trust resources. Pursuant to our authority, CDFW has the following concerns, comments, and recommendations regarding the Project.

PROJECT DESCRIPTION AND LOCATION

The Project would create a tentative subdivision map for the development of up to 223 detached single-family residential units, a 0.52-acre park, and 6.71 acres of open space agricultural buffer on a 33.6-acre parcel of land located immediately adjacent to the eastern boundary of The Farm at Alamo Creek Specific Plan. Development of the Project would require annexation of the Project site to the City to access municipal services.

The Project would also amend the General Plan Land Use designation from Urban Reserve to Residential Medium Density where the residential units are proposed and Agricultural Buffer or Public Facilities where the open space agricultural buffer is proposed. Additional text amendments to the General Plan are proposed, related to lot counts and size requirements for lots adjacent to an agricultural buffer, as well as a Specific Plan Amendment which would incorporate the Project within The Farm at Alamo Creek Specific Plan. The Project is located in unincorporated Solano County just east of the City of Vacaville on Hawkins Road, 0.5-mile east of Leisure Town Road, at approximately 38.356809°N, -121.922571°W.

The CEQA Guidelines (Cal. Code Regs., tit. 14, § 15000 et seq.) require that the EIR incorporate a full Project description, including reasonably foreseeable future phases of the Project, that contains sufficient information to evaluate and review the Project's environmental impact (CEQA Guidelines, §§ 15124 & 15378). Please include a complete description of the following Project components in the Project description:

- Land use changes resulting from, for example, rezoning certain areas;
- Footprints of permanent Project features and temporarily impacted areas, such as staging areas and access routes;
- Area and plans for any proposed buildings/structures, ground-disturbing activities, fencing, paving, stationary machinery, landscaping, and stormwater systems;
- Operational features of the Project, including level of anticipated human presence (describe seasonal or daily peaks in activity, if relevant), artificial lighting/light reflection, noise, traffic generation, and other features; and
- Construction schedule, activities, equipment, and crew sizes.

REGULATORY REQUIREMENTS

California Endangered Species Act and Native Plant Protection Act

Please be advised that a CESA Incidental Take Permit (ITP) must be obtained if the Project has the potential to result in "take" of plants or animals listed under CESA or NPPA, either during construction or over the life of the Project. Under CESA, "take" means "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill" (Fish & G. Code, § 86). If the Project will impact CESA listed species, such as those identified in **Attachment 1**, early consultation is encouraged, as significant modification to the Project and mitigation measures may be required in order to obtain a CESA ITP. CDFW's issuance of an ITP is subject to CEQA and to facilitate Permit

issuance, any such project modifications and mitigation measures must be incorporated into the EIR's analysis, discussion, and mitigation monitoring and reporting program.

CEQA requires a Mandatory Finding of Significance if a project is likely to substantially restrict the range or reduce the population of a threatened or endangered species (Pub. Resources Code, §§ 21001, subd. (c) & 21083; CEQA Guidelines, §§ 15380, 15064, & 15065). In addition, pursuant to CEQA, the Lead Agency cannot approve a project unless all impacts to the environment are avoided or mitigated to less-than-significant levels, or the Lead Agency makes and supports Findings of Overriding Consideration (FOC) for impacts that remain significant despite the implementation of all feasible mitigation. FOC under CEQA; however, do not eliminate the Project proponent's obligation to comply with the Fish and Game Code.

Lake and Streambed Alteration

An LSA Notification, pursuant to Fish and Game Code sections 1600 et. seq., is required for Project activities affecting lakes or streams and associated riparian habitat. Notification is required for any activity that will substantially divert or obstruct the natural flow; change or use material from the bed, channel, or bank including associated riparian or wetland habitat; or deposit or dispose of material where it may pass into a river, lake or stream. Work within ephemeral streams, washes, watercourses with a subsurface flow, and floodplains are subject to notification requirements. CDFW may not execute the final LSA Agreement until it has considered the final EIR and complied with its responsibilities as a Responsible Agency under CEQA.

ENVIRONMENTAL SETTING

The EIR should provide sufficient information regarding the environmental setting ("baseline") to understand the Project's, and its alternative's (if applicable), potentially significant impacts on the environment (CEQA Guidelines, §§ 15125 & 15360).

CDFW recommends that the CEQA document prepared for the Project provide baseline habitat assessments for special-status plants, fish and wildlife species located and potentially located within the Project area and surrounding lands, including, but not limited to, all rare, threatened, or endangered species (CEQA Guidelines, § 15380). The EIR should describe aquatic habitats, such as wetlands or waters of the U.S. or State, and any sensitive natural communities or riparian habitat occurring on or adjacent to the Project site (for sensitive natural communities see: https://wildlife.ca.gov/Data/VegCAMP/NaturalCommunities#sensitive%20natural%20communities), and any stream or wetland set back distances the City may require. Fully protected, threatened or endangered, candidate, and other special-status species that are known to occur, or have the potential to occur in or near the Project site, include, but are not limited to, those listed in **Attachment 1**.

Habitat descriptions and the potential for species occurrence included in the EIR should include robust information from multiple sources: aerial imagery, historical and recent survey data, field reconnaissance, scientific literature and reports, U.S. Fish and Wildlife Service's (USFWS) Information, Planning, and Consultation System, California Aquatic Resources Inventory, *draft* Solano Multispecies Habitat Conservation Plan (see: https://www.scwa2.com/solano-multispecies-habitat-conservation-plan/), and findings from "positive occurrence" databases such as California Natural Diversity Database (CNDDB). Only with sufficient data and information from the habitat assessment, can the City adequately assess which special-status species are likely to occur on or near the Project site, and whether they could be impacted by the Project.

CDFW recommends that prior to Project implementation, surveys be conducted for special-status species with potential to occur, following recommended survey protocols if available. Survey and monitoring protocols and guidelines are available at: https://www.wildlife.ca.gov/Conservation/Survey-Protocol.

Botanical surveys for special-status plant species, including those with a California Rare Plant Rank (http://www.cnps.org/cnps/rareplants/inventory/)[1], must be conducted during the blooming period within the Project area and adjacent habitats that may be indirectly impacted by, for example, changes to hydrological conditions, and require the identification of reference populations. More than one year of surveys may be necessary based on environmental conditions. Please refer to CDFW protocols for surveying and evaluating impacts to special-status-plants available at: https://www.wildlife.ca.gov/Conservation/Plants.

IMPACT ANALYSIS AND MITIGATION MEASURES

The EIR should discuss all direct and indirect impacts (temporary and permanent) that may occur with implementation of the Project (CEQA Guidelines, § 15126.2). This includes evaluating and describing impacts such as:

- Land use changes that would reduce open space or agricultural land uses and increase residential or other land use involving increased development;
- Encroachments into riparian habitats, wetlands or other sensitive areas;
- Potential for impacts to special-status species;

[1] California Rare Plant Rank (CRPR) 1B plants are considered rare, threatened, or endangered in California and elsewhere. Further information on CRPR ranks is available in CDFW's *Special Vascular Plants, Bryophytes, and Lichens List* (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109383&inline) and on the California Native Plant Society website (https://www.cnps.org/rare-plants/cnps-rare-plant-ranks).

- Loss or modification of breeding, nesting, dispersal and foraging habitat, including vegetation removal, alternation of soils and hydrology, and removal of habitat structural features (e.g., snags, roosts, vegetation overhanging banks);

- Permanent and temporary habitat disturbances associated with ground disturbance, noise, lighting, reflection, air pollution, traffic or human presence; and

- Obstruction of movement corridors, fish passage, or access to water sources and other core habitat features.

The EIR should also identify existing and reasonably foreseeable future projects in the Project vicinity, disclose any cumulative impacts associated with these projects, determine the significance of each cumulative impact, and assess the significance of the Project's contribution to each impact (CEQA Guidelines, §15355). Although a project's impacts may be insignificant individually, its contributions to a cumulative impact may be considerable; a contribution to a significant cumulative impact (e.g., reduction of available habitat for a special-status species) should be considered cumulatively considerable without mitigation to minimize or avoid the impact.

The CEQA Guidelines direct the City, as the Lead Agency, to consider and describe in the EIR all feasible mitigation measures to avoid and/or mitigate potentially significant impacts of the Project on the environment based on comprehensive analysis of the direct, indirect, and cumulative impacts of the Project (CEQA Guidelines, §§ 15021, 15063, 15071, 15126.2, 15126.4 & 15370). This should include a discussion of impact avoidance and minimization measures for special-status species, which are recommended to be developed in early consultation with CDFW, USFWS, and the National Marine Fisheries Service. These measures can then be incorporated as enforceable Project conditions to reduce potential impacts to biological resources to less-than-significant levels.

ENVIRONMENTAL DATA

CEQA requires that information developed in EIRs and negative declarations be incorporated into a database which may be used to make subsequent or supplemental environmental determinations (Pub. Resources Code, § 21003, subd. (e)). Accordingly, please report any special-status species and natural communities detected during Project surveys to CNDDB. The CNDDB online field survey form and other methods for submitting data can be found at the following link: https://wildlife.ca.gov/Data/CNDDB/Submitting-Data. The types of information reported

to CNDDB can be found at the following link: https://wildlife.ca.gov/Data/CNDDB/Plantsand-Animals.

FILING FEES

CDFW anticipates that the proposed Project will have an impact on fish and/or wildlife, and assessment of filing fees is necessary to defray the costs of CDFW's review under CEQA (Fish & G. Code, § 711.4; Pub. Resources Code, § 21089). Fees are payable upon filing of the Notice of Determination by the Lead Agency.

If you have any questions, please contact Alexander Single, Environmental Scientist, at (707) 980-5154 or Alexander.Single@wildlife.ca.gov; or Melanie Day, Senior Environmental Scientist (Supervisory), at (707) 210-4415 or Melanie.Day@wildlife.ca.gov.

Sincerely,

DocuSigned by:
Erin Chappell
B77E9A6211EF486...

Erin Chappell
Regional Manager
Bay Delta Region

Attachment 1: Special-Status Species

ec: Office of Planning and Research, State Clearinghouse (SCH No. 2023030657)

Attachment 1: Special-Status Species

Species Name	Common Name	Status
Ambystoma californiense	California tiger salamander, Central California Distinct Population Segment	ST, FT
Buteo swainsoni	Swainson’s hawk	ST
Agelaius tricolor	Tricolored blackbird	ST
Ahene cunicularia	Burrowing owl	SSC
Elanus leucurus	White-tailed kite	FP
Taxidea taxus	American badger	SSC
Ammodramus savannarum	grasshopper sparrow	SSC
Lanius ludovicianus	Loggerhead shrike	SSC
Circus hudsonius	Northern harrier	SSC
Emys marmorata	western pond turtle	SSC
Navarretia leucocephala ssp. *bakeri*	Baker's navarretia	CRPR 1B.1
Trifolium amoenum	two-fork clover	CRPR 1B.1
Astragalus tener var. *tener*	alkali milk-vetch	CRPR 1B.2
Atriplex cordulata **var.** *cordulata*	heartscale	CRPR 1B.2
Delphinium recurvatum	recurved larkspur	CRPR 1B.2
Extriplex joaquinana	San Joaquin spearscale	CRPR 1B.2
Fritillaria pluriflora	adobe-lily	CRPR 1B.2

FT = federally listed as threatened under the Endangered Species Act (ESA); FP = state fully protected under Fish and Game Code; ST = state listed as threatened under CESA; SSC = state Species of Special Concern; CRPR = California Rare Plant Rank

Department of Toxic Substances Control

Yana Garcia
Secretary for
Environmental Protection

Meredith Williams, Ph.D.
Director
8800 Cal Center Drive
Sacramento, California 95826-3200

Gavin Newsom
Governor

SENT VIA ELECTRONIC MAIL

April 21, 2023

Mr. Albert Enault
City of Vacaville
650 Merchant Street
Vacaville, CA 95688
Albert.Enault@cityofvacaville.com

NOTICE OF PREPARATION OF AN ENVIRONMENTAL IMPACT REPORT FOR THE FIELDS AT ALAMO CREEK – DATED MARCH 24, 2023 (STATE CLEARINGHOUSE NUMBER: 2023030657)

Dear Mr. Enault:

The Department of Toxic Substances Control (DTSC) received a Notice of Preparation of an Environmental Impact Report (EIR) for the Fields at Alamo Creek Project (Project). The Lead Agency is receiving this notice from DTSC because the Project includes one or more of the following: groundbreaking activities, work in close proximity to a roadway, importation of backfill soil, and/or work on or in close proximity to an agricultural or former agricultural site.

DTSC recommends that the following issues be evaluated in the Hazards and Hazardous Materials section of the EIR:

1. California Environmental Quality Act documents frequently reference the listing compiled in accordance with California Government Code Section 65962.5, commonly known as the Cortese List. Not all sites impacted by hazardous waste or hazardous substances will be found on the Cortese List. DTSC recommends that the Hazards and Hazardous Materials section of the EIR address actions to be taken for any sites impacted by hazardous waste or hazardous substances within the Project area, not just those found on the Cortese List. DTSC recommends consulting with other agencies that may provide oversight to hazardous waste facilities or sites impacted with hazardous substances in order to determine a comprehensive listing of all sites impacted by hazardous waste or

substances within the Project area. DTSC hazardous waste facilities and sites with known or suspected contamination issues can be found on DTSC's EnviroStor data management system. The EnviroStor Map feature can be used to locate hazardous waste facilities and sites with known or suspected contamination issues for a county, city, or a specific address

2. A State of California environmental regulatory agency such as DTSC, a Regional Water Quality Control Board (RWQCB), or a local agency that meets the requirements of Health and Safety Code section 101480 should provide regulatory concurrence that the Project site is safe for construction and the proposed use.

3. The EIR should acknowledge the potential for historic or future activities on or near the Project site to result in the release of hazardous wastes/substances on the Project site. In instances in which releases have occurred or may occur, further studies should be carried out to delineate the nature and extent of the contamination, and the potential threat to public health and/or the environment should be evaluated. The EIR should also identify the mechanism(s) to initiate any required investigation and/or remediation and the government agency who will be responsible for providing appropriate regulatory oversight.

4. Refiners in the United States started adding lead compounds to gasoline in the 1920s in order to boost octane levels and improve engine performance. This practice did not officially end until 1992 when lead was banned as a fuel additive in California. Tailpipe emissions from automobiles using leaded gasoline contained lead and resulted in aerially deposited lead (ADL) being deposited in and along roadways throughout the state. ADL-contaminated soils still exist along roadsides and medians and can also be found underneath some existing road surfaces due to past construction activities. Due to the potential for ADL-contaminated soil, DTSC recommends collecting soil samples for lead analysis prior to performing any intrusive activities for the Project described in the EIR.

5. If any projects initiated as part of the proposed Project require the importation of soil to backfill any excavated areas, proper sampling should be conducted to ensure that the imported soil is free of contamination. DTSC recommends the imported materials be characterized according to DTSC's 2001 *Information Advisory Clean Imported Fill Material*.

6. If any sites included as part of the proposed Project have been used for agricultural, weed abatement or related activities, proper investigation for organochlorinated pesticides should be discussed in the EIR. DTSC

recommends the current and former agricultural lands be evaluated in accordance with DTSC's 2008 *Interim Guidance for Sampling Agricultural Properties (Third Revision)*.

DTSC appreciates the opportunity to comment on the EIR. Should you need any assistance with an environmental investigation, please visit DTSC's Site Mitigation and Restoration Program page to apply for lead agency oversight. Additional information regarding voluntary agreements with DTSC can be found at DTSC's Brownfield website.

If you have any questions, please contact me at (916) 255-3710 or via email at Gavin.McCreary@dtsc.ca.gov.

Sincerely,

Gavin McCreary, M.S.
Project Manager
Site Evaluation and Remediation Unit
Site Mitigation and Restoration Program
Department of Toxic Substances Control

cc: (via email)

Governor's Office of Planning and Research
State Clearinghouse
State.Clearinghouse@opr.ca.gov

Mr. Dave Kereazis
Office of Planning & Environmental Analysis
Department of Toxic Substances Control
Dave.Kereazis@dtsc.ca.gov

24 April 2023

Albert Enault
City of Vacaville
650 Merchant Street
Vacaville, CA 95688
albert.enault@cityofvacaville.com

COMMENTS TO REQUEST FOR REVIEW FOR THE NOTICE OF PREPARATION FOR THE DRAFT ENVIRONMENTAL IMPACT REPORT, FIELDS AT ALAMO CREEK PROJECT, SCH#2023030657, SOLANO COUNTY

Pursuant to the State Clearinghouse's 24 March 2023 request, the Central Valley Regional Water Quality Control Board (Central Valley Water Board) has reviewed the *Request for Review for the Notice of Preparation for the Draft Environmental Impact Report* for the Fields at Alamo Creek Project, located in Solano County.

Our agency is delegated with the responsibility of protecting the quality of surface and groundwaters of the state; therefore, our comments will address concerns surrounding those issues.

I. Regulatory Setting

Basin Plan

The Central Valley Water Board is required to formulate and adopt Basin Plans for all areas within the Central Valley region under Section 13240 of the Porter-Cologne Water Quality Control Act. Each Basin Plan must contain water quality objectives to ensure the reasonable protection of beneficial uses, as well as a program of implementation for achieving water quality objectives with the Basin Plans. Federal regulations require each state to adopt water quality standards to protect the public health or welfare, enhance the quality of water and serve the purposes of the Clean Water Act. In California, the beneficial uses, water quality objectives, and the Antidegradation Policy are the State's water quality standards. Water quality standards are also contained in the National Toxics Rule, 40 CFR Section 131.36, and the California Toxics Rule, 40 CFR Section 131.38.

The Basin Plan is subject to modification as necessary, considering applicable laws, policies, technologies, water quality conditions and priorities. The original Basin Plans were adopted in 1975, and have been updated and revised periodically as required, using Basin Plan amendments. Once the Central Valley Water Board has adopted a Basin Plan amendment in noticed public hearings, it must be approved by the State Water Resources Control Board (State Water Board), Office of

Administrative Law (OAL) and in some cases, the United States Environmental Protection Agency (USEPA). Basin Plan amendments only become effective after they have been approved by the OAL and in some cases, the USEPA. Every three (3) years, a review of the Basin Plan is completed that assesses the appropriateness of existing standards and evaluates and prioritizes Basin Planning issues. For more information on the *Water Quality Control Plan for the Sacramento and San Joaquin River Basins*, please visit our website:
http://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/

Antidegradation Considerations

All wastewater discharges must comply with the Antidegradation Policy (State Water Board Resolution 68-16) and the Antidegradation Implementation Policy contained in the Basin Plan. The Antidegradation Implementation Policy is available on page 74 at:
https://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/sacsjr_201805.pdf

In part it states:

Any discharge of waste to high quality waters must apply best practicable treatment or control not only to prevent a condition of pollution or nuisance from occurring, but also to maintain the highest water quality possible consistent with the maximum benefit to the people of the State.

This information must be presented as an analysis of the impacts and potential impacts of the discharge on water quality, as measured by background concentrations and applicable water quality objectives.

The antidegradation analysis is a mandatory element in the National Pollutant Discharge Elimination System and land discharge Waste Discharge Requirements (WDRs) permitting processes. The environmental review document should evaluate potential impacts to both surface and groundwater quality.

II. Permitting Requirements

Construction Storm Water General Permit

Dischargers whose project disturb one or more acres of soil or where projects disturb less than one acre but are part of a larger common plan of development that in total disturbs one or more acres, are required to obtain coverage under the General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit), Construction General Permit Order No. 2009-0009-DWQ. Construction activity subject to this permit includes clearing, grading, grubbing, disturbances to the ground, such as stockpiling, or excavation, but does not include regular maintenance activities performed to restore the original line, grade, or capacity of the facility. The Construction General Permit requires the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP). For more information on the Construction General Permit, visit the State Water Resources Control Board website at:
http://www.waterboards.ca.gov/water_issues/programs/stormwater/constpermits.shtml

Phase I and II Municipal Separate Storm Sewer System (MS4) Permits[1]

The Phase I and II MS4 permits require the Permittees reduce pollutants and runoff flows from new development and redevelopment using Best Management Practices (BMPs) to the maximum extent practicable (MEP). MS4 Permittees have their own development standards, also known as Low Impact Development (LID)/post-construction standards that include a hydromodification component. The MS4 permits also require specific design concepts for LID/post-construction BMPs in the early stages of a project during the entitlement and CEQA process and the development plan review process.

For more information on which Phase I MS4 Permit this project applies to, visit the Central Valley Water Board website at:
http://www.waterboards.ca.gov/centralvalley/water_issues/storm_water/municipal_permits/

For more information on the Phase II MS4 permit and who it applies to, visit the State Water Resources Control Board at:
http://www.waterboards.ca.gov/water_issues/programs/stormwater/phase_ii_municipal.shtml

Clean Water Act Section 404 Permit

If the project will involve the discharge of dredged or fill material in navigable waters or wetlands, a permit pursuant to Section 404 of the Clean Water Act may be needed from the United States Army Corps of Engineers (USACE). If a Section 404 permit is required by the USACE, the Central Valley Water Board will review the permit application to ensure that discharge will not violate water quality standards. If the project requires surface water drainage realignment, the applicant is advised to contact the Department of Fish and Game for information on Streambed Alteration Permit requirements. If you have any questions regarding the Clean Water Act Section 404 permits, please contact the Regulatory Division of the Sacramento District of USACE at (916) 557-5250.

Clean Water Act Section 401 Permit – Water Quality Certification

If an USACE permit (e.g., Non-Reporting Nationwide Permit, Nationwide Permit, Letter of Permission, Individual Permit, Regional General Permit, Programmatic General Permit), or any other federal permit (e.g., Section 10 of the Rivers and Harbors Act or Section 9 from the United States Coast Guard), is required for this project due to the disturbance of waters of the United States (such as streams and wetlands), then a Water Quality Certification must be obtained from the Central Valley Water Board prior to initiation of project activities. There are no waivers for 401 Water Quality Certifications. For more information on the Water Quality Certification, visit the Central Valley Water Board website at:

[1] Municipal Permits = The Phase I Municipal Separate Storm Water System (MS4) Permit covers medium sized Municipalities (serving between 100,000 and 250,000 people) and large sized municipalities (serving over 250,000 people). The Phase II MS4 provides coverage for small municipalities, including non-traditional Small MS4s, which include military bases, public campuses, prisons and hospitals.

https://www.waterboards.ca.gov/centralvalley/water_issues/water_quality_certification/

Waste Discharge Requirements – Discharges to Waters of the State

If USACE determines that only non-jurisdictional waters of the State (i.e., "non-federal" waters of the State) are present in the proposed project area, the proposed project may require a Waste Discharge Requirement (WDR) permit to be issued by Central Valley Water Board. Under the California Porter-Cologne Water Quality Control Act, discharges to all waters of the State, including all wetlands and other waters of the State including, but not limited to, isolated wetlands, are subject to State regulation. For more information on the Waste Discharges to Surface Water NPDES Program and WDR processes, visit the Central Valley Water Board website at:https://www.waterboards.ca.gov/centralvalley/water_issues/waste_to_surface_water/

Projects involving excavation or fill activities impacting less than 0.2 acre or 400 linear feet of non-jurisdictional waters of the state and projects involving dredging activities impacting less than 50 cubic yards of non-jurisdictional waters of the state may be eligible for coverage under the State Water Resources Control Board Water Quality Order No. 2004-0004-DWQ (General Order 2004-0004). For more information on the General Order 2004-0004, visit the State Water Resources Control Board website at:
https://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2004/wqo/wqo2004-0004.pdf

Dewatering Permit

If the proposed project includes construction or groundwater dewatering to be discharged to land, the proponent may apply for coverage under State Water Board General Water Quality Order (Low Threat General Order) 2003-0003 or the Central Valley Water Board's Waiver of Report of Waste Discharge and Waste Discharge Requirements (Low Threat Waiver) R5-2018-0085. Small temporary construction dewatering projects are projects that discharge groundwater to land from excavation activities or dewatering of underground utility vaults. Dischargers seeking coverage under the General Order or Waiver must file a Notice of Intent with the Central Valley Water Board prior to beginning discharge.

For more information regarding the Low Threat General Order and the application process, visit the Central Valley Water Board website at:
http://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2003/wqo/wqo2003-0003.pdf

For more information regarding the Low Threat Waiver and the application process, visit the Central Valley Water Board website at:
https://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/waivers/r5-2018-0085.pdf

Limited Threat General NPDES Permit

If the proposed project includes construction dewatering and it is necessary to discharge the groundwater to waters of the United States, the proposed project will

require coverage under a National Pollutant Discharge Elimination System (NPDES) permit. Dewatering discharges are typically considered a low or limited threat to water quality and may be covered under the General Order for *Limited Threat Discharges to Surface Water* (Limited Threat General Order). A complete Notice of Intent must be submitted to the Central Valley Water Board to obtain coverage under the Limited Threat General Order. For more information regarding the Limited Threat General Order and the application process, visit the Central Valley Water Board website at: https://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/general_orders/r5-2016-0076-01.pdf

NPDES Permit

If the proposed project discharges waste that could affect the quality of surface waters of the State, other than into a community sewer system, the proposed project will require coverage under a National Pollutant Discharge Elimination System (NPDES) permit. A complete Report of Waste Discharge must be submitted with the Central Valley Water Board to obtain a NPDES Permit. For more information regarding the NPDES Permit and the application process, visit the Central Valley Water Board website at: https://www.waterboards.ca.gov/centralvalley/help/permit/

If you have questions regarding these comments, please contact me at (916) 464-4684 or Peter.Minkel2@waterboards.ca.gov.

Peter Minkel

Peter Minkel
Engineering Geologist

cc: State Clearinghouse unit, Governor's Office of Planning and Research, Sacramento

NOP and Comments Received

Revised NOP Date: July 27, 2023

CITY OF VACAVILLE
COMMUNITY DEVELOPMENT DEPARTMENT
650 Merchant Street • Vacaville, CA 95688 • CityofVacaville.gov • 707.449.5140

NOTICE OF PREPARATION (REVISED)

SUPPLEMENTAL ENVIRONMENTAL IMPACT REPORT
THE FIELDS AT ALAMO CREEK PROJECT

DATE OF NOTICE: **Thursday, July 27, 2023**

SUBJECT: **REVISED NOTICE OF PREPARATION (NOP) OF AN INITIAL STUDY AND SUPPLEMENTAL ENVIRONMENTAL IMPACT REPORT (SEIR) FOR THE FIELDS AT ALAMO CREEK PROJECT**

LEAD AGENCY: City of Vacaville, Community Development Department

PROJECT TITLE: The Fields at Alamo Creek

PROJECT LOCATION: South of Hawkins Road, approximately 2,600 feet east of Leisure Town Road, City of Vacaville, Solano County (APN: 0138-010-040)

COMMENT PERIOD: July 27, 2023 through August 25, 2023

Notice is hereby given that the City of Vacaville (City) will be the lead agency and will prepare a Supplemental Environmental Impact Report (SEIR) for the proposed Fields at Alamo Creek Project (Project). An initial Notice of Preparation (NOP) was issued by the City on March 23, 2023. However, the project has been revised, and a revised NOP has been issued to notify responsible and trustee agencies and other interested parties that the City will be preparing an SEIR to The Farm at Alamo Creek Specific Plan EIR, which is a larger development project that was previously approved in 2019 and adjoins The Fields at Alamo Creek project site to the west. The Project will be relying on future improvements from the Farm at Alamo Creek. The purpose of this NOP is to request feedback on the scope and content of the analysis to be evaluated in the SEIR.

Written comments on the scope of the SEIR may be sent to:

Albert Enault
Senior Planner
City of Vacaville
650 Merchant Street
Vacaville, CA 95688
Phone: (707) 449-5364
albert.enault@cityofvacaville.com

The 30-day comment period for the NOP is from **July 27, 2023** through **August 25, 2023**. Comments on the NOP are due no later than 5:30 PM on Friday, August 25, 2023. Public agencies that provide comments are asked to include a contact person for the agency.

MAJOR PROJECT CHANGES:

- Increased residential unit count from 223 units to 241 units
- Change in product type from detached single-family to a mix of detached and attached single-family
- Increased pocket park size from 0.52 acres to 0.6 acres
- Increased open space/agricultural buffer size from 6.71 acres to 7.2 acres
- Changed proposed agricultural buffer zoning from Public Facilities to Public Facilities with Agricultural Buffer overlay

PROJECT LOCATION AND EXISTING CONDITIONS: The proposed project site is located within unincorporated Solano County immediately adjacent to the eastern City limits bordered by Hawkins Road to the north, the adopted The Farm at Alamo Creek Specific Plan to the west and to the south, and PG&E overhead transmission lines and undeveloped agricultural lands to the east. The project site is currently undeveloped agricultural land designated by the Department of Conservation as Prime Farmland that does not contain any trees or buildings. A Solano Irrigation District canal runs adjacent to Hawkins Road along the north side of the property. The project site is located within the City's Sphere of Influence and Urban Growth boundary.

REVISED PROJECT DESCRIPTION: The revised Fields at Alamo Creek proposal includes a tentative subdivision map for the development of up to 241 residential lots which include 153 detached single-family residential lots and 88 half-plex lots for attached homes, as well as a 0.6-acre park, and 7.2 acres of open space/agricultural buffer on a 33.6-acre parcel of land located immediately adjacent to the eastern boundary of The Farm at Alamo Creek Specific Plan area. The half-plex lots would provide an attached housing option matching the "duet" units in the Farm at Alamo Creek Specific Plan. The proposed park would be centrally located on the site, and the 300-foot-wide open space agricultural buffer would border the eastern project boundary.

