INITIAL STUDY/
MITIGATED NEGATIVE DECLARATION FOR:

WALNUT LANE 10 PROJECT

JANUARY 2020

Prepared for Submittal to:

City of Winters
318 First Street
Winters, CA 95694
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Prepared by:

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A Land Use Planning, Design, and Environmental Firm

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INITIAL STUDY CHECKLIST

PROJECT TITLE

Walnut Lane 10 Project

LEAD AGENCY NAME AND ADDRESS

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PURPOSE OF THE INITIAL STUDY

An Initial Study (IS) is a preliminary analysis which is prepared to determine the relative environmental impacts associated with a project. It is designed as a measuring mechanism to determine if a Project will have a significant adverse effect on the environment, thereby triggering the need to prepare an Environmental Impact Report (EIR). It also functions as an evidentiary document containing information which supports conclusions that a project will not have a significant environmental impact or that the impacts can be mitigated to a "Less Than Significant" or "No Impact" level. If there is no substantial evidence, in light of the whole record before the agency, that a project may have a significant effect on the environment, the lead agency shall prepare a Negative Declaration (ND). If the IS identifies potentially significant effects, but: (1) revisions in the project plans or proposals would avoid the effects or mitigate the effects to a point where clearly no significant effects would occur, and (2) there is no substantial evidence, in light of the whole record before the agency, that the project as revised may have a significant effect on the environment, then a Mitigated Negative Declaration (MND) shall be prepared.

This Initial Study has been prepared consistent with CEQA Guidelines Section 15063, to determine if the proposed Walnut Lane 10 Project (Project) may have a significant effect upon the environment. Based upon the findings and mitigation measures contained within this report, a Mitigated Negative Declaration (MND) will be prepared.

PROJECT LOCATION AND SETTING

PROJECT LOCATION

The Project's regional location is shown in Figure 1. The Project site consists of approximately 10.0 acres located along the northern edge of the City of Winters (City), east of Railroad Avenue and north of State Route (SR) 128. The Project site is owned by the Corbett Family Trust and is comprised of the parcel containing Yolo County Assessor's Parcel Number (APN) #038-050-019. The Project site is located in Section 22 of Township 8 North, Range 1 West, as depicted on the

1953 (Pho (Photo-revised 1968, Photo-inspected 1978) Winters USGS 7.5-minute topographic map (Mount Diablo Base and Meridian), as shown in Figure 2.

The Project site is bounded to the south by existing single family residences, to the west by Walnut Lane and existing single family residences, and to the north and east by farmland. The farmland to the north is characterized by orchard farming, and the farmland to the east by dry farming. The northern and western boundaries of the Project site are adjacent to the current city limits. The Project area and site boundary are shown in Figure 3.

EXISTING SITE USES

The Project site is currently developed with an abandoned almond orchard. There is an agricultural well within the southwest corner of the Project site that was formerly utilized to irrigate the site for agricultural purposes. Existing vegetation on the Project site also consists of grasses.

The Project site is generally flat, although there is also a slight depression in the middle of the Project site. There are no paved areas or roadways within the Project site, and there are no structures, sheds, tanks, or storage areas located on-site. Vehicular access to the Project site is currently provided from the southwest.

SURROUNDING LAND USES

The land directly to the north of the Project site is currently cultivated for agricultural uses. The parcels to the west and south of the Project site are characterized by residential uses, and the parcel to the east of the Project site is characterized by agriculture (currently being dry farmed). The parcel to the north of the Project site is the Hostetler property, which contains an orchard and has a dirt perimeter road. The parcels further south of the Project site, beyond the immediate land uses, include additional residential and commercial land uses. Walnut park is located approximately 400 feet to the southwest of the Project site.

A separate residential development (not part of the Project) is proposed on the 61-acre parcel located to the east of the Project site (located on APN #038-050-018). This adjacent property is currently vacant but has been utilized for hay and alfalfa cultivation in recent years. It is anticipated that this adjacent property will be developed in future with approximately 220 single-family lots with a mix of lot sizes, a 4-acre park and detention basin site, and approximately 11 acres of commercial development (the Skreden 61 project).

PROJECT DESCRIPTION

The Project includes development of 54 single family residential units, associated amenities, and infrastructure improvements on the approximately 10.0-acre Project site. The Project site would include approximately 2.2 acres of streets, yielding 7.8 net acres. The density of the Project site would be approximately 5.4 units per gross acre and 6.9 units per net acre. Each lot would be approximately 6,400 square feet (sf), with an anticipated range of lot sizes from approximately 6,100 to 7,900 square feet, with an exception for the half-plex units located in lots 37A and 37B, which would have lot sizes of approximately 4,595 and 3,509 sf, respectively. The Project would be constructed in one phase. The Project site plan is shown in Figure 4. As shown in Figure 4, the Project's southernmost lots would be located directly adjacent to the existing residential lots located directly south of the Project site. There is a slight depression in the middle of the Project site that would be filled to bring the lots level with the residential subdivision located to the south of the Project site. Additionally, the existing almond orchard. that is located on the Project site

and the agricultural well that is located in the southwest corner of the Project site would be removed during Project construction activities, in accordance with Yolo County requirements.

Infrastructure and Access

Access to the Project site is currently provided from Walnut Lane and Almond Drive. Three access points are proposed by the Project: one southwestern entrance and one northeastern entrance off of Walnut Lane, and an additional southeastern entrance off of Almond Drive. It is anticipated that Walnut Lane, located along the southwestern boundary of the Project site, would be extended along the full length of the western boundary of the Project site and improved. The Project would contain several internal streets, as shown by the site plan in Figure 4. Sidewalks, curb, and gutter would also be provided, in compliance with City standards. Project infrastructure will generally be provided as shown on Figure 5.

The Project would provide stubbed streets to allow for connection to the low-density residential property to the east, and would provide direct connection to the existing stubbed streets that connect to the existing single-family neighborhood residential neighborhood located directly to the south of the Project site (via Almond Drive and Walnut Lane). Additionally, as part of the Project, Walnut Lane will be upgraded to provide curb, gutter and sidewalk on the east side of the roadway, and sufficient pavement to accommodate two travel lanes. However, curb, gutter, and sidewalk would not be installed on the westerly side of Walnut Lane.

The Project would be served by existing City water, sewer, and storm drainage infrastructure. The proposed water system will be tied into the 8-inch water line in Walnut Lane and the 8-inch water line in Almond Drive. An 8-inch water line connection is also proposed to the northeast to connect with the future Skreden 61 subdivision. Stormwater would drain to the east of the Project site via a v-ditch to the Grant Avenue culvert.

There is a slight depression in the middle of the Project site that would be filled to bring the lots level with the residential subdivision located to the south of the Project site.

Winters Joint Unified School District would serve the Project. Power and natural gas would be provided by Pacific Gas and Electric (PG&E). Telephone service would be provided by AT&T or Wave Cable. Solid waste service would be provided by Waste Management.

GENERAL PLAN AND ZONING DESIGNATIONS

General Plan

The existing General Plan land uses and zoning designations are shown in Figure 6. The Project site is designated Low Density Residential (LDR) by the Winters General Plan Land Use Map. According to the City of Winters General Plan, the LDR designation provides for single-family detached homes, secondary residential units, public and quasi-public uses, and similar and compatible uses. Residential densities of 1.1 to 7.3 units per gross acre are allowed by this land use designation (Zoning Code Chapter 17.60, Table 5). With 54 units on 10.0 acres, the proposed density would be approximately 5.4 dwelling units per gross acre, which is within the allowed density range.

Zoning

The Project site is zoned Single Family Residential (7,000) (R-1) by the City of Winters Zoning Map. As provided in the Winters Municipal Code, the R-1 zone accommodates a variety of uses, including permitted uses for a variety of residential uses including single-family, two-family or duplex, farmworker housing unit, and accessory dwelling units, for utility services, as well as conditional uses for bed and breakfast inns, convalescence and care service facilities, day care facilities, public parks, religious institutions, mobile homes, residential care facilities. Residential densities of 1.1 to 7.3 units per acre are permitted in the R-1 zoning district. The Project includes a rezone to add a Planned Development (PD) overlay to allow modified development standards, including reduced lot widths and reduced setbacks to accommodate the proposed half-plex lots.

REQUESTED ENTITLEMENTS AND OTHER APPROVALS

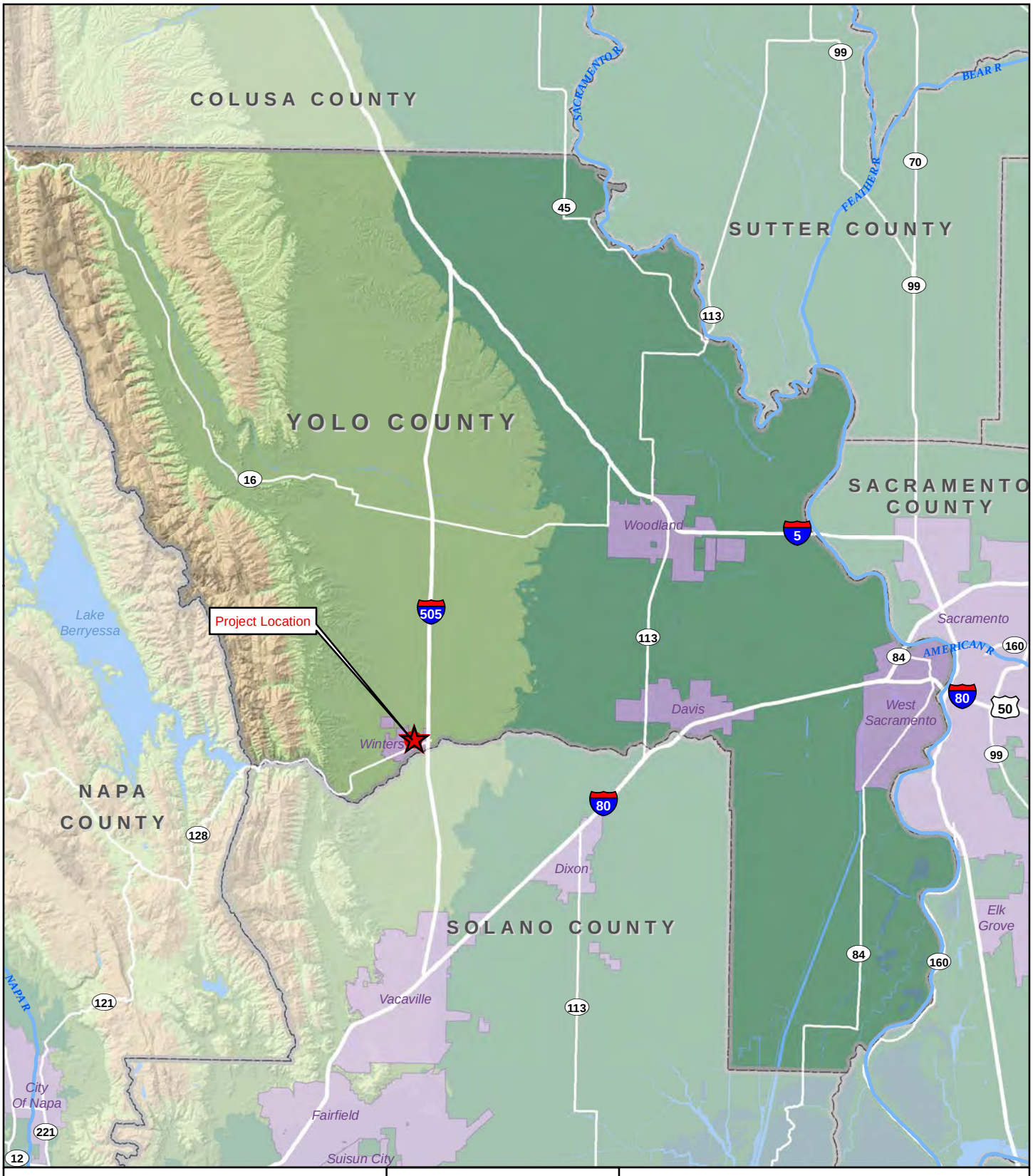
The City of Winters is the Lead Agency for the Project, pursuant to the State Guidelines for Implementation of CEQA, Section 15050.

This document will be used by the City to take the following actions:

- Adoption of the Mitigated Negative Declaration (MND);
- Adoption of the Mitigation Monitoring and Reporting Program (MMRP);
- City review and approval of the proposed Tentative Map, and Grading, Drainage, and Improvement Plans.
- Rezoning of the site to a new Planned Development (PD) zone;
- Design review for the new buildings and site improvements.