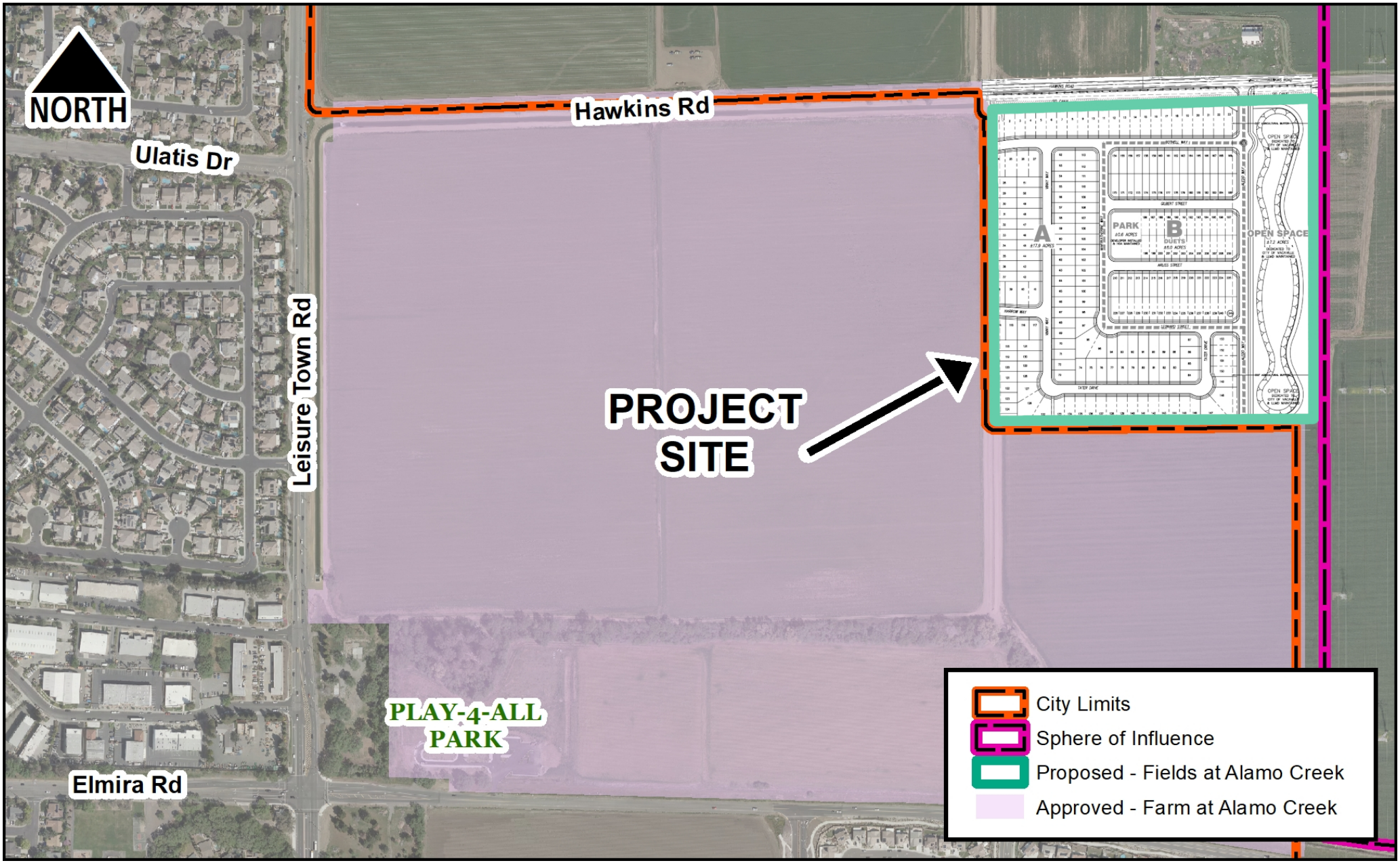
Development of the proposed project would require annexation to the City to access municipal services, such as water, sewer, and storm drainage. The project applicant is requesting to amend the General Plan Land Use designation from Urban Reserve to Residential Medium Density where the residential units are proposed and Agricultural Buffer where the open space agricultural buffer is proposed. Additional text amendments to the General Plan are proposed, related to lot counts and size requirements for lots adjacent to an agricultural buffer. The project site is zoned A-40, Exclusive Agricultural 40 acres in the Solano County General Plan (Solano County 2008). The project is requesting the site be zoned Residential Medium Density for the residential area and Public Facilities with the Agricultural Buffer overlay for the open space area. Because the project site is designated as Prime Farmland, the project would be required to purchase conservation easements or fund the creation of new irrigated Prime Farmland, pursuant to the General Plan. The project also requests a Specific Plan Amendment which would incorporate the proposed project within The Farm at Alamo Creek Specific Plan. The Farm at Alamo Creek Specific Plan assumed future development would occur at the project site and provided for road and utility connections. The proposed project would integrate the planned connections into the project design, as well as land use patterns and design characteristics that are included in The Farm at Alamo Creek Specific Plan.

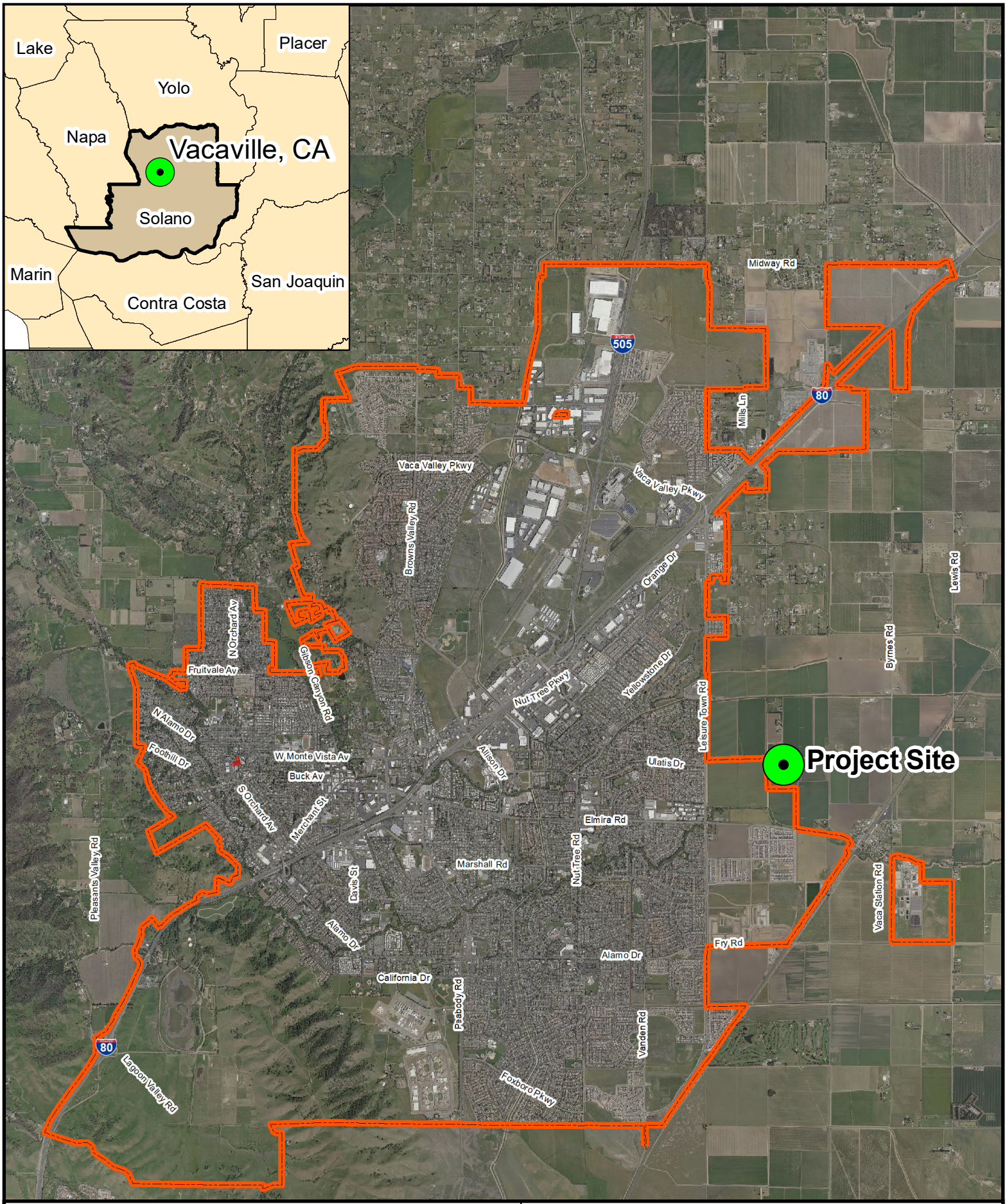
WEBSITE INFORMATION: https://bit.ly/FieldsAtAlamoCreek

POTENTIAL ENVIRONMENTAL EFFECTS: The SEIR will evaluate changes in the physical environment that could occur as a result of the approval of the proposed project and whether these issues would result in new or substantially more severe significant impacts than identified in The Farm at Alamo Creek Specific Plan EIR. It is anticipated that the preparation of an SEIR, per CEQA Guidelines Section 15163 would address, at a minimum, the following environmental topics: Air Quality, Biological Resources, Land Use, Utilities and Service Systems, and Transportation.

For the following environmental topics, it is anticipated that the proposed project would not involve new or more severe environmental impacts that were not evaluated in The Farm at Alamo Creek Specific Plan EIR, and therefore would not be evaluated in the SEIR. These environmental topics not evaluated in the SEIR would be described and an explanation would be provided describing why the analysis in The Farm at Alamo Creek Specific Plan EIR adequately addresses the proposed project.

- Aesthetics
- Agriculture and Forestry Resources
- Cultural Resources
- Geology, Soils, Seismicity
- Greenhouse Gases
- Mineral Resources
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Population and Housing
- Public Services and Recreation
- Wildfire


NORTH
Ulatis Dr
Hawkins Rd
Leisure Town Rd
PROJECT SITE
PLAY-4-ALL PARK
Elmira Rd
PARK
A
B
DUETS
OPEN SPACE
City Limits
Sphere of Influence
Proposed - Fields at Alamo Creek
Approved - Farm at Alamo Creek



CITY OF VACAVILLE
COMMUNITY DEVELOPMENT DEPT.
PLANNING DIVISION

NORTH

LOCATION MAP

THE FIELDS AT ALAMO CREEK
SOUTH OF HAWKINS ROAD & KATLEBA LANE
(APN 0138-010-040)

NATIVE AMERICAN HERITAGE COMMISSION

NAHC HEADQUARTERS
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov
NAHC.ca.gov

August 2, 2023

Albert Enault
City of Vacaville
650 Merchant St.
Vacaville, CA 95688

Re: 2023030657, The Fields at Alamo Creek Project, Solano County

Dear Mr. Enault:

The Native American Heritage Commission (NAHC) has received the Notice of Preparation (NOP), Draft Environmental Impact Report (DEIR) or Early Consultation for the project referenced above. The California Environmental Quality Act (CEQA) (Pub. Resources Code §21000 et seq.), specifically Public Resources Code §21084.1, states that a project that may cause a substantial adverse change in the significance of a historical resource, is a project that may have a significant effect on the environment. (Pub. Resources Code § 21084.1; Cal. Code Regs., tit.14, §15064.5 (b) (CEQA Guidelines §15064.5 (b)). If there is substantial evidence, in light of the whole record before a lead agency, that a project may have a significant effect on the environment, an Environmental Impact Report (EIR) shall be prepared. (Pub. Resources Code §21080 (d); Cal. Code Regs., tit. 14, § 5064 subd.(a)(1) (CEQA Guidelines §15064 (a)(1)). In order to determine whether a project will cause a substantial adverse change in the significance of a historical resource, a lead agency will need to determine whether there are historical resources within the area of potential effect (APE).

CEQA was amended significantly in 2014. Assembly Bill 52 (Gatto, Chapter 532, Statutes of 2014) (AB 52) amended CEQA to create a separate category of cultural resources, "tribal cultural resources" (Pub. Resources Code §21074) and provides that a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment. (Pub. Resources Code §21084.2). Public agencies shall, when feasible, avoid damaging effects to any tribal cultural resource. (Pub. Resources Code §21084.3 (a)). **AB 52 applies to any project for which a notice of preparation, a notice of negative declaration, or a mitigated negative declaration is filed on or after July 1, 2015.** If your project involves the adoption of or amendment to a general plan or a specific plan, or the designation or proposed designation of open space, on or after March 1, 2005, it may also be subject to Senate Bill 18 (Burton, Chapter 905, Statutes of 2004) (SB 18). **Both SB 18 and AB 52 have tribal consultation requirements**. If your project is also subject to the federal National Environmental Policy Act (42 U.S.C. § 4321 et seq.) (NEPA), the tribal consultation requirements of Section 106 of the National Historic Preservation Act of 1966 (154 U.S.C. 300101, 36 C.F.R. §800 et seq.) may also apply.

The NAHC recommends consultation with California Native American tribes that are traditionally and culturally affiliated with the geographic area of your proposed project as early as possible in order to avoid inadvertent discoveries of Native American human remains and best protect tribal cultural resources. Below is a brief summary of portions of AB 52 and SB 18 as well as the NAHC's recommendations for conducting cultural resources assessments.

Consult your legal counsel about compliance with AB 52 and SB 18 as well as compliance with any other applicable laws.

AB 52

AB 52 has added to CEQA the additional requirements listed below, along with many other requirements:

1. Fourteen Day Period to Provide Notice of Completion of an Application/Decision to Undertake a Project: Within fourteen (14) days of determining that an application for a project is complete or of a decision by a public agency to undertake a project, a lead agency shall provide formal notification to a designated contact of, or tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, to be accomplished by at least one written notice that includes:

- **a.** A brief description of the project.
- **b.** The lead agency contact information.
- **c.** Notification that the California Native American tribe has 30 days to request consultation. (Pub. Resources Code §21080.3.1 (d)).
- **d.** A "California Native American tribe" is defined as a Native American tribe located in California that is on the contact list maintained by the NAHC for the purposes of Chapter 905 of Statutes of 2004 (SB 18). (Pub. Resources Code §21073).

2. Begin Consultation Within 30 Days of Receiving a Tribe's Request for Consultation and Before Releasing a Negative Declaration, Mitigated Negative Declaration, or Environmental Impact Report: A lead agency shall begin the consultation process within 30 days of receiving a request for consultation from a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project. (Pub. Resources Code §21080.3.1, subds. (d) and (e)) and prior to the release of a negative declaration, mitigated negative declaration or Environmental Impact Report. (Pub. Resources Code §21080.3.1(b)).

- **a.** For purposes of AB 52, "consultation shall have the same meaning as provided in Gov. Code §65352.4 (SB 18). (Pub. Resources Code §21080.3.1 (b)).

3. Mandatory Topics of Consultation If Requested by a Tribe: The following topics of consultation, if a tribe requests to discuss them, are mandatory topics of consultation:

- **a.** Alternatives to the project.
- **b.** Recommended mitigation measures.
- **c.** Significant effects. (Pub. Resources Code §21080.3.2 (a)).

4. Discretionary Topics of Consultation: The following topics are discretionary topics of consultation:

- **a.** Type of environmental review necessary.
- **b.** Significance of the tribal cultural resources.
- **c.** Significance of the project's impacts on tribal cultural resources.
- **d.** If necessary, project alternatives or appropriate measures for preservation or mitigation that the tribe may recommend to the lead agency. (Pub. Resources Code §21080.3.2 (a)).

5. Confidentiality of Information Submitted by a Tribe During the Environmental Review Process: With some exceptions, any information, including but not limited to, the location, description, and use of tribal cultural resources submitted by a California Native American tribe during the environmental review process shall not be included in the environmental document or otherwise disclosed by the lead agency or any other public agency to the public, consistent with Government Code §6254 (r) and §6254.10. Any information submitted by a California Native American tribe during the consultation or environmental review process shall be published in a confidential appendix to the environmental document unless the tribe that provided the information consents, in writing, to the disclosure of some or all of the information to the public. (Pub. Resources Code §21082.3 (c)(1)).

6. Discussion of Impacts to Tribal Cultural Resources in the Environmental Document: If a project may have a significant impact on a tribal cultural resource, the lead agency's environmental document shall discuss both of the following:

- **a.** Whether the proposed project has a significant impact on an identified tribal cultural resource.
- **b.** Whether feasible alternatives or mitigation measures, including those measures that may be agreed to pursuant to Public Resources Code §21082.3, subdivision (a), avoid or substantially lessen the impact on the identified tribal cultural resource. (Pub. Resources Code §21082.3 (b)).

7. Conclusion of Consultation: Consultation with a tribe shall be considered concluded when either of the following occurs:

a. The parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource; or

b. A party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached. (Pub. Resources Code §21080.3.2 (b)).

8. Recommending Mitigation Measures Agreed Upon in Consultation in the Environmental Document: Any mitigation measures agreed upon in the consultation conducted pursuant to Public Resources Code §21080.3.2 shall be recommended for inclusion in the environmental document and in an adopted mitigation monitoring and reporting program, if determined to avoid or lessen the impact pursuant to Public Resources Code §21082.3, subdivision (b), paragraph 2, and shall be fully enforceable. (Pub. Resources Code §21082.3 (a)).

9. Required Consideration of Feasible Mitigation: If mitigation measures recommended by the staff of the lead agency as a result of the consultation process are not included in the environmental document or if there are no agreed upon mitigation measures at the conclusion of consultation, or if consultation does not occur, and if substantial evidence demonstrates that a project will cause a significant effect to a tribal cultural resource, the lead agency shall consider feasible mitigation pursuant to Public Resources Code §21084.3 (b). (Pub. Resources Code §21082.3 (e)).

10. Examples of Mitigation Measures That, If Feasible, May Be Considered to Avoid or Minimize Significant Adverse Impacts to Tribal Cultural Resources:

a. Avoidance and preservation of the resources in place, including, but not limited to:

i. Planning and construction to avoid the resources and protect the cultural and natural context.

ii. Planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria.

b. Treating the resource with culturally appropriate dignity, taking into account the tribal cultural values and meaning of the resource, including, but not limited to, the following:

i. Protecting the cultural character and integrity of the resource.

ii. Protecting the traditional use of the resource.

iii. Protecting the confidentiality of the resource.

c. Permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places.

d. Protecting the resource. (Pub. Resource Code §21084.3 (b)).

e. Please note that a federally recognized California Native American tribe or a non-federally recognized California Native American tribe that is on the contact list maintained by the NAHC to protect a California prehistoric, archaeological, cultural, spiritual, or ceremonial place may acquire and hold conservation easements if the conservation easement is voluntarily conveyed. (Civ. Code §815.3 (c)).

f. Please note that it is the policy of the state that Native American remains and associated grave artifacts shall be repatriated. (Pub. Resources Code §5097.991).

11. Prerequisites for Certifying an Environmental Impact Report or Adopting a Mitigated Negative Declaration or Negative Declaration with a Significant Impact on an Identified Tribal Cultural Resource: An Environmental Impact Report may not be certified, nor may a mitigated negative declaration or a negative declaration be adopted unless one of the following occurs:

a. The consultation process between the tribes and the lead agency has occurred as provided in Public Resources Code §21080.3.1 and §21080.3.2 and concluded pursuant to Public Resources Code §21080.3.2.

b. The tribe that requested consultation failed to provide comments to the lead agency or otherwise failed to engage in the consultation process.

c. The lead agency provided notice of the project to the tribe in compliance with Public Resources Code §21080.3.1 (d) and the tribe failed to request consultation within 30 days. (Pub. Resources Code §21082.3 (d)).

The NAHC's PowerPoint presentation titled, "Tribal Consultation Under AB 52: Requirements and Best Practices" may be found online at: http://nahc.ca.gov/wp-content/uploads/2015/10/AB52TribalConsultation_CalEPAPDF.pdf

SB 18

SB 18 applies to local governments and requires local governments to contact, provide notice to, refer plans to, and consult with tribes prior to the adoption or amendment of a general plan or a specific plan, or the designation of open space. (Gov. Code §65352.3). Local governments should consult the Governor's Office of Planning and Research's "Tribal Consultation Guidelines," which can be found online at: https://www.opr.ca.gov/docs/09_14_05_Updated_Guidelines_922.pdf.

Some of SB 18's provisions include:

1. Tribal Consultation: If a local government considers a proposal to adopt or amend a general plan or a specific plan, or to designate open space it is required to contact the appropriate tribes identified by the NAHC by requesting a "Tribal Consultation List." If a tribe, once contacted, requests consultation the local government must consult with the tribe on the plan proposal. **A tribe has 90 days from the date of receipt of notification to request consultation unless a shorter timeframe has been agreed to by the tribe.** (Gov. Code §65352.3 (a)(2)).

2. No Statutory Time Limit on SB 18 Tribal Consultation. There is no statutory time limit on SB 18 tribal consultation.

3. Confidentiality: Consistent with the guidelines developed and adopted by the Office of Planning and Research pursuant to Gov. Code §65040.2, the city or county shall protect the confidentiality of the information concerning the specific identity, location, character, and use of places, features and objects described in Public Resources Code §5097.9 and §5097.993 that are within the city's or county's jurisdiction. (Gov. Code §65352.3 (b)).

4. Conclusion of SB 18 Tribal Consultation: Consultation should be concluded at the point in which:

- **a.** The parties to the consultation come to a mutual agreement concerning the appropriate measures for preservation or mitigation; or
- **b.** Either the local government or the tribe, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached concerning the appropriate measures of preservation or mitigation. (Tribal Consultation Guidelines, Governor's Office of Planning and Research (2005) at p. 18).

Agencies should be aware that neither AB 52 nor SB 18 precludes agencies from initiating tribal consultation with tribes that are traditionally and culturally affiliated with their jurisdictions before the timeframes provided in AB 52 and SB 18. For that reason, we urge you to continue to request Native American Tribal Contact Lists and "Sacred Lands File" searches from the NAHC. The request forms can be found online at: http://nahc.ca.gov/resources/forms/.

NAHC Recommendations for Cultural Resources Assessments

To adequately assess the existence and significance of tribal cultural resources and plan for avoidance, preservation in place, or barring both, mitigation of project-related impacts to tribal cultural resources, the NAHC recommends the following actions:

1. Contact the appropriate regional California Historical Research Information System (CHRIS) Center (https://ohp.parks.ca.gov/?page_id=30331) for an archaeological records search. The records search will determine:

- **a.** If part or all of the APE has been previously surveyed for cultural resources.
- **b.** If any known cultural resources have already been recorded on or adjacent to the APE.
- **c.** If the probability is low, moderate, or high that cultural resources are located in the APE.
- **d.** If a survey is required to determine whether previously unrecorded cultural resources are present.

2. If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.

- **a.** The final report containing site forms, site significance, and mitigation measures should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum and not be made available for public disclosure.
- **b.** The final written report should be submitted within 3 months after work has been completed to the appropriate regional CHRIS center.

3. Contact the NAHC for:

a. A Sacred Lands File search. Remember that tribes do not always record their sacred sites in the Sacred Lands File, nor are they required to do so. A Sacred Lands File search is not a substitute for consultation with tribes that are traditionally and culturally affiliated with the geographic area of the project's APE.

b. A Native American Tribal Consultation List of appropriate tribes for consultation concerning the project site and to assist in planning for avoidance, preservation in place, or, failing both, mitigation measures.

4. Remember that the lack of surface evidence of archaeological resources (including tribal cultural resources) does not preclude their subsurface existence.

a. Lead agencies should include in their mitigation and monitoring reporting program plan provisions for the identification and evaluation of inadvertently discovered archaeological resources per Cal. Code Regs., tit. 14, §15064.5(f) (CEQA Guidelines §15064.5(f)). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American with knowledge of cultural resources should monitor all ground-disturbing activities.

b. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the disposition of recovered cultural items that are not burial associated in consultation with culturally affiliated Native Americans.

c. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the treatment and disposition of inadvertently discovered Native American human remains. Health and Safety Code §7050.5, Public Resources Code §5097.98, and Cal. Code Regs., tit. 14, §15064.5, subdivisions (d) and (e) (CEQA Guidelines §15064.5, subds. (d) and (e)) address the processes to be followed in the event of an inadvertent discovery of any Native American human remains and associated grave goods in a location other than a dedicated cemetery.

If you have any questions or need additional information, please contact me at my email address: Pricilla.Torres-Fuentes@nahc.ca.gov

Sincerely,

Pricilla Torres-Fuentes

Pricilla Torres-Fuentes
Cultural Resources Analyst

cc: State Clearinghouse

AUGUST 25, 2023

VIA EMAIL: ALBERT.ENAULT@CITYOFVACAVILLE.COM
ALBERT ENAULT
SENIOR PLANNER
CITY OF VACAVILLE
650 MERCHANT STREET
VACAVILLE, CA 95688

Dear Mr. Enault:

REVISED NOTICE OF PREPARATION OF A SUPPLEMENTAL ENVIRONMENTAL IMPACT REPORT FOR THE FIELDS AT ALAMO CREEK PROJECT, SCH# 2023030657

The Department of Conservation's (Department) Division of Land Resource Protection (Division) has reviewed the Revised Notice of Preparation of a Supplemental Environmental Impact Report for the Fields at Alamo Creek Project (Project).

The Division monitors and maps farmland conversion on a statewide basis, provides technical assistance regarding the Williamson Act, and administers various agricultural land conservation programs. Public Resources Code, section 614, subdivision (b) authorizes the Department to provide soil conservation advisory services to local governments, including review of CEQA documents.

Protection of the state's agricultural land resources is part of the Department's mission and central to many of its programs. The CEQA process gives the Department an opportunity to acknowledge the value of the resource, identify areas of Department interest, and offer information on how to assess potential impacts or mitigation opportunities.

The Department respects local decision-making by informing the CEQA process, and is not taking a position or providing legal or policy interpretation.

We offer the following comments for consideration with respect to the project's potential impacts on agricultural land and resources within the Department's purview.

PROJECT ATTRIBUTES

The revised Fields at Alamo Creek proposal includes a tentative subdivision map for the development of up to 241 residential lots which include 153 detached single-family residential lots and 88 half-plex lots for attached homes, as well as a 0.6-acre park, and 7.2 acres of open space/agricultural buffer on a 33.6-acre parcel of land located immediately adjacent to the eastern boundary of The Farm at Alamo Creek Specific

Plan area. Development of the proposed project would require annexation to the City to access municipal services, such as water, sewer, and storm drainage. The project site is designated as Prime Farmland by DOC's Farmland Mapping and Monitoring Program. The Department is not aware of any Williamson Act contracts on the proposed project site.

PROJECT CONSIDERATIONS

The conversion of agricultural land represents a permanent reduction and impact to California's agricultural land resources. The Department generally advises discussion of the following in any environmental review for the loss or conversion of agricultural land:

- Type, amount, and location of farmland conversion resulting directly and indirectly from implementation of the proposed project.
- Impacts on any current and future agricultural operations in the vicinity; e.g., land-use conflicts, increases in land values and taxes, loss of agricultural support infrastructure such as processing facilities, etc.
- Incremental impacts leading to cumulative impacts on agricultural land. This would include impacts from the proposed project, as well as impacts from past, current, and likely future projects.
- Proposed mitigation measures for impacted agricultural lands within the proposed project area.

MITIGATING AGRICULTURAL LAND LOSS OR CONVERSION

Consistent with CEQA Guidelines, the Department advises that the environmental review address mitigation for the loss or conversion of agricultural land. An agricultural conservation easement is one potential method for mitigating loss or conversion of agricultural land. (*See* Cal. Code Regs., tit. 14, § 15370 [mitigation includes "compensating for the impact by replacing or providing substitute resources or environments, including through permanent protection of such resources in the form of conservation easements."]; *see also King and Gardiner Farms, LLC v. County of Kern* (2020) 45 Cal.App.5th 814.)

Mitigation through agricultural conservation easements can take at least two forms: the outright purchase of easements or the donation of mitigation fees to a local, regional, or statewide organization or agency whose purpose includes the acquisition and stewardship of agricultural easements. The conversion of agricultural land may be viewed as an impact of at least regional significance. Hence, the search for replacement lands may not need to be limited strictly to lands within the project's surrounding area.

A helpful source for regional and statewide agricultural mitigation banks is the California Council of Land Trusts. They provide helpful insight into farmland mitigation policies and implementation strategies, including a guidebook with model policies and a model local ordinance. The guidebook can be found at:

Of course, the use of conservation easements is only one form of mitigation, and the Department urges consideration of any other feasible measures necessary to mitigate project impacts.

Thank you for giving us the opportunity to comment on the Revised Notice of Preparation of a Supplemental Environmental Impact Report for the Fields at Alamo Creek Project. Please provide the Department with notices of any future hearing dates as well as any staff reports pertaining to this project. If you have any questions regarding our comments, please contact Farl Grundy, Associate Environmental Planner via email at Farl.Grundy@conservation.ca.gov.

Sincerely,

Kealii Bright

Keali'i Bright

Division Director

YOCHA DEHE
CULTURAL RESOURCES

August 29, 2023

City of Vacaville
Attn: Albert Enault, Senior Planner
650 Merchant Street
Vacaville, CA 95688

RE: Fields At Alamo Creek YD-12022022-05

Dear Mr. Enault:

Thank you for your project notification letter dated July 24, 2023, regarding cultural information on or near the proposed Fields At Alamo Creek. We appreciate your effort to contact us and wish to respond.

The Cultural Resources Department has reviewed the project and concluded that it is within the aboriginal territories of the Yocha Dehe Wintun Nation. Therefore, we have a cultural interest and authority in the proposed project area and would like to continue to receive updates on the project.

Should you have any questions, please contact:

CRD Administrative Staff
Yocha Dehe Wintun Nation
Office: (530) 796-3400
Email: THPO@yochadehe.gov

Please refer to identification number YD – 12022022-05 in any correspondence concerning this project.

Thank you for providing us the opportunity to comment.

Sincerely,

DocuSigned by:
Yvonne Perkins
8DD0BD089ED6438...

Tribal Historic Preservation Officer

Appendix B
Air Quality Calculations

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FIELDS AT ALAMO CREEK PROJECT Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	FIELDS AT ALAMO CREEK PROJECT
Construction Start Date	7/1/2024
Operational Year	2029
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.70
Precipitation (days)	34.8
Location	38.35768591237297, -121.92306556834947
County	Solano-Sacramento
City	Unincorporated
Air District	Yolo/Solano AQMD
Air Basin	Sacramento Valley
TAZ	837
EDFZ	4
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.18

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description

Single Family Housing	241	Dwelling Unit	33.6	360,000	237,402	0.00	680	—
Other Asphalt Surfaces	223	1000sqft	5.12	0.00	0.00	0.00	—	—
City Park	0.60	Acre	0.60	0.00	0.00	0.00	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.42	52.5	36.0	33.7	0.06	1.60	19.0	19.5	1.47	4.27	5.75	—	6,782	6,782	0.27	0.14	4.83	6,808
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.27	52.5	34.4	30.9	0.06	1.45	19.0	19.5	1.33	2.02	3.14	—	6,764	6,764	0.27	0.15	0.13	6,789
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.45	8.02	11.6	11.8	0.02	0.49	12.3	12.6	0.45	1.32	1.61	—	2,733	2,733	0.09	0.10	1.49	2,768
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.26	1.46	2.11	2.15	< 0.005	0.09	2.25	2.31	0.08	0.24	0.29	—	453	453	0.01	0.02	0.25	458

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	4.42	3.72	36.0	33.7	0.06	1.60	10.8	12.4	1.47	4.27	5.75	—	6,782	6,782	0.27	0.06	0.75	6,808
2025	1.74	1.50	11.5	17.1	0.03	0.44	19.0	19.5	0.41	2.02	2.43	—	3,887	3,887	0.12	0.14	4.83	3,937
2026	1.65	1.43	10.9	16.8	0.03	0.39	19.0	19.4	0.36	2.02	2.38	—	3,858	3,858	0.12	0.14	4.41	3,907
2027	1.59	1.34	10.4	16.5	0.03	0.35	19.0	19.4	0.32	2.02	2.34	—	3,828	3,828	0.12	0.14	3.99	3,876
2028	0.19	52.5	0.84	1.72	< 0.005	0.02	3.13	3.15	0.01	0.33	0.35	—	281	281	0.01	< 0.005	0.44	282
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	4.27	3.59	34.4	30.9	0.06	1.45	19.0	19.5	1.33	2.02	3.14	—	6,764	6,764	0.27	0.15	0.13	6,789
2025	1.71	1.47	11.7	16.6	0.03	0.44	19.0	19.5	0.41	2.02	2.43	—	3,813	3,813	0.13	0.15	0.13	3,860
2026	1.63	1.38	11.0	16.2	0.03	0.39	19.0	19.4	0.36	2.02	2.38	—	3,785	3,785	0.12	0.14	0.11	3,831
2027	1.56	1.32	10.5	16.0	0.03	0.35	19.0	19.4	0.32	2.02	2.34	—	3,757	3,757	0.12	0.14	0.10	3,802
2028	0.86	52.5	6.67	10.3	0.01	0.26	3.13	3.15	0.24	0.33	0.52	—	1,626	1,626	0.06	0.02	0.01	1,633
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	1.45	1.22	11.6	10.8	0.02	0.49	3.31	3.80	0.45	0.85	1.31	—	2,212	2,212	0.09	0.03	0.21	2,222
2025	1.22	1.05	8.27	11.8	0.02	0.32	12.3	12.6	0.29	1.32	1.61	—	2,733	2,733	0.09	0.10	1.49	2,768
2026	1.16	0.98	7.82	11.5	0.02	0.28	12.3	12.6	0.26	1.32	1.58	—	2,713	2,713	0.09	0.10	1.36	2,747
2027	1.09	0.93	7.30	11.1	0.02	0.25	11.7	11.9	0.23	1.25	1.48	—	2,601	2,601	0.08	0.09	1.16	2,632
2028	0.12	8.02	0.86	1.37	< 0.005	0.03	0.70	0.73	0.03	0.07	0.10	—	219	219	0.01	< 0.005	0.05	220
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.26	0.22	2.11	1.97	< 0.005	0.09	0.60	0.69	0.08	0.16	0.24	—	366	366	0.01	< 0.005	0.03	368
2025	0.22	0.19	1.51	2.15	< 0.005	0.06	2.25	2.31	0.05	0.24	0.29	—	453	453	0.01	0.02	0.25	458
2026	0.21	0.18	1.43	2.11	< 0.005	0.05	2.25	2.30	0.05	0.24	0.29	—	449	449	0.01	0.02	0.23	455

2027	0.20	0.17	1.33	2.03	< 0.005	0.04	2.13	2.18	0.04	0.23	0.27	—	431	431	0.01	0.02	0.19	436
2028	0.02	1.46	0.16	0.25	< 0.005	0.01	0.13	0.13	0.01	0.01	0.02	—	36.3	36.3	< 0.005	< 0.005	0.01	36.5

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	10.1	18.1	7.02	56.7	0.11	0.23	8.57	8.80	0.23	2.17	2.40	105	13,469	13,573	11.4	0.57	28.0	14,055
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	8.18	16.1	7.78	43.2	0.10	0.23	8.57	8.79	0.22	2.17	2.39	105	12,747	12,851	11.5	0.62	3.24	13,325
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	8.59	16.5	7.31	46.0	0.10	0.23	8.19	8.41	0.22	2.08	2.30	105	12,675	12,780	11.4	0.58	13.3	13,251
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.57	3.02	1.33	8.40	0.02	0.04	1.49	1.54	0.04	0.38	0.42	17.3	2,099	2,116	1.89	0.10	2.21	2,194

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	8.67	8.26	5.12	42.2	0.10	0.08	8.57	8.65	0.08	2.17	2.25	—	10,019	10,019	0.47	0.50	25.5	10,205
Area	1.25	9.70	0.13	13.7	< 0.005	0.01	—	0.01	< 0.005	—	< 0.005	0.00	36.6	36.6	< 0.005	< 0.005	—	36.7

Energy	0.21	0.10	1.77	0.75	0.01	0.14	—	0.14	0.14	—	0.14	—	3,395	3,395	0.38	0.03	—	3,413
Water	—	—	—	—	—	—	—	—	—	—	—	16.4	18.4	34.8	1.68	0.04	—	88.9
Waste	—	—	—	—	—	—	—	—	—	—	—	88.2	0.00	88.2	8.82	0.00	—	309
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.58	2.58
Total	10.1	18.1	7.02	56.7	0.11	0.23	8.57	8.80	0.23	2.17	2.40	105	13,469	13,573	11.4	0.57	28.0	14,055
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	7.97	7.51	6.01	42.4	0.09	0.08	8.57	8.65	0.08	2.17	2.25	—	9,333	9,333	0.57	0.55	0.66	9,512
Area	0.00	8.51	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Energy	0.21	0.10	1.77	0.75	0.01	0.14	—	0.14	0.14	—	0.14	—	3,395	3,395	0.38	0.03	—	3,413
Water	—	—	—	—	—	—	—	—	—	—	—	16.4	18.4	34.8	1.68	0.04	—	88.9
Waste	—	—	—	—	—	—	—	—	—	—	—	88.2	0.00	88.2	8.82	0.00	—	309
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.58	2.58
Total	8.18	16.1	7.78	43.2	0.10	0.23	8.57	8.79	0.22	2.17	2.39	105	12,747	12,851	11.5	0.62	3.24	13,325
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	7.77	7.34	5.48	38.5	0.09	0.08	8.19	8.27	0.08	2.08	2.15	—	9,244	9,244	0.50	0.51	10.7	9,420
Area	0.62	9.10	0.06	6.76	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	18.0	18.0	< 0.005	< 0.005	—	18.1
Energy	0.21	0.10	1.77	0.75	0.01	0.14	—	0.14	0.14	—	0.14	—	3,395	3,395	0.38	0.03	—	3,413
Water	—	—	—	—	—	—	—	—	—	—	—	16.4	18.4	34.8	1.68	0.04	—	88.9
Waste	—	—	—	—	—	—	—	—	—	—	—	88.2	0.00	88.2	8.82	0.00	—	309
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.58	2.58
Total	8.59	16.5	7.31	46.0	0.10	0.23	8.19	8.41	0.22	2.08	2.30	105	12,675	12,780	11.4	0.58	13.3	13,251
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.42	1.34	1.00	7.03	0.02	0.01	1.49	1.51	0.01	0.38	0.39	—	1,530	1,530	0.08	0.08	1.78	1,560
Area	0.11	1.66	0.01	1.23	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	2.98	2.98	< 0.005	< 0.005	—	3.00
Energy	0.04	0.02	0.32	0.14	< 0.005	0.03	—	0.03	0.03	—	0.03	—	562	562	0.06	< 0.005	—	565
Water	—	—	—	—	—	—	—	—	—	—	—	2.72	3.04	5.76	0.28	0.01	—	14.7

Waste	—	—	—	—	—	—	—	—	—	—	—	14.6	0.00	14.6	1.46	0.00	—	51.1
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.43	0.43
Total	1.57	3.02	1.33	8.40	0.02	0.04	1.49	1.54	0.04	0.38	0.42	17.3	2,099	2,116	1.89	0.10	2.21	2,194

3. Construction Emissions Details

3.1. Site Preparation (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.34	3.65	36.0	32.9	0.05	1.60	—	1.60	1.47	—	1.47	—	5,296	5,296	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.36	0.30	2.96	2.71	< 0.005	0.13	—	0.13	0.12	—	0.12	—	435	435	0.02	< 0.005	—	437
Dust From Material Movement	—	—	—	—	—	—	0.63	0.63	—	0.32	0.32	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	0.05	0.54	0.49	< 0.005	0.02	—	0.02	0.02	—	0.02	—	72.1	72.1	< 0.005	< 0.005	—	72.3
Dust From Material Movement	—	—	—	—	—	—	0.11	0.11	—	0.06	0.06	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.05	0.80	0.00	0.00	3.16	3.16	0.00	0.33	0.33	—	161	161	< 0.005	0.01	0.66	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.05	0.00	0.00	0.24	0.24	0.00	0.03	0.03	—	12.2	12.2	< 0.005	< 0.005	0.02	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	0.04	0.04	0.00	< 0.005	< 0.005	—	2.02	2.02	< 0.005	< 0.005	< 0.005	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—

3.3. Grading (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.19	3.52	34.3	30.2	0.06	1.45	—	1.45	1.33	—	1.33	—	6,598	6,598	0.27	0.05	—	6,621
Dust From Material Movement	—	—	—	—	—	—	3.59	3.59	—	1.42	1.42	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.19	3.52	34.3	30.2	0.06	1.45	—	1.45	1.33	—	1.33	—	6,598	6,598	0.27	0.05	—	6,621
Dust From Material Movement	—	—	—	—	—	—	3.59	3.59	—	1.42	1.42	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.97	0.82	7.98	7.03	0.01	0.34	—	0.34	0.31	—	0.31	—	1,537	1,537	0.06	0.01	—	1,542
Dust From Material Movement	—	—	—	—	—	—	0.84	0.84	—	0.33	0.33	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.18	0.15	1.46	1.28	< 0.005	0.06	—	0.06	0.06	—	0.06	—	254	254	0.01	< 0.005	—	255
Dust From Material Movement	—	—	—	—	—	—	0.15	0.15	—	0.06	0.06	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.06	0.91	0.00	0.00	3.61	3.61	0.00	0.38	0.38	—	184	184	< 0.005	0.01	0.75	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.08	0.07	0.76	0.00	0.00	3.61	3.61	0.00	0.38	0.38	—	166	166	0.01	0.01	0.02	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.01	0.17	0.00	0.00	0.76	0.76	0.00	0.08	0.08	—	39.5	39.5	< 0.005	< 0.005	0.08	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.14	0.14	0.00	0.01	0.01	—	6.53	6.53	< 0.005	< 0.005	0.01	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—

3.5. Building Construction (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.44	1.20	11.2	13.1	0.02	0.50	—	0.50	0.46	—	0.46	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	0.06	0.55	0.64	< 0.005	0.02	—	0.02	0.02	—	0.02	—	117	117	< 0.005	< 0.005	—	118
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.10	0.12	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	19.4	19.4	< 0.005	< 0.005	—	19.5
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.36	0.33	0.32	3.30	0.00	0.00	15.7	15.7	0.00	1.66	1.66	—	721	721	0.02	0.03	0.08	—
Vendor	0.04	0.03	0.97	0.48	0.01	0.01	3.37	3.37	0.01	0.37	0.38	—	722	722	0.01	0.10	0.05	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.01	0.16	0.00	0.00	0.70	0.70	0.00	0.07	0.07	—	36.0	36.0	< 0.005	< 0.005	0.07	—
Vendor	< 0.005	< 0.005	0.05	0.02	< 0.005	< 0.005	0.15	0.15	< 0.005	0.02	0.02	—	35.3	35.3	< 0.005	< 0.005	0.04	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.13	0.13	0.00	0.01	0.01	—	5.95	5.95	< 0.005	< 0.005	0.01	—
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	0.03	0.03	< 0.005	< 0.005	< 0.005	—	5.84	5.84	< 0.005	< 0.005	0.01	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—

3.7. Building Construction (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.96	0.80	7.46	9.31	0.02	0.31	—	0.31	0.28	—	0.28	—	1,713	1,713	0.07	0.01	—	1,719
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.18	0.15	1.36	1.70	< 0.005	0.06	—	0.06	0.05	—	0.05	—	284	284	0.01	< 0.005	—	285
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.35	0.34	0.22	3.67	0.00	0.00	15.7	15.7	0.00	1.66	1.66	—	781	781	0.02	0.03	2.98	—
Vendor	0.05	0.03	0.85	0.43	0.01	0.01	3.37	3.37	0.01	0.37	0.38	—	708	708	0.01	0.09	1.85	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.32	0.31	0.30	3.07	0.00	0.00	15.7	15.7	0.00	1.66	1.66	—	706	706	0.02	0.03	0.08	—
Vendor	0.04	0.03	0.92	0.44	0.01	0.01	3.37	3.37	0.01	0.37	0.38	—	709	709	0.01	0.10	0.05	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.23	0.22	0.17	2.15	0.00	0.00	10.2	10.2	0.00	1.08	1.08	—	515	515	0.01	0.02	0.92	—
Vendor	0.03	0.02	0.64	0.31	< 0.005	0.01	2.18	2.19	0.01	0.24	0.25	—	506	506	0.01	0.07	0.57	—

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.03	0.39	0.00	0.00	1.85	1.85	0.00	0.20	0.20	—	85.2	85.2	< 0.005	< 0.005	0.15	—
Vendor	0.01	< 0.005	0.12	0.06	< 0.005	< 0.005	0.40	0.40	< 0.005	0.04	0.05	—	83.8	83.8	< 0.005	0.01	0.09	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—

3.9. Building Construction (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.91	0.77	7.04	9.26	0.02	0.27	—	0.27	0.25	—	0.25	—	1,712	1,712	0.07	0.01	—	1,718
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.17	0.14	1.28	1.69	< 0.005	0.05	—	0.05	0.05	—	0.05	—	283	283	0.01	< 0.005	—	284
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.33	0.32	0.19	3.43	0.00	0.00	15.7	15.7	0.00	1.66	1.66	—	766	766	0.01	0.03	2.70	—
Vendor	0.04	0.03	0.81	0.40	0.01	0.01	3.37	3.37	0.01	0.37	0.38	—	695	695	0.01	0.09	1.71	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.31	0.28	0.27	2.87	0.00	0.00	15.7	15.7	0.00	1.66	1.66	—	693	693	0.02	0.03	0.07	—
Vendor	0.04	0.03	0.88	0.41	0.01	0.01	3.37	3.37	0.01	0.37	0.38	—	696	696	0.01	0.09	0.04	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.22	0.19	0.17	2.00	0.00	0.00	10.2	10.2	0.00	1.08	1.08	—	505	505	0.01	0.02	0.83	—
Vendor	0.03	0.02	0.61	0.29	< 0.005	0.01	2.18	2.19	0.01	0.24	0.25	—	497	497	0.01	0.07	0.53	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.03	0.36	0.00	0.00	1.85	1.85	0.00	0.20	0.20	—	83.5	83.5	< 0.005	< 0.005	0.14	—
Vendor	0.01	< 0.005	0.11	0.05	< 0.005	< 0.005	0.40	0.40	< 0.005	0.04	0.05	—	82.2	82.2	< 0.005	0.01	0.09	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—

3.11. Building Construction (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.23	1.03	9.39	12.9	0.02	0.34	—	0.34	0.31	—	0.31	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.23	1.03	9.39	12.9	0.02	0.34	—	0.34	0.31	—	0.31	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.83	0.69	6.30	8.68	0.02	0.23	—	0.23	0.21	—	0.21	—	1,609	1,609	0.07	0.01	—	1,615
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.13	1.15	1.58	< 0.005	0.04	—	0.04	0.04	—	0.04	—	266	266	0.01	< 0.005	—	267
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.31	0.29	0.19	3.21	0.00	0.00	15.7	15.7	0.00	1.66	1.66	—	751	751	0.01	0.03	2.44	—
Vendor	0.04	0.03	0.78	0.37	< 0.005	0.01	3.37	3.37	0.01	0.37	0.38	—	680	680	0.01	0.09	1.54	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.30	0.26	0.25	2.67	0.00	0.00	15.7	15.7	0.00	1.66	1.66	—	679	679	0.02	0.03	0.06	—
Vendor	0.03	0.02	0.84	0.38	0.01	0.01	3.37	3.37	0.01	0.37	0.38	—	681	681	0.01	0.09	0.04	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.20	0.18	0.14	1.75	0.00	0.00	9.54	9.54	0.00	1.01	1.01	—	465	465	0.01	0.02	0.71	—
Vendor	0.03	0.02	0.55	0.25	< 0.005	0.01	2.05	2.06	0.01	0.23	0.23	—	457	457	0.01	0.06	0.45	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.03	0.32	0.00	0.00	1.74	1.74	0.00	0.19	0.19	—	77.0	77.0	< 0.005	< 0.005	0.12	—
Vendor	< 0.005	< 0.005	0.10	0.05	< 0.005	< 0.005	0.37	0.38	< 0.005	0.04	0.04	—	75.6	75.6	< 0.005	0.01	0.07	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—

3.13. Paving (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.88	0.74	6.94	9.95	0.01	0.30	—	0.30	0.27	—	0.27	—	1,511	1,511	0.06	0.01	—	1,516
Paving	—	0.24	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.03	0.30	0.43	< 0.005	0.01	—	0.01	0.01	—	0.01	—	65.1	65.1	< 0.005	< 0.005	—	65.3
Paving	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.05	0.08	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	10.8	10.8	< 0.005	< 0.005	—	10.8
Paving	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.04	0.46	0.00	0.00	2.71	2.71	0.00	0.29	0.29	—	117	117	< 0.005	0.01	0.01	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	0.11	0.11	0.00	0.01	0.01	—	5.16	5.16	< 0.005	< 0.005	0.01	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	0.85	0.85	< 0.005	< 0.005	< 0.005	—

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—

3.15. Paving (2028) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.82	0.69	6.63	9.91	0.01	0.26	—	0.26	0.24	—	0.24	—	1,511	1,511	0.06	0.01	—	1,516
Paving	—	0.24	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.08	0.73	1.09	< 0.005	0.03	—	0.03	0.03	—	0.03	—	166	166	0.01	< 0.005	—	166
Paving	—	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.01	0.13	0.20	< 0.005	0.01	—	0.01	< 0.005	—	< 0.005	—	27.4	27.4	< 0.005	< 0.005	—	27.5
Paving	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.04	0.44	0.00	0.00	2.71	2.71	0.00	0.29	0.29	—	115	115	< 0.005	0.01	0.01	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	< 0.005	< 0.005	0.05	0.00	0.00	0.27	0.27	0.00	0.03	0.03	—	12.9	12.9	< 0.005	< 0.005	0.02	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	2.13	2.13	< 0.005	< 0.005	< 0.005	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—

3.17. Architectural Coating (2028) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	0.11	0.81	1.12	< 0.005	0.02	—	0.02	0.01	—	0.01	—	134	134	0.01	< 0.005	—	134

Architectural	—	52.3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	0.11	0.81	1.12	< 0.005	0.02	—	0.02	0.01	—	0.01	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	—	52.3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.12	0.17	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	20.1	20.1	< 0.005	< 0.005	—	20.2
Architectural Coatings	—	7.89	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.33	3.33	< 0.005	< 0.005	—	3.34
Architectural Coatings	—	1.44	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.06	0.05	0.03	0.60	0.00	0.00	3.13	3.13	0.00	0.33	0.33	—	148	148	< 0.005	< 0.005	0.44	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.05	0.04	0.51	0.00	0.00	3.13	3.13	0.00	0.33	0.33	—	133	133	< 0.005	0.01	0.01	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.07	0.00	0.00	0.43	0.43	0.00	0.05	0.05	—	20.5	20.5	< 0.005	< 0.005	0.03	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	0.08	0.08	0.00	0.01	0.01	—	3.39	3.39	< 0.005	< 0.005	< 0.005	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Single Family Housing	8.67	8.25	5.12	42.2	0.10	0.08	8.56	8.64	0.08	2.17	2.25	—	10,011	10,011	0.47	0.50	25.4	10,197
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
City Park	0.01	< 0.005	< 0.005	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	7.72	7.72	< 0.005	< 0.005	0.02	7.86
Total	8.67	8.26	5.12	42.2	0.10	0.08	8.57	8.65	0.08	2.17	2.25	—	10,019	10,019	0.47	0.50	25.5	10,205
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	7.96	7.50	6.01	42.4	0.09	0.08	8.56	8.64	0.08	2.17	2.25	—	9,326	9,326	0.57	0.55	0.66	9,505
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
City Park	< 0.005	< 0.005	< 0.005	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	7.18	7.18	< 0.005	< 0.005	< 0.005	7.31
Total	7.97	7.51	6.01	42.4	0.09	0.08	8.57	8.65	0.08	2.17	2.25	—	9,333	9,333	0.57	0.55	0.66	9,512
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	1.42	1.34	1.00	7.03	0.02	0.01	1.49	1.51	0.01	0.38	0.39	—	1,530	1,530	0.08	0.08	1.78	1,559
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
City Park	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.63	0.63	< 0.005	< 0.005	< 0.005	0.64
Total	1.42	1.34	1.00	7.03	0.02	0.01	1.49	1.51	0.01	0.38	0.39	—	1,530	1,530	0.08	0.08	1.78	1,560

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	1,148	1,148	0.19	0.02	—	1,160
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,148	1,148	0.19	0.02	—	1,160
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	1,148	1,148	0.19	0.02	—	1,160
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,148	1,148	0.19	0.02	—	1,160
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	190	190	0.03	< 0.005	—	192
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	190	190	0.03	< 0.005	—	192

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.21	0.10	1.77	0.75	0.01	0.14	—	0.14	0.14	—	0.14	—	2,247	2,247	0.20	< 0.005	—	2,253
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.21	0.10	1.77	0.75	0.01	0.14	—	0.14	0.14	—	0.14	—	2,247	2,247	0.20	< 0.005	—	2,253
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.21	0.10	1.77	0.75	0.01	0.14	—	0.14	0.14	—	0.14	—	2,247	2,247	0.20	< 0.005	—	2,253
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.21	0.10	1.77	0.75	0.01	0.14	—	0.14	0.14	—	0.14	—	2,247	2,247	0.20	< 0.005	—	2,253
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.04	0.02	0.32	0.14	< 0.005	0.03	—	0.03	0.03	—	0.03	—	372	372	0.03	< 0.005	—	373
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.04	0.02	0.32	0.14	< 0.005	0.03	—	0.03	0.03	—	0.03	—	372	372	0.03	< 0.005	—	373

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	—	7.72	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.79	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	1.25	1.19	0.13	13.7	< 0.005	0.01	—	0.01	< 0.005	—	< 0.005	—	36.6	36.6	< 0.005	< 0.005	—	36.7
Total	1.25	9.70	0.13	13.7	< 0.005	0.01	—	0.01	< 0.005	—	< 0.005	0.00	36.6	36.6	< 0.005	< 0.005	—	36.7
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	—	7.72	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.79	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	0.00	8.51	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	—	1.41	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.14	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.11	0.11	0.01	1.23	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.98	2.98	< 0.005	< 0.005	—	3.00
Total	0.11	1.66	0.01	1.23	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	2.98	2.98	< 0.005	< 0.005	—	3.00

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	16.4	18.4	34.8	1.68	0.04	—	88.9
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	16.4	18.4	34.8	1.68	0.04	—	88.9

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	16.4	18.4	34.8	1.68	0.04	—	88.9
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	16.4	18.4	34.8	1.68	0.04	—	88.9
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	2.72	3.04	5.76	0.28	0.01	—	14.7
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	2.72	3.04	5.76	0.28	0.01	—	14.7

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	88.2	0.00	88.2	8.82	0.00	—	309

Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	0.03	0.00	0.03	< 0.005	0.00	—	0.10
Total	—	—	—	—	—	—	—	—	—	—	—	88.2	0.00	88.2	8.82	0.00	—	309
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	88.2	0.00	88.2	8.82	0.00	—	309
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	0.03	0.00	0.03	< 0.005	0.00	—	0.10
Total	—	—	—	—	—	—	—	—	—	—	—	88.2	0.00	88.2	8.82	0.00	—	309
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	14.6	0.00	14.6	1.46	0.00	—	51.1
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	< 0.005	0.00	< 0.005	< 0.005	0.00	—	0.02
Total	—	—	—	—	—	—	—	—	—	—	—	14.6	0.00	14.6	1.46	0.00	—	51.1

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.58	2.58
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.58	2.58
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.58	2.58
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.58	2.58
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.43	0.43
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.43	0.43

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Site Preparation	Site Preparation	7/1/2024	8/9/2024	5.00	30.0	—
Grading	Grading	8/10/2024	12/6/2024	5.00	85.0	—

Building Construction	Building Construction	12/7/2024	12/9/2027	5.00	784	—
Paving	Paving	12/10/2027	2/25/2028	5.00	55.0	—
Architectural Coating	Architectural Coating	2/26/2028	5/13/2028	5.00	55.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Grading	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	11.7	LDA,LDT1,LDT2
Site Preparation	Vendor	0.00	8.40	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	0.00	0.00	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	11.7	LDA,LDT1,LDT2
Grading	Vendor	0.00	8.40	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	0.00	0.00	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	86.8	11.7	LDA,LDT1,LDT2
Building Construction	Vendor	25.8	8.40	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	0.00	0.00	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	11.7	LDA,LDT1,LDT2
Paving	Vendor	0.00	8.40	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	0.00	0.00	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	17.4	11.7	LDA,LDT1,LDT2
Architectural Coating	Vendor	0.00	8.40	HHDT,MHDT

Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	0.00	0.00	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Control Strategies Applied	PM10 Reduction	PM2.5 Reduction
Water unpaved roads twice daily	55%	55%
Limit vehicle speeds on unpaved roads to 25 mph	44%	44%

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	729,000	243,000	0.00	0.00	13,380

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Site Preparation	0.00	0.00	45.0	0.00	—
Grading	0.00	0.00	255	0.00	—
Paving	0.00	0.00	0.00	0.00	7.78

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	2	61%	61%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Single Family Housing	2.66	0%
Other Asphalt Surfaces	5.12	100%
City Park	0.00	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2024	0.00	204	0.03	< 0.005
2025	0.00	204	0.03	< 0.005
2026	0.00	204	0.03	< 0.005
2027	0.00	204	0.03	< 0.005
2028	0.00	204	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Single Family Housing	2,275	2,299	2,061	820,462	11,988	12,115	10,858	4,323,244
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
City Park	0.47	1.18	1.31	252	3.37	8.46	9.45	1,812

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

Hearth Type	Unmitigated (number)
Single Family Housing	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	241
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
729000	243,000	0.00	0.00	13,380

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Single Family Housing	2,054,696	204	0.0330	0.0040	7,010,696
Other Asphalt Surfaces	0.00	204	0.0330	0.0040	0.00
City Park	0.00	204	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Single Family Housing	8,558,115	3,782,507
Other Asphalt Surfaces	0.00	0.00
City Park	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Single Family Housing	164	—
Other Asphalt Surfaces	0.00	—
City Park	0.05	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced

Single Family Housing	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Single Family Housing	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
City Park	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
City Park	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	27.2	annual days of extreme heat
Extreme Precipitation	6.10	annual days with precipitation above 20 mm
Sea Level Rise	0.00	meters of inundation depth
Wildfire	11.0	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider different increments of sea level rise coupled with extreme storm events. Users may select from four model simulations to view the range in potential inundation depth for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 50 meters (m) by 50 m, or about 164 feet (ft) by 164 ft.
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	4	0	0	N/A
Extreme Precipitation	2	0	0	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	1	0	0	N/A
Flooding	0	0	0	N/A
Drought	0	0	0	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	4	1	1	4
Extreme Precipitation	2	1	1	3
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	1	1	1	2

Flooding	1	1	1	2
Drought	1	1	1	2
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	37.6
AQ-PM	12.7
AQ-DPM	31.5
Drinking Water	37.5
Lead Risk Housing	9.17
Pesticides	80.8
Toxic Releases	42.7
Traffic	50.5
Effect Indicators	—
CleanUp Sites	86.8
Groundwater	87.8

Haz Waste Facilities/Generators	93.6
Impaired Water Bodies	43.8
Solid Waste	77.6
Sensitive Population	—
Asthma	86.8
Cardio-vascular	67.5
Low Birth Weights	20.9
Socioeconomic Factor Indicators	—
Education	46.2
Housing	17.9
Linguistic	25.6
Poverty	10.9
Unemployment	48.3

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	94.26408315
Employed	49.30065443
Median HI	79.84088284
Education	—
Bachelor's or higher	45.52803798
High school enrollment	100
Preschool enrollment	37.79032465
Transportation	—
Auto Access	93.63531374

Active commuting	3.772616451
Social	—
2-parent households	88.50250225
Voting	54.13832927
Neighborhood	—
Alcohol availability	81.95816759
Park access	4.619530348
Retail density	10.04747851
Supermarket access	9.790837931
Tree canopy	17.28474272
Housing	—
Homeownership	66.77787758
Housing habitability	86.03875273
Low-inc homeowner severe housing cost burden	84.11394842
Low-inc renter severe housing cost burden	87.5914282
Uncrowded housing	56.30694213
Health Outcomes	—
Insured adults	83.11305017
Arthritis	60.6
Asthma ER Admissions	18.3
High Blood Pressure	76.3
Cancer (excluding skin)	45.0
Asthma	55.1
Coronary Heart Disease	81.5
Chronic Obstructive Pulmonary Disease	76.7
Diagnosed Diabetes	82.1
Life Expectancy at Birth	50.8

Cognitively Disabled	24.2
Physically Disabled	37.2
Heart Attack ER Admissions	32.3
Mental Health Not Good	64.8
Chronic Kidney Disease	79.8
Obesity	59.2
Pedestrian Injuries	19.6
Physical Health Not Good	79.7
Stroke	84.7
Health Risk Behaviors	—
Binge Drinking	8.9
Current Smoker	56.8
No Leisure Time for Physical Activity	74.2
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	48.8
Elderly	37.4
English Speaking	87.9
Foreign-born	26.8
Outdoor Workers	23.9
Climate Change Adaptive Capacity	—
Impervious Surface Cover	91.2
Traffic Density	51.7
Traffic Access	23.0
Other Indices	—
Hardship	32.8

Other Decision Support	—
2016 Voting	69.3

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	56.0
Healthy Places Index Score for Project Location (b)	70.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Project includes 241 residential units totaling 360,000 SF on 33.6 acres.
Construction: Construction Phases	Default phasing assumed.
Construction: On-Road Fugitive Dust	Most roadways are paved around project site.
Operations: Road Dust	Mostly paved roads surrounding project site.