The following agencies may be required to issue permits or approve certain aspects of the Project:

- Regional Water Quality Control Board (RWQCB) – Construction activities would be required to be covered under the National Pollution Discharge Elimination System (NPDES);
- RWQCB – The Storm Water Pollution Prevention Plan (SWPPP) would be required to be approved prior to construction activities pursuant to the Clean Water Act;
- Yolo-Solano Air Quality Management District (YSAQMD) – Approval of construction-related air quality permits;
- Yolo Habitat Conservancy – Review of Project application to determine consistency with the Yolo Habitat Conservation Plan & Natural Community Conservation Plan.



Legend

- Project Location
- County Boundary
- City Area

0 2½ 5
Miles

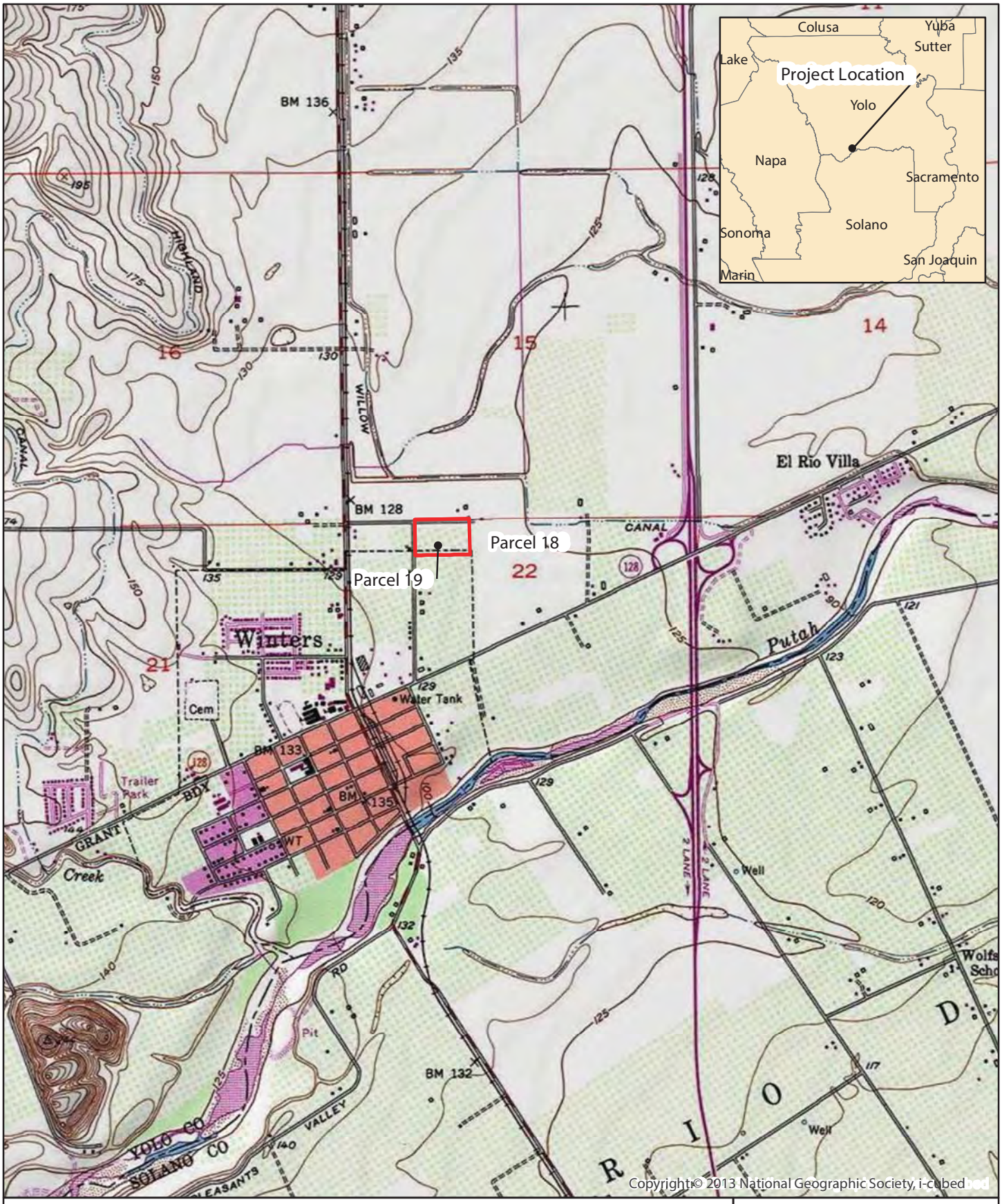
Sources: CalAtlas, Yolo County, Solano County, Napa County, Sacramento County. Map date: July 10, 2019.

WALNUT 10

Figure 1. Regional Location Map

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Project Location

0 0.5 1 Kilometers

0 0.5 1 Miles

1:24,000

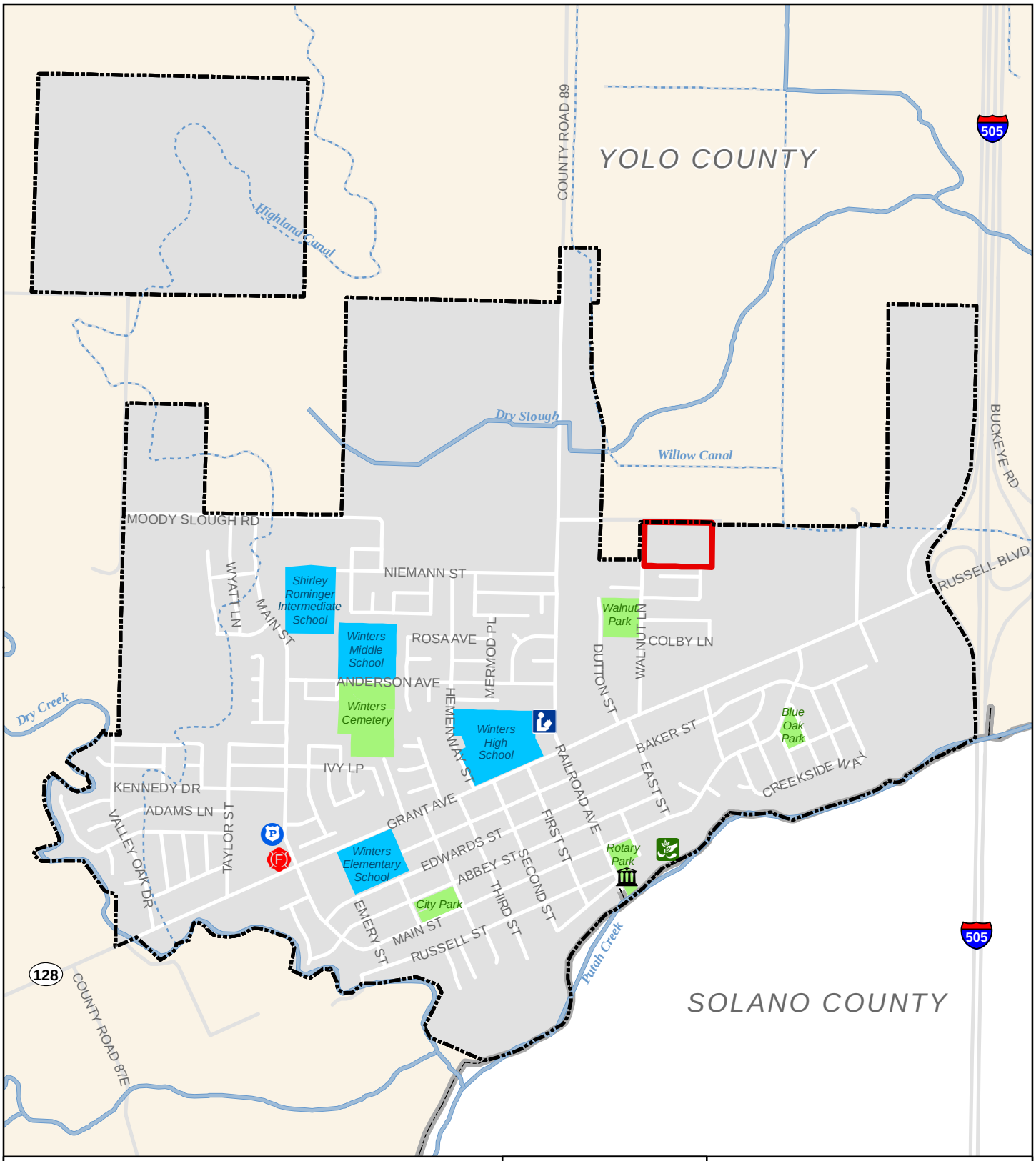
WALNUT 10

Figure 2. Topographic Map

NATURAL INVESTIGATIONS COMPANY

Map Date 4/11/2019 Winters 1953 Quadrangle Photorevised 1968 Photoinspected 1978:T ownship 8N, Range 1W, Section 22

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Legend

- Project Boundary
- City of Winters
- Yolo County
- School
- Park
- Community Garden
- Winters Branch Library
- Winters Community Center
- Winters Fire Department
- Winters Police Department

Data sources: Yolo County; Google Maps. Map date: July 10, 2019.

N

0 500 1,000

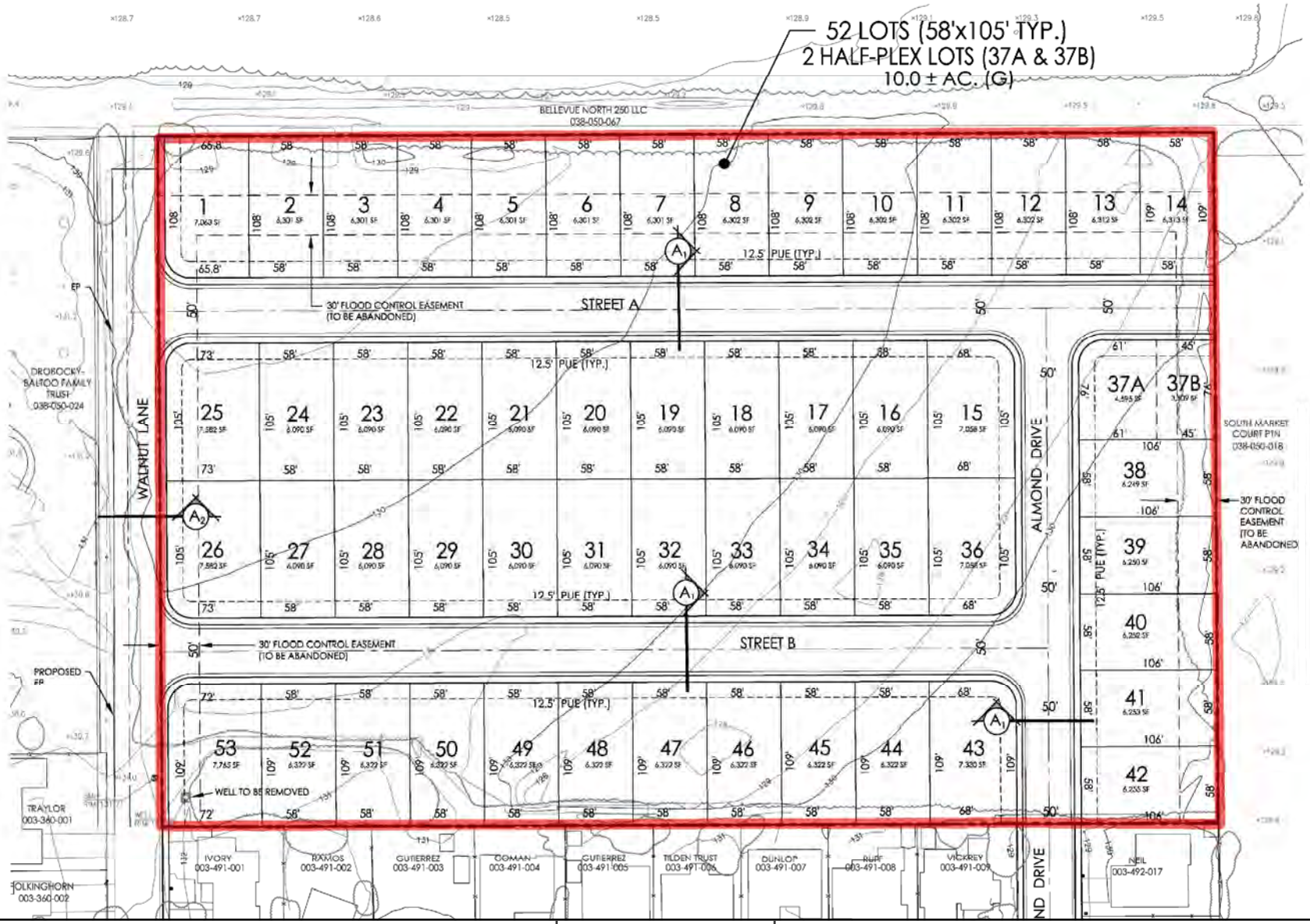
Feet

WALNUT 10

Figure 3. Vicinity Map

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Legend

Project Boundary

0 50 100

Feet

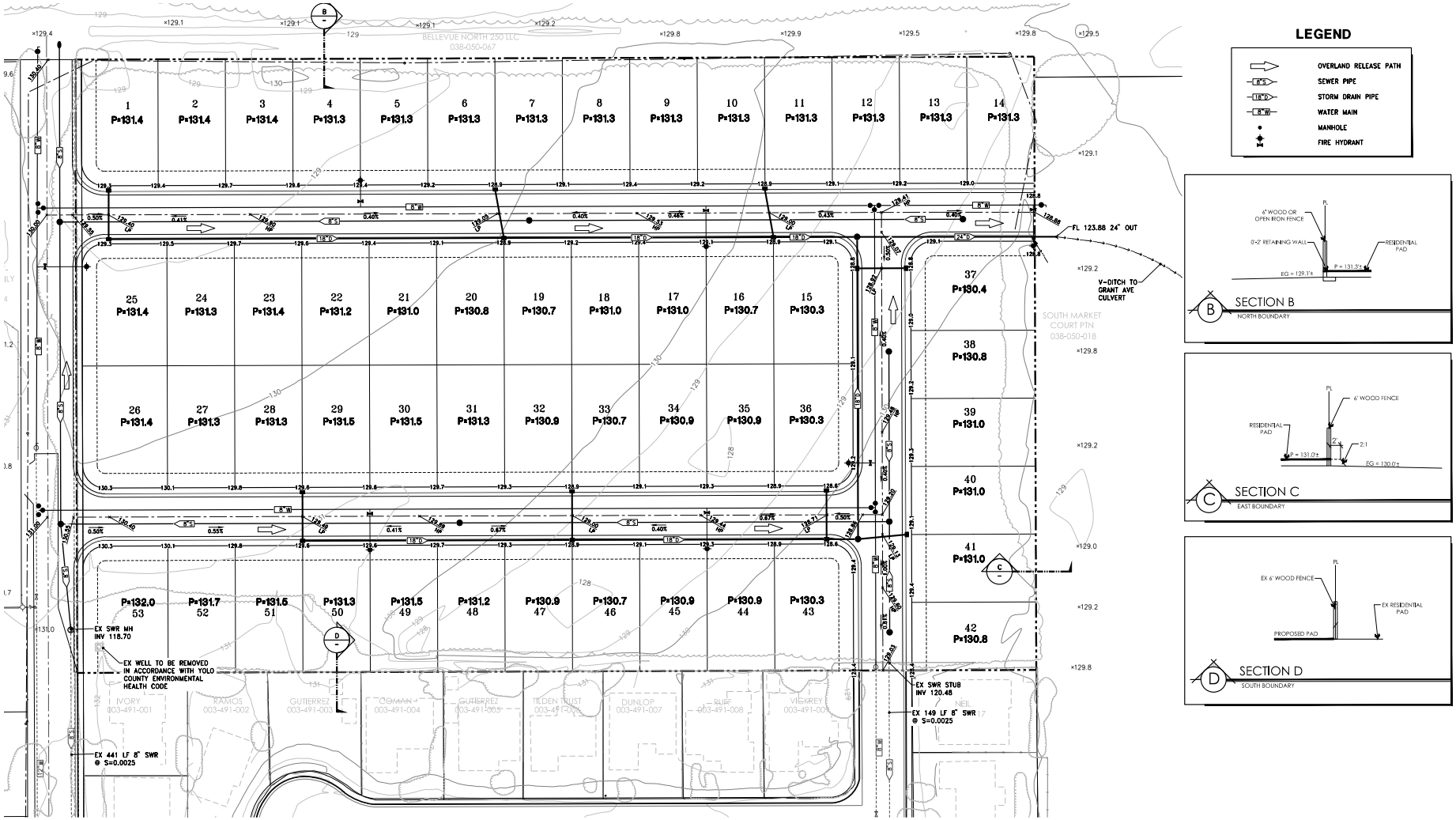
Source: Wood Rodgers, Tentative Subdivision Map - Tract 5173, Walnut Lane 10, February 7, 2019 (Revised October 2, 2019). Map date: November 19, 2019.

WALNUT 10

Figure 4. Site Plan

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Legend

Project Boundary

Source: Wood Rodgers, Tentative Subdivision Map - Tract 5173, Walnut Lane 10, February 7, 2019 (Revised May 6, 2019).

Not to Scale

WALNUT 10

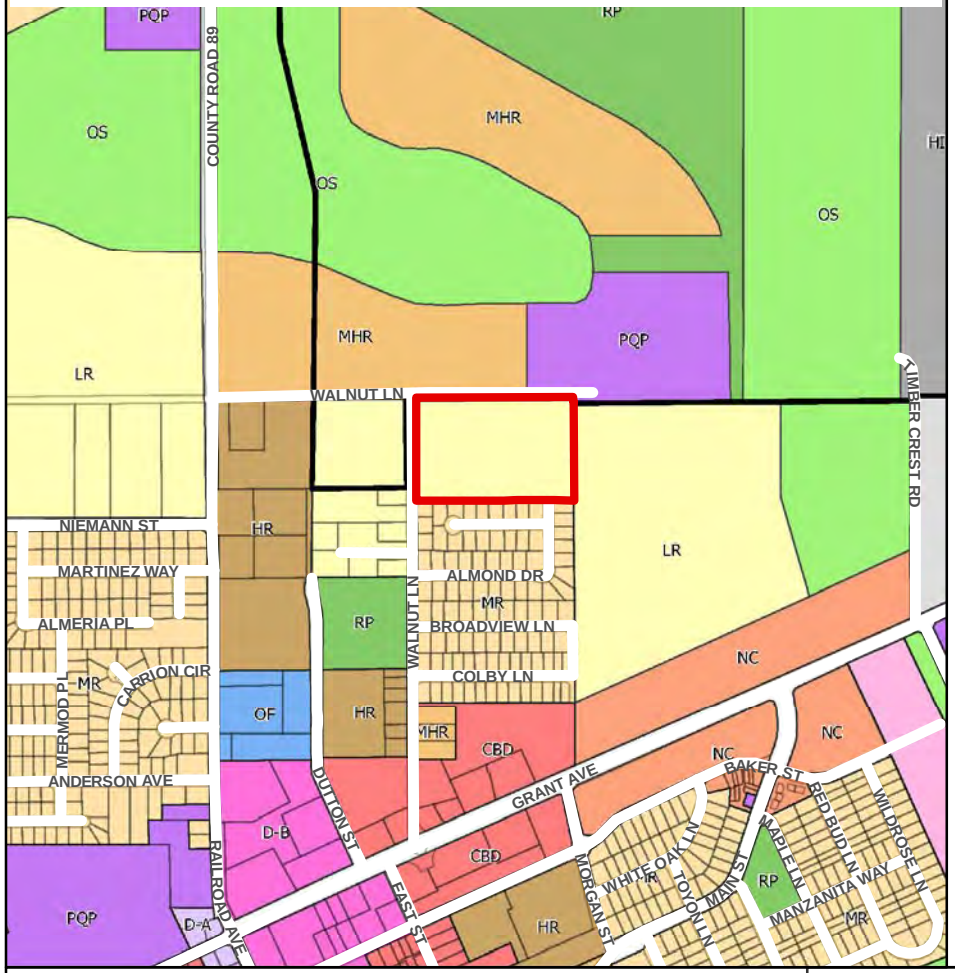
Figure 5. Infrastructure Plan

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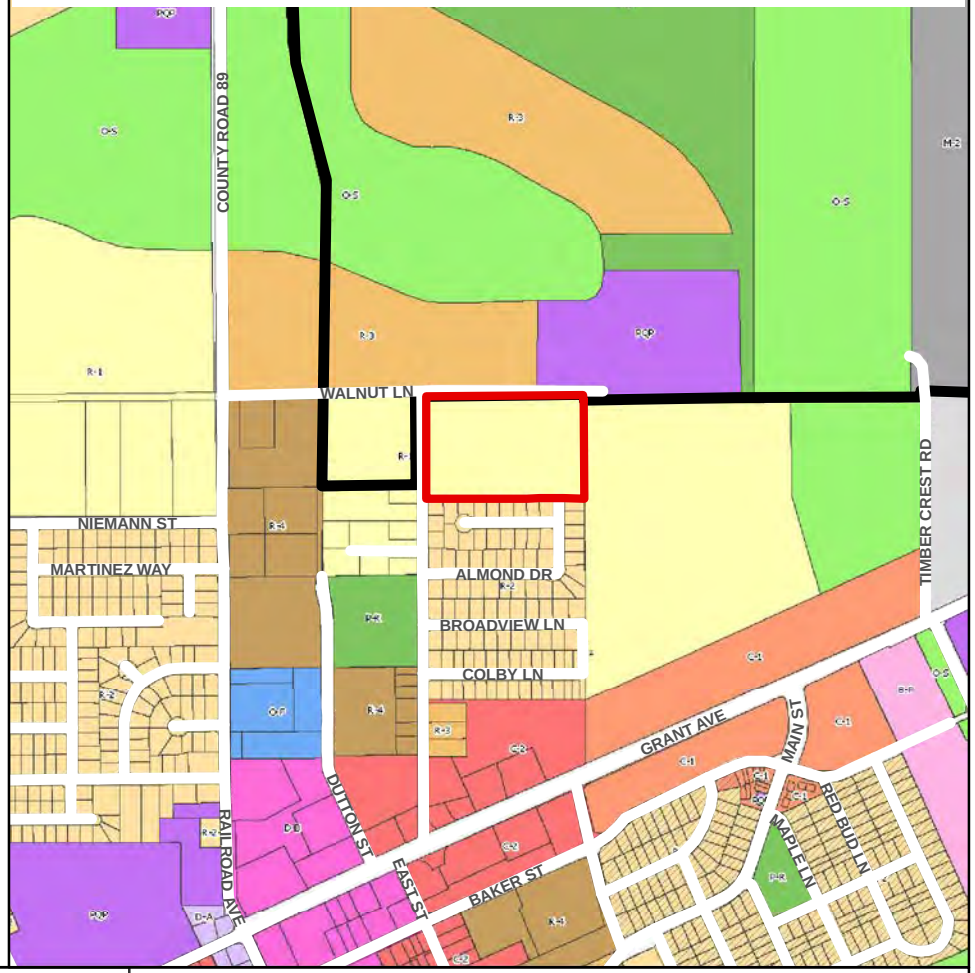
CITY OF WINTERS GENERAL PLAN MAP

BP	Business/Industrial Park	D-A	Downtown A	HR	High Density Residential
NC	Neighborhood Commercial	D-B	Downtown B	OF	Office
CBD	Central Business District	LR	Low Density Residential	PQP	Public/Quasi-Public
HSC	Highway Service Commercial	MR	Medium Density Residential	OS	Open Space
HI	Heavy Industrial	MHR	Medium/High Density Residential	RP	Parks and Recreation



CITY OF WINTERS ZONING MAP

B-P	Business Park	D-A	Downtown A (FBC)	R-4	High Density MFR
C-1	Neighborhood Commercial	D-B	Downtown B (FBC)	O-F	Office
C-2	Central Business District	R-1	Single Family Residential (7,000)	PQP	Public/Quasi-Public
C-H	Highway Service Commercial	R-2	Single Family Residential (6,000)	O-S	Open Space
M-2	Heavy Industrial	R-3	Multi-Family Residential	P-R	Parks and Recreation



Legend

- Project Boundary
- City of Winters

0 500 1,000 Feet

Source: Yolo County; City of Winters. Map date: July 11, 2019.

WALNUT 10

Figure 6. Existing General Plan and Zoning

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ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

None of the environmental factors listed below would have potentially significant impacts as a result of development of this Project, as described on the following pages.

	Aesthetics		Agriculture and Forestry Resources		Air Quality
	Biological Resources		Cultural Resources		Energy
	Geology and Soils		Greenhouse Gasses		Hazards and Hazardous Materials
	Hydrology and Water Quality		Land Use and Planning		Mineral Resources
	Noise		Population and Housing		Public Services
	Recreation		Transportation		Tribal Cultural Resources
	Utilities and Service Systems		Wildfire		Mandatory Findings of Significance

DETERMINATION

On the basis of this initial evaluation:

	I find that the Project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
X	I find that although the Project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the Project have been made by or agreed to by the Project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
	I find that the Project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
	I find that the Project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
	I find that although the Project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the Project, nothing further is required.