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Appendix C
Biological Resources Assessment

DRAFT

Biological Resources Assessment

Fields at Alamo Creek

OCTOBER 2023

Prepared for:

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FIGURE(S)

ATTACHMENTS

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Acronyms and Abbreviations

Acronym/Abbreviation	Definition
IPaC	Information, Planning, and Conservation
USFWS	United States Fish and Wildlife Service
CDFW	California Department of Fish and Game
CNDDB	California Natural Diversity Database
GPS	Global Positioning System
CWA	Clean Water Act
NWI	National Wetlands Inventory
RWQCB	Regional Water Quality Control Board
MBTA	Migratory Bird Treaty Act
CFGC	California Fish and Game Code
CEQA	California Environmental Quality Act

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1 Project Location

The Fields at Alamo Creek Project site (Project site) is located along Hawkins Road in unincorporated Solano County, California, approximately 2 miles southeast of Interstate 80 (I-80) (Figure 1, Project Location). The site is situated in Township 6 North, Range 1 East, Section 24 of the U.S. Geological Survey Elmira, California 7.5-minute quadrangle. The approximate center of the Project site corresponds to 38.357212° north and -121.922394° west (decimal degrees).

2 Project Description

The proposed project includes amending the Farm at Alamo Creek Specific Plan to include the 33.6-acre project site. The project is proposing a continuation of the residential uses and design principles set forth in Specific Plan and would connect to the Specific Plan's roadway system and tie into utilities stubbed adjacent to the western boundary of the project site. The project is proposing 241 residential units with a 300-foot open space buffer along the eastern boundary of the site, adjacent to agricultural lands in Solano County.

3 Methods

Biological resources on the Project site were evaluated through a desktop analysis of existing literature and data, followed by a reconnaissance-level field survey including a preliminary delineation of aquatic resources.

3.1 Preliminary Site Evaluation

Prior to conducting the field survey, Dudek reviewed pertinent online and literature sources in January 2023. This review consisted of the following online databases and reports: the U.S. Fish and Wildlife Service (USFWS) Information, Planning, and Conservation (IPaC) Trust Resource Report, California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB), and the California Native Plant Society (CNPS) online Inventory of Rare and Endangered Vascular Plants. The IPaC report was based on a query for the Project site. The CNDDB and CNPS databases were queried for the nine USGS 7.5-minute quadrangles containing and immediately surrounding the Project site (*Mount Vaca, Allendale, Dixon, Fairfield North, Elmira, Dozier, Fairfield South, Denverton, Birds Landing*).

Following a review of the above resources, Dudek biologists determined the potential for special-status plant and wildlife species to occur onsite. Determinations were based on a review of habitat types, soils, and elevation preferences, as well as the known geographic range and nearest occurrence records of each species. No protocol-level surveys for special-status species were conducted; the field survey was focused on evaluating the potential for the Project site to provide habitat for these species.

For this report, special-status plant and wildlife species are defined as those that are (1) listed, proposed for listing, or candidates for listing as Threatened or Endangered under the federal Endangered Species Act; (2) listed or candidates as Threatened or Endangered for listing under the California Endangered Species Act; (3) a state fully protected species;

(4) a CDFW Species of Special Concern; or (5) a species listed on the CNPS Inventory of Rare and Endangered Plants with a California Rare Plant Rank (CRPR) of 1 or 2.

3.2 Field Survey

Dudek biologist, Lorna Haworth performed a field survey of the approximately 33.6-acre Project site on February 7, 2023. The survey was conducted on foot to visually cover the entire Project site. Field notes, an aerial photograph with an overlay of the property boundary, and a Trimble Geo 7X Global Positioning System (GPS) unit were used to map vegetation communities and record any sensitive biological resources within the Project site. Because the field visit was conducted outside of the blooming season for special-status plants and the breeding season for wildlife species known to occur in the Project region, no protocol-level or focused surveys for special-status species were conducted. As such, the focus of the field visit was to assess overall habitat suitability for the target species identified as a result of the literature and database review described in Section 3.1. Wildlife species detected during the field survey by sight, calls, tracks, scat, or other signs were recorded directly into a field notebook. The site was also scanned with binoculars to aid in the identification of wildlife.

3.3 Aquatic Resources Delineation

Concurrent with the fieldwork on February 7, 2023, Dudek performed a preliminary field delineation to identify and map the extent of aquatic resources within or adjacent to the Project site that are potentially subject to regulation under federal Clean Water Act (CWA) Sections 401 and 404, California Fish and Game Code Section 1600, and/or the provisions of the Porter-Cologne Water Quality Act. Results of the aquatic resources delineation are incorporated into this assessment.

4 Results

4.1 Topography and Soils

The Project site is relatively flat, with an approximate elevation of 64 to 67 feet above mean sea level. According to the Natural Resources Conservation Service (US Department of Agriculture [USDA] 2021a), three soil types are mapped on the Project site: Capay silty clay loam, 0% slopes; Yolo loam, 0% to 4% slopes; Yolo loam, clay substratum (Figure 2, Soils). The Capay series consists of very deep, moderately well and somewhat poorly drained soil formed in fine textured alluvium derived from mostly sandstone and shale; the Yolo series consists of very deep, well drained soils that formed in alluvium from mixed rocks. None of the three soil types mapped on site are included on the USDA list of hydric soils (USDA 2021b), which are commonly associated with wetlands or other waters.

4.2 Land Use

The Project site is located along Hawkins Road in Solano County, California, east of the city of Vacaville (Figure 1, Project Location). The Project site and surrounding areas are agricultural parcels with development to the west and south. The Farm at Alamo Creek Specific Plan is an approved residential development on the neighboring agricultural land to the west and south of the Fields at Alamo Creek.

4.3 Hydrologic Setting

The Project site occurs within the Ulatis Creek watershed (Hydrological Unit Code 1802016305) (CDFW 2021a). According to the USFWS National Wetlands Inventory (NWI), there is one aquatic resource mapped near the Project site: a canal (classified as Riverine) is mapped just north of the Project site (USFWS 2021b) (Figure 3, Hydrologic Setting). This canal was the only aquatic resource identified near the Project site during the February 2023 field survey (see Section 4.5). The NWI is based on coarse aerial mapping and does not involve ground-truthing.

4.4 Aquatic Resources

During the field delineation, no aquatic resources were encountered within the Project site. However, one canal associated with the Solano Irrigation District occurs just north of the Project site parallel to Hawkins Road (Figure 3, Hydrologic Setting); only the portion of the canal parallel to the Project site was surveyed. In some areas the canal is reinforced with concrete and riprap along the banks. There was little to no aquatic vegetation in the canal and the impacts of human disturbance were evident with the presence of trash in the waterway. It is likely considered a jurisdictional aquatic resource subject to state (CDFW and RWQCB) jurisdiction but not federal jurisdiction due to lack of hydrologic connectivity to a navigable waterway. The adjacency of the canal to the Project site has been considered in this biological resources assessment, specifically in aiding the potential for special-status species to occur within the Project site. There are also agricultural ditches outside the project boundary near the southeast and northeast corners of the site (see Appendix C, Photo Log) which are likely state jurisdictional. There was no obvious wetland vegetation during the survey although the habitat assessment was conducted outside the bloom period for many plant species. Some ditches held water at the time of survey, but this inundation most likely was due to recent rains.

4.5 Vegetation Communities and Land Cover Types

The Project site consists of one land cover type: general agriculture (Figure 5, Vegetation Communities and Land Covers). Agricultural lands are an anthropogenic land cover and are not described in CDFW (2022a) or CNPS (2021b).

General Agriculture. During the February 2023 survey, the site was fallow. Fallow lands are previously used agricultural lands that are not actively growing any crops, and that therefore have a low vegetative cover and are considered highly disturbed.

4.6 Special-Status Species

Based on the known habitat life history requirements (e.g., vegetation types, soils, and elevation preferences) of the target list of special-status plant and wildlife species (Section 3.1), the known geographic range and nearest occurrence records of each of these species (Section 3.1), and on the field habitat suitability assessment (Section 3.2), the potential of target species to occur on or adjacent to the Project site was determined (Attachment A, Special-Status Plant Species Potential to Occur with the Project Area, and Attachment B, Special-Status Wildlife Species Potential to Occur within the Project Area). The potential for occurrence of each species was summarized according to the categories listed below.

- Known to occur: the species has been documented on the Project site by a reliable source.
- High potential to occur: the species has not been documented on the Project site but is known to recently occur in the vicinity and suitable habitat is present.
- Moderate potential to occur: the species has not been documented on the Project site or in the Project vicinity, but the site is within the known range of the species and suitable habitat for the species is present.
- Low potential to occur: the species has not been documented in the Project vicinity or on the Project site, but the site is within the known range of the species; however, suitable habitat for the species onsite is of low quality.
- Not expected to occur: the Project site is outside the known geographic or elevational range of the species and/or the site does not support suitable habitat for the species.

For this report, special-status plant and wildlife species are defined as those that are:

- listed, proposed for listing, or candidate for listing as Threatened or Endangered under the federal Endangered Species Act;
- listed, proposed for listing, or candidate for listing as Threatened or Endangered under the California Endangered Species Act;
- listed as a state Fully Protected species;
- listed as a CDFW Species of Special Concern;
- listed on the CNPS Inventory of Rare and Endangered Plants with a California Rare Plant Rank (CRPR) of 1 or 2.

4.6.1 Special-Status Plants

Results of USFWS, CNDDB, and CNPS database searches revealed 56 special-status plant species that are known to occur in the Project site region (Figure 5, CNDDB Occurrences). Of these 56 species, none are expected to occur on the Project site due to the lack of suitable habitat or the presence of very low-quality habitat within or adjacent to the Project site, the lack of documented occurrences near the Project site, and/or the site being outside of the species' known geographic or elevation range. These species are identified in Attachment A, but not addressed further in this report. These results are consistent with the Farm at Alamo Creek Biological Resources Assessment; special-status plant species with potential to occur on the Farm at Alamo Creek site were vernal pool species (Dwarf Downingia (*Dowingia pusilla*), Contra Costa Goldfields (*Lasthenia conjugens*), Baker's Navarretia (*Navarretia leucocephala* ssp. *bakeri*), and Bearded popcorn flower (*Plagiobothrys hystriculus*)) a habitat type which the Fields at Alamo Creek site lacks. Additionally, rare plant surveys conducted for the Farm at Alamo Creek failed to detect any special-status plant species.

4.6.2 Special-Status Wildlife

Results of the USFWS and CNDDB database searches revealed 40 special-status wildlife species that are known to occur in the Project site region, including 14 species documented within 5 miles of the site (Figure 5, CNDDB Occurrences). Of the 40 species, all but 8 of these species were determined to have a low potential to occur or are not expected to occur due to the lack of suitable habitat or the presence of very low-quality habitat within or adjacent to the Project site, the lack of documented occurrences near the Project site, or due to the site being outside of the species' known geographic or elevation range. Those 12 species are identified in Attachment B, but not addressed further in this report. Swainson's hawk (*Buteo swainsoni*), white-tailed kite (*Elanus leucurus*), and northern harrier (*Circus hudsonius*) have high potential to occur. Burrowing owl (*Athene cunicularia*), mountain plover (*Charadrius montanus*), short-eared owl (*Asio flammeus*), ferruginous hawk (*Buteo regalis*), and loggerhead shrike (*Lanius ludovicianus*) have moderate potential to occur. These results are consistent with the Farm at Alamo Creek Biological Resources Assessment; special-status wildlife species with potential to occur on the Farm at Alamo Creek site were those with essential habitat elements were not present on the Fields at Alamo Creek. Some of these species include valley elderberry longhorn beetle, western pond turtle, various tree or shrub nesting birds, and tree roosting bats.

The Project site provides habitat for nesting birds protected by the federal Migratory Bird Treaty Act (MBTA) and California Fish and Game Code (CFGC).

Raptors and Nesting Birds. The Project site provides habitat for numerous local and migratory bird species protected by CFGC and the federal MBTA, including burrowing owl and mountain plover, both CDFW Species of Special Concern. Swainson's hawk were observed foraging within the 2018 EIR study area and agricultural habitat on site is suitable for foraging. Burrowing owl frequently use agricultural fields for nesting and foraging; there are two occurrences approximately one mile from the site recorded in 2005 and 2015 (CDFW 2023). Mountain plover winter in agricultural fields and the nearest occurrence is approximately nine miles southeast near Creed and recorded in 1991 (CDFW 2023). Multiple common bird species were detected during the February 2023 field survey. A focused survey for nesting birds was not conducted. White-tailed kite, northern harrier, short-eared owl, ferruginous hawk, and loggerhead shrike are all known to forage on agricultural lands. White-tailed kite and northern harrier have high potential to occur due to presence of nearby occurrences along with suitable habitat.

Short-eared owl, ferruginous hawk, and loggerhead shrike do not have occurrences within 10 miles of the project site.

5 Conclusions and Recommendations

5.1 Special-Status Plants

No special-status plants were identified on the Project site during the biological fieldwork, which covered the entire Project site. However, the fieldwork was conducted during a time of year when the target special-status plant species with a potential to occur would not be in bloom or identifiable. Regardless, based on the field assessment and relevant literature, special-status plant species have no potential to occur on the Project site. The Project site comprises highly disturbed agricultural fields and lacks unique habitat features normally required by the target special-status plants, such as exposed serpentinite or other rare soil types, vernally mesic seeps and meadows, or rocky openings within woodland habitat. No additional surveys or avoidance, minimization, or mitigation measures are recommended related to special-status plant species.

5.2 Special-Status Wildlife

As noted in Section 4.6.2, various migratory bird species have the potential to occur on the Project site and may breed on site. This is especially true for ground-nesting species tolerant of disturbed conditions, including a common species such as killdeer (*Charadrius vociferus*) and the previously mentioned special-status burrowing owl. Raptor species may also nest in trees outside the Project site but near enough to be disturbed by site construction activities. The following measure is recommended to avoid and minimize effects to protected nesting bird species.

Swainson's Hawk. If Project activities were to be conducted during a time of year when native bird species are actively nesting, these activities could adversely affect Swainson's hawks protected by the California Endangered Species Act, federal MBTA, and stipulations in the CDFW. In addition to violating the protections under CESA, MBTA, and CDFW, direct or indirect impacts to Swainson's hawk could potentially be considered a significant impact under CEQA. To avoid impacting active nests, Dudek recommends implementing the following measures prior to commencing any construction activities:

- If construction (including site clearing and grading) occurs during the nesting season for Swainson's hawk (March 1 through August 31), a qualified biologist shall conduct preconstruction surveys no more than 15 days prior to construction to identify nesting Swainson's hawk within 0.25 mile of the project site. If a lapse in project-related construction activities of 15 days or longer occurs, additional preconstruction surveys shall be conducted prior to reinitiating work.
- If an active Swainson's hawk nest is identified within 0.25 mile of the project site, an exclusion buffer shall be established in consultation with the biologist and California Department of Fish and Wildlife (CDFW). No construction work such as grading, earthmoving, or any operation of construction equipment shall occur within the buffer zone unless in consultation with and approved by CDFW. Construction may commence normally in the buffer zone if the nest becomes inactive (e.g., the young have fully fledged), as determined by the qualified biologist.

Burrowing Owl. Burrowing owl surveys shall be conducted by the project developer or construction contractor(s) prior to commencing any construction activities. Preconstruction surveys for this species may be completed at the same time as other required preconstruction surveys, provided the individual requirements of each preconstruction survey are met.

- Within 14 days prior to the anticipated start of construction, a qualified biologist shall conduct preconstruction surveys within the project site to identify burrowing owls or their nesting areas. This survey shall follow survey protocols as developed by the Burrowing Owl Consortium (CDFW 2012). If no active burrows or burrowing owls are observed, no further mitigation is required. If a lapse in construction of 15 days or longer occurs during the nesting season, additional preconstruction surveys shall be repeated before work may resume.
- If burrowing owls or active burrows are identified within the project site during the preconstruction surveys, the following measures shall be implemented:
  - During the non-breeding season for burrowing owls (September 1 through January 31), exclusion zones shall be established around any active burrows identified during the preconstruction survey. The exclusion zone shall be no less than 160 feet in radius centered on the active burrow. With approval from the City after consultation with California Department of Fish and Wildlife (CDFW) and a qualified biologist, burrowing owls shall be passively evicted and relocated from the burrows using one-way doors. The one-way doors shall be left in place for a minimum of 48 hours and shall be monitored daily by the biologist to ensure proper function. Upon the end of the 48-hour period, the burrows shall be excavated by the biologist with the use of hand tools and refilled to discourage reoccupation.
  - During the breeding season (February 1 through August 31), a qualified biologist familiar with the biology and behavior of this species shall establish exclusion zones of at least 250 feet in radius centered on any active burrow identified during the preconstruction survey. No construction activities shall occur within the exclusion zone as long as the burrow is active and young are present. Once the breeding season is over and young have fledged, passive relocation of active burrows may proceed as described in measure BIO-3(b), above.
  - The buffer widths may be reduced with the following measures:
    - A site-specific analysis, reviewed and approved by City after consultation with CDFW, shall be prepared by a qualified biologist that documents and describes how the nesting or wintering owls would not be adversely affected by construction activities;
    - Monitoring shall occur by a qualified biologist for a minimum of 10 consecutive days following initiation of construction indicating that the owls do not exhibit adverse reactions to construction activities;
    - Burrows are not in danger of collapse due to equipment traffic; and
    - Monitoring is continued by a qualified biologist at least once a week through the nesting/wintering cycle at the site and no change in behavior by owls is observed; biological monitoring reports shall be submitted to CDFW.

Nesting Birds. If Project activities were to be conducted during a time of year when native bird species are actively nesting, these activities could adversely affect nesting birds protected by the federal MBTA and/or stipulations in the CDFW. In addition to violating the protections under the MBTA and CDFW, direct or indirect impacts to nesting birds could potentially be considered a significant impact under CEQA. To avoid impacting active nests, Dudek recommends implementing the following measures:

- A qualified biologist shall conduct a survey for nesting birds approximately two weeks prior to ground-disturbance or vegetation removal activities on the Project site conducted during the nesting season (March through August). The survey shall cover the limits of ground disturbance and vegetation removal and suitable nesting habitat within 250 feet for raptors (including burrowing owls) and 100 feet for other nesting bird species. Burrowing owl surveys should follow CDFG 2012 Staff Report guidelines including walking transects (21 and 66 feet apart depending on visibility), under suitable weather conditions between morning civil twilight and evening civil twilight. All owl sightings, occupied burrows, and burrows with owl sign will be recorded and mapped during the survey.
- If any active nests are observed during surveys, a qualified biologist shall establish a suitable avoidance buffer from the active nest. The buffer distance, to be determined by the qualified biologist and shall be determined based on factors such as the species of bird, topographic features, intensity and extent of the disturbance, timing relative to the nesting cycle, and anticipated ground disturbance schedule. Limits of construction to avoid active nests shall be established in the field with flagging, fencing, or other appropriate barriers and shall be maintained until the chicks have fledged and the nests are no longer active, as determined by the qualified biologist.
- If vegetation removal or ground-disturbing activities are delayed, additional nest surveys shall be conducted such that no more than 7 days have elapsed between the survey and ground disturbance activities. It is recommended that disturbing potential nesting habitat (i.e., trimming and/or vegetation removal) be performed outside of the nesting season (September through February) to avoid impacts to nesting birds.
- If an active nest is identified in or adjacent to the construction zone after construction has started, work in the vicinity of the nest shall be halted until the qualified biologist can provide appropriate avoidance and minimization measures to ensure that the nest is not disturbed by construction. Appropriate measures may include a no-disturbance buffer until the birds have fledged and/or full-time monitoring by a qualified biologist during construction activities conducted in close proximity to the nest.

5.3 Aquatic Resources

A formal jurisdiction delineation of the Project site was not conducted during the field survey. No areas containing a dominance of wetland plants or linear features with an ordinary high water mark were observed in or adjacent to the Project site.

There are multiple upland ditches just outside the southeast and northeast corners of the Project boundary but these are human-made stormwater control features constructed in uplands to convey stormwater, and therefore do not qualify as wetlands or other waters of the U.S. In addition, the ditches do not drain into any potential wetlands or other waters, based on conditions observed in the field. Based on these findings, there are no federally regulated aquatic resources on or adjacent to the Project site. However, based on past experience the state may take jurisdiction over those resources through the Regional Water Quality Control Board. In the event that impacts to adjacent ditches are expected, permitting through Porter-Cologne Water Quality Control Act may be necessary. It is recommended that the Project avoids all impacts to the aquatic resources adjacent to the site. If the Project is anticipated to impact these resources a formal wetland delineation and associated permitting is required.

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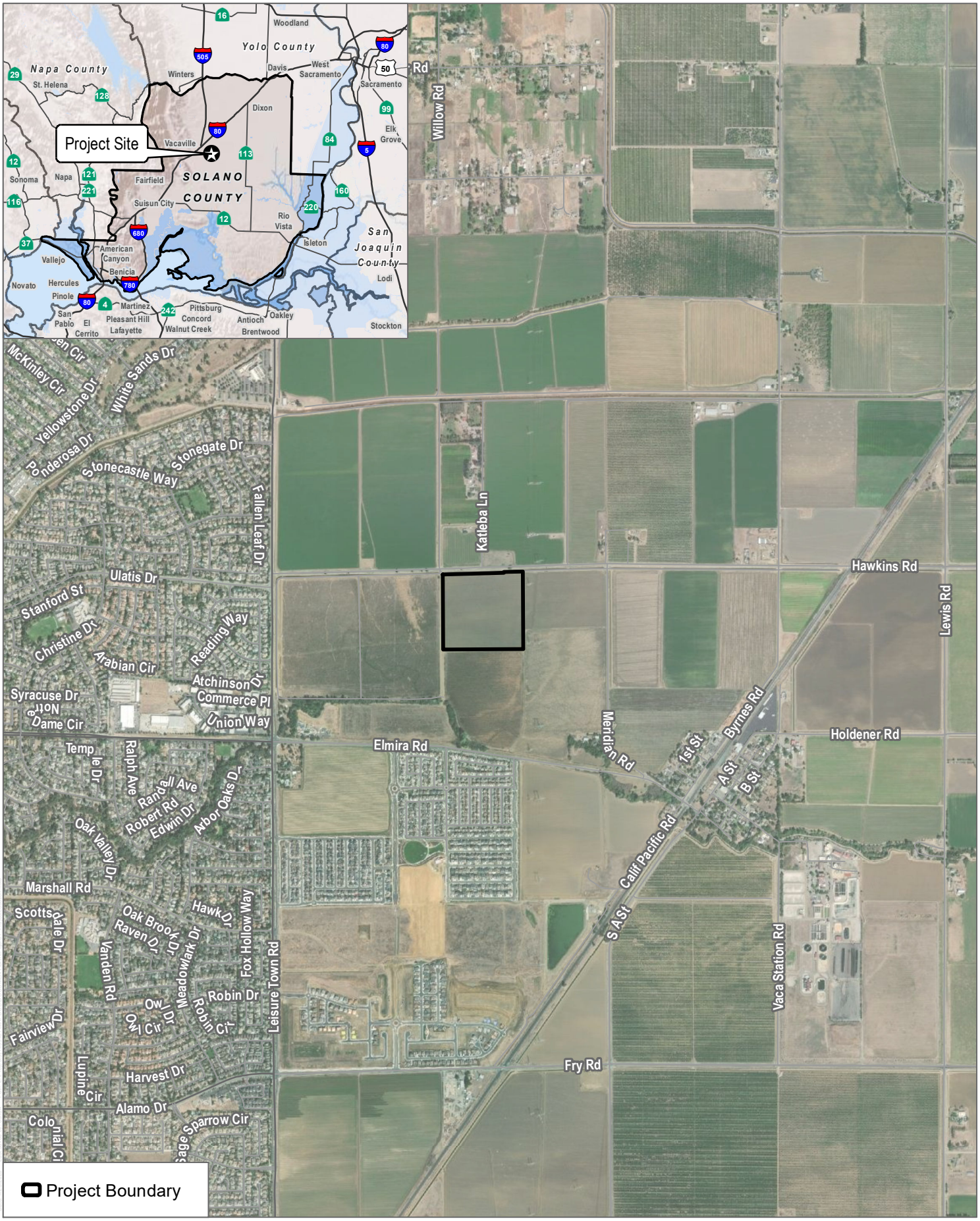

SOURCE: DigitalGlobe 2017, Open Street Map 2019

DUDEK

0 1,000 2,000 Feet

FIGURE 1

Project Location

Fields at Alamo Creek

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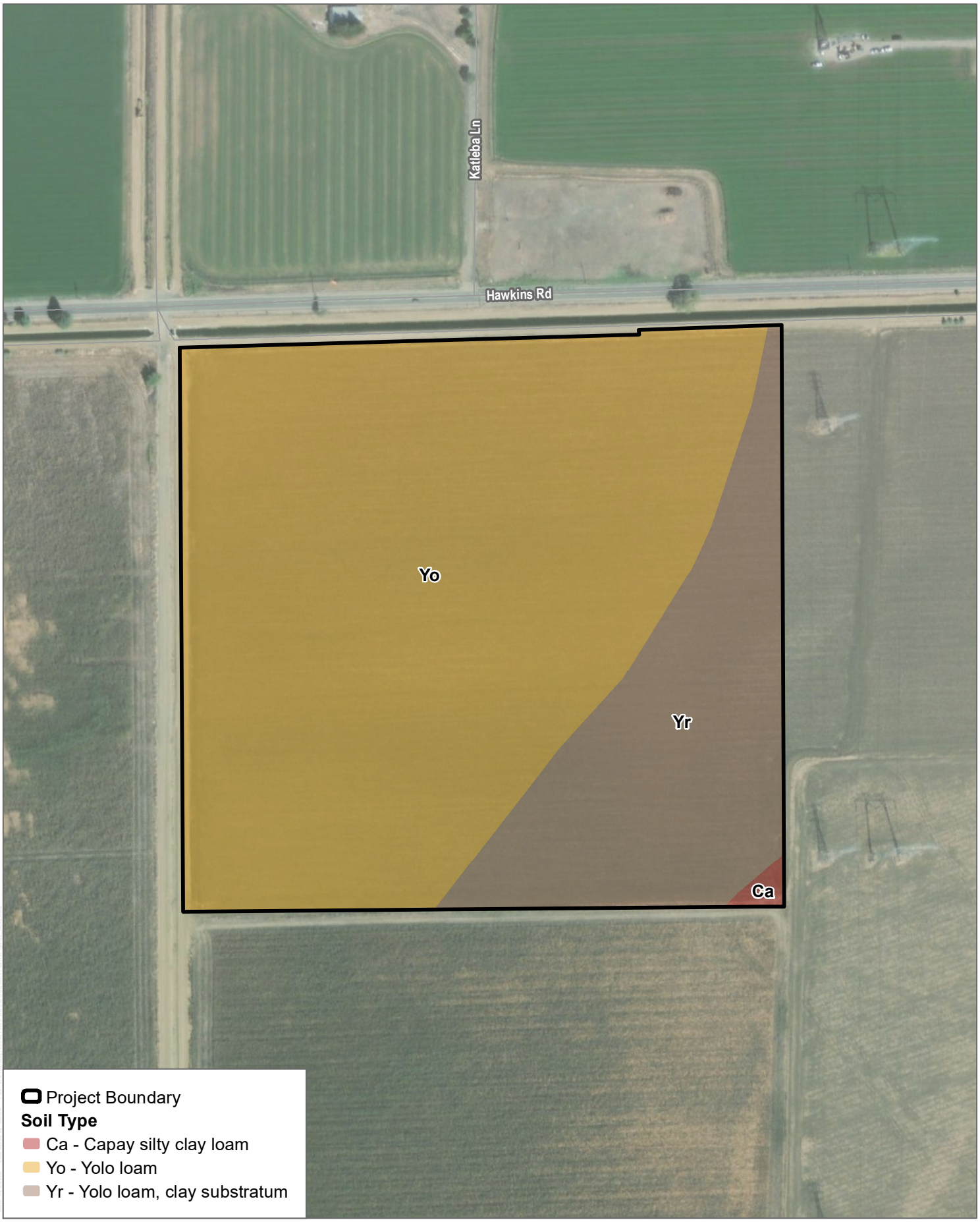