Signature Date

EVALUATION INSTRUCTIONS

1) A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to Projects like the one involved (e.g., the Project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on Project-specific factors as well as general standards (e.g., the Project will not expose sensitive receptors to pollutants, based on a Project-specific screening analysis).
2) All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as Project-level, indirect as well as direct, and construction as well as operational impacts.
3) Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.
4) "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from Section XVII, "Earlier Analyses," may be cross-referenced).
5) Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:
    a) Earlier Analysis Used. Identify and state where they are available for review.
    b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
    c) Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the Project.
6) Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.
7) Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.
8) This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a Project's environmental effects in whatever format is selected.
9) The explanation of each issue should identify:
    a) The significance criteria or threshold, if any, used to evaluate each question; and
    b) The mitigation measure identified, if any, to reduce the impact to less than significant.

EVALUATION OF ENVIRONMENTAL IMPACTS

In each area of potential impact listed in this section, there are one or more questions which assess the degree of potential environmental effect. A response is provided to each question using one of the four impact evaluation criteria described below. A discussion of the response is also included.

- Potentially Significant Impact. This response is appropriate when there is substantial evidence that an effect is significant. If there are one or more "Potentially Significant Impact" entries, upon completion of the Initial Study, an EIR is required.
- Less than Significant With Mitigation Incorporated. This response applies when the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact". The Lead Agency must describe the mitigation measures and briefly explain how they reduce the effect to a less than significant level.
- Less than Significant Impact. A less than significant impact is one which is deemed to have little or no adverse effect on the environment. Mitigation measures are, therefore, not necessary, although they may be recommended to further reduce a minor impact.
- No Impact. These issues were either identified as having no impact on the environment, or they are not relevant to the Project.

ENVIRONMENTAL CHECKLIST

This section of the Initial Study incorporates the most current Appendix "G" Environmental Checklist Form contained in the CEQA Guidelines. Impact questions and responses are included in both tabular and narrative formats for each of the 21 environmental topic areas.

I. AESTHETICS

Would the Project:	***Potentially Significant Impact***	***Less Than Significant with Mitigation Incorporation***	***Less Than Significant Impact***	***No Impact***
a) Have a substantial adverse effect on a scenic vista?			X	
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings, within a state scenic highway?				X
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the Project is in an urbanized area, would the Project conflict with applicable zoning and other regulations governing scenic quality?			X	
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?		X		

Responses to Checklist Questions

Responses a), c): The City of Winters General Plan does not specifically designate any scenic viewsheds within the city. For analysis purposes, a scenic vista can be discussed in terms of a foreground, middleground, and background viewshed. The middleground and background viewshed is often referred to as the broad viewshed. Examples of scenic vistas can include mountain ranges, valleys, ridgelines, or water bodies from a focal point of the forefront of the broad viewshed, such as visually important trees, rocks, or historic buildings. An impact would generally occur if a Project would change the view to the middle ground or background elements of the broad viewshed, or remove the visually important trees, rocks, or historic buildings in the foreground.

The Project will not significantly disrupt middleground or background views from public viewpoints. The Project would result in changes to the foreground views from the public viewpoint by adding residential buildings to a site that was used for agricultural purposes.

The greatest visual change would apply to the area located south of the Project site with a direct view of the area. Views of the Project site are generally visible from immediately adjacent roadways. Upon build-out, the Project would be of similar visual character to nearby and adjacent developments (such as the residential community located to the south of the Project site). For persons travelling along nearby roadways, the Project would appear to be a

continuation of adjacent residential land uses and would not present unexpected or otherwise unpleasant aesthetic values within the general Project vicinity.

Upon development of the Project, landscaping would be provided throughout the Project site. The proposed landscaping includes a variety of plants and support materials at varying heights that would provide some shielding from existing residences in the vicinity.

Various temporary visual impacts could occur as a result of construction activities as the Project develops, including grading, equipment and material storage, and staging. Though temporary, some of these impacts could last for several weeks or months during any single construction phase. Because impacts would be temporary and viewer sensitivity in the majority of cases would be slight to moderate, significant impacts are not anticipated.

The change in character of the Project site, once developed, is anticipated by the General Plan and would be visually compatible with surrounding uses, including the existing residential uses located to the south and west, and the planned residential uses that would be located to the east. Moreover, setbacks and landscaping around the perimeter of the site will buffer the foreground viewshed from residents in the immediate vicinity. Therefore, implementation of the Project would have a ***less than significant*** impact relative to this topic.

Response b): Assembly Bill No. 998 was approved on July 12, 2019, designated SR 128 as a route in the state scenic highway system (starting from Railroad Avenue in Winters). Although SR 128 is located approximately 1,400 feet from the Project site (at its closest point), the scenic portion of SR 128 is located further away, at approximately 2,400 feet southwest of the Project site (at its closest point). The City of Winters General Plan Policy VIII.A.7 states that the City shall establish design guidelines for new development along Highway 128 reflecting its designation as a Scenic Highway, and that the City shall work with Caltrans and Yolo County in development consistent guidelines. Moreover, as described by this policy, the Project is required to be consistent with any relevant guidelines developed by Yolo County and Caltrans. However, the Project site is not located within view of this scenic highway, nor any other state scenic highway. Therefore, the Project would not substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway. Implementation of the Project would have ***no impact*** relative to this topic.

Response d): The Project site is currently vacant and was formerly used as an orchard (the trees have been removed). The site contains no existing lighting. There is a potential for the Project to create new sources of light and glare. Examples of lighting would include construction lighting, street lighting, exterior building lighting, interior building lighting, and automobile lighting. Examples of glare would include reflective building materials and automobiles.

There is a potential for the implementation of the Project to introduce new sources of light and glare into the Project area. With regard to light and glare impacts, the primary source of lighting that could affect sensitive receptors during nighttime would be street lighting. Daytime glare is most likely to result from two sources: reflective building materials and vehicle windshields. Lighting and glare from additional motorists at night and from the residences themselves would be minimal.

Contributors to light and glare impacts would include construction lighting and nighttime street lighting that would create ongoing light impacts to the area. Nighttime construction activities are not anticipated to be required as part of on-site roadway construction. Operational light sources from street lighting may be required to provide for safe travel. Skyglow generated from the

Project would be minimal, and is anticipated to be consistent with the subdivisions operating throughout the City and adjacent to Project. The City of Winters Municipal Code does not contain any lighting or glare standards relevant to the Project site, so there is the potential for the Project to include substantial sources of intrusive lighting and/or glare-introducing materials. This is a potentially significant impact.

Implementation of Mitigation Measure AES-1 1 would ensure that the Project lighting is shielded and direct to reduce night sky impacts and to ensure that lighting would not have an adverse effect and would ensure that the Project uses building materials that would not result in significant levels of glare. With implementation of the following mitigation measure, the Project would have a ***less than significant*** impact as it relates to lighting and glare.

Mitigation Measure

Mitigation Measure AES-1: *The Project applicant shall implement the following lighting and glare requirements. These measures shall apply to all outdoor lighting and to building materials and shall be incorporated as part of the building and improvement plans.*

- *Lighting shall be directed downward and light fixtures shall be shielded to reduce upward and spillover lighting;*
- *Lighting and exterior building light fixtures and materials shall be designed to reduce the effects of glare off of glass and metal surfaces.*

II. AGRICULTURE AND FORESTRY RESOURCES

Would the Project:	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?			X	
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?			X	
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 1222(g)) or timberland (as defined in Public Resources Code section 4526)?				X
d) Result in the loss of forest land or conversion of forest land to non-forest use?				X
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?			X	

Responses to Checklist Questions

Response a), b): The Project site is designated as Unique Farmland as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency (California Department of Conservation, 2019). Therefore, the Project would convert Unique Farmland to non-agricultural use. However, the City of Winters General Pan EIR has previously identified the conversion of important farmland to be significant impact, and mitigation measures have been provided.

The City of Winters General Plan designates a substantial area for urban development which is or has been in active agricultural use, which includes the Project site. The City of Winters General Plan EIR identifies that the conversion of agricultural land to urban uses is a significant and unavoidable impact of urban expansion into the city. The City of Winters Final General Plan incorporates policies to promote the continued productivity of agricultural land, and to prevent its premature conversion to urban uses (Goal VI.B), such as directing the City to support agricultural uses until development or annexation is imminent (VI.B.1 and 2), to limit future expansion of the Urban Limit Line to lower quality agricultural soils, and to support strong County-based agricultural land conservation policies (VI.B.4). Other forms of support for agricultural activities include support of legislation at the local and state levels for tax and other incentives (VI.B.3), a mixture of farmers' markets, on-site sales and special events (VI.B.4), a commitment to adopt a right-to-farm ordinance (VI.B.6), and support for County efforts to establish a land conservation trust and implement programs for development rights purchases, transfers or easements (VI.B.5). The City of Winters Final General Plan EIR identifies that the impact on agricultural productivity is significant and represents an unavoidable, adverse cumulative impact. Mitigation measures 13.1A through 4631B have been identified in the General Plan Final EIR to address loss of agricultural land. The measures have been incorporated into the Final General Plan, which provides a high degree of support for agricultural land conservation,

and additional mitigation measures would not be expected to be feasible or effective in avoiding the loss of agricultural land, other than a prohibition against future development, which the Final General Plan identifies as not being consistent with the Final General Plan's objectives.

The Project would be consistent with the General Plan goals and policies relating to agricultural resources. Based on the finding a significant and unavoidable impact relating to the conversion of agricultural land and implementation of the mitigation measures as outlined in the Final General Plan EIR, the Project would not generate any new significant impacts to the conversion of important agricultural lands to non-agricultural uses. The Project site was planned for residential uses in the General Plan and the Project site is not located on a site with a Williamson Act contract. Therefore, the Project would have a ***less than significant*** impact relative to these topics.

Response c): The Project site is not forest land (as defined in Public Resources Code section 1222(g)) or timberland (as defined in Public Resources Code section 4526). The Project would not conflict with existing zoning for, or cause rezoning of, forest land or timberland. Implementation of the Project would have ***no impact*** relative to this issue.

Response d): The Project site is not forest land. The Project would not result in the loss of forest land or conversion of forest land to non-forest use. Implementation of the Project would have ***no impact*** relative to this issue.

Response e): The Project site does not contain forest land, and there is no forest land in the vicinity of the Project site. The Project site is designated LDR and will result in a conversion of the land to non-farmland. This is consistent with the General Plan. The Project does not involve any other changes in the existing environment not disclosed under the previous responses which, due to their location or nature, could result in conversion of farmland, to non-agricultural use, or conversion of forest land to non-forest use. Implementation of the Project would have a ***less than significant*** impact relative to this issue.

III. AIR QUALITY

Would the Project:	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
a) Conflict with or obstruct implementation of the applicable air quality plan?			X	
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable federal or state ambient air quality standard?			X	
c) Expose sensitive receptors to substantial pollutant concentrations?			X	
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?			X	

Existing Setting

The Project site is located within the boundaries of the Yolo Sacramento Air Quality Control District (YSAQMD). This agency is responsible for monitoring air pollution levels and ensuring compliance with federal and state air quality regulations within the Sacramento Valley Air Basin (SVAB) and has jurisdiction over most air quality matters within its borders. The Sacramento Valley is often described as a bowl-shaped valley, with the SVAB being bounded by the North Coast Ranges on the west, the Northern Sierra Nevada Mountains on the east, and the intervening terrain being flat. The Sacramento Valley has a Mediterranean climate, characterized by hot, dry summers and mild, rainy winters. Average annual rainfall is approximately 20 inches, with snowfall being very rare. According to the Western Regional Climate Center, the prevailing wind direction throughout the year in the Project area is from the south.

Responses to Checklist Questions

Responses a), b): Yolo County is in attainment for all State and federal ambient air quality standards (AAQS), with the exception of ozone, PM_{10}, and $PM_{2.5}$. At the federal level, the area is designated as in nonattainment for the 1- hour and 8-hour ozone standards, nonattainment for the 24-hour $PM_{2.5}$ standard, and attainment or unclassified for all other criteria pollutants. At the State level, the area is designated as a nonattainment area for the 1-hour and 8-hour ozone standards, nonattainment for the PM_{10} standard, and in attainment or unclassified for all other State Standards (YSAQMD, 2019).

Due to the nonattainment designations, the YSAQMD, along with the other air districts in the SVAB region, is required to develop plans to attain the federal and State standards for ozone and particulate matter. The air quality plans include emissions inventories to measure the sources of air pollutants, to evaluate how well different control measures have worked, and show how air pollution would be reduced. In addition, the plans include the estimated future levels of pollution to ensure that the area would meet air quality goals.

Air Quality Attainment Plans

The *2019 Triennial Assessment and Plan Update* is discussed below. Adopted YSAQMD rules and regulations, as well as the thresholds of significance, have been developed with the intent to

ensure continued attainment of AAQS, or to work towards attainment of AAQS for which the area is currently designated nonattainment, consistent with applicable air quality plans.

2019 Triennial Assessment and Plan Update[1]

In addition to the federal attainment plans discussed above for meeting NAAQS, the California Clean Air Act (CCAA) requires air districts to endeavor to achieve and maintain the California ambient air quality standards (CAAQS) and develop plans for attainment. Yolo County meets the CAAQS for sulfur dioxide, nitrogen dioxide, and carbon monoxide, but is designated nonattainment for the State ozone and particulate matter standards. The CCAA requires districts that do not meet the State ozone standard to adopt an Air Quality Attainment Plan and to submit progress reports to the CARB every three years.

The YSAQMD is not required to prepare an attainment plan for PM_{10} or $PM_{2.5}$; however, the YSAQMD continues to work to reduce particulate emissions through rules affecting stationary sources, the construction industry, and the YSAQMD's agricultural burning program. The YSAQMD also works with the CARB to identify measures that can, where possible, reduce both ozone and particulate emissions. The YSAQMD has been proactive in attempts to implement the most readily available, feasible, and cost-effective measures that can be employed to reduce emissions of PM.

Operational Emissions

Table 2 of the YSAQMD CEQA Handbook describes screening criteria for operational air quality emissions. The Project would develop 54 dwelling units. As described in the YSAQMD CEQA Handbook, since the Project would have fewer than 390 dwelling units, Project operational emissions would be below YSAQMD screening criteria. Therefore, Project operational air emissions would be ***less than significant***, and are not analyzed further within this document.

Construction Emissions

Because the Project is located within the nonattainment area for State ozone and PM standards, the Project would be subject to any requirements set forth in the 2019 Triennial Assessment and Plan Update or YSAQMD efforts related to PM emissions, as enforced by YSAQMD through rules and regulations.

It is anticipated that approximately 99 percent of the PM_{10} emissions during the construction emissions years (i.e. in year 2020) would be related to PM_{10} dust, with the remainder related to PM_{10} exhaust. The YSAQMD recommends the use of construction dust mitigation measures to reduce PM_{10} emissions during construction. The Yolo-Solano Air Quality Management District's *Handbook for Assessing and Mitigating Air Quality Impacts* (2007) provides a list of dust mitigation measures along with their effectiveness at reducing PM_{10} emissions, below.

[1] Yolo-Solano Air Quality Management District. Triennial Assessment and Plan Update. March 29, 2019. Available at: http://www.ysaqmd.org/wp-content/uploads/2019/03/2015-17-Triennial-Plan-Final-Draft.pdf. Accessed March 2019.

Table AQ-1: Construction Dust Mitigation

Mitigation Measure	*Source Category*	*Effectiveness*	*References*
Water all active construction sites at least twice daily. Frequency should be based on the type of operation, soil, and wind exposure.	Fugitive emissions from active, unpaved construction areas	50%	U.S. EPA, AP-42
Apply non-toxic binders (e.g., latex acrylic copolymer) to exposed areas after cut and fill operations and hydroseed area.	Wind erosion from inactive areas	Up to 80% (assumed 40%)	U.S. EPA, AP-42
Sweep streets if visible soil material is carried out from the construction site.	On-road entrained PM_{10}	14%	U.S. EPA Report Number EPA-600/R-95-171
Treat accesses to a distance of 100 feet from the paved road with a 6-inch layer of gravel.	Mud/dirt carryout on-road entrained PM_{10}	42-52% (assumed 42%)	U.S. EPA Report Number EPA-600/R-95-171

SOURCES: YOLO-SOLANO AIR QUALITY MANAGEMENT DISTRICT'S HANDBOOK FOR ASSESSING AND MITIGATING AIR QUALITY IMPACTS (2007)

Implementation of the dust mitigation listed in Table AIR-1 would ensure that Project-related construction PM_{10} emissions are less than significant. With implementation of the following mitigation measure, which are consistent with the Mitigation list in Table AQ-1, the Project would have a ***less than significant*** impact as it relates to construction emissions.

Mitigation Measure

Mitigation Measure AIR-1: *The Project applicant shall implement the following dust control measures during all construction activities. These measures shall be incorporated as part of the building and grading plans.*

- *Water all active construction sites at least three times daily. Frequency should be based on the type of operation, soil, and wind exposure.*
- *Apply water or dust palliatives on exposed earth surfaces as necessary to control dust emissions. Construction contracts shall include dust control treatment in late morning and at the end of the day, of all earth surfaces during clearing, grading, earth moving, and other site preparation activities. Non-potable water shall be used, where feasible. Existing wells shall be used for all construction purposes where feasible. Excessive watering will be avoided to minimize tracking of mud from the Project onto streets as determined by Public Works.*
- *Grading operations on the site shall be suspended during periods of high winds (i.e. winds greater than 15 miles per hour).*
- *Outdoor storage of fine particulate matter on construction sites shall be prohibited.*
- *Contractors shall cover any stockpiles of soil, sand and similar materials. There shall be no storage of uncovered construction debris for more than one week.*
- *Re-vegetation or stabilization of exposed earth surfaces shall be required in all inactive areas in the Project. Cover all trucks hauling dirt, sand, or loose materials.*
- *Apply non-toxic binders (e.g., latex acrylic copolymer) to exposed areas after cut and fill operations and hydroseed area.*
- *Sweep streets if visible soil material is carried out from the construction site.*
- *Treat accesses to a distance of 100 feet from the paved road with a 6-inch layer of gravel.*
- *Reduce speed on unpaved roads to less than 5 miles per hour.*

Compliance with Existing Law

The Project is required to comply with all applicable YSAQMD rules and regulations, such as Rule 2.1 (Control of Emissions), Rule 2.5 (Nuisance), Rule 2.11 (Particulate Matter Concentration), Rule 2.14 (Architectural Coatings), Rule 2.37 (Natural Gas-Fired Water Heaters and Small Boilers), Rule 2.40 (Wood Burning Appliances), Rule 3.4 (New Source Review), and Rule 3.7 (Emission Statements), and any other YSAQMD rule or regulation related to operations determined to be applicable to the Project by YSAQMD staff. Compliance with the aforementioned YSAMQD rules and regulations would help to minimize emissions generated during Project operations.

In addition, the Project is required to be consistent with all General Plan goals and policies that relate to air quality emissions. The following list includes those goals and policies that directly relate to the topic of air quality and that are also relevant to the Project. The Project would not conflict with any of these goals or policies.

Goal II.D. To consider air quality and noise impacts along with traffic flow efficiency when making decisions about improvements to existing roadways or construction of new roadways.

> **Policy III.D.1.** To the extent feasible, the City shall provide for separation of residential and other noise-sensitive land uses from major roadways to reduce noise and air pollution impacts.

Goal VI.E. To promote and, to the extent possible, improve air quality in Winters and the region.

> **Policy VI.E.1.** The City shall cooperate with the Yolo-Solano Air Pollution Control District in an effort to ensure the earliest practicable attainment and subsequent maintenance of federal and state ambient air quality standards.
>
> **Policy VI.E.2.** The City shall utilize the CEQA process to identify and avoid or mitigate potentially significant air quality impacts of new development. The CEQA process shall also be utilized to ensure early consultation with the Yolo-Solano Air Pollution Control District concerning air quality issues associated with specific development proposals.
>
> **Policy VI.E.3.** The City shall notify and coordinate with the Yolo-Solano Air Pollution Control District when industrial developments are proposed. Such coordination will assist applicants in complying with applicable air quality regulations and will assist the City in promptly identifying and resolving potential air quality problems.
>
> **Policy VI.E.5.** The City shall, to the extent practicable, separate sensitive land uses from significant sources of air pollutants or odor emissions
>
> **Policy VI.E.6.** The City shall require for both public and private Projects that construction-related dust be minimized. Larger Projects that create a potential for generating a significant amount of construction-related dust shall be required to include dust control measures as part of their construction mitigation plans.
>
> **Policy VI.E.10.** The City shall contribute through tree planting and preservation to the enhancement of air quality.
>
> **Policy VI.E.11.** In granting development entitlement, the City shall require all new industrial and commercial developments within the city Projected to generate more than

500 trips per day (based on typical generation rates) to develop an air quality mitigation plan. This plan shall include an analysis of how the Project would utilize site planning, mixed land uses, transportation systems management measures (e.g., carpooling, van pooling, shuttle bus service, transit incentives, etc.) to reduce by 25 percent the number of trips that would typically be Projected for such development. Where this goal cannot be met by these methods, the plan shall provide for off- site mitigation through funding of air quality improvements such as new park-and-ride lots, sidewalks, bike paths, and support of transit, as deemed acceptable to the City

Conclusion

With incorporation of Mitigation Measure AIR-1, the Project would not conflict with and/or obstruct implementation of the YSAQMD's air quality planning efforts, violate any applicable standard, or contribute substantially to an existing or Projected air quality violation. Therefore, with mitigation incorporated, the Project would have a ***less than significant*** impact relative to this topic.

Response c): Sensitive receptors are those parts of the population that can be severely impacted by air pollution. Sensitive receptors include children, the elderly, and the infirm. Although there are existing residences located to the north and southwest of the Project site, there are no schools or elderly facilities located adjacent to the Project site. The nearest school (Winters High School) is located approximately 2,600 feet to the southwest of the Project site, at its closest point.

Health risks from toxic air contaminants (TACs) are typically associated with long-term exposure to high concentrations. Accordingly, methodologies for conducting health risk assessments are associated with long-term exposure periods (e.g., 24 hours per day over a 70-year lifetime). Any potential sensitive individuals at the Project site would not be expected to be on-site for any such long-term periods of time. There are no high-traffic roadways located nearby (the highest traffic roadway is SR 128, located approximately 1,400 feet to the south of the Project site). According to the Yolo-Solano Air Quality Management District's *Handbook for Assessing and Mitigating Air Quality Impacts* (2007), the recommended minimum separation for sensitive receptors from freeways and high-traffic roads should be at least 500 feet.[2] Therefore, additional analysis of TACs from nearby freeways and high-traffic roads is unnecessary. The nearest potential existing sensitive receptors to the Project site would be the residences to the south of the Project site.

Implementation of the Project would not expose these sensitive receptors to substantial pollutant concentrations. Air emissions would be generated during the construction and operational phases of the Project. The construction phase of the Project would be temporary and short-term, and the implementation of all State, federal, and YSAQMD requirements would greatly reduce pollution concentrations generated during construction activities. Additionally, operational emissions would be minimal and would have a negligible effect on nearby sensitive receptors.

Operation of the Project would result in emissions from vehicle trips and from building energy use. However, as described under Response a) – b) above, the Project would not generate significant concentrations of air emissions. Therefore, impacts to sensitive receptors would be negligible and this is a ***less than significant*** impact.

Response d): The Project would not generate objectionable odors. People in the immediate vicinity of construction activities may be subject to temporary odors typically associated with

[2] See Table 1-1 (pg. 12) of the *Handbook for Assessing and Mitigating Air Quality Impacts.*

construction activities (diesel exhaust, hot asphalt, etc.). However, any odors generated by construction activities would be minor and would be short and temporary in duration.

Operation of the Project would not generate notable odors. The Project is a residential development, which is compatible with the surrounding land uses. Residential land uses are not typically associated with the creation of substantial objectionable odors. Occasional mild odors may be generated during landscaping maintenance (equipment exhaust), but the Project would not otherwise generate odors.

Examples of facilities that are known producers of operational odors include: Wastewater Treatment Facilities, Chemical Manufacturing, Sanitary Landfill, Fiberglass Manufacturing, Transfer Station, Painting/Coating Operations (e.g. auto body shops), Composting Facility, Food Processing Facility, Petroleum Refinery, Feed Lot/Dairy, Asphalt Batch Plant, and Rendering Plant. If a Project would locate receptors and known odor sources in proximity to each other further analysis may be warranted; however, if a Project would not locate receptors and known odor sources in proximity to each other, then further analysis is not warranted.

The Project does not include any of the aforementioned uses. The Project would not result in other emissions (such as those leading to odors) adversely affecting a substantial number of people. As such, implementation of the Project would have a ***less than significant*** impact relative to this topic.

IV. BIOLOGICAL RESOURCES

Would the Project:	***Potentially Significant Impact***	***Less Than Significant with Mitigation Incorporation***	***Less Than Significant Impact***	***No Impact***
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?		X		
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?			X	
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?			X	
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?			X	
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?			X	
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?		X		

Existing Setting

Vegetation within the Project site consists primarily of planted rows of domestic almond (Prunis dulcis) with reed canarygrass (Phalaris arundinacea) and some curly dock (Rumex crispus) underneath the canopy. Ruderal non-native grassland species dominated by slender wild oat (Avena barbata) are present between rows of almond trees. Volunteer almond, wild plum (Prunus americana), and black walnut (Juglans nigra) are scattered throughout the Project site and along the perimeter of the Project site. The northwestern corner of the site contains a patch of reed canarygrass and a Paradox walnut (Juglans x paradox). The U.S. Army Corps of Engineers has determined there are no Waters of the U.S. on the site. Additionally, there is no Critical Habitat for federally-listed species within the Project site (Madrone Ecological Consulting, 2019).