SOURCE: DigitalGlobe 2017, Open Street Map 2019, CA Dept. of Conservation 2018

DUDEK

0 135 270 Feet

FIGURE 2

Soils

Fields at Alamo Creek

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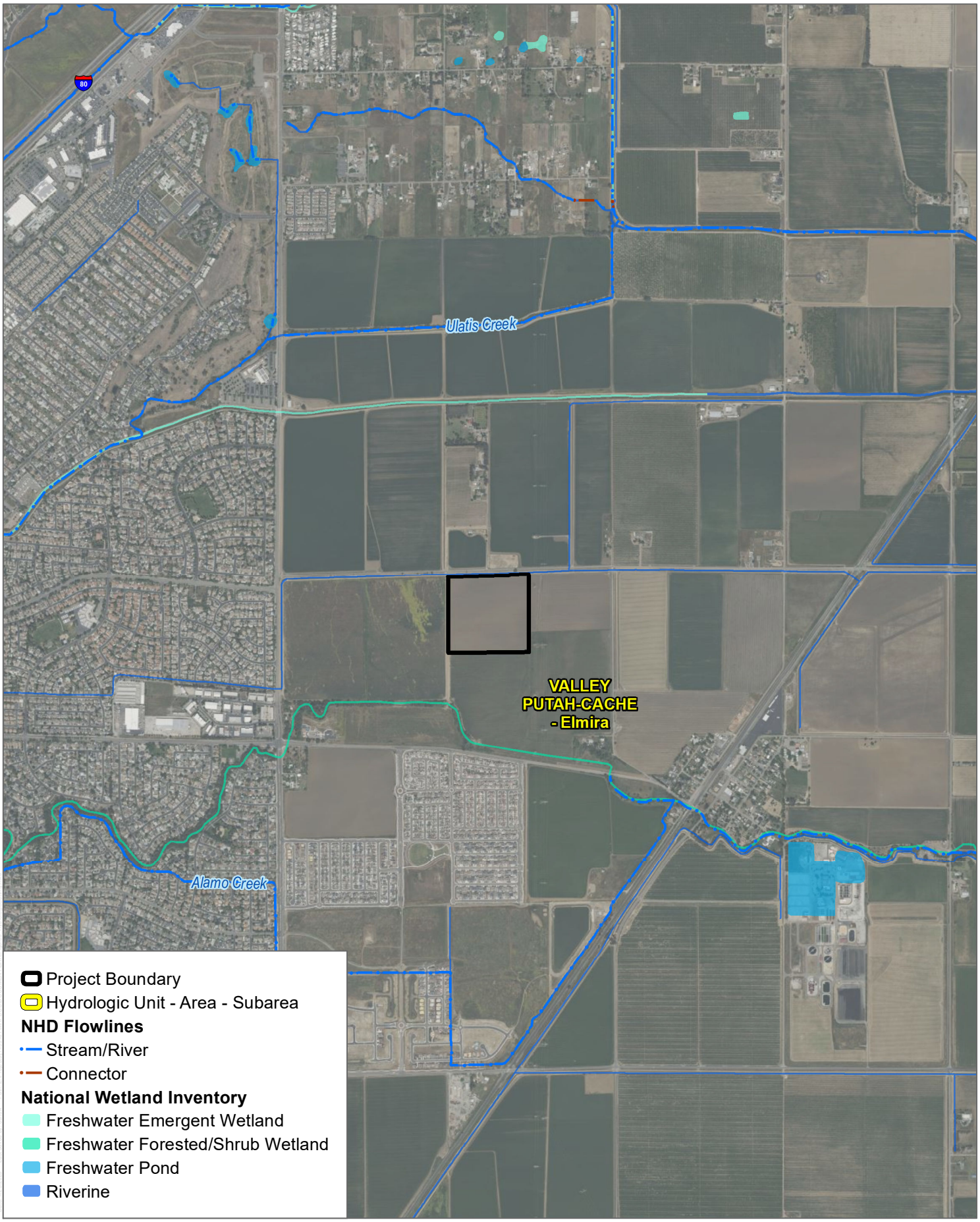

SOURCE: Bing Maps 2021, USFWS 2019, USGS 2019

DUDEK

0 1,000 2,000 Feet

FIGURE 3

Hydrologic Setting

Fields at Alamo Creek

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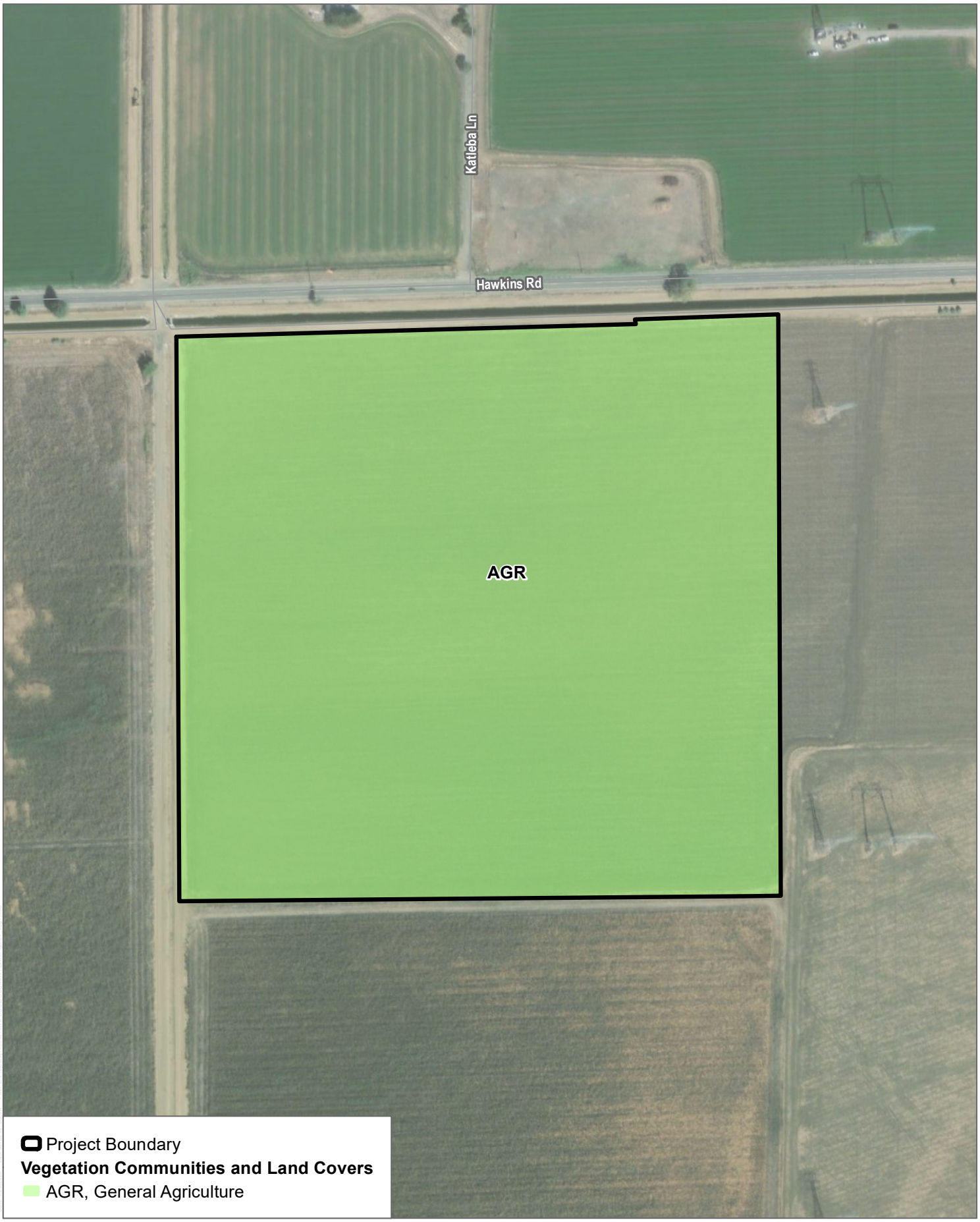

SOURCE: DigitalGlobe 2017, Open Street Map 2019, FRAP 2015

DUDEK

0 135 270 Feet

FIGURE 4

Vegetation Communities and Land Covers

Fields at Alamo Creek

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Project Boundary
Project Boundary - 5 Mile Buffer

CNDDB Plant Occurrences

1, bearded popcornflower, (*Plagiobothrys hystriculus*)
2, Valley Needlegrass Grassland, (*Valley Needlegrass Grassland*)
3, Coulter's goldfields, (*Lasthenia glabrata ssp. coulteri*)
4, adobe-lily, (*Fritillaria pluriflora*)
5, Keck's checkerbloom, (*Sidalcea keckii*)
6, Baker's navarretia, (*Navarretia leucocephala ssp. bakeri*)
7, legenere, (*Legenere limosa*)
8, alkali milk-vetch, (*Astragalus tener var. tener*)
9, two-fork clover, (*Trifolium amoenum*)
10, San Joaquin spearscale, (*Extriplex joaquinana*)
11, Carquinez goldenbush, (*Isocoma arguta*)
12, dwarf downingia, (*Downingia pusilla*)
13, heartscale, (*Atriplex cordulata var. cordulata*)
14, Contra Costa goldfields, (*Lasthenia conjugens*)
15, saline clover, (*Trifolium hydrophilum*)
16, recurved larkspur, (*Delphinium recurvatum*)

CNDDB Wildlife Occurrences

17, foothill yellow-legged frog - north coast DPS, (*Rana boylii pop. 1*)
18, western pond turtle, (*Emys marmorata*)
19, western bumble bee, (*Bombus occidentalis*)
20, California tiger salamander - central California DPS, (*Ambystoma californiense pop. 1*)
21, burrowing owl, (*Athene cunicularia*)
22, tricolored blackbird, (*Agelaius tricolor*)
23, vernal pool fairy shrimp, (*Branchinecta lynchi*)
24, midvalley fairy shrimp, (*Branchinecta mesovallensis*)
25, vernal pool tadpole shrimp, (*Lepidurus packardi*)
26, Ricksecker's water scavenger beetle, (*Hydrochara ricksecker*i)
27, Crotch bumble bee, (*Bombus crotchii*)
28, California linderiella, (*Linderiella occidentalis*)
29, grasshopper sparrow, (*Ammodramus savannarum*)
30, valley elderberry longhorn beetle, (*Desmocerus californicus dimorphus*)
31, Swainson's hawk, (*Buteo swainsoni*)
32, American badger, (*Taxidea taxus*)
33, white-tailed kite, (*Elanus leucurus*)

Cantelow Rd
Midway Rd
Gibson Canyon Rd
E Monte Vista Ave
Nut Tree Rd
Merchant St
Elmira Rd
Leisure Town Rd
Alamo Dr
S 1st St
Rio Dixon Rd
N Texas St
Dover Ave
505
80
40
113

SOURCE: DigitalGlobe 2017; CA Dept. of Fish and Wildlife 2021

DUDEK

0 3,250 6,500 Feet

FIGURE 5
CNDDB Occurrences
Fields at Alamo Creek

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Attachment A

Special-Status Plant Species Potential to Occur with the Project Area

Scientific Name	Common Name	Status (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Astragalus tener var. ferrisiae	Ferris' milk-vetch	None/None/1B.1	Meadows and seeps (vernally mesic), Valley and foothill grassland (subalkaline flats)/annual herb/Apr–May/7–245	Not expected to occur. The nearest occurrence is approximately 9 miles east near Bunker and recorded in 2002 (CDFW 2023). No suitable habitat is present and there are no alkaline soils (Calflora 2023).
Astragalus tener var. tener	alkali milk-vetch	None/None/1B.2	Playas, Valley and foothill grassland (adobe clay), Vernal pools; alkaline/annual herb/Mar–June/3–195	Not expected to occur. The nearest occurrence is approximately 3 miles southwest near Alamo Drive and recorded in 1896 (CDFW 2023). A more recent occurrence is approximately 4.5 miles southeast near Hay Road and recorded in 2002 (CDFW 2023). No suitable habitat is present and there are no alkaline soils (Calflora 2023).
Atriplex cordulata var. cordulata	heartscale	None/None/1B.2	Chenopod scrub, Meadows and seeps, Valley and foothill grassland (sandy); saline or alkaline/annual herb/Apr–Oct/0–1,835	Not expected to occur. The nearest occurrence is approximately 2 miles southwest near Alamo Drive and recorded in 1892 (CDFW 2023). A more recent occurrence is approximately 7 miles southwest in the vicinity of Barker Slough and recorded in 1994 (CDFW 2023). No suitable habitat is present and there are no saline or alkaline soils (Calflora 2023).
Atriplex depressa	brittlescale	None/None/1B.2	Chenopod scrub, Meadows and seeps, Playas, Valley and foothill grassland, Vernal pools; alkaline, clay/annual herb/Apr–Oct/3–1,045	Not expected to occur. The nearest occurrence is approximately 7 miles south near Travis Air Force Base and recorded in 1986 (CDFW 2023). No suitable habitat is present and there are no alkaline soils (Calflora 2023).
Atriplex persistens	vernal pool smallscale	None/None/1B.2	Vernal pools (alkaline)/annual herb/June,Aug,Sep,Oct/33–375	Not expected to occur. The nearest occurrence is approximately 7.5 miles southeast near Creed Road and recorded in 1992 (CDFW 2023). No suitable habitat is present and there are no alkaline soils (Calflora 2023).
Carex lyngbyei	Lyngbye's sedge	None/None/2B.2	Marshes and swamps (brackish or freshwater)/perennial rhizomatous herb/Apr–Aug/0–35	Not expected to occur. The nearest occurrence is approximately 10 miles southwest near Deadmans Island and recorded in 2020 (CDFW 2023). No suitable habitat is present.
Centromadia parryi ssp. parryi	pappose tarplant	None/None/1B.2	Chaparral, Coastal prairie, Meadows and seeps, Marshes and swamps (coastal salt), Valley and	Not expected to occur. The nearest occurrence is 5.5 miles southwest near Lagoon Valley and

Scientific Name	Common Name	Status (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
			foothill grassland (vernally mesic); often alkaline/annual herb/May–Nov/0–1,375	recorded in 2013 (CDFW 2023). No suitable habitat is present and there are no alkaline soils (Calflora 2023).
Chloropyron molle ssp. hispidum	hispid bird's-beak	None/None/1B.1	Meadows and seeps, Playas, Valley and foothill grassland; alkaline/annual herb (hemiparasitic)/June–Sep/3–510	Not expected to occur. The nearest occurrence is approximately 8 miles south near Denverton Creek and recorded in 2010 (CDFW 2023). No suitable habitat is present and there are no alkaline soils (Calflora 2023).
Chloropyron molle ssp. molle	soft bird's-beak	FE/SR/1B.2	Marshes and swamps (coastal salt)/annual herb (hemiparasitic)/June–Nov/0–10	Not expected to occur. The nearest occurrence is approximately 9 miles south near Highway 12 and recorded in 1999 (CDFW 2023). No suitable habitat is present.
Cicuta maculata var. bolanderi	Bolander's water-hemlock	None/None/2B.1	Marshes and swamps Coastal, fresh or brackish water/perennial herb/July–Sep/0–655	Not expected to occur. The nearest occurrence is approximately 8.5 miles southeast near Rio Dixon Road and recorded in 1998 (CDFW 2023). No suitable habitat is present.
Cirsium hydrophilum var. hydrophilum	Suisun thistle	FE/None/1B.1	Marshes and swamps (salt)/perennial herb/June–Sep/0–3	Not expected to occur. The nearest occurrence is approximately 10 miles southwest near Potrero Hills Lane and recorded in 2019 (CDFW 2023). No suitable habitat is present and there are no saline soils (Calflora 2023).
Delphinium recurvatum	recurved larkspur	None/None/1B.2	Chenopod scrub, Cismontane woodland, Valley and foothill grassland; alkaline/perennial herb/Mar–June/10–2,590	Not expected to occur. The nearest occurrence is approximately 3 miles west along Browns Valley Road and recorded in 1940 (CDFW 2023). No suitable habitat is present and there are no alkaline soils (Calflora 2023).
Downingia pusilla	dwarf downingia	None/None/2B.2	Valley and foothill grassland (mesic), Vernal pools/annual herb/Mar–May/3–1,455	Not expected to occur. The nearest occurrence is approximately 3 miles northwest in the vicinity of highway 505 and recorded in 1998. No suitable habitat is present.
Eleocharis parvula	small spikerush	None/None/4.3	Marshes and swamps/perennial herb/(Apr)June–Aug(Sep)/3–9,905	Not expected to occur. The nearest occurrence is approximately 22 miles west near Napa County Airport and recorded in 1980 and 1983 (CCH 2023). No suitable habitat is present.

Scientific Name	Common Name	Status (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Erigeron biolettii	streamside daisy	None/None/3	Broadleafed upland forest, Cismontane woodland, North Coast coniferous forest; rocky, mesic/perennial herb/June–Oct/98–3,605	Not expected to occur. There are two occurrences approximately 14 miles southwest and recorded in 2013 and 1901 (CCH 2023). No suitable habitat is present.
Eriogonum truncatum	Mt. Diablo buckwheat	None/None/1B.1	Chaparral, Coastal scrub, Valley and foothill grassland; sandy/annual herb/Apr–Sep(Nov–Dec)/10–1,145	Not expected to occur. The nearest occurrence is approximately 10 miles southwest in Suisun City and recorded in 1888 (CDFW 2023). There are no additional occurrences within 20 miles (CDFW 2023). No suitable habitat is present.
Eryngium jepsonii	Jepson's coyote thistle	None/None/1B.2	Valley and foothill grassland, Vernal pools; clay/perennial herb/Apr–Aug/10–985	Not expected to occur. The nearest occurrence is approximately 14.5 miles northeast in the vicinity of Toe Drain Canal and recorded in 2002 (CDFW 2023). No suitable habitat is present.
Extriplex joaquinana	San Joaquin spearscale	None/None/1B.2	Chenopod scrub, Meadows and seeps, Playas, Valley and foothill grassland; alkaline/annual herb/Apr–Oct/3–2,735	Not expected to occur. The nearest occurrence is approximately 2 miles southwest near Alamo Drive and recorded in 1891 (CDFW 2023). A more recent occurrence is 5 miles southwest near Lagoon Valley and recorded in 1989 (CDFW 2023). No suitable habitat is present and there are no alkaline soils (Calflora 2023).
Fritillaria agrestis	stinkbells	None/None/4.2	Chaparral, Cismontane woodland, Pinyon and juniper woodland, Valley and foothill grassland; Clay, sometimes serpentinite/perennial bulbiferous herb/Mar–June/33–5,100	Not expected to occur. There are no occurrences within 20 miles of the project (CDFW 2023). No suitable habitat is present and there are no serpentinite soils (Calflora 2023).
Fritillaria liliacea	fragrant fritillary	None/None/1B.2	Cismontane woodland, Coastal prairie, Coastal scrub, Valley and foothill grassland; Often serpentinite/perennial bulbiferous herb/Feb–Apr/10–1,345	Not expected to occur. The nearest occurrence is approximately 7 miles southeast near Olcott and recorded in 1983 (CDFW 2023). No suitable habitat is present and there are no serpentinite soils (Calflora 2023).
Fritillaria pluriflora	adobe-lily	None/None/1B.2	Chaparral, Cismontane woodland, Valley and foothill grassland; often adobe/perennial bulbiferous herb/Feb–Apr/197–2,310	Not expected to occur. The site is outside of the species' known elevation range.

Scientific Name	Common Name	Status (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Gratiola heterosepala	Boggs Lake hedge-hyssop	None/SE/1B.2	Marshes and swamps (lake margins), Vernal pools; clay/annual herb/Apr–Aug/33–7,790	Not expected to occur. The nearest occurrence is approximately 8 miles southeast near Salem Road and recorded in 2002 (CDFW 2023). No suitable habitat is present.
Hesperevax caulescens	hogwallow starfish	None/None/4.2	Valley and foothill grassland (mesic, clay), Vernal pools (shallow); sometimes alkaline/annual herb/Mar–June/0–1,655	Not expected to occur. The nearest occurrence is approximately 1 mile north and recorded in 2002 (CCH 2023). No suitable habitat is present and there are no alkaline soils (Calflora 2023).
Hesperolinon breweri	Brewer's western flax	None/None/1B.2	Chaparral, Cismontane woodland, Valley and foothill grassland; usually serpentinite/annual herb/May–July/98–3,100	Not expected to occur. The nearest occurrence is approximately 6 miles west in Gates Valley and recorded in 1892 (CDFW 2023). No suitable habitat is present and there are no serpentinite soils (Calflora 2023).
Hibiscus lasiocarpos var. occidentalis	woolly rose-mallow	None/None/1B.2	Marshes and swamps (freshwater); Often in riprap on sides of levees./perennial rhizomatous herb (emergent)/June–Sep/0–395	Not expected to occur. The nearest occurrence is approximately 10 miles west in Hass Slough and recorded in 2005 (CDFW 2023). No suitable habitat is present.
Iris longipetala	coast iris	None/None/4.2	Coastal prairie, Lower montane coniferous forest, Meadows and seeps; mesic/perennial rhizomatous herb/Mar–May(June)/0–1,965	Not expected to occur. The nearest occurrence is 16 miles southwest Near Cordelia and recorded in 2006 (CCH 2023). No suitable habitat is present.
Isocoma arguta	Carquinez goldenbush	None/None/1B.1	Valley and foothill grassland (alkaline)/perennial shrub/Aug–Dec/3–65	Not expected to occur. The nearest occurrence is approximately 5 miles east along Rio Dixon Highway and recorded in 1959 (CDFW 2023). No suitable habitat is present and there are no alkaline soils (Calflora 2023).
Lasthenia chrysantha	alkali-sink goldfields	None/None/1B.1	Vernal pools; alkaline/annual herb/Feb–Apr/0–656	Not expected to occur. The nearest occurrence is approximately 7 miles southeast near Cook late and no recorded date (CDFW 2023). No suitable habitat is present and there are no alkaline soils (Calflora 2023).
Lasthenia conjugens	Contra Costa goldfields	FE/None/1B.1	Cismontane woodland, Playas (alkaline), Valley and foothill grassland, Vernal pools; mesic/annual herb/Mar–June/0–1,540	Not expected to occur. The nearest occurrence is approximately 2 miles southwest in the vicinity of Alamo Drive and recorded in 1918 (CDFW 2023).

Scientific Name	Common Name	Status (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
				No suitable habitat is present and there are no alkaline soils (Calflora 2023).
Lasthenia ferrisiae	Ferris' goldfields	None/None/4.2	Vernal pools (alkaline, clay)/annual herb/Feb–May/66–2,295	Not expected to occur. The nearest occurrence is 36 miles south near Discovery Bay and recorded in 1971 (CCH 2023). No suitable habitat is present and there are no alkaline soils (Calflora 2023).
Lasthenia glabrata ssp. coulteri	Coulter's goldfields	None/None/1B.1	Marshes and swamps (coastal salt), Playas, Vernal pools/annual herb/Feb–June/3–4,000	Not expected to occur. The nearest occurrence is approximately 5 miles south near Travis Air Force Base and recorded in 2018 (CDFW 2023). No suitable habitat is present.
Lathyrus jepsonii var. jepsonii	Delta tule pea	None/None/1B.2	Marshes and swamps (freshwater and brackish)/perennial herb/May–July(Aug–Sep)/0–15	Not expected to occur. The nearest occurrence is approximately 9 miles southeast in Calhoun Cut Canal and recorded in 2018 (CDFW 2023). No suitable habitat is present.
Legenere limosa	legenere	None/None/1B.1	Vernal pools/annual herb/Apr–June/3–2,885	Not expected to occur. The nearest occurrence overlaps with the project but recorded as extirpated due to agricultural development in 1983 (CDFW 2023). No suitable habitat is present.
Lepidium latipes var. heckardii	Heckard's pepper-grass	None/None/1B.2	Valley and foothill grassland (alkaline flats)/annual herb/Mar–May/7–655	Not expected to occur. The nearest occurrence is approximately 7 miles south in the vicinity of Travis Air Force Base and recorded in 2002 (CDFW 2023). No suitable habitat is present and there are no alkaline soils (Calflora 2023).
Lessingia hololeuca	woolly-headed lessingia	None/None/3	Broadleafed upland forest, Coastal scrub, Lower montane coniferous forest, Valley and foothill grassland; clay, serpentinite/annual herb/June–Oct/49–1,000	Not expected to occur. The nearest occurrence is approximately 10 miles south near Rio Vista and recorded in 1930 (CCH 2023). No suitable habitat is present and there are no serpentinite soils (Calflora 2023).
Lilaeopsis masonii	Mason's lilaeopsis	None/SR/1B.1	Marshes and swamps (brackish or freshwater), Riparian scrub/perennial rhizomatous herb/Apr–Nov/0–35	Not expected to occur. The nearest occurrence is approximately 9 miles southeast in Calhoun Cut Canal and recorded in 2005 (CDFW 2023). No suitable habitat is present.

Scientific Name	Common Name	Status (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Limosella australis	Delta mudwort	None/None/2B.1	Marshes and swamps (freshwater or brackish), Riparian scrub; Usually mud banks/perennial stoloniferous herb/May–Aug/0–10	Not expected to occur. The nearest occurrence is approximately 9.5 miles southeast in Calhoun Cut Canal and recorded in 1997 (CDFW 2023). No suitable habitat is present.
Lomatium repostum	Napa lomatium	None/None/4.3	Chaparral, Cismontane woodland; serpentinite/perennial herb/Mar–June/295–2,720	Not expected to occur. The site is outside of the species' known elevation range.
Meesia triquetra	three-ranked hump moss	None/None/4.2	Bogs and fens, Meadows and seeps, Subalpine coniferous forest, Upper montane coniferous forest (mesic); soil/moss/July/4,265–9,685	Not expected to occur. The site is outside of the species' known elevation range.
Microseris paludosa	marsh microseris	None/None/1B.2	Closed-cone coniferous forest, Cismontane woodland, Coastal scrub, Valley and foothill grassland/perennial herb/Apr–June(July)/16–1,160	Not expected to occur. The nearest occurrence is approximately 8.5 miles south near Travis Air Force Base and recorded in 2005 (CDFW 2023). No suitable habitat is present.
Myosurus minimus ssp. apus	little mousetail	None/None/3.1	Valley and foothill grassland, Vernal pools (alkaline)/annual herb/Mar–June/66–2,095	Not expected to occur. There are no occurrences within 20 miles of the site (CDFW 2023). No suitable habitat is present and there are no alkaline soils (Calflora 2023).
Navarretia leucocephala ssp. bakeri	Baker's navarretia	None/None/1B.1	Cismontane woodland, Lower montane coniferous forest, Meadows and seeps, Valley and foothill grassland, Vernal pools; Mesic/annual herb/Apr–July/16–5,705	Not expected to occur. The nearest occurrence is approximately 1 mile southeast near Elmira and recorded in 1952 (CDFW 2023). No suitable habitat is present.
Neostapfia colusana	Colusa grass	FT/SE/1B.1	Vernal pools (adobe, large)/annual herb/May–Aug/16–655	Not expected to occur. The nearest occurrence is approximately 7 miles southeast near Creed and recorded in 2010 (CDFW 2023). No suitable habitat is present.
Orcuttia inaequalis	San Joaquin Valley Orcutt grass	FT/SE/1B.1	Vernal pools/annual herb/Apr–Sep/33–2,475	Not expected to occur. The nearest occurrence is approximately 6.5 miles southeast in the vicinity of Travis Air Force Base and recorded in 2011 (CDFW 2023). No suitable habitat is present.

Scientific Name	Common Name	Status (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Perideridia gairdneri ssp. gairdneri	Gairdner's yampah	None/None/4.2	Broadleafed upland forest, Chaparral, Coastal prairie, Valley and foothill grassland, Vernal pools; vernally mesic/perennial herb/June–Oct/0–2,000	Not expected to occur. The nearest occurrence is 6 miles southwest in the vicinity of Travis Air Force Base and recorded in 2005 (CCH 2023). No suitable habitat is present.
Plagiobothrys hystriculus	bearded popcornflower	None/None/1B.1	Valley and foothill grassland (mesic), Vernal pools margins; often vernal swales/annual herb/Apr–May/0–900	Not expected to occur. The nearest occurrence is approximately 3 miles south in the vicinity of Cypress Lakes Golf Course and recorded in 2013 (CDFW 2023). No suitable habitat is present.
Puccinellia simplex	California alkali grass	None/None/1B.2	Chenopod scrub, Meadows and seeps, Valley and foothill grassland, Vernal pools; Alkaline, vernally mesic; sinks, flats, and lake margins/annual herb/Mar–May/7–3,050	Not expected to occur. The nearest occurrence is approximately 7 miles southeast near Olcott and recorded in 1963 (CDFW 2023). No suitable habitat is present and there are no alkaline soils (Calflora 2023).
Ranunculus lobbii	Lobb's aquatic buttercup	None/None/4.2	Cismontane woodland, North Coast coniferous forest, Valley and foothill grassland, Vernal pools; mesic/annual herb (aquatic)/Feb–May/49–1,540	Not expected to occur. The nearest occurrence is 15 miles west near Wild Horse Valley Ranch and recorded in 1992 (CCH 2023). No suitable habitat is present.
Sidalcea keckii	Keck's checkerbloom	FE/None/1B.1	Cismontane woodland, Valley and foothill grassland; serpentinite, clay/annual herb/Apr–May(June)/246–2,130	Not expected to occur. The site is outside of the species' known elevation range.
Spergularia macrotheca var. longistyla	long-styled sand-spurrey	None/None/1B.2	Meadows and seeps, Marshes and swamps; Alkaline/perennial herb/Feb–May/0–835	Not expected to occur. The nearest occurrence is approximately 11 miles southwest in Suisun City and recorded in 1953 (CDFW 2023). No suitable habitat is present and there are no alkaline soils (Calflora 2023).
Stuckenia filiformis ssp. alpina	slender-leaved pondweed	None/None/2B.2	Marshes and swamps (assorted shallow freshwater)/perennial rhizomatous herb (aquatic)/May–July/984–7,050	Not expected to occur. The site is outside of the species' known elevation range.
Symphyotrichum lentum	Suisun Marsh aster	None/None/1B.2	Marshes and swamps (brackish and freshwater)/perennial rhizomatous herb/(Apr)May–Nov/0–10	Not expected to occur. The nearest occurrence is approximately 5.5 miles south in Vanden and recorded in 1920 (CDFW 2023). No suitable habitat is present.

Scientific Name	Common Name	Status (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Trifolium amoenum	two-fork clover	FE/None/1B.1	Coastal bluff scrub, Valley and foothill grassland (sometimes serpentinite)/annual herb/Apr–June/16–1,360	Not expected to occur. There are three historical occurrences approximately 2 miles west and within the project boundary recorded between 1892-1909 (CDFW 2023). There are no recent occurrences within 10 miles of the site (CDFW 2023). No suitable habitat is present and there are no serpentinite soils (Calflora 2023).
Trifolium hydrophilum	saline clover	None/None/1B.2	Marshes and swamps, Valley and foothill grassland (mesic, alkaline), Vernal pools/annual herb/Apr–June/0–985	Not expected to occur. The nearest occurrence is approximately 5 miles west near Lagoon Valley and recorded in 1960 (CDFW 2023). No suitable habitat is present.
Tuctoria mucronata	Crampton's tuctoria or Solano grass	FE/SE/1B.1	Valley and foothill grassland (mesic), Vernal pools/annual herb/Apr–Aug/16–35	Not expected to occur. The nearest occurrence is approximately 7 miles south near Creed and recorded in 2010 (CDFW 2023). No suitable habitat is present.
Viburnum ellipticum	oval-leaved viburnum	None/None/2B.3	Chaparral, Cismontane woodland, Lower montane coniferous forest/perennial deciduous shrub/May–June/705–4,590	Not expected to occur. The site is outside of the species' known elevation range.

References:

CCH (Consortium of California Herbaria). 2023. CCH2 Portal. Biodiversity data provided by the participants of the Consortium of California Herbaria. Accessed January 20, 2023 at https://www.cch2.org/portal/collections/map/index.php.