Swainson's Hawk

Swainson's hawk (*Buteo swainsoni*) is a raptor species that is not federally listed, but is listed as threatened under California Endangered Species Act (CESA). Breeding pairs typically nest in tall trees associated with riparian corridors, and forage in grassland, irrigated pasture, and cropland

with a high density of rodents. The Central Valley populations breed and nest in the late spring through early summer before migrating to Central and South America for the winter.

White-Tailed Kite

White-tailed kite (*Elanus leucurus*) is not federally or state listed, but is a California Department of Fish and Wildlife (CDFW) fully protected species. This species is a yearlong resident in the Central Valley and is primarily found in or near foraging areas such as open grasslands, meadows, farmlands, savannahs, and emergent wetlands. White-tailed kites typically nest from March through June in trees within riparian, oak woodland, and savannah habitats of the Central Valley and Coast Range.

Western Red Bat

Western red bat (*Lasiurus blossevillii)* is not federally or state listed, but is considered a CDFW species of special concern, and is classified by the WBWG as a High priority species. Western red bat is typically solitary, roosting primarily in the foliage of trees or shrub. Day roosts are commonly in edge habitats adjacent to streams or open fields, in orchards, and sometimes in urban areas. There may be an association with intact riparian habitat (particularly willows, cottonwoods, and sycamores).

Hoary Bat

The hoary bat (*Lasiurus cinereus*) is not federally or state listed, but is classified by the Western Bat Working Group (WBWG) as a Medium priority species. It is considered to be one of the most widespread of all American bats with a range extending from Canada to central Chile and Argentina as well as Hawaii. Hoary bats are solitary and roost primarily in foliage of both coniferous and deciduous trees, near the ends of branches at the edge of clearings. This species may also occasionally roost in caves, beneath rock ledges, in woodpecker holes, in grey squirrel nests, under wood planks, or clinging to the side of buildings.

Responses to Checklist Questions

Response a): A Biological Resources Assessment (BRA) was developed for the Project in July 2019 by Madrone Consulting, LLC (Madrone) (See Appendix A for further detail). The BRA includes field surveys of the Project site and a literature review of the Project site and surrounding areas. Madrone senior biologist Bonnie Peterson conducted a field survey of the Project site on April 13, 2018 to conduct an aquatic resources delineation, survey for rare plants and elderberry shrubs, and assess the suitability of habitats on-site to support special-status species. Additionally, a list of special-status species with potential to occur within the Project site was developed by conducting a query of the following databases:

- California Natural Diversity Database (CNDDB) query of the "Winters, CA" USGS quadrangle and the surrounding eight quadrangles;
- USFWS Information for Planning and Conservation (IPaC) query for the Project site;
- California Native Plant Society (CNPS) Rare and Endangered Plant Inventory (CNPS 2018) query of the "Winters, California" USGS quadrangle, and the eight surrounding quadrangles; and
- Western Bat Working Group (WBWG) Species Matrix.

In addition, any special-status species that are known to occur in the region, but that were not identified in any of the above database searches were also analyzed by Madrone for their potential to occur within the Project site.

For the purposes of this Biological Resources Assessment, special-status species is defined as those species that are:

- listed as threatened or endangered, or proposed or candidates for listing by the USFWS or National Marine Fisheries Service;
- listed as threatened or endangered and candidates for listing by CDFW;
- identified as Fully Protected species or species of special concern by CDFW;
- identified as Medium or High priority species by the WBWG (WBWG 2017); and
- plant species considered to be rare, threatened, or endangered in California by the CNPS and CDFW [California Rare Plant Rank (CRPR) 1, 2, and 3]:
    - CRPR 1A: Plants presumed extinct.
    - CRPR 1B: Plants rare, threatened, or endangered in California and elsewhere.
    - CRPR 2A: Plants extirpated in California, but common elsewhere.
    - CRPR 2B: Plants rare, threatened, or endangered in California, but more common elsewhere.
    - CRPR 3: Plants about which the CNPS needs more information – a review list.

Table BIO-1 provides a list of special-status species that were evaluated, including their listing status, and their potential to occur in the Project site. The following set of criteria was used to determine each species' potential for occurrence on the site:

- Present: Species occurs on the site based on CNDDB records, and/or was observed on the site during field surveys.
- High: The site is within the known range of the species and suitable habitat exists.
- Moderate: The site is within the known range of the species and very limited suitable habitat exists.
- Low: The site is within the known range of the species and there is marginally suitable habitat.
- Absent/No Habitat Present: The site does not contain suitable habitat for the species or for plant species, the species was not observed during protocol-level floristic surveys conducted on-site.

Following Table BIO-1 is a discussion of all special-status plant and animal species identified by the literature and field reviews as having potential to occur within the Project site.

TABLE BIO-1: SPECIAL-STATUS PLANT SPECIES WHICH MAY OCCUR IN PROJECT SITE

SPECIAL-STATUS SPECIES	FEDERAL STATUS	STATE STATUS	POTENTIAL FOR OCCURRENCE
Tricolored blackbird (*Agelaius tricolor*)	-	CT/CSC	No Habitat Present
California tiger salamander (*Ambystoma californiense*)	FT	CT	No Habitat Present
Pallid bat (*Antrozous pallidus*)	-	CSC, WBWG H	No Habitat Present
Ferris' milk-vetch (*Astragalus tener var. ferrisiae*)	-	CRPR 1B.1	No Habitat Present
Alkali milk-vetch (*Astragalus tener var. tener*)	-	CRPR 1B.2	No Habitat Present
Burrowing owl (*Athene cunicularia*)	-	CSC	No Habitat Present
Heartscale (*Atriplex cordulata var. cordulata*)	-	CRPR 1B.2	No Habitat Present
Crotch bumble bee (*Bombus crotchii*)	-	CT	No Habitat Present
Western bumble bee (*Bombus occidentalis*)	-	CT	No Habitat Present
Vernal pool fairy shrimp (*Branchinecta lynchi*)	FT	-	No Habitat Present
Swainson's hawk (*Buteo swainsoni*)	-	CT	Moderate

SPECIAL-STATUS SPECIES	FEDERAL STATUS	STATE STATUS	POTENTIAL FOR OCCURRENCE
Mountain plover (*Charadrius montanus*)	-	CSC	No Habitat Present
Northern harrier (*Circus cyaneus*)	-	CSC	No Habitat Present
Western yellow-billed cuckoo (*Coccyzus americanus occidentalis*)	FT	CE	No Habitat Present
Townsend's big-eared bat (*Corynorhinus townsendii*)	-	WBWG H	No Habitat Present
Recurved larkspur (*Delphinium recurvatum*)	-	CRPR 1B.2	Absent
Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*)	FT	-	No Habitat Present
Dwarf downingia (*Downingia pusilla*)	-	CRPR 2B.2	Absent
White-tailed kite (*Elanus leucurus*)	-	FP	Low
Western pond turtle (*Emys marmorata*)	-	CSC	No Habitat Present
American peregrine falcon (*Falco peregrinus anatum*)	FD	FP	No Habitat Present
Adobe-lily (*Fritillaria pluriflora*)	-	CRPR 1B.2	No Habitat Present
Brewer's western flax (*Hesperolinon breweri*)	-	CRPR 1B.2	No Habitat Present
Delta smelt (*Hypomesus transpacificus*)	FT	-	No Habitat Present
Yellow-breasted chat (*Icteria virens*)	-	CSC	No Habitat Present
Western red bat (*Lasiurus blossevillii*)	-	WBWG M	Low
Hoary bat (*Lasiurus cinereus*)	-	WBWG M	Low
Colusa layia (*Layia septentrionalis*)		CRPR 1B.2	No Habitat Present
Vernal pool tadpole shrimp (*Lepidurus packardi*)	FE	-	No Habitat Present
Jepson's leptosiphon (*Leptosiphon jepsonii*)	-	CRPR 1B.2	No Habitat Present
Baker's navarretia (*Navarretia leucocephala ssp. bakeri*)	-	CRPR 1B.1	No Habitat Present
Black-crowned night heron (*Nycticorax nycticorax*)	-	-	No Habitat Present
Bearded popcornflower (*Plagiobothrys hystriculus*)	-	CRPR 1B.1	Absent
California alkali grass (*Puccinellia simplex*)	-	CRPR 1B.2	No Habitat Present
Foothill yellow-legged frog (*Rana boylii*)	-	CT/CSC	No Habitat Present
Bank swallow *(Riparia riparia*)	-	CT	No Habitat Present
Keck's checkerbloom (*Sidalcea keckii*)	FE	CRPR 1B.1	No Habitat Present
Giant garter snake (*Thamnophis gigas*)	FT	CT	No Habitat Present
Saline clover (*Trifolium hydrophilum*)	-	CRPR 1B.2	No Habitat Present

NOTES: FD- FEDERALLY DELISTED, FT - FEDERALLY THREATENED, FE- FEDERALLY ENDANGERED, FP – FEDERALLY PROTECTED, CE - CDFW ENDANGERED OR CANDIDATE ENDANGERED, CT - CDFW THREATENED OR CANDIDATE THREATENED, CSC - CDFW SPECIES OF CONCERN, WL - CDFW WATCH LIST, CRPR – CALIFORNIA RARE PLANT RANK, WBWG H - WESTERN BAT WORKING GROUP HIGH THREAT RANK, WBWG M - WESTERN BAT WORKING GROUP MEDIUM THREAT RANK

Special Status Species Having the Potential to Occur Within the Project Site

Swainson's Hawk

Suitable foraging habitat for Swainson's hawk is absent from the Project site; however, the almond trees within the Project site provide acceptable but not preferred nesting habitat. The nearest documented Swainson's hawk nest presumed extant is CNDDB Occurrence #1938, which is located approximately 0.5 miles south of the Project site along the north bank of Putah Creek (Madrone Ecological Consulting, 2019). The Project would implement Mitigation Measure BIO-1.

White-Tailed Kite

Suitable foraging habitat for white-tailed kite is absent from the Study Area; however, the trees within the Project site provide acceptable but not preferred nesting habitat. There are no CNDDB occurrences of white-tailed kite within 5 miles of the Project site (Madrone Ecological Consulting, 2019). Therefore, no mitigation for white-tailed kite is required.

Western Red Bat

Trees within the almond orchard represent suitable roosting habitat for western red bat. One CNDDB occurrence of western red bat has been documented in the CNDDB within 5 miles of the Project site along Putah Creek (Madrone Ecological Consulting, 2019). Therefore, no mitigation for western red bat is required.

Hoary Bat

Hoary bat has not been documented in the CNDDB within 5 miles of the Project site (Madrone Ecological Consulting, 2019). Therefore, no mitigation for hoary bat is required.

Burrowing Owl

The Project site does not represent suitable habitat for burrowing owls, but adjacent buffer areas could support them. Therefore, the Project would implement Mitigation Measure BIO-2.

Special-Status Plant Species

Special-status plant surveys conducted throughout the Project site in 2017 by Madrone Ecological Consulting were negative and the potential habitat present was found to be marginal enough that establishment of new populations is very unlikely. No further mitigation is recommended (Madrone Ecological Consulting, 2019).

Conclusion: The almond trees located within the Project site provide potential habitat for Swainson's Hawk. Therefore, the Project is required to implement Mitigation Measure BIO-1. Additionally, Mitigation Measure BIO-2 would be implemented to reduce the potential for impacts to potential burrowing owl habitat. Furthermore, out of an abundance of caution, Mitigation Measure BIO-3 and Mitigation BIO-4 would be implemented, which reduce potential impacts to other birds. Lastly, Mitigation Measure BIO-5 would reduce any potential impacts to bat species. With implementation of these mitigation measures (as provided by the BRA), no special-status species are expected to be affected by the Project. Therefore, with implementation of the following mitigation measures, the Project would have a **less than significant** impact relative to this topic.