CDFW. 2021a. RareFind 6 and CNDDB in BIOS. California Natural Diversity Database. CDFW, Biogeographic Data Branch. February 2023. BIOS Viewer@CDFW (ca.gov)

Attachment B

Special-Status Wildlife Species Potential to Occur with the Project Area

Scientific Name	Common Name	Status (Federal/State)	Habitat	Potential to Occur
Amphibians				
Ambystoma californiense pop. 1	California tiger salamander - central California DPS	FT/ST, WL	Annual grassland, valley–foothill hardwood, and valley–foothill riparian habitats; vernal pools, other ephemeral pools, and (uncommonly) along stream courses and man-made pools if predatory fishes are absent	**Low potential to occur.** The nearest occurrence is approximately 4 miles southwest near Hay Road and recorded in 2006 (CDFW 2023). No aquatic or terrestrial habitat is present on site. If present, would be solely as a transient individual moving between other habitat areas.
Rana boylii pop. 1	foothill yellow-legged frog - north coast DPS	None/SSC	Rocky streams and rivers with open banks in forest, chaparral, and woodland	**Not expected to occur.** The project is outside of the species known range. The nearest occurrence is approximately 3 miles west along Ulatis Creek and recorded in 1912 (CDFW 2023). No aquatic or terrestrial habitat is present on site.
Rana draytonii	California red-legged frog	FT/SSC	Lowland streams, wetlands, riparian woodlands, livestock ponds; dense, shrubby or emergent vegetation associated with deep, still or slow-moving water; uses adjacent uplands	**Not expected to occur.** The project is outside of the species known range. The nearest occurrence is approximately 16 miles southwest near Cordelia Junction and recorded in 2016 (CDFW 2023). No aquatic or terrestrial habitat is present on site.
Birds				
Agelaius tricolor (nesting colony)	tricolored blackbird	BCC/SSC, ST	Nests near freshwater, emergent wetland with cattails or tules, but also in Himalayan blackberry and other thorny vegetation; forages in grasslands, open woodland, and non-orchard agriculture	**Not expected to nest.** The nearest occurrence is approximately 3 miles south near Leisure Town Road and recorded in 2015 (CDFW 2023). No breeding habitat is present (aquatic habitat with appropriate emergent vegetation, or thorny vegetation) is present on site. High potential to forage in agricultural habitat onsite.
Ammodramus savannarum (nesting)	grasshopper sparrow	None/SSC	Nests and forages in moderately open grassland with tall forbs or scattered shrubs used for perches	Low potential to nest. The nearest occurrence is approximately 4 miles southeast near Hay Road and recorded in 2017 (CDFW 2023). Nesting habitat is limited to field crops. Moderate potential to forage in agricultural habitat onsite.

Scientific Name	Common Name	Status (Federal/State)	Habitat	Potential to Occur
Aquila chrysaetos (nesting & wintering)	golden eagle	None/FP, WL	Nests and winters in hilly, open/semi-open areas, including shrublands, grasslands, pastures, riparian areas, mountainous canyon land, open desert rimrock terrain; nests in large trees and on cliffs in open areas and forages in open habitats	**Not expected to nest** due to lack of habitat and proximity of human activity. There are no occurrences within 10 miles of the site (CDFW 2023). **Low potential to forage.** Agricultural habitat suitable for foraging is present.
Asio flammeus (nesting)	short-eared owl	BCC/SSC	Grassland, prairies, dunes, meadows, irrigated lands, and saline and freshwater emergent wetlands	**Moderate potential to occur.** The nearest occurrence is approximately 12 miles south in Grizzly Island and recorded in 1987 (CDFW 2023). Agricultural land provides wintering and foraging habitat.
Athene cunicularia (burrow sites & some wintering sites)	burrowing owl	BCC/SSC	Nests and forages in grassland, open scrub, and agriculture, particularly with ground squirrel burrows	**Moderate potential to occur.** There are two occurrences approximately 1 mile from the site recorded in 2005 and 2017 (CDFW 2023). Suitable agricultural habitat is present for nesting and foraging. Site does not have suitable sized burrows for owls to nest.
Buteo regalis	Ferruginous hawk	None/SSC	Winters and forages in open, dry country, grasslands, open fields, agriculture	**Moderate potential to occur.** The nearest occurrence is 12 miles southwest near Potrero Hills and recorded in 1996 (CDFW 2023). Agricultural habitat is present for wintering and foraging.
Buteo swainsoni (nesting)	Swainson's hawk	None/ST	Nests in open woodland and savanna, riparian, and in isolated large trees; forages in nearby grasslands and agricultural areas such as wheat and alfalfa fields and pasture	**Not expected to nest.** There are 5 occurrences approximately 1 mile from the site recorded 2001-2011 (CDFW 2023). No suitable tall trees for nesting are present. **High potential to forage** in agricultural habitat onsite.
Charadrius montanus (wintering)	mountain plover	BCC/SSC	Winters in shortgrass prairies, plowed fields, open sagebrush, and sandy deserts	**Moderate potential to occur.** The nearest occurrence is approximately 9 miles southeast near Creed and recorded in 1991 (CDFW 2023). Short grassland and grain field habitat is present.

Scientific Name	Common Name	Status (Federal/State)	Habitat	Potential to Occur
Circus hudsonius (nesting)	northern harrier	BCC/SSC	Nests in open wetlands (marshy meadows, wet lightly-grazed pastures, old fields, freshwater and brackish marshes); also in drier habitats (grassland and grain fields); forages in grassland, scrubs, rangelands, emergent wetlands, and other open habitats	**Low potential to nest.** The nearest occurrence is approximately 12.5 miles south near Joyce Island and recorded in 2004 (CDFW 2023). Grain fields are present although a less preferable nesting habitat. **High potential to forage** in agricultural habitat onsite. Species was observed foraging within the adjacent area analyzed in the 2018 EIR.
Coturnicops noveboracensis	yellow rail	BCC/SSC	Nesting requires wet marsh/sedge meadows or coastal marshes with wet soil and shallow, standing water	**Not expected to occur.** The nearest occurrence is approximately 12 miles southwest near Joyce Island and recorded in 2009 (CDFW 2023). No suitable aquatic marsh habitat is present.
Elanus leucurus (nesting)	white-tailed kite	None/FP	Nests in woodland, riparian, and individual trees near open lands; forages opportunistically in grassland, meadows, scrubs, agriculture, emergent wetland, savanna, and disturbed lands	**Not expected to nest.** There are two occurrences approximately 2 miles north and recorded in 2001 (CDFW 2023). No suitable nesting trees are present. **High potential to forage** in agricultural habitat onsite.
Geothlypis trichas sinuosa	saltmarsh common yellowthroat	BCC/SSC	Nests and forages in emergent wetlands including woody swamp, brackish marsh, and freshwater marsh	**Not expected to occur.** The nearest occurrence is approximately 10 miles south in Suisun City and recorded in 2004 (CDFW 2023). No suitable habitat is present.
Icteria virens (nesting)	yellow-breasted chat	None/SSC	Nests and forages in dense, relatively wide riparian woodlands and thickets of willows, vine tangles, and dense brush	**Not expected to occur.** The nearest occurrence is approximately 11 miles northwest in the vicinity of Lake Solano Park and recorded in 1987 (CDFW 2023). No suitable habitat is present.
Lanius ludovicianus	Loggerhead shrike	None/SSC	Nests and forages in open habitats with scattered shrubs, trees, or other perches	**Moderate potential to forage. Low potential to nest.** Open agricultural habitat is suitable for foraging. Trees in the project vicinity provide nesting habitat. There are no occurrences within 20 miles of the site (CDFW 2023).

Scientific Name	Common Name	Status (Federal/State)	Habitat	Potential to Occur
Laterallus jamaicensis coturniculus	California black rail	None/FP, ST	Tidal marshes, shallow freshwater margins, wet meadows, and flooded grassy vegetation; suitable habitats are often supplied by canal leakage in Sierra Nevada foothill populations	**Not expected to occur.** The nearest occurrence is approximately 9.5 miles southwest near Highway 12 and recorded in 2009 (CDFW 2023). No suitable habitat is present.
Melospiza melodia maxillaris	Suisun song sparrow	None/SSC	Nests and forages in tidal salt and brackish marsh	**Not expected to occur.** The nearest occurrence is approximately 10 miles southwest in Suisun City and recorded in 2004 (CDFW 2023). No suitable habitat is present.
Rallus obsoletus obsoletus	Ridgway's rail	FE/FP, SE	Coastal salt or brackish marshes	**Not expected to occur.** The nearest occurrence is approximately 10 miles southwest near Suisun City and recorded in 1994 (CDFW 2023). No suitable habitat is present.
Fishes				
Acipenser medirostris pop. 1	green sturgeon - southern DPS	FT/None	Spawns in deep pools in large, turbulent, freshwater rivers; adults live in oceanic waters, bays, and estuaries	**Not expected to occur.** No suitable aquatic habitat present.
Hypomesus transpacificus	Delta smelt	FT/SE	Sacramento–San Joaquin Delta; seasonally in Suisun Bay, Carquinez Strait, and San Pablo Bay	**Not expected to occur.** No suitable aquatic habitat present.
Pogonichthys macrolepidotus	Sacramento splittail	None/SSC	Endemic to the lakes and rivers of the Central Valley, but now confined to the Delta, Suisun Bay, and associated marshes	**Not expected to occur.** No suitable aquatic habitat present.
Spirinchus thaleichthys	longfin smelt	FC/ST	San Francisco Bay Estuary and areas of the Pacific Ocean out to the Farallon Islands. Older juveniles and adults migrate to the ocean, but must return to fresh water for spawning and rearing.	**Not expected to occur.** No suitable aquatic habitat present.
Invertebrates				

Scientific Name	Common Name	Status (Federal/State)	Habitat	Potential to Occur
Bombus crotchii	Crotch bumble bee	None/SCE	Open grassland and scrub communities supporting suitable floral resources.	**Low potential to occur.** The nearest occurrence is approximately 5 miles southwest near Lagoon Valley and recorded in 2007 (CDFW 2023). Agricultural fields onsite provide marginal floral resources, if any.
Bombus occidentalis	western bumble bee	None/SCE	Habitat generalists in areas with blooming from spring to autumn. Typically nest underground in rodent burrows in open grasslands.	**Low potential to occur.** The nearest occurrence is approximately 3 miles west in Vacaville and was recorded in 1950 (CDFW 2023). Agricultural fields onsite provide marginal floral resources, if any.
Branchinecta conservatio	Conservancy fairy shrimp	FE/None	Larger, more turbid vernal pools, playa pools	**Not expected to occur.** The nearest occurrence is approximately 5 miles southeast near Hay Road and recorded in 2014 (CDFW 2023). No suitable habitat present.
Branchinecta lynchi	vernal pool fairy shrimp	FT/None	Vernal pools, seasonally ponded areas within vernal swales, and ephemeral freshwater habitats	**Not expected to occur.** The nearest occurrence is approximately 2.5 miles northwest near Highway 505 and recorded in 1995 (CDFW 2023). No suitable habitat present.
Desmocerus californicus dimorphus	valley elderberry longhorn beetle	FT/None	Occurs only in the Central Valley of California, in association with blue elderberry (Sambucus nigra ssp. caerulea)	**Not expected to occur.** No suitable vegetation present.
Elaphrus viridis	Delta green ground beetle	FT/None	Restricted to the margins of vernal pools in the grassland area between Jepson Prairie and Travis Air Force Base	**Not expected to occur.** The nearest occurrence is approximately 5.5 miles southeast near Burke Lane and recorded in 1991 (CDFW 2023). No suitable habitat present.
Lepidurus packardi	vernal pool tadpole shrimp	FE/None	Ephemeral freshwater habitats including alkaline pools, clay flats, vernal lakes, vernal pools, and vernal swales	**Not expected to occur.** The nearest occurrence is approximately 5.5 miles southeast near Burke Lane and recorded in 2014 (CDFW 2023). No suitable habitat present.

Scientific Name	Common Name	Status (Federal/State)	Habitat	Potential to Occur
Speyeria callippe callippe	callippe silverspot butterfly	FE/None	Native grassland and associated habitats in the San Francisco Bay area	**Not expected to occur.** The nearest occurrence is approximately 18 miles southwest near Pierce and recorded in 2009 (CDFW 2023). No suitable habitat present.
Danaus plexippus plexippus pop. 1	monarch - California overwintering population	FC/None	Wind-protected tree groves with nectar sources and nearby water sources	**Not expected to occur.** The nearest occurrence is approximately 10 miles southwest near Fairfield and recorded in 1979 (CDFW 2023). No suitable habitat present.
Mammals				
Corynorhinus townsendii	Townsend's big-eared bat	None/SSC	Mesic habitats characterized by coniferous and deciduous forests and riparian habitat, but also xeric areas; roosts in limestone caves and lava tubes, man-made structures, and tunnels	**Not expected to roost or forage.** The nearest occurrence is approximately 6.5 miles southwest near Highway 80 and recorded in 2011 (CDFW 2023). No suitable roosting or foraging habitat is present.
Reithrodontomys raviventris	salt-marsh harvest mouse	FE/FP, SE	Saline emergent wetlands, preference for pickleweed saline emergent wetlands; also uses adjacent grasslands	**Not expected to occur.** The nearest occurrence is approximately 9 miles southwest in Suisun Marsh and recorded in 2010 (CDFW 2023). No suitable habitat is present.
Sorex ornatus sinuosus	Suisun shrew	None/SSC	Tidal and brackish marsh communities	**Not expected to occur.** The nearest occurrence is approximately 10 miles southwest near Suisun City and recorded in 1952 (CDFW 2023). No suitable habitat is present.
Taxidea taxus	American badger	None/SSC	Dry, open, treeless areas; grasslands, coastal scrub, agriculture, and pastures, especially with friable soils	**Low potential to occur.** The nearest occurrence is approximately 2.5 miles west near the Nut Tree Airport and recorded in 2016. Agricultural habitat is present on site but provides suboptimal habitat due to human disturbance.
Lasiurus frantzii	western red bat	None/SSC	Forest, woodland, riparian, mesquite bosque, and orchards, including fig, apricot, peach, pear, almond, walnut, and orange; roosts in tree canopy	**Not expected to roost.** The nearest occurrence is approximately 14 miles south near Grizzly Island and recorded in 1999

Scientific Name	Common Name	Status (Federal/State)	Habitat	Potential to Occur
				(CDFW 2023). Low potential to forage. Agricultural habitat is present on site.
Reptiles				
Emys marmorata	western pond turtle	None/SSC	Slow-moving permanent or intermittent streams, ponds, small lakes, and reservoirs with emergent basking sites; adjacent uplands used for nesting and during winter	**Not expected to occur.** The nearest occurrence is approximately 2 miles north near Interstate 80 and recorded in 2016. No aquatic or terrestrial habitat is present on site.
Thamnophis gigas	giant garter snake	FT/ST	Prefers freshwater marsh and low gradient streams. Has adapted to drainage canals and irrigation ditches.	**Low potential to occur**. The nearest occurrence is approximately 9.5 miles east near Swan Road and recorded in 1987 (CDFW 2023). The irrigation ditch along Hawkins Road just outside the project boundary provides marginal habitat although this species is suspected to be extirpated from Solano County.

References:

CDFW. 2023. RareFind 6 and CNDDB in BIOS. California Natural Diversity Database. CDFW, Biogeographic Data Branch. February 2023. BIOS Viewer@CDFW (ca.gov)

Attachment C

Photo Log

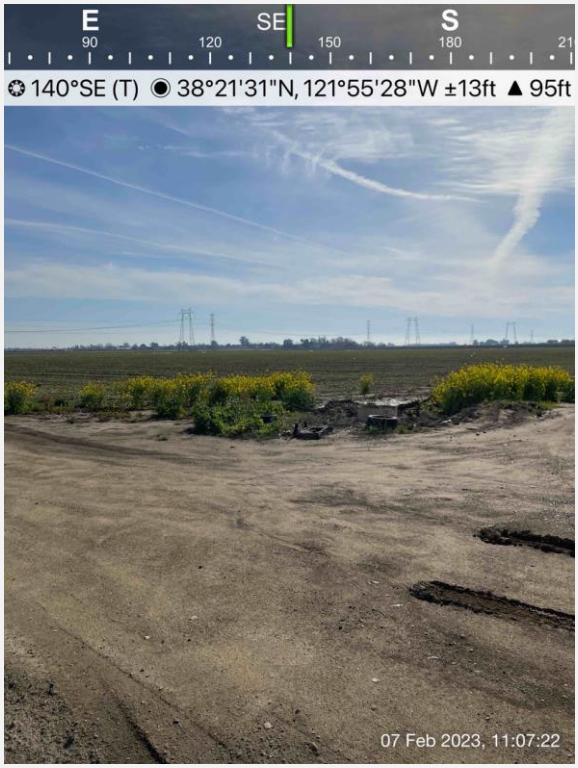

Photo 1. View of northwest corner of site.

Photo 2. View of fallow field from west side of site.

Photo 3. View facing offsite from southwest corner of various weedy plants.

Photo 4. View from the southeast corner of upland agricultural ditches outside the project boundary.

Photo 5. View from southeast corner of upland agricultural ditch outside the project boundary.

Photo 6. View from east boundary of site.

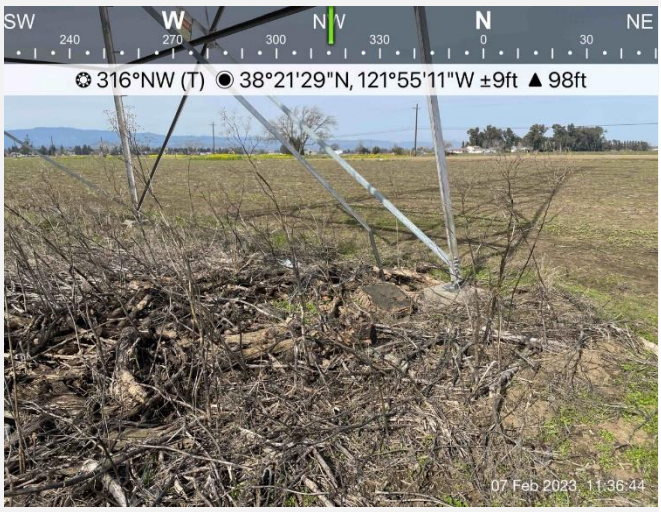

Photo 7. View of woody thatch below electrical tower near northeast corner of site.

Photo 8. View from northeast corner of upland agricultural ditch outside the project boundary.

Photo 9. View of irrigation canal from the northeast corner outside the project boundary.

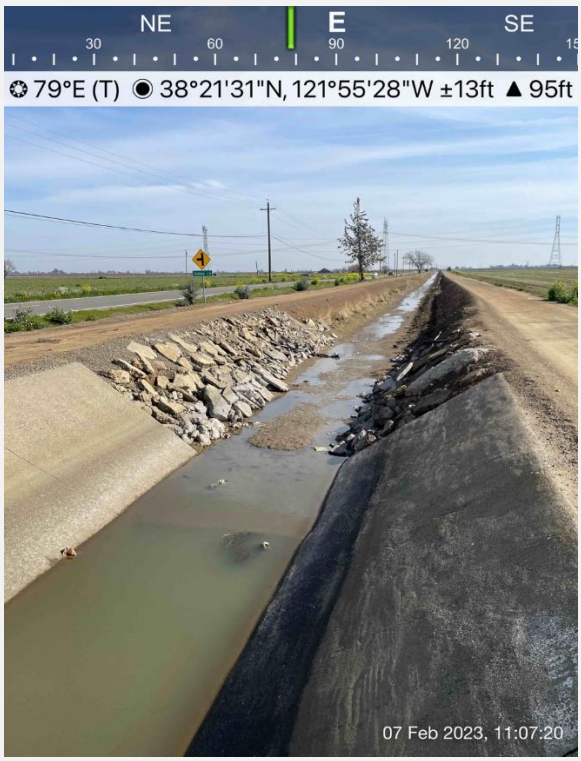

Photo 10. View of irrigation canal from the northwest corner outside the project boundary.

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Appendix D
Transportation Technical Memorandum

FEHR PEERS

Final Technical Memorandum

Date: February 20, 2023

To: Gwen Owens, City of Vacaville

From: John Gard, Fehr & Peers

Subject: Project Access Evaluation for The Fields at Alamo Creek Project

SA23-0184

This memorandum documents our site access review of The Fields at Alamo Creek, which would be a 223-unit single-family subdivision situated south of Hawkins Road about one-half mile east of Leisure Town Road in the City of Vacaville. This memorandum is organized into the following sections:

- Project Overview
- Existing Conditions
- Project Travel Characteristics
- Project Access Review
- Vehicle Miles Traveled (VMT) Analysis

Project Overview

The proposed project would be situated on a 33.6-acre undeveloped parcel located south of Hawkins Road and approximately one-half mile east of Leisure Town Road in easterly Vacaville. **Figure 1** shows the project site plan (*The Field at Alamo Creek*, Phillippi Engineering, April 2022). This figure also shows that the project would be situated immediately east and north of the adopted Farm at Alamo Creek Specific Plan. The following describes the project's vehicular connections directly onto Hawkins Road and to this specific plan:

- Hawkins Road/Basin Way: This intersection would be situated in the easterly part of the project site approximately 330 feet east of Katleba Lane.
- Westerly Connections to the Farm at Alamo Creek Specific Plan: Bothell Way and Harrow Way would be public street connections between the project and this specific plan. Harrow Way would connect directly to Carroll Way, which is a planned two-lane, median-divided arterial street within the Farm at Alamo Creek Specific Plan that would extend between Elmira Road and Hawkins Road (see Figure 1).
- Southerly Connection to the Farm at Alamo Creek Specific Plan: Basin Way would extend to the project's south limits and connect to Camino Beltran, which is an east-west street that would extend to Carroll Way and Leisure Town Road.

The proposed street connectivity would allow project trips to utilize various streets within The Farm at Alamo Creek Specific Plan if desiring to travel to/from the south on Leisure Town Road and Elmira Road. Usage of these streets would be more likely to occur by residents of the south part of the project due to added travel time/distance required to access Hawkins Road. All streets within the project site would be 34 feet in width.

The area directly east of Basin Way would be designated as Open Space. Within that area would be a meandering walkway that would extend from Hawkins Road to Camino Beltran, featuring multiple connections to Basin Way. The southerly terminus of this walkway would connect with the planned multi-use path that would run along the north side of Camino Beltran (see Figure 6.3 of *The Farm at Alamo Creek Specific Plan* (2018)). City staff has indicated that the project will be conditioned to construct curb, gutter, sidewalk and off-site transitions along its frontage on Hawkins Road. The *Farm at Alamo Creek Specific Plan* (2018) shows a planned multi-use path that would run along the south side of Hawkins Road.

Existing Conditions

Hawkins Road begins at Leisure Town Road, extending easterly as a two-lane, undivided roadway with passing permitted in various sections. Although a posted speed limit is not present in this area, prevailing speeds are in the 45 to 55 miles per hour (mph) range. Adjacent land uses are primarily agricultural or rural residential.

Hawkins Road currently features stop-control on its approach to Leisure Town Road. With buildout of The Farm at Alamo Creek Specific Plan, the Hawkins Road approach will be realigned to intersect Leisure Town Road opposite Ulatis Drive, with traffic signal installed. A Class II bike lane (on-street with appropriate pavement markings and signage) is present in each direction of Hawkins Road from Leisure Town Road to Pitt School Road.

A hose tube count was placed on Hawkins Road for the 24-hour period of Thursday, January 12, 2023. This particular day consisted of dry weather (in a period otherwise having rain on a daily basis for nearly two weeks). On this day, the road carried 1,900 Average Daily Trips (ADT). The AM peak hour occurred from 7:45 – 8:45 AM, in which 140 vehicles were observed. The PM peak hour occurred from 4:15 – 5:15 PM, in which 160 vehicles were observed.

Project Travel Characteristics

This section presents the project's expected travel characteristics including the number of vehicle trips it would generate and the spatial distribution of those trips. Additionally, an evaluation is conducted to determine how many project trips would utilize the following two study intersections selected for analysis in the study (see Figure 1 for locations):

1. Hawkins Road/Carroll Way
2. Hawkins Road/Basin Way

Trip Generation

The *Trip Generation Manual, 11th Edition* (Institute of Transportation Engineers, 2021) was used to estimate the number of trips the proposed project would generate. **Table 1** show that the project would generate approximately 2,100 daily trips, with 155 during the AM peak hour and 210 during the PM peak hour.

Table 1: Project Trip Generation

Land Use	Quantity	ITE Code	Trip Generation[1]								
			Daily			AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total	In	Out	Total
Single-Family Residential	223 units	210	1,051	1,052	2,103	39	117	156	132	78	210

Notes: [1]Based on Institute of Transportation Engineers' *Trip Generation Manual, 11th Edition* (2021).
Source: Fehr & Peers, 2023.

Trip Distribution/Assignment

As part of *The Farm at Alamo Creek Specific Plan Draft EIR* (Dudek, 2018), a transportation impact study was prepared (*Transportation Impact Analysis Final Report for the Farm at Alamo Creek*, PRISM Engineering, 2018). That study included a set of expected trip distribution percentages for the residential uses in that project. Those percentages (shown in Table 9 of that report) were derived from the City of Vacaville travel demand model. Given the project's close geographic proximity to the specific plan, similar trip distribution patterns are expected. These percentages are shown in **Table 2**. The following key conclusions are drawn from these percenages:

- The majority (57%) of project trips will utilize Hawkins Road to access Leisure Town Road to the north (28%), Ulatis Drive (27%) to the west, or Hawkins Drive to the east (2%).
- Of the remaining 43% of project trips that are distributed to the south, most are expected to use Carroll Way, Elmira Road, and Camino Beltran, which are more direct routes than the alternative of using Hawkins Road to Leisure Town Road[1].

For project trips desiring to use Hawkins Road to travel to/from the west toward Leisure Town Road, they may either access it directly from Basin Way, or travel westerly through adjacent residential streets to reach Carroll Way. The expected use of each route will depend on the specific locations of residential within the project (i.e., greater use of Carroll Way for lots further to the west).

[1] Motorists traveling to/from the site via Carroll Way and Elmira Road will experience typically modest delays at roundabouts planned at Carroll Way/Camino Beltran and and Carroll Way/Elmira Road, but no other impedences.

Table 2: Project Trip Distribution Percentages

Direction	Percentage
To/from the north on Leisure Town Road (north of Hawkins Road)	28%
To/from the west on Ulatis Drive (west of Leisure Town Road)	27%
To/from the west on Elmira Road (west of Leisure Town Road)	22%
To/from the east on Hawkins Road (toward Lewis Road)	2%
To/from the east on Elmira Road (toward Lewis Road)	1%
To/from the south on Leisure Town Road (south of Elmira Road)	20%
Total	100%

Source: Fehr & Peers, 2023, derived from Table 9 of *Transportation Impact Analysis Final Report for the Farm at Alamo Creek*, PRISM Engineering, 2018.

Project Access Review

Traffic Forecasts

To develop cumulative year (2050) traffic forecasts at the two study intersections, the following steps were followed[2]:

- Step 1: *Estimate growth in background traffic between existing and cumulative conditions on Hawkins Road east of the project site.* The City's travel demand model projects a 43% increase in traffic.
- Step 2: *Identify specific neighborhoods within The Farm at Alamo Creek and the proposed project that would use each study intersection.* Four neighborhoods within the Farm at Alamo Creek were identified (see Appendix A). The project was disaggregated into three neighborhoods. For each neighborhood, the number of trips added to each study intersection was determined from the number of units, their trip generation, trip distribution percentages using Hawkins Road, and expected travel route.
- Step 3: *Estimate trips associated with planned residential north of Hawkins Road that would use each access.* The City's model assumes 350 single-family units in a TAZ opposite the project site. The trips generated by these units were assigned to the two study intersections using the same trip distribution percentages as assumed for the project.[3]

[2] Initially, the City's travel demand model was used for this task. However, the resulting forecasts were deemed unreasonable, as the model was not able to accurately reflect the degree to which individual residential areas would use Hawkins Road, Carroll Way, or other streets. So, the alternative approach described here was used.

[3] Figure TR-6 of the *City of Vacaville General Plan Transportation Element* (Updated March 2021) shows a conceptual extension of Carroll Way north of Hawkins Road, ultimately becoming a T-intersection with Leisure Town Road. Because this connection was not included in the City's travel demand model, the forecasts presented here do not assume such an extension.

Figure 2 displays the resulting cumulative plus project traffic forecasts at each study intersection. As shown, both intersections are assumed to have four legs. The Hawkins Road/Carroll Way intersection is assumed to be a single-lane roundabout consistent with the Specific Plan. The Hawkins Road/Basin Way intersection is assumed to consist of side-street stop control with the lane configurations shown.[4]

Traffic Operations

This study analyzes peak hour traffic conditions at the study intersections using Level of Service (LOS) as the primary measure of operational performance. LOS is a qualitative measure of traffic flow from the perspective of motorists and is an indication of the comfort associated with driving. Typical factors that affect LOS include speed, travel time, and traffic interruptions. Empirical LOS criteria and methods of calculation have been documented in the *Highway Capacity Manual, 7th Edition* (Transportation Research Board, 2022). LOS is a letter classification system, from A (representing free-flow traffic conditions) to F (oversaturated conditions where traffic demand exceeds capacity, resulting in long queues and delays).

Table 3 displays the existing average delay and level of service at the study intersections under cumulative plus project conditions. Technical calculations are included in the appendix. As shown, both intersections would operate at LOS A during each peak hour.

Table 3: Peak Hour Intersection Operations – Cumulative Plus Project Conditions

Intersection	Traffic Control	Delay[1]/LOS[2]	
		AM Peak Hour	PM Peak Hour
1. Hawkins Road / Carroll Way	Roundabout	5 / A	6 / A
2. Hawkins Road / Basin Way	Side-Street Stop	3 (12) / A (B)	2 (14) / A (B)

Notes:
[1]Delay is reported as seconds per vehicle. For roundabout, the average control delay is the weighted average of all movements. For side-street stop, the overall average delay/LOS is reported for the overall intersection and movement with highest delay (shown in parentheses).
[2] LOS represents level of service, calculated based on methodologies contained in the *Highway Capacity Manual, 7th Edition* (Transportation Research Board, 2022).
Source: Fehr & Peers, 2023.

[4] The project site plan showed what appears to be about a 100-foot eastbound right-turn lane on Hawkins Road approaching Basin Way. Accordingly, this lane was assumed for analysis purposes.