Mitigation Measure(s)

Mitigation Measure BIO-1*: A targeted Swainson's hawk nest survey shall be conducted throughout all publicly accessible areas within ¼ mile of the proposed construction area no later than 14 days prior to construction activities. If active Swainson's hawk nests are found within ¼ mile of a construction area, construction shall cease within ¼ mile of the nest until a qualified biologist (Project Biologist) determines that the young have fledged, or it is determined that the nesting attempt has failed. If the Applicant desires to work within ¼ mile of the nest, the Applicant shall consult with CDFW, and the City of Winters to determine if the nest buffer can be reduced. The Project Applicant, the Project Biologist, the City of Winters and CDFW shall collectively determine the nest avoidance buffer, and what (if any) nest monitoring is necessary. If an active Swainson's hawk nest is found within the Project site prior to construction and is in a tree that must be removed during nesting season, then the Project Applicant shall obtain a take permit from CDFW.*

Mitigation Measure BIO-2*: A targeted burrowing owl nest survey shall be conducted within all publicly accessible grassland areas within 250 feet of the proposed construction within 14 days prior to construction activities utilizing 60 foot transects as outlined in the Staff Report on Burrowing Owl Mitigation (2012). If an active burrowing owl nest burrow (i.e., occupied by more than one adult owl, and/or juvenile owls are observed) is found within 250 feet of a construction area, construction shall cease within 250 feet of the nest burrow until a qualified biologist (Project Biologist) determines that the young have fledged or it is determined that the nesting attempt has failed. If the Applicant desires to work within 250 feet of the nest burrow, the Applicant shall consult with the City of Winters to determine if the nest buffer can be reduced. During the non-breeding season (late September 1st through the end of January), the Applicant may choose to conduct a survey for burrows or debris that represent suitable nesting habitat for burrowing owls within*

publicly accessible buffer areas, exclude any burrowing owls observed, and collapse any burrows or remove the debris in accordance with the methodology outlined in the Staff Report.

***Mitigation Measure BIO-3**: A pre-construction nesting bird survey shall be conducted by the Project Biologist within the Project site and a 250-foot radius of proposed construction areas, where public access is available, no more than fourteen (14) days prior to the initiation of construction. If there is a break in construction activity of more than fourteen (14) days then subsequent surveys shall be conducted.*

If active raptor nests, not including Swainson's hawk are found, no construction activities shall take place within 250 feet of the nest until the young have fledged. If active songbird nests are found, a 100-foot no disturbance buffer will be established. These no-disturbance buffers may be reduced if a smaller buffer is proposed by the Project Biologist and approved by the City of Winters after taking into consideration the natural history of the species of bird nesting, the proposed activity level adjacent to the nest, habituation to existing or ongoing activity, and nest concealment (are there visual or acoustic barriers between the proposed activity and the nest). The Project Biologist can visit the nest as needed to determine when the young have fledged the nest and are independent of the site or the nest can be left undisturbed until the end of the nesting season.

***Mitigation Measure BIO-4**: Should construction activities cause a nesting bird to do any of the following in a way that would be considered a result of construction activities, then the exclusionary buffer shall be increased such that activities are far enough from the nest to stop this agitated behavior. The exclusionary buffer will remain in place until the chicks have fledged or as otherwise determined by the Project Biologist in consultation with the City of Winters:*

- *Vocalize;*
- *make defensive flights at intruders;*
- *get up from a brooding position; or*
- *fly off the nest.*

Construction activities may only resume within the buffer zone after a follow-up survey by the Project Biologist has been conducted and a report has been prepared indicating that the nest (or nests) are no longer active, and that no new nests have been identified.

***Mitigation Measure BIO-5**: To avoid potential impacts to foliage-roosting bat species, all tree removal shall be conducted from January through April on days with temperatures in excess of 50 degrees F.*

Responses b): There is no riparian habitat or other sensitive natural community within the Project site (Madrone Ecological Consulting, 2019). Additionally, riparian habitat or other sensitive natural communities are not located near the Project site and would not be impacted by development of the Project. Therefore, implementation of the Project would have a **less than significant** impact on riparian habitats or natural communities.

Response c): The Project site does not contain any aquatic resources. There are no protected wetlands or other jurisdictional areas and there is no need for permitting associated with the federal or state Clean Water Acts (Madrone Ecological Consulting, 2019). Since there are no wetlands or jurisdictional waters that would be impacted by development of the Project, there is a **less than significant** impact relative to this topic.

Response d): The CNDDB record search conducted by Madrone Ecological Consulting did not reveal any documented wildlife corridors or wildlife nursery sites on or adjacent to the Project site (Madrone Ecological Consulting, 2019). Implementation of the mitigation measures provided under Impact a) would ensure that the Project would not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery site. Therefore, this potential impact is reduced to a **less than significant** level.

Responses e): The Project does not conflict with any local policies or ordinances protecting biological resources. The City has a policy regarding tree removal (Municipal Code Chapter 12.08). However, this policy only applies to trees within the Control Zone and public places (the Control Zone applies to specified distances between homes and sidewalks). Therefore, the Project would have a **less than significant** impact relative to this topic.

Responses f): An analysis of the Project's consistency with the adopted Habitat Conservation Plan/Natural Community Conservation, and the City of Winters General Plan, is provided herein.

Yolo Habitat Conservation Plan/Natural Community Conservation Plan (Yolo HCP/NCCP)

The Yolo HCP/NCCP provides take authorization for twelve listed and non-listed species (i.e., covered species). The Yolo Habitat Conservancy selected the twelve covered species from a larger pool of 175 special status species in the region. Two special-status animal species identified as having the potential to occur within the Project site are listed as covered species in the Yolo HCP/NCCP. These are Swainson's Hawk and White-tailed Kite. The Yolo HCP/NCCP includes conservation measures to provide for the conservation of these species, whether or not they are currently listed. The Project would comply with all requirements as laid out in the Yolo HCP/NCCP with implementation of the mitigation measures contained under Impact a).

Winters General Plan

The Natural Resources Element of the General Plan establishes goals and policies related to biological resources. Those goals and policies that may be relevant to the Project are provided below, alongside a brief Project consistency analysis for each policy:

Goal VI.C: To protect sensitive native vegetation and wildlife communities and habitat.

Policy VI.C.1: Prior to approving public or private development Projects in areas containing or adjacent to areas containing large trees, riparian vegetation, wetlands, or other significant wildlife habitat, the City shall require the Project area and its environs be field surveyed for the presence of special-status plant and animal taxa. Such field surveys shall be conducted by a qualified biologist. If special-status taxa are encountered during the field surveys, appropriate measures shall be developed to minimize disturbance and protect identified populations where feasible.

- ***Consistent****: This Initial Study includes an in-depth analysis of impacts for sensitive plants and wildlife, as well as habitat. Where impacts are identified, mitigation measures are presented to minimize, avoid, or compensate to the extent practicable.*

Policy VI.C.2: In regulating private development and constructing public improvements, the City shall ensure that there is no net loss of riparian or wetland habitat acreage and value and shall promote Projects that avoid sensitive areas. Where habitat loss is unavoidable, the City shall require replacement on at least a 1:1 basis. Replacement entails creating habitat that is

similar in extent and ecological value to that displaced by the Project. The replacement habitat should consist of locally-occurring, native species and be located as close as possible to the Project site. Implementation of this policy should be based on baseline data concerning existing native species. Study expenses shall be borne by development.

- ***Consistent****: There is no riparian or wetland habitat acreage located on or adjacent to the Project site. There would not be any impacts on riparian or wetland habitat due to implementation of the Project.*

Policy VI.C.3: Unless there are overriding considerations as defined in the California Environmental Quality Act, the City shall not approve any Project that would cause significant unmitigatible impacts on rare, threatened, or endangered wildlife or plant species.

- ***Consistent****: There are no significant unmitigatable impacts on rare, threatened, or endangered wildlife or plant species.*

Policy VI.C.4: The City shall support and participate in local and regional attempts to restore and maintain viable habitat for endangered or threatened plant and animal species. To this end, the City shall work with surrounding jurisdictions and state and federal agencies in developing a regional *Habitat Management Plan*. Such plan shall provide baseline data for the Winters area on special-status plant and animal taxa, including Swainson's hawk and the valley elderberry longhorn beetle, and provide guidelines and standards for mitigation of impacts on special-status taxa.

- ***Consistent****: The Project would not conflict with the City of Winters Habitat Mitigation Program. Moreover, no elderberry shrubs of any size were observed in the Project site (Madrone Ecological Consulting, 2019). The mitigation measures contained under Response a) would ensure that endangered or threatened plant and animal species habitat would not be substantially affected by the Project.*

Policy VI.C.5: The City shall require mitigation of potential impacts on special-status plant and animal taxa based on a policy of no-net-loss of habitat value. Mitigation measures shall incorporate as the City deems appropriate, the guidelines and recommendations of the U.S. Fish and Wildlife Service and the California Department of Fish and Game. Implementation of this policy may include a requirement that Project proponents enter into an agreement with the City satisfactory to the City Attorney to ensure that the Projects will be subject to a City fee ordinance to be adopted consistent with the regional *Habitat Management Plan*.

- ***Consistent****: The mitigation measures contained under Response a) would ensure that endangered or threatened plant and animal species habitat would generate a no-net-loss of habitat value.*

Policy VI.C.7: The City shall promote the use of drought-tolerant and native plants, especially valley oaks, for landscaping roadsides, parks, schools, and private properties.

- ***Consistent****: The Project would include landscaping appropriate for the Project type, size, and location.*

Policy VI.C.9: Large, older and historically-significant trees should not be removed unless they are diseased or represent an unavoidable obstacle to development. Development should be designed and constructed to avoid adverse impacts on such trees.

- ***Consistent****: There are no known historically-significant trees located on the Project site. No historically-significant trees would be removed due to implementation of the Project.*

Policy VI.C.10: The City shall encourage and support development Projects and programs that enhance public appreciation and awareness of the natural environment.

- ***Consistent****: The Project would blend into the surrounding natural and build-up environment.*

Conclusion

With implementation of the mitigation measures identified under Impact a), the Project would have a **less than significant** impact relative to this topic.

V. CULTURAL RESOURCES

Would the Project:	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
a) Cause a substantial adverse change in the significance of a historical resource pursuant to Section15064.5?		X		
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?		X		
c) Disturb any human remains, including those interred outside of formal cemeteries?		X		

Existing Setting

A Cultural and Paleontological Resources Inventory (Study) for the Project was prepared by Natural Investigations Company on May 1, 2019. The Study included an investigation based on the cultural literature, Sacred Lands File and paleontological records searches, and an intensive-level pedestrian survey of the Project site. This study was completed in compliance with the California Environmental Quality Act. The Study did not identify any cultural or paleontological resources of concern in the literature search or the field walk. The Study identified that the potential for the discovery of cultural or paleontological resources within the Project site is low.

The Study examined cultural and paleontological resources within the Project site (consisting of APN #038-050-019). The earliest available aerial photograph of the Project site from 1968 show an orchard within the Project site parcel. In 1968, the land around the parcel was mainly planted in orchards. The single-family residential development south of the parcel began in the early 1990s. None of the historic maps or aerials show any buildings or roads within the Project site.

Responses to Checklist Questions

Response a-c): The Cultural and Paleontological Resources Inventory prepared for the Project did not identify any recorded prehistoric or historic-era archaeological resources or historic properties, or any resources that are known to have value to local cultural groups. In addition, there are no known prehistoric period cultural resources, unique paleontological or archeological resources known to occur on, or within the immediate vicinity of the Project site. The Study does not recommend construction monitoring of ground-disturbing activity, since the Project site has previously been highly disturbed by historic and recent agricultural activities, and by excavation of the Willow Canal (c. 1903-1905). The Study identifies that the walnut orchard on the Project site, which is currently unirrigated, was planted at least 70 years ago. Additionally, the Study identifies that historic records indicate that the Project site has been subject to severe floods in the past, which may have disturbed or erased any intact archaeological sites. Further, the Study identifies that the Project site is underlain by older Pleistocene alluvial deposits (781,000–11,700 years) for which the potential of discovery of buried archaeological deposits is extremely unlikely. The probability that intact prehistoric, ethnohistoric, or historic-era archaeological sites remain within the extensively disturbed Project area is thus very low.

There are no known human remains located on the Project site, nor is there evidence to suggest that human remains may be present on the Project site. However, as with most Projects in California that involve ground-disturbing activities, there is the potential for discovery of a previously unknown cultural and historical resource or human remains.

The City contacted the Yocha Dehe Wintun Nation, providing an opportunity for the Yocha Dehe Wintun Nation to comment and/or request consultation regarding the Project. The Yocha Dehe Wintun Nation indicated that the site is within its aboriginal territories. The Yocha Dehe Wintun initially indicated in a letter dated March 19, 2019 that it had concerns regarding potential impacts to cultural resources. Subsequently, via a May 6, 2019 letter, the Yocha Dehe Wintun Nation indicated it is not aware of any known cultural resources near the Project site and a monitor is not needed, but cultural sensitivity training was recommended.

Therefore, the implementation of Mitigation Measure CLT-1 and Mitigation Measure CLT-2 would require appropriate steps to preserve and/or document any previously undiscovered resources that may be encountered during construction activities, including human remains. Implementation of this measure would reduce this impact to a ***less than significant*** level.

Mitigation Measures

Mitigation Measure CLT-1: *Prior to any ground-disturbing activities, cultural sensitivity training, including training regarding the types of resources or artifacts that may be present on the Project site and proper steps to take if any resources or artifacts are discovered during any ground-disturbing or construction activities. The cultural sensitivity training shall shall be conducted for all construction contractors that will be involved in ground-disturbing activities. The cultural sensitivity training shall be coordinated with the Yocha Dehe Wintun Nation.*

Mitigation Measure CLT-2: *If any prehistoric or historic artifacts, or other indications of archaeological resources are found during grading and construction activities, work shall be halted in that area within 50 feet (15 meters) of the find. A qualified archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards in prehistoric or historical archaeology, as appropriate, shall be consulted to evaluate the finds and recommend appropriate mitigation measures. The Yocha Dehe Wintun Nation shall be notified of the find and provided an opportunity to recommend appropriate conservation or preservation steps.*

If cultural resources or Native American resources are identified, every effort shall be made to avoid significant cultural resources, with preservation an important goal. If significant sites cannot feasibly be avoided, appropriate mitigation measures, such as data recovery excavations or photographic documentation of buildings, shall be undertaken consistent with applicable state and federal regulations, as well as in consultation with the City of Winters and the property owner. Furthermore:

- *If human remains are discovered, all work shall be halted immediately within 50 meters (165 feet) of the discovery, the County Coroner must be notified, according to Section 5097.98 of the State Public Resources Code and Section 7050.5 of California's Health and Safety Code. If the remains are determined to be Native American, the coroner will notify the Native American Heritage Commission, and the procedures outlined in CEQA Section 15064.5(d) and (e) shall be followed.*
- *If any fossils are encountered, there shall be no further disturbance of the area surrounding this find until the materials have been evaluated by a qualified paleontologist, and appropriate treatment measures have been identified.*

VI. ENERGY

Would the Project:	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during Project construction or operation?			X	
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?			X	

Responses to Checklist Questions

Response a-b): Appendix F of the State CEQA Guidelines requires consideration of the potentially significant energy implications of a Project. CEQA requires mitigation measures to reduce "wasteful, inefficient and unnecessary" energy usage (Public Resources Code Section 21100, subdivision [b][3]). According to Appendix F of the CEQA Guidelines, the means to achieve the goal of conserving energy include decreasing overall energy consumption, decreasing reliance on natural gas and oil, and increasing reliance on renewable energy sources. In particular, the Project would be considered "wasteful, inefficient, and unnecessary" if it were to violate state and federal energy standards and/or result in significant adverse impacts related to Project energy requirements, energy inefficiencies, energy intensiveness of materials, cause significant impacts on local and regional energy supplies or generate requirements for additional capacity, fail to comply with existing energy standards, otherwise result in significant adverse impacts on energy resources, or conflict or create an inconsistency with applicable plan, policy, or regulation.

The Project includes the construction of 54 residential units. The amount of energy used at the Project site would directly correlate to the size of the proposed units, the energy consumption of associated unit appliances, and outdoor lighting. Other major sources of Project energy consumption include fuel used by vehicle trips generated during Project construction and operation, and fuel used by off-road construction vehicles during construction.

As described in further detail under Section XVII. Transportation of this IS/MND, the Project is anticipated to generate approximately 529 new daily vehicles trips. Based on default factors provided by the Institute of Transportation Engineers, the average distance per trip was conservatively calculated to be approximately 9.0 miles. Therefore, the Project is estimated generate at total of approximately 4,757 average daily vehicle miles travelled (Average Daily VMT). Using Year 2020 gasoline and diesel MPG (miles per gallon) factors for individual vehicle classes as provided by EMFAC2014, De Novo derived weighted MPG factors for operational on-road vehicles of approximately 27.0 MPG for gasoline and 10.8 MPG for diesel vehicles. With this information, De Novo calculated as a conservative estimate that the unmitigated Project would generate vehicle trips that would use a total of approximately 164 gallons of gasoline and 30 gallons of diesel fuel per day, on average, or 59,997 gallons of gasoline and 10,871 annual gallons of diesel fuel per year.

The Project would also generate on-road vehicle trips during Project construction (from construction workers and vendors). Estimates of vehicle fuel consumed were derived based on the assumed construction schedule, vehicle trip lengths and number of workers per construction phase as provided by CalEEMod, and Year 2020 gasoline MPG factors provided by EMFAC2014. For the purposes of simplicity, it was assumed that all vehicles used gasoline as a fuel source (as opposed to diesel fuel or alternative sources). Table ENERGY-2, below, describes gasoline and

diesel fuel used by on-road mobile sources during each phase of the construction schedule. As shown, the vast majority of on-road mobile vehicle fuel used during the construction of the Project would occur during the building construction phase.

Table ENERGY-2: On-Road Mobile Fuel Generated by Project Construction Activities – By Phase

Construction Phase	*# of Days*	*Total Daily Worker Trips[(a)]*	*Total Daily Vendor Trips[(a)]*	*Gallons of Gasoline Fuel[(b)]*	*Gallons of Diesel Fuel[(b)]*
Site Preparation	10	18	-	100	-
Grading	20	20	-	223	-
Building Construction	300	15	11	1,720	2,126
Paving	15	12	-	86	-
Architectural Coating	60	8	-	183	-
Total	**N/A**	**N/A**	**N/A**	**2,312**	**2,126**

NOTE: [(A)] PROVIDED BY CALEEMOD. [(B)]SEE APPENDIX B FOR FURTHER DETAIL

SOURCE: CALEEMOD (V.2016.3.2); EMFAC2014.

Other

Off-road construction vehicles would use diesel fuel during the construction phase of the Project. A non-exhaustive list of off-road constructive vehicles expected to be used during the construction phase of the Project includes: forklifts, generator sets, tractors, excavators, and dozers. Based on an analysis of projects of a similar size, the Project is anticipated to use a total of approximately 183 gallons of diesel fuel for off-road construction vehicles (during the site preparation and grading phases of the Project).

Proposed Project landscape maintenance activities would generally require the use fossil fuel (i.e. gasoline) energy. For example, lawn mowers require the use of fuel for power. As an approximation, it is estimated that landscape care maintenance would require approximately 54 individuals 0.5 hours per week, or 1,404 hours per year. Assuming an average of approximately 0.5 gallons of gasoline used per person-hour, the Project would require the use of approximately 702 gallons of gasoline per year to power landscape maintenance equipment. The energy used to power landscape maintenance equipment would not differ substantially from the energy required for landscape maintenance for similar Project.

The Project could also use other sources of energy not identified here. Examples of other energy sources include alternative and/or renewable energy (such as solar PV). The Project would introduce solar PV onto residential rooftops, as required by the 2020 California Solar Mandate, which requires all newly-built homes (starting in 2020) to be equipped with a solar power system. Solar PV would reduce the need for fossil fuel-based energy (for Project buildings) for electricity. However, for the sake of a conservative analysis, and based on the lack of information regarding the magnitude of installation of solar PV within the Project, an estimate of Project energy savings due to solar PV installation is not calculated herein.

Conclusion

The Project would use energy resources for the operation of Project buildings (electricity and natural gas), for on-road vehicle trips (e.g. gasoline and diesel fuel) generated by the Project, and from off-road construction activities associated with the Project (e.g. diesel fuel). Each of these activities would require the use of energy resources. The Project would be responsible for

conserving energy, to the extent feasible, and relies heavily on reducing per capita energy consumption to achieve this goal, including through Statewide and local measures.

The Project would be in compliance with all applicable federal, state, and local regulations regulating energy usage. For example, PG&E is responsible for the mix of energy resources used to provide electricity for its customers, and it is in the process of implementing the Statewide Renewable Portfolio Standard (RPS) to increase the proportion of renewable energy (e.g. solar and wind) within its energy portfolio. PG&E is expected to achieve at least a 33% mix of renewable energy resources by 2020, and 50% by 2030. Additionally, energy-saving regulations, including the latest State Title 24 building energy efficiency standards ("part 6"), would be applicable to the Project. Other statewide measures, including those intended to improve the energy efficiency of the statewide passenger and heavy-duty truck vehicle fleet (e.g. the Pavley Bill and the Low Carbon Fuel Standard) are improving vehicle fuel economies, thereby conserving gasoline and diesel fuel. These energy savings would continue to accrue over time.

As a result, the Project would not result in any significant adverse impacts related to Project energy requirements, energy use inefficiencies, and/or the energy intensiveness of materials by amount and fuel type for each stage of the Project including construction, operations, maintenance, and/or removal. PG&E, the electricity and natural gas provider to the site, maintains sufficient capacity to serve the Project. The Project would comply with all existing energy standards, including those established by the City, and would not result in significant adverse impacts on energy resources. Therefore, the Project would not be expected cause an inefficient, wasteful, or unnecessary use of energy resources nor cause a significant impact on any of the threshold as described by Appendix F of the CEQA Guidelines. This is a **less than significant** impact.

VII. GEOLOGY AND SOILS

Would the Project:	***Potentially Significant Impact***	***Less Than Significant with Mitigation***	***Less Than Significant Impact***	***No Impact***
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.			X	
ii) Strong seismic ground shaking?			X	
iii) Seismic-related ground failure, including liquefaction?		X		
iv) Landslides?			X	
b) Result in substantial soil erosion or the loss of topsoil?		X		
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the Project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?		X		
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?		X		
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?				X
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?			X	

Responses to Checklist Questions

Responses a.i), a.ii), a.iv): Figure 7 shows the earthquake faults in the vicinity of the Project site. As shown in the figure, the site is not located within a currently designated Alquist-Priolo Earthquake Fault Zone, and known surface expression of active faults does not exist within the site. However, the site is located within a seismically active region. The U.S. Geological Survey identifies potential seismic sources as close as approximately 10 miles of the Project site. The closest known fault zone classified as active by the U.S. Geological Survey is the Vaca fault zone, located southwest of the Project site, as shown in Figure 7. Other fault zones are located west of the Project site, including the Huntington Creek-Berryessa fault zone, which is located approximately 14 miles west of the Project site. Other faults that could potentially affect the

Project include the Atlas Peak-Foss Valley lineament, the Cordella fault zone, the Green Valley fault zone, the Hayward fault zone, the Rodgers Creek fault zone, and the West Napa fault zone.

Geologic Hazards

Potential seismic hazards resulting from a nearby moderate to major earthquake could generally be classified as primary and secondary. The primary seismic hazard is ground rupture, also called surface faulting. The common secondary seismic hazards include ground shaking and ground lurching.

Ground Rupture

Because the property does not have known active faults crossing the site, and the site is not located within an Earthquake Fault Special Study Zone, ground rupture is unlikely at the subject property.

Ground Shaking

According to the California Geological Survey's Probabilistic Seismic Hazard Assessment Program, Winters is considered to be within an area that is predicted to have a 10 percent probability that a seismic event would produce horizontal ground shaking of approximately 30 to 40 percent within a 50-year period (California Department of Conservation, 2019). There will always be a potential for groundshaking caused by seismic activity anywhere in California, including the Project site.

In order to minimize potential damage to the buildings and site improvements, all construction in California is required to be designed in accordance with the latest seismic design standards of the California Building Code. The California Building Code, Title 24, Part 2, Chapter 16 addresses structural design and Chapter 18 addresses soils and foundations. Collectively, these state requirements, which have been adopted by the City, include design standards and requirements that are intended to minimize impacts to structures in seismically active areas of California. Section 1613 specifically provides structural design standards for earthquake loads. Section 1803.5.11 and 1803.5.12 provide requirements for geotechnical investigations for structures assigned varying Seismic Design Categories in accordance with Section 1613. Design in accordance with these standards and policies would reduce any potential impact to a less than significant level.

Landslides

The Project site is not susceptible to landslides because the area is essentially flat. This is a less than significant impact.

Conclusion

In order to minimize potential damage to the buildings and site improvements, all construction in California is required to be designed in accordance with the latest seismic design standards of the California Building Code. The California Building Code, Title 24, Part 2, Chapter 16 addresses structural design and Chapter 18 addresses soils and foundations. Collectively, these state requirements, which have been adopted by the City, include design standards and requirements that are intended to minimize impacts to structures in seismically active areas of California. Section 1613 specifically provides structural design standards for earthquake loads. Section 1803.5.11 and 1803.5.12 provide requirements for geotechnical investigations for structures

assigned varying Seismic Design Categories in accordance with Section 1613. Because all development in the Project site must be designed in conformance with these state standards and policies, any potential impact would be considered