About 43% of project trips are expected to be distributed to/from the south toward Elmira Road. This represents about 950 ADT that would use various roadways within The Farm at Alamo Creek Specific Plan. Much of the traffic would use Carroll Way south of Camino Beltran. Given that this is planned as a two-lane, median-divided arterial, it would have adequate capacity to accommodate both specific plan trips and project trips.

Figure 2 indicates that the westbound left-turn lane movement on Hawkins Road at Basin Way would be 1 vehicle during the AM peak hour and 4 vehicles during the PM peak hour. When considering the amount of opposing traffic and following through traffic, this amount of left-turning traffic would not warrant a dedicated left-turn pocket. The need for an eastbound left turn lane will be evaluated at a future date in confjunction with a development application for the north side of Hawkins Road.

Vehicle Miles of Travel (VMT)

Senate Bill 743, which became effective statewide in 2020, eliminated auto delay, LOS, and other similar measures of vehicular capacity or traffic congestion as the basis for determining significant impacts within CEQA. SB 743 contained language directing the Governor's Office of Planning and Research (OPR) to update the CEQA Guidelines to include new criteria (e.g., metrics) for determining the significance of transportation impacts. OPR selected VMT as the transportation impact metric, producing the *Technical Advisory on Evaluating Transportation Impacts in CEQA* (2018) to assist agencies with implementation.

This section presents the VMT evaluation conducted for the proposed project, referencing the *City of Vacaville General Plan Transportation Element and Energy Conservation Action Strategy Update Draft* Supplemental *EIR ("2021 Supplemental EIR") (Dudek, March 2021)*[5], which was certified by the City Council in September 2021. Impact TRA-1 in the *2021 Supplemental EIR* stated that implementation of the City's General Plan would generate average VMT per dwelling unit and per thousand square feet of non-residential space that exceeds the applicable significance thresholds, thereby causing a significant impact. The City selected a VMT threshold that is 15 percent below the City-wide average VMT per dwelling unit.

CEQA Guidelines Section 15183 (Projects Consistent with a Community Plan, General Plan, or Zoning) specifies that projects that are consistent with the development density established by existing zoning, community plan, or general plan policies for which an EIR was certified shall not require additional environmental review, except as might be necessary to examine whether there are project-specific significant effects which are peculiar to the project or its site. The *2021 Supplemental EIR* analyzed the impacts of all land use projects contemplated in the City's General

[5] https://www.ci.vacaville.ca.us/home/showpublisheddocument/17749/637514730055730000

Plan to determine their effect on VMT, which is the preferred metric for analyzing the transportation system per CEQA Guidelines 15064.3. Page 3.21-1 of the *2021 Supplemental EIR* states the following:

> "Future projects consistent with the General Plan will not require further VMT analysis pursuant to CEQA. However, those projects would be subject to Mitigation Measure TRA-1 unless it can be demonstrated that the project's specific land use type and location is in a "VMT efficient" location."

The project site is located within Traffic Analysis Zone (TAZ) 126 of the City's travel demand model. This TAZ extends southerly beyond the project limits, covering parts of the Farm at Alamo Creek Specific Plan. The 2050 version of the model contains 450 single-family units in this TAZ.

According to the Farm at Alamo Creek Specific Plan, a total of 768 dwelling units are planned. The project would add 223 units adjacent to it, resulting in a total of 991 units. The 7 TAZs (bounded by Hawkins Road, Leisure Town, Elmira Road, and Open Space to the east) that represent the specific plan and project site consist of 1,201 units. Thus, it is concluded that the project was considered in the VMT analysis contained in the General Plan as that analysis was based on the City's travel demand model.

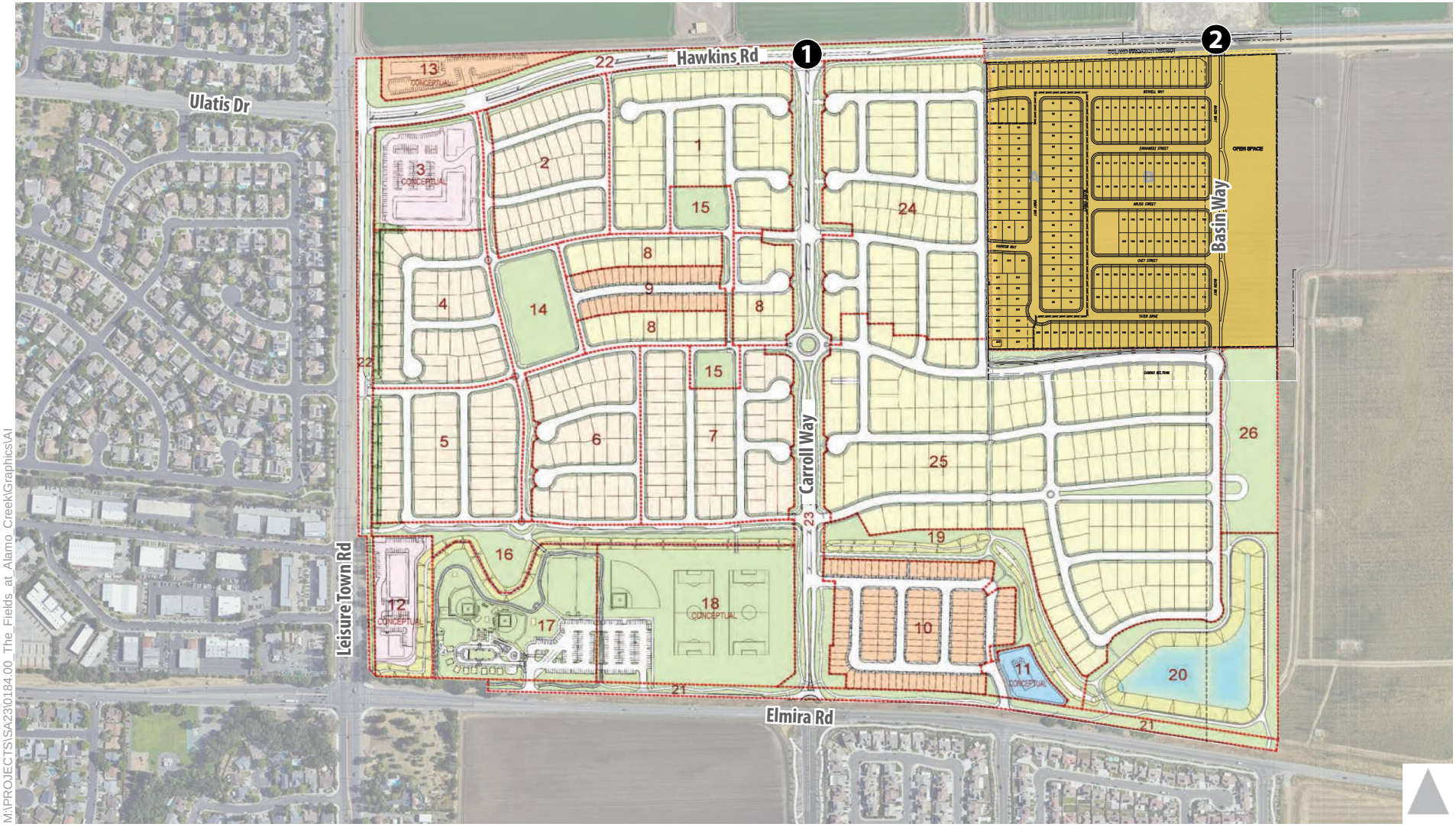
Table 3.1-9 of the *2021 Supplemental EIR* indicates that single-family has a citywide average of 76.5 VMT per unit under General Plan Buildout Minus Northeast Growth Area (2050) conditions. Appendix A contains a screening map showing the relative VMT efficiency of all TAZs within the City, which have at least 10 single-family units in them under cumulative conditions. As shown, the project's TAZ (represented by the fourth rectangle east of Leisure Town Road and south of Hawkins Road) is shown as yellow, which indicates a VMT per unit that is 0% to 5% above the citywide average. Thus, the project is not situated in a VMT efficient location. Accordingly, the project is subject to the applicable strategies in Mitigation Measure TRA-1 that would reduce project-generated VMT.

Mitigation Measure TRA-1 of the *2021 Supplemental EIR* identifies specific measures that would reduce VMT effects in a manner consistent with state guidance on VMT decrease. The following transportation demand management (TDM) strategies for residential uses were provided:

- improving access to transit
- increasing access to common goods and services, such as groceries, schools, and daycare
- incorporating affordable housing, including low-income housing, into residential and mixed-use development
- orienting the project toward transit, bicycle and pedestrian facilities
- improving pedestrian or bicycle networks, or transit service
- implementing traffic calming
- providing bicycle parking
- unbundling parking costs
- providing car-sharing, bike sharing, and ride-sharing programs

- providing transit subsidies or passes
- providing incentives or subsidies that increase the use of modes other than single-occupant vehicle
- increasing project density
- increasing the mix of uses within the project or within the project's surroundings
- increasing connectivity and/or intersection density on the project site

The project includes on-site traffic calming elements and is also providing a connection to a major multi-use path. Should additional TDM strategies be identified as applicable and feasible, their effectiveness at reducing project VMT could be estimated using data from the *Handbook for Analyzing Greenhouse Gas Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity* (CAPCOA 2021).

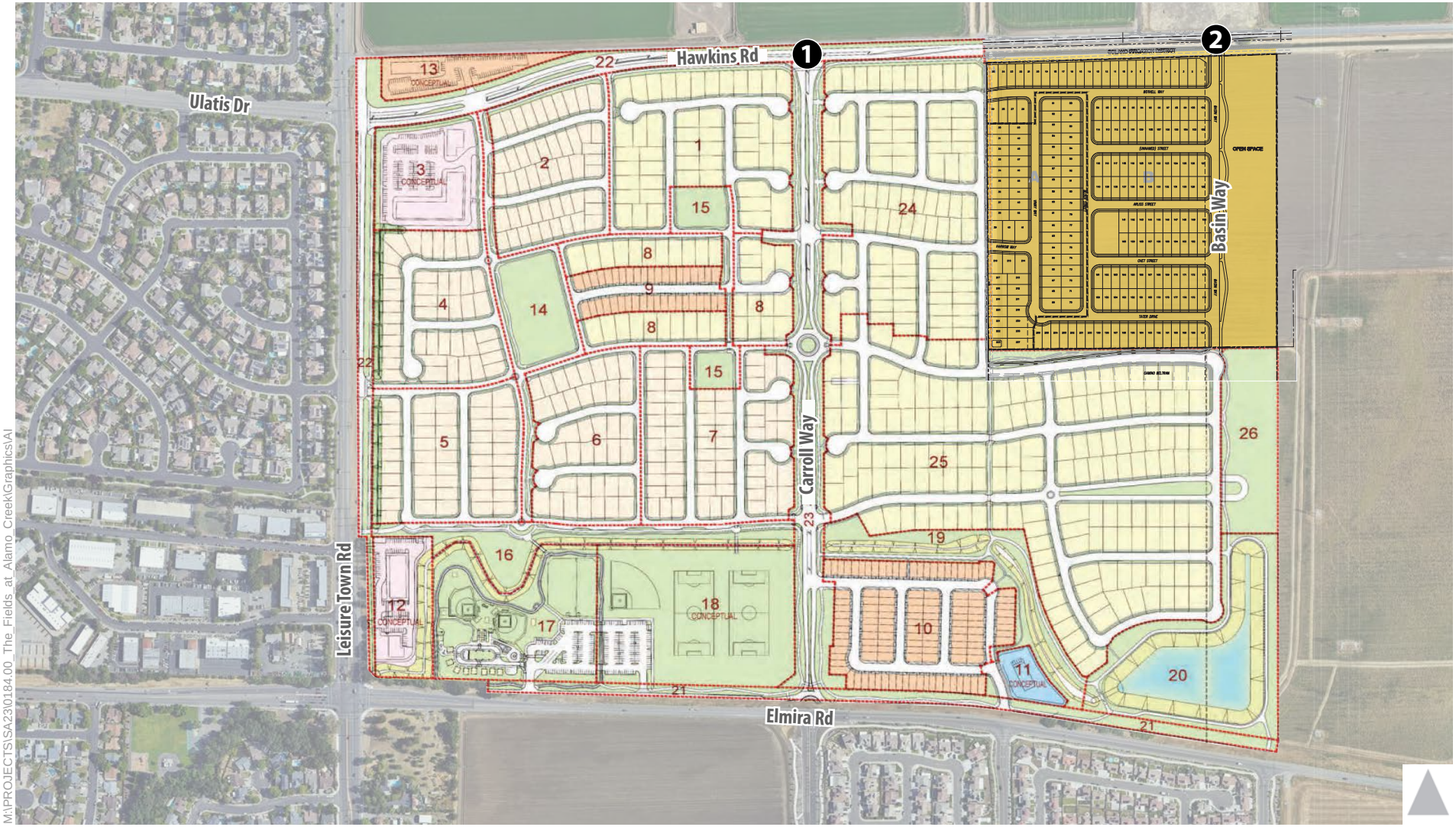


1 Study Intersection

Project Site

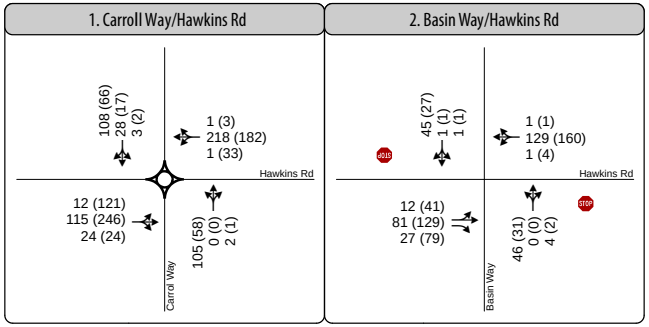
Figure 1

Project Site Plan



1 Study Intersection

Project Site



Turn Lane

AM (PM) Peak Hour Traffic Volume

Stop Sign

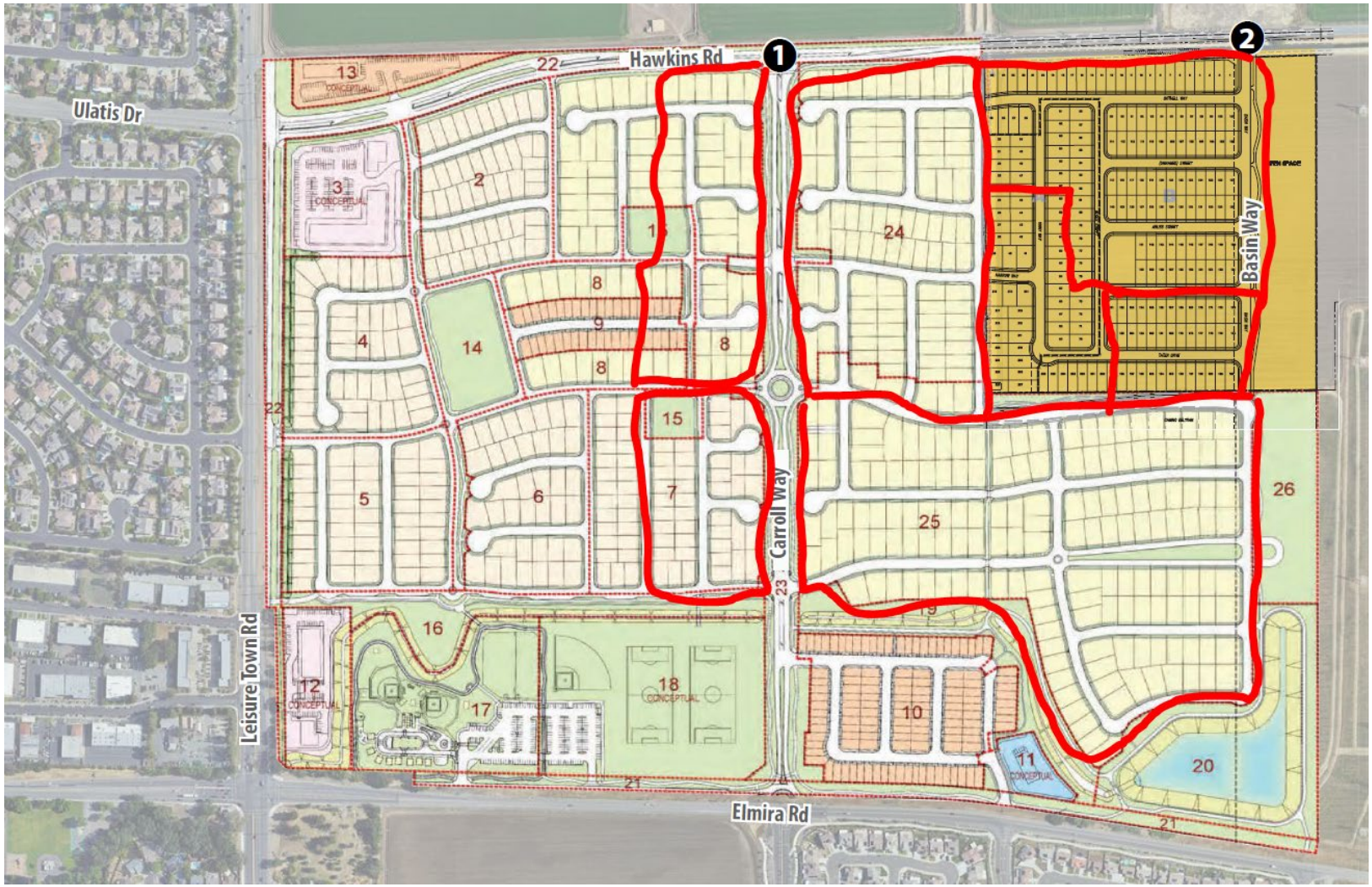
Figure 2

Peak Hour Traffic Volumes and Lane Configurations - Cumulative Plus Project Conditions

Appendix A – Technical Calculations and Supporting Data

7 Zones used for traffic assignments through study intersections 1 and 2.

Areas further to the west are not expected to use these intersections because other access points are closer.



Intersection	
Int Delay, s/veh	3.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	12	81	27	1	129	1	46	0	4	1	1	45
Future Vol, veh/h	12	81	27	1	129	1	46	0	4	1	1	45
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	80	80	80	80	80	80	80	80	80	80	80	80
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	15	101	34	1	161	1	58	0	5	1	1	56

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	162	0	0	135	0	0	323	295	101	315	329	162
Stage 1	-	-	-	-	-	-	131	131	-	164	164	-
Stage 2	-	-	-	-	-	-	192	164	-	151	165	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1417	-	-	1449	-	-	630	616	954	638	590	883
Stage 1	-	-	-	-	-	-	873	788	-	838	762	-
Stage 2	-	-	-	-	-	-	810	762	-	851	762	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1417	-	-	1449	-	-	583	609	954	629	583	883
Mov Cap-2 Maneuver	-	-	-	-	-	-	583	609	-	629	583	-
Stage 1	-	-	-	-	-	-	863	779	-	829	761	-
Stage 2	-	-	-	-	-	-	756	761	-	837	754	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.8	0.1	11.7	9.5
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	602	1417	-	-	1449	-	-	866
HCM Lane V/C Ratio	0.104	0.011	-	-	0.001	-	-	0.068
HCM Control Delay (s)	11.7	7.6	0	-	7.5	0	-	9.5
HCM Lane LOS	B	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.3	0	-	-	0	-	-	0.2

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	41	129	79	4	160	1	31	0	2	1	1	27
Future Vol, veh/h	41	129	79	4	160	1	31	0	2	1	1	27
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	80	80	80	80	80	80	80	80	80	80	80	80
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	51	161	99	5	200	1	39	0	3	1	1	34

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	201	0	0	260	0	0	491	474	161	525	573	201
Stage 1	-	-	-	-	-	-	263	263	-	211	211	-
Stage 2	-	-	-	-	-	-	228	211	-	314	362	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1371	-	-	1304	-	-	488	489	884	463	430	840
Stage 1	-	-	-	-	-	-	742	691	-	791	728	-
Stage 2	-	-	-	-	-	-	775	728	-	697	625	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1371	-	-	1304	-	-	450	466	884	445	409	840
Mov Cap-2 Maneuver	-	-	-	-	-	-	450	466	-	445	409	-
Stage 1	-	-	-	-	-	-	709	661	-	756	725	-
Stage 2	-	-	-	-	-	-	740	725	-	664	598	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.3	0.2	13.5	9.8
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	464	1371	-	-	1304	-	-	787
HCM Lane V/C Ratio	0.089	0.037	-	-	0.004	-	-	0.046
HCM Control Delay (s)	13.5	7.7	0	-	7.8	0	-	9.8
HCM Lane LOS	B	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.3	0.1	-	-	0	-	-	0.1

MOVEMENT SUMMARY

Site: 101 [AM_Peak (Site Folder: General)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Carroll Way														
3	L2	105	3.0	131	3.0	0.119	4.2	LOS A	0.5	4.1	0.32	0.19	0.32	53.5
8	T1	1	0.0	1	0.0	0.119	4.1	LOS A	0.5	4.1	0.32	0.19	0.32	53.5
18	R2	2	3.0	3	3.0	0.119	4.2	LOS A	0.5	4.1	0.32	0.19	0.32	52.0
Approach		108	3.0	135	3.0	0.119	4.2	LOS A	0.5	4.1	0.32	0.19	0.32	53.4
East: Hawkins Rd														
1	L2	1	3.0	1	3.0	0.240	5.3	LOS A	1.2	9.3	0.35	0.21	0.35	56.9
6	T1	218	3.0	273	3.0	0.240	5.3	LOS A	1.2	9.3	0.35	0.21	0.35	56.9
16	R2	1	3.0	1	3.0	0.240	5.3	LOS A	1.2	9.3	0.35	0.21	0.35	55.3
Approach		220	3.0	275	3.0	0.240	5.3	LOS A	1.2	9.3	0.35	0.21	0.35	56.9
North: Carroll Way														
7	L2	3	3.0	4	3.0	0.198	6.1	LOS A	0.9	6.8	0.53	0.45	0.53	56.0
4	T1	28	3.0	35	3.0	0.198	6.1	LOS A	0.9	6.8	0.53	0.45	0.53	56.0
14	R2	108	3.0	135	3.0	0.198	6.1	LOS A	0.9	6.8	0.53	0.45	0.53	54.4
Approach		139	3.0	174	3.0	0.198	6.1	LOS A	0.9	6.8	0.53	0.45	0.53	54.7
West: Hawkins Rd														
5	L2	12	3.0	15	3.0	0.147	4.0	LOS A	0.7	5.4	0.15	0.05	0.15	57.7
2	T1	115	3.0	144	3.0	0.147	4.0	LOS A	0.7	5.4	0.15	0.05	0.15	57.6
12	R2	24	3.0	30	3.0	0.147	4.0	LOS A	0.7	5.4	0.15	0.05	0.15	56.0
Approach		151	3.0	189	3.0	0.147	4.0	LOS A	0.7	5.4	0.15	0.05	0.15	57.4
All Vehicles		618	3.0	773	3.0	0.240	5.0	LOS A	1.2	9.3	0.34	0.22	0.34	55.9

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [PM_Peak (Site Folder: General)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Carroll Way														
3	L2	58	3.0	73	3.0	0.091	5.3	LOS A	0.4	2.8	0.52	0.43	0.52	52.7
8	T1	1	0.0	1	0.0	0.091	5.1	LOS A	0.4	2.8	0.52	0.43	0.52	52.8
18	R2	1	3.0	1	3.0	0.091	5.3	LOS A	0.4	2.8	0.52	0.43	0.52	51.3
Approach		60	3.0	75	3.0	0.091	5.2	LOS A	0.4	2.8	0.52	0.43	0.52	52.7
East: Hawkins Rd														
1	L2	33	3.0	41	3.0	0.258	5.9	LOS A	1.3	9.8	0.43	0.31	0.43	55.8
6	T1	182	3.0	228	3.0	0.258	5.9	LOS A	1.3	9.8	0.43	0.31	0.43	55.7
16	R2	3	3.0	4	3.0	0.258	5.9	LOS A	1.3	9.8	0.43	0.31	0.43	54.2
Approach		218	3.0	273	3.0	0.258	5.9	LOS A	1.3	9.8	0.43	0.31	0.43	55.7
North: Carroll Way														
7	L2	2	3.0	3	3.0	0.113	4.9	LOS A	0.5	3.7	0.46	0.35	0.46	57.1
4	T1	17	3.0	21	3.0	0.113	4.9	LOS A	0.5	3.7	0.46	0.35	0.46	57.0
14	R2	66	3.0	82	3.0	0.113	4.9	LOS A	0.5	3.7	0.46	0.35	0.46	55.4
Approach		85	3.0	106	3.0	0.113	4.9	LOS A	0.5	3.7	0.46	0.35	0.46	55.7
West: Hawkins Rd														
5	L2	121	3.0	151	3.0	0.391	6.7	LOS A	2.4	19.0	0.27	0.12	0.27	54.4
2	T1	246	3.0	308	3.0	0.391	6.7	LOS A	2.4	19.0	0.27	0.12	0.27	54.4
12	R2	24	3.0	30	3.0	0.391	6.7	LOS A	2.4	19.0	0.27	0.12	0.27	52.9
Approach		391	3.0	489	3.0	0.391	6.7	LOS A	2.4	19.0	0.27	0.12	0.27	54.3
All Vehicles		754	3.0	942	3.0	0.391	6.1	LOS A	2.4	19.0	0.36	0.23	0.36	54.7

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

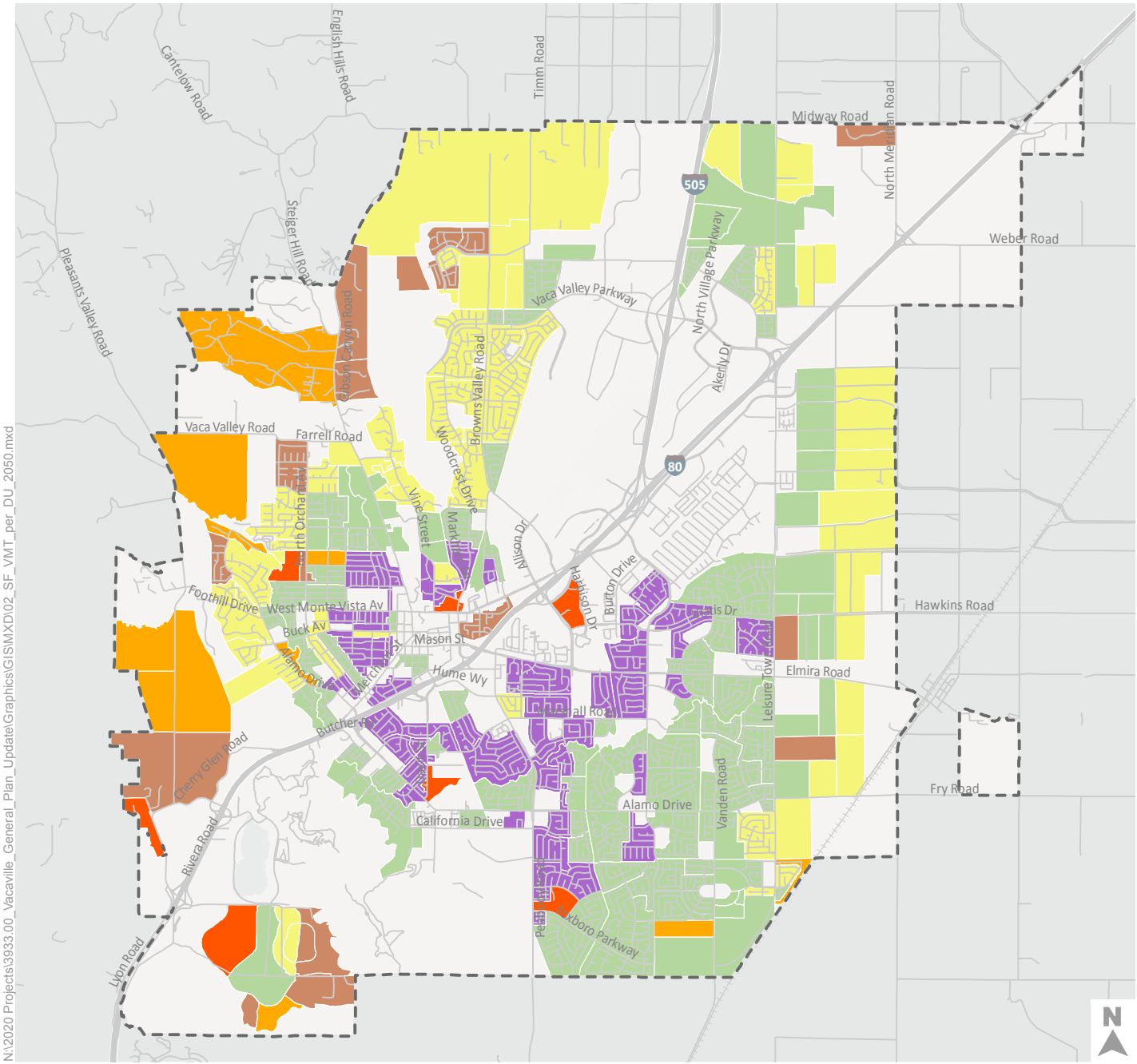


Figure 2

% Difference from Citywide Average Home-based VMT per DU (76.54)

- ≤ -15%
- -10% to -14.9%
- -5% to -9.9%
- 0% to -4.9%
- +5% to +0.1%
- +10% to +5.1%
- +20% to +10.1%
- > +20%

Urban Growth/Model Boundary

TAZs with <10 Single Family DU

All Traffic Analysis Zones (TAZs) with at least 10 dwelling units are allocated a color according to its relative VMT efficiency to the left. In many instances, a single TAZ may include multiple land uses, which means they show VMT efficiency on multiple figures. All VMT estimates are derived from the City of Vacaville travel demand model. VMT includes all home-based weekday daily travel (with trip lengths not truncated at political boundaries).

Home-based VMT per Single Family Dwelling Unit
Buildout Minus Northeast New Growth Area Scenario

Appendix E
Cultural Resources Letter Report

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DUDEK
1810 13TH STREET, SUITE 110
SACRAMENTO, CALIFORNIA 95811
T 916.443.8335

MEMORANDUM

To:	Albert Enault, Senior Planner – City of Vacaville
From:	Nicholas Hanten – Archaeologist (Dudek)
Subject:	Cultural Resources Letter Report for the Fields at Alamo Creek Project, Vacaville, California
Date:	October 23, 2023
cc:	Adam Giacinto, MA, RPA (Dudek) Angelica Chiu (Dudek)
Attachments:	A – Figures B – NWIC Record Search Results – Confidential C - Fuerstenberg and Web 2017. Cultural Resources Inventory and Evaluation Report, The Farm at Alamo Creek, Solano County, California D –NAHC SLFS Search Results

Dear Mr. Enault,

This letter report documents the cultural resources study conducted by Dudek for the proposed Fields at Alamo Creek project (Project), located in the Vacaville, California. The City of Vacaville (City) is the lead agency responsible for compliance with the California Environmental Quality Act (CEQA). This cultural resources study included a Northwest Information Center (NWIC) records search, Native American Heritage Commission (NAHC) Sacred Lands File search, an intensive pedestrian survey, and a review of results from a cultural resources survey of the area conducted for the adjacent Farm at Alamo Creek project (Fuerstenberg and Web 2017) which addressed the current Project site. The cultural resources study was conducted by Dudek in accordance with the standards and guidelines defined by the California Office of Historic Preservation and CEQA.

Project Location and Description

The Project proposes development of subdivision on an approximately 34-acre area located in unincorporated Solano County adjacent to the Farm at Alamo Creek Specific Plan. The Project site is located in Township 6 North, Range 1 East, Section 24 of the Elmira, CA 7.5' USGS quadrangle map. The Project is bordered by Hawkins Road to the north, the adopted Farm at Alamo Creek Specific Plan to the west and south, and PG&E overhead transmission lines and undeveloped agricultural lands to the east (Figure 1, Appendix A). The proposed subdivision would include 241 residential lots, a 0.6-acre park, 7.2 acres of open space, and associated roadways and utility connections. The project site itself consists of undeveloped, tilled and actively farmed agricultural land. The area surrounding the project site consists primarily of undeveloped agricultural or ranching land, with an existing PG&E easement east of the project site for 500 kilovolt (kV) and 230 kV overhead transmission lines that are part of the statewide electrical system.

Regulatory Framework

State Regulations

The California Register of Historical Resources

In California, the term "historical resource" includes but is not limited to "any object, building, structure, site, area, place, record, or manuscript which is historically or archaeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California" (California Public Resources Code [PRC] Section 5020.1(j)). In 1992, the California legislature established the California Register of Historical Resources (CRHR) "to be used by state and local agencies, private groups, and citizens to identify the state's historical resources and to indicate what properties are to be protected, to the extent prudent and feasible, from substantial adverse change" (PRC Section 5024.1(a)). The criteria for listing resources in the CRHR were expressly developed to be in accordance with previously established criteria developed for listing in the National Register of Historic Places (NRHP), enumerated below. According to PRC Section 5024.1(c)(1–4), a resource is considered historically significant if it (i) retains "substantial integrity," and (ii) 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 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.

In order to understand the historic importance of a resource, sufficient time must have passed to obtain a scholarly perspective on the events or individuals associated with the resource. A resource less than 50 years old may be considered for listing in the CRHR if it can be demonstrated that sufficient time has passed to understand its historical importance (see California Code Regulations, Title 14, Section 4852(d)(2)).

The CRHR protects cultural resources by requiring evaluations of the significance of prehistoric and historic resources. The criteria for the CRHR are nearly identical to those for the NRHP, and properties listed or formally designated as eligible for listing in the NRHP are automatically listed in the CRHR, as are the state landmarks and points of interest. The CRHR also includes properties designated under local ordinances or identified through local historical resource surveys.

California Environmental Quality Act

As described further below, the following CEQA statutes and CEQA Guidelines are of relevance to the analysis of archaeological, historic, and tribal cultural resources:

- PRC Section 21083.2(g) defines "unique archaeological resource."
- PRC Section 21084.1 and CEQA Guidelines Section 15064.5(a) defines "historical resources." In addition, CEQA Guidelines Section 15064.5(b) defines the phrase "substantial adverse change in the

significance of an historical resource;" it also defines the circumstances when a project would materially impair the significance of an historical resource.

- PRC Section 21074(a) defines "tribal cultural resources."
- PRC Section 5097.98 and CEQA Guidelines Section 15064.5(e): Set forth standards and steps to be employed following the accidental discovery of human remains in any location other than a dedicated ceremony.
- PRC Sections 21083.2(b)-(c) and CEQA Guidelines Section 15126.4: Provide information regarding the mitigation framework for archaeological and historic resources, including examples of preservation-in-place mitigation measures; preservation-in-place is the preferred manner of mitigating impacts to significant archaeological sites because it maintains the relationship between artifacts and the archaeological context, and may also help avoid conflict with religious or cultural values of groups associated with the archaeological site(s).

More specifically, under CEQA, a project may have a significant effect on the environment if it may cause "a substantial adverse change in the significance of an historical resource" (PRC Section 21084.1; CEQA Guidelines Section 15064.5(b)). If a site is either listed or eligible for listing in the CRHR, or if it is included in a local register of historic resources, or identified as significant in a historical resources survey (meeting the requirements of PRC Section 5024.1(q)), it is a "historical resource" and is presumed to be historically or culturally significant for purposes of CEQA (PRC Section 21084.1; CEQA Guidelines Section 15064.5(a)). The lead agency is not precluded from determining that a resource is a historical resource even if it does not fall within this presumption (PRC Section 21084.1; CEQA Guidelines Section 15064.5(a)).

A "substantial adverse change in the significance of an historical resource" reflecting a significant effect under CEQA means "physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired" (CEQA Guidelines Section 15064.5(b)(1); PRC Section 5020.1(q)). In turn, the significance of a historical resource is materially impaired when a project:

(1) Demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register; or

(2) Demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register of historical resources pursuant to Section 5020.1(k) of the PRC or its identification in an historical resources survey meeting the requirements of Section 5024.1(g) of the PRC, unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or

(3) Demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its eligibility for inclusion in the California Register as determined by a lead agency for purposes of CEQA (CEQA Guidelines Section 15064.5(b)(2)).

Pursuant to these sections, the CEQA inquiry begins with evaluating whether a project site contains any "historical resources," then evaluates whether that project will cause a substantial adverse change in the significance of a historical resource such that the resource's historical significance is materially impaired.

If it can be demonstrated that a project will cause damage to a unique archaeological resource, the lead agency may require reasonable efforts be made to permit any or all of these resources to be preserved in place or left in an undisturbed state. To the extent that they cannot be left undisturbed, mitigation measures are required (PRC Section 21083.2[a], [b], and [c]).

PRC Section 21083.2(g) defines a unique archaeological resource as an archaeological artifact, object, or site about which it can be clearly demonstrated that without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

(1) Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.
(2) Has a special and particular quality such as being the oldest of its type or the best available example of its type.
(3) Is directly associated with a scientifically recognized important prehistoric or historic event or person.

Impacts to non-unique archaeological resources are generally not considered a significant environmental impact (PRC Section 21083.2(a); CEQA Guidelines Section 15064.5(c)(4)). However, if a non-unique archaeological resource qualifies as tribal cultural resource (PRC Sections 21074(c); 21083.2(h)), further consideration of significant impacts is required.

CEQA Guidelines Section 15064.5 assigns special importance to human remains and specifies procedures to be used when Native American remains are discovered. As described below, these procedures are detailed in PRC Section 5097.98.

Native American Historic Cultural Sites

State law addresses the disposition of Native American burials in archaeological sites and protects such remains from disturbance, vandalism, or inadvertent destruction; establishes procedures to be implemented if Native American skeletal remains are discovered during construction of a project; and establishes the Heritage Commission to resolve disputes regarding the disposition of such remains. In addition, the Native American Historic Resource Protection Act makes it a misdemeanor punishable by up to 1 year in jail to deface or destroy a Native American historic or cultural site that is listed or may be eligible for listing in the CRHR.

California Health and Safety Code Section 7050.5

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. Health and Safety Code Section 7050.5 requires that if human remains are discovered in any place other than a dedicated cemetery, no further disturbance or excavation of the site or nearby area reasonably suspected to contain human remains shall occur until the County coroner has examined the remains (Section 7050.5b). PRC Section 5097.98 also outlines the process to be followed in the event that remains are discovered. If the coroner determines or has reason to believe the remains are those of a Native American, the coroner must contact the NAHC within 24 hours (Section 7050.5c). The NAHC will notify the Most Likely Descendant (MLD). With the permission of the landowner, the MLD may inspect the site of discovery. The MLD may recommend means of treating or disposing of, with appropriate dignity, the human remains and items associated with Native Americans.

Background Research

Cultural Records Search Results

A records search was completed for the current proposed Project site and a 1/2-mile radius on behalf of Dudek by staff at the NWIC at Sonoma State University on March 14, 2023 (Confidential Appendix B). This search included a review of their collection of mapped prehistoric, historical, and built-environment resources, Department of Parks and Recreation Site Records, technical reports, historical maps, and local inventories. Additional consulted sources included the NRHP, California Inventory of Historical Resources/CRHR and listed Office of Historic Preservation Archaeological Determinations of Eligibility, California Points of Historical Interest, and California Historical Landmarks. Because the record search completed for the cultural resource study for the adjacent Farm at Alamo Creek Project adequately and recently addressed the current project area, only resources and studies recorded since the completion of that study (i.e. after 2017) were requested for the current study. A summary of the results of the 2017 records search results and the results of the updated record search for the current study follows.

Previously Conducted Studies

A search of NWIC records for the Farm at Alamo Creek Project (Fuerstenberg and Web 2017, Appendix C) identified ten previous cultural resource studies within ½-mile of the Project. The record search conducted for this study found no additional studies conducted within the record search area since the completion of the study for the Farm at Alamo Creek.

Table 1.
Previous Technical Studies

Report Number	Date	Title	Author
S-22736	2000	Final Cultural Resources Inventory Report for the Williams Communications, Inc. Fiber Optic Cable system Installation Project, Point Area to Sacramento, California	Jones and Stokes
S-22817	2000	Cultural Resources Survey for the Level (3) Communications Long haul Fiber Optics Project Segment WS01: Sacramento to Oakland	Far Western Archaeological Research Group, Inc.
S-23471	1998	Cultural Resources Evaluation of the Hawkins Property, An approximately 32 acre parcel of land located within the City of Vacaville, Solano County, California	Archeo-Tec
S-33061	2006	Cultural Resources Final Report of Monitoring and Findings for the Qwest Network Construction Project, State of California	SWCA Environmental Consultants
S-34833	2008	Cultural Resources Assessment of the Brighton Landing Project Area, Solano County, California	Peak & Associates, Inc.
S-37992	2010	Field Office Report of Cultural Resources Ground Survey Findings	Negroni, Sally

Table 1.
Previous Technical Studies

Report Number	Date	Title	Author
S-39243	2012	Archaeological Survey Report, Vacaville-Dixon Bike Route Phase 5 Project, Hawkins Road, Solano County, California	Peak & Associates, Inc.
S-44980	2012	Cultural Resources Study for the Brighton Landing Project, Vacaville, Solano County, California	LSA Associates, Inc.
S-050082	2017	Cultural Resources Inventory and Evaluation Report, The Farm at Alamo Creek, Solano County, California	Fuerstenberg, Theadora and Megan Web

Previously Identified Cultural Resources

The NWIC records searches conducted for the current study and the Farm at Alamo Creek Project identified 14 archaeological or built-environment resources on file within ½-mile of the Project site (Table 2). One of these resources, a segment of the Byrnes canal (P-48-001852), intersects the Project site.

Table 2.
Previously Recorded Cultural Resources

Primary Number	Trinomial	Period	Name	Type	NRHP/CRHR Status
Resources within the Project Site					
P-34-001852	CA-SOL-000503H	Historic-era	FAC-001; Byrnes Canal	Canal/aqueduct	Not eligible
Resources within ½-Mile of the Project Site					
P-48-000419		Precontact		Isolate (Obsidian flake)	Unevaluated
P-48-000546		Historic-era	Elmira Water Tower		Unevaluated
P-48-000549		Historic-era	Southern Pacific Railroad		Unevaluated
P-48-000745		Historic=era		Single family property	Unevaluated
P-48-001025		Historic-era	Vaca Valley RR Southern Pacific RR; Vaca Valley & Clear Lake RR; Union Pacific; Resource Name - Vaca Valley RR Route (District); Vaca Valley Railroad Grade	AH07; HP02; HP11; HP17; HP19; HP33; HP39; HP45	Not eligible

Table 2.
Previously Recorded Cultural Resources

Primary Number	Trinomial	Period	Name	Type	NRHP/CRHR Status
P-48-001026		Historic-era	Elmira Depot	AH07; HP02; HP11; HP17; HP19; HP33; HP39; HP45	Unevaluated
P-48-001853		Historic-era	FAC-004	AH02; HP04	Not Eligible

P-34-0001852

The Byrnes Canal, P-34-0001852, is an open, concrete-lined irrigation canal with two weirs, a culvert/vehicle crossing, and a water control gate. The canal runs north-south just ouside the western edge of the Project site. The canal was constructed after 1962 as an auxiliary of the Putah South Canal. This resource was recorded and evaluated by ECORP as a part of the Farm at Alamo Creek Project (Fuerstenberg and Web 2017) and recommended not eligible for the NRHP or CRHR.

Archival and Building Development Research

Dudek consulted historic maps and aerial photographs to understand development of the proposed Project site and surrounding properties. Topographic maps were available from 1908, 1917, 1922, 1944, 1955, 1959, 1965, 1969, 1974, 1981, 2012, 2015, 2018, and 2022 (NETR 2023a). The historic topographic maps show very little change to the area over time. The 1908 map depicts no development within the project site, however, Hawkins Road and a small segment of Katleba Lane are depicted along the northern edge of the Project site. The map also shows Meridian Road to the east and a railroad to the south of the project site. While no structures are present within the Project site, there are structures depicted at the northwest corner of the intersection of Hawkings Road and Ketleba Lane and on the property immediately south of the Project site adjacent to Alamo Creek. The nearest substantial development at that time is Elmira, with a grid of small roads and numerous structures depicted approximately one kilometer southeast of the Project site. No changes are evident within the Project site or its immediate surroundings on any of the subsequent topographic maps.

Aerial photographs were available for the project area from 1957, 1968, 1984, 1993, 2005, 2009, 2010, 2012, 2014, 2016, 2018, and 2020 (NETR 2023b). The aerial images are consistent with the topographic maps showing the Project site as undeveloped agricultural land on all of the available images. The 1957 image shows Hawkins Road and a structure and trees immediately north of the project site; however, it does not show the Byrnes canal or any of the dirt roads along the periphery of the parcel. The 1968 image shows the canal and dirt road along the western edge of the property, but no other changes within the Project site. No development is apparent within the Project site on any of the subsequent images.

Based on review of the available historic topographic maps and aerial images, the Project site appears to have been undeveloped, aside from the construction of canal along its western edge, and has been under agricultural use since at least the 1950s.

NAHC and Tribal Correspondence

On February 6, 2023, Dudek requested a NAHC search of their Sacred Lands File for the area of the Project site. The NAHC results, received March 9, 2023, indicated the Sacred Lands File search failed to identify any cultural resources within the records search area (Appendix D). The NAHC then provided a list of Native American tribes culturally affiliated with the location of the Project site and recommended contacting them for further information. None of the Native American tribes were contacted by Dudek; follow-up communication and formal consultation with Native American tribes pursuant to Assembly Bill (AB) 52 will be the responsibility of the County.

The proposed Project is subject to compliance with Assembly Bill 52 (PRC Section 21074), which requires consideration of impacts to "tribal cultural resources" as part of the CEQA process and requires the CEQA lead agency to notify any groups (who have requested notification) of the Project who are traditionally or culturally affiliated with the geographic area of the Project. Because AB 52 is a government-to government process, all records of correspondence related to AB 52 notification and any subsequent consultation are the responsibility of with the City.

Intensive Pedestrian Survey

On September 18, 2023, Dudek archaeologist Walter Tovar Saldana, MA conducted an intensive pedestrian survey of the Project area using standard archaeological procedures and techniques that meet the Secretary of Interior's Standards and Guidelines for cultural resources inventory. Exposed ground surfaces were observed for surface artifacts, undisturbed areas, archaeological deposits, and historic structures; periodic boot scrapes were employed to expose additional ground surface. Evidence of artifacts and archaeological deposits were also opportunistically sought after in animal burrows and other areas with disturbed soils.

Surface visibility was very low (less than 5-percent) throughout the Project site due to dense grasses and other vegetation. P-48-0001852 was relocated along the western edge of the Project site and was found to be in the same condition as described on the site record. No previously unrecorded historic structures or archaeological resources were observed within the Project site during the field survey.

Geomorphology

Potential for yet identified cultural resources in the vicinity was reviewed against geologic and topographic GIS data for the area and information from other nearby projects. The "archaeological sensitivity," or potential to support the presence of a buried prehistoric archaeological deposits, is generally interpreted based on geologic landform and environmental parameters (i.e., distance to water and landform slope).

The Project site is located within the Great Valley Geomorphic Province of California, a large basin comprised of the Sacramento and San Joaquin Valleys, bounded by the Sierra Nevada and Coast Ranges to the east and west respectively. Specifically, the Project site is situated in the Sacramento River Delta region with Suisun Bay approximately 25 km to the southwest. Alamo Creek, a partial channelized waterway, is located approximately 250 m south of the southwest corner of the Project site.

Soils within the site are primarily Yolo Loam (66%) and Yolo Loam, clay substratum (29%), with only the southeast corner of the Project site comprised of Capay silty clay (2%). All of these soils are deep to very deep alluvium derived from mixed or sedimentary sources which form on alluvial fans and flood plains (USDA 2023). Slopes within the Project site are between 0–4 percent. While alluvial soils can support intact buried archaeological deposits, there are no conditions indicating that this area would be of elevated potential for prehistoric use than other surrounding areas. There is no major water source or other specific resources documented as important to indigenous populations occupying the area. In general, project site has low potential for the presence of unknown buried cultural deposits. The history of agricultural activity within the project site also suggests that there is also low probability of undisturbed surface or near-surface archaeological manifestations within the Project site.

Summary and Management Recommendations

Archaeological Resources

Unanticipated Discovery of Archaeological Resources

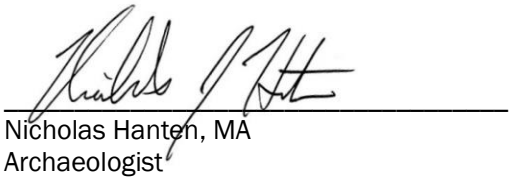
In the event that archaeological resources (sites, features, or artifacts) are exposed during construction activities for the proposed Project, all construction work occurring within 100 feet of the find shall immediately stop until a qualified archaeologist, meeting the Secretary of the Interior's Professional Qualification Standards, can evaluate the significance of the find and determine whether or not additional study is warranted. Assessment of the find would be based on significance consideration as defined by CEQA (14 CCR 15064.5(f); PRC Section 21082). If the discovery proves significant under CEQA, additional work such as preparation of an archaeological treatment plan, testing, or data recovery may be warranted.

Unanticipated Discovery of Human Remains

In accordance with Section 7050.5 of the California Health and Safety Code, if human remains are found, the County Coroner shall be immediately notified of the discovery. No further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains shall occur until the County Coroner has determined, within 2 working days of notification of the discovery, if the potential remains are human in origin. If the County Coroner determines that the remains are, or are believed to be, Native American, the County Coroner shall notify the NAHC in Sacramento within 24 hours. In accordance with California Public Resources Code, Section 5097.98, the NAHC must immediately notify those persons it believes to be the most likely descendant (MLD) from of the deceased Native American. The MLD shall complete their inspection within 48 hours of being granted access to the site. The designated Native American representative would then determine, in consultation with the property owner, the disposition of the human remains.

If you have any questions about this report, please contact me at nhanten@dudek.com

Sincerely,



Nicholas Hanten, MA
Archaeologist

cc: Adam Giacinto, MA, RPA, Dudek

References Cited

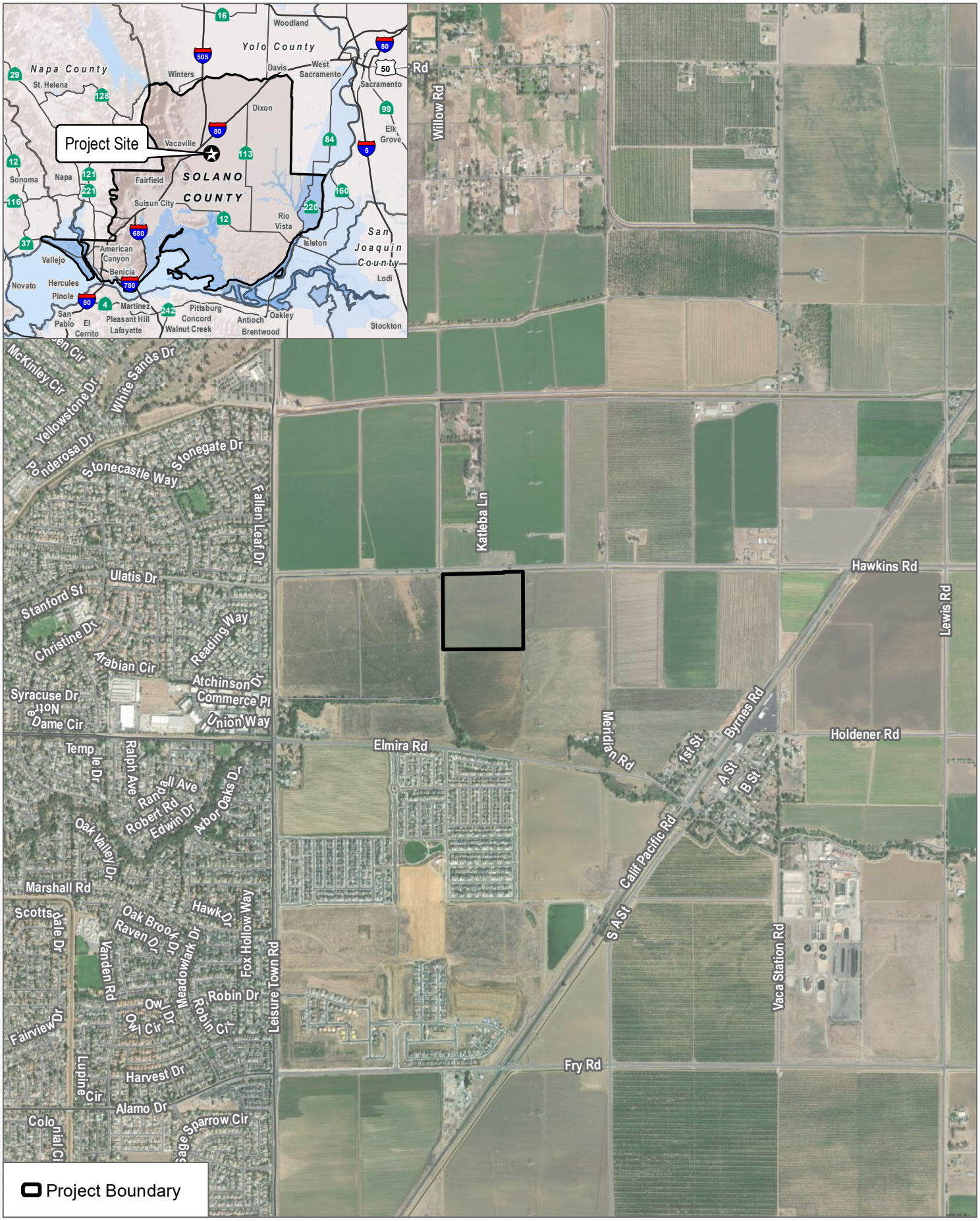
Fuerstenberg, Theadora and Megan Web. 2017. Cultural Resources Inventory and Evaluation Report, The Farm at Alamo Creek, Solano County, California. On file at the Northwest Information Center.

NETR (Nationwide Environmental Title Research). 2023. Historical Topographic Maps 1908, 1917, 1922, 1944, 1955, 1959, 1965, 1969, 1974, 1981, 2012, 2015, 2018, and 2022. Accessed October 12, 2023. www.historicaerials.com.

NETR 2023b. Historical Aerials 1957, 1968, 1984, 1993, 2005, 2009, 2010, 2012, 2014, 2016, 2018, and 2020. Accessed October 12, 2023. www.historicaerials.com.

USDA (Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture). 2023. Web Soil Survey. Accessed October 12, 2023. http://websoilsurvey.sc.egov.usda.gov/.

Appendix A
Figures



SOURCE: DigitalGlobe 2017, Open Street Map 2019

DUDEK

0 1,000 2,000 Feet

FIGURE 1

Project Location

Fields at Alamo Creek

Appendix B
NWIC Record Search Results (Confidential)

Appendix C

Cultural Resources Inventory and Evaluation Report, The Farm at Alamo Creek, Solano County, California (Fuerstenberg and Web 2017) (Confidential)

Appendix D
NAHC SLF Search Results

NATIVE AMERICAN HERITAGE COMMISSION

NAHC HEADQUARTERS
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov
NAHC.ca.gov

March 9, 2023

Elizabeth Sivell
Dudek

Via Email to: esivell@dudek.com

Re: Native American Tribal Consultation, Pursuant to the Assembly Bill 52 (AB 52), Amendments to the California Environmental Quality Act (CEQA) (Chapter 532, Statutes of 2014), Public Resources Code Sections 5097.94 (m), 21073, 21074, 21080.3.1, 21080.3.2, 21082.3, 21083.09, 21084.2 and 21084.3, Fields at Alamo Creek (14994) Project, Solano County

Dear Ms. Sivell:

Pursuant to Public Resources Code section 21080.3.1 (c), attached is a consultation list of tribes that are traditionally and culturally affiliated with the geographic area of the above-listed project. Please note that the intent of the AB 52 amendments to CEQA is to avoid and/or mitigate impacts to tribal cultural resources, (Pub. Resources Code §21084.3 (a)) ("Public agencies shall, when feasible, avoid damaging effects to any tribal cultural resource.")

Public Resources Code sections 21080.3.1 and 21084.3(c) require CEQA lead agencies to consult with California Native American tribes that have requested notice from such agencies of proposed projects in the geographic area that are traditionally and culturally affiliated with the tribes on projects for which a Notice of Preparation or Notice of Negative Declaration or Mitigated Negative Declaration has been filed on or after July 1, 2015. Specifically, Public Resources Code section 21080.3.1 (d) provides:

Within 14 days of determining that an application for a project is complete or a decision by a public agency to undertake a project, the lead agency shall provide formal notification to the designated contact of, or a tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, which shall be accomplished by means of at least one written notification that includes a brief description of the proposed project and its location, the lead agency contact information, and a notification that the California Native American tribe has 30 days to request consultation pursuant to this section.

The AB 52 amendments to CEQA law does not preclude initiating consultation with the tribes that are culturally and traditionally affiliated within your jurisdiction prior to receiving requests for notification of projects in the tribe's areas of traditional and cultural affiliation. The Native American Heritage Commission (NAHC) recommends, but does not require, early consultation as a best practice to ensure that lead agencies receive sufficient information about cultural resources in a project area to avoid damaging effects to tribal cultural resources.

The NAHC also recommends, but does not require that agencies should also include with their notification letters, information regarding any cultural resources assessment that has been completed on the area of potential effect (APE), such as:

1. The results of any record search that may have been conducted at an Information Center of the California Historical Resources Information System (CHRIS), including, but not limited to:

- A listing of any and all known cultural resources that have already been recorded on or adjacent to the APE, such as known archaeological sites;
- Copies of any and all cultural resource records and study reports that may have been provided by the Information Center as part of the records search response;
- Whether the records search indicates a low, moderate, or high probability that unrecorded cultural resources are located in the APE; and
- If a survey is recommended by the Information Center to determine whether previously unrecorded cultural resources are present.

2. The results of any archaeological inventory survey that was conducted, including:

    - Any report that may contain site forms, site significance, and suggested mitigation measures.

      All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum, and not be made available for public disclosure in accordance with Government Code section 6254.10.

3. The result of any Sacred Lands File (SLF) check conducted through the Native American Heritage Commission was negative.

4. Any ethnographic studies conducted for any area including all or part of the APE; and

5. Any geotechnical reports regarding all or part of the APE.

Lead agencies should be aware that records maintained by the NAHC and CHRIS are not exhaustive and a negative response to these searches does not preclude the existence of a tribal cultural resource. A tribe may be the only source of information regarding the existence of a tribal cultural resource.

This information will aid tribes in determining whether to request formal consultation. In the event that they do, having the information beforehand will help to facilitate the consultation process.

If you receive notification of change of addresses and phone numbers from tribes, please notify the NAHC. With your assistance, we can assure that our consultation list remains current.

If you have any questions, please contact me at my email address: Pricilla.Torres-Fuentes@nahc.ca.gov.

Sincerely,

Pricilla Torres-Fuentes

Pricilla Torres-Fuentes
Cultural Resources Analyst

Attachment

Native American Heritage Commission
Tribal Consultation List
Solano County
3/9/2023

Cachil Dehe Band of Wintun Indians of the Colusa Indian Community
Daniel Gomez, Chairman
3730 Highway 45 Wintun
Colusa, CA, 95932
Phone: (530) 458 - 8231
dgomez@colusa-nsn.gov

Cortina Rancheria - Kletsel Dehe Band of Wintun Indians
Charlie Wright, Chairperson
P.O. Box 1630 Wintun
Williams, CA, 95987
Phone: (530) 473 - 3274
Fax: (530) 473-3301

Guidiville Indian Rancheria
Donald Duncan, Chairperson
P.O. Box 339 Pomo
Talmage, CA, 95481
Phone: (707) 462 - 3682
Fax: (707) 462-9183
admin@guidiville.net

Yocha Dehe Wintun Nation
Yvonne Perkins, THPO, Cultural Resources Chairman
P.O. Box 18 Patwin
Brooks, CA, 95606
Phone: (530) 796 - 3400
thpo@yochadehe-nsn.gov

Yocha Dehe Wintun Nation
Laverne Bill, Director of Cultural Resources
P.O. Box 18 Patwin
Brooks, CA, 95606
Phone: (530) 796 - 3400
thpo@yochadehe-nsn.gov

Yocha Dehe Wintun Nation
Anthony Roberts, Chairperson
P.O. Box 18 Patwin
Brooks, CA, 95606
Phone: (530) 796 - 3400
thpo@yochadehe-nsn.gov

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and section 5097.98 of the Public Resources Code.

This list is only applicable for consultation with Native American tribes under Public Resources Code Sections 21080.3.1 for the proposed Fields at Alamo Creek (14994) Project, Solano County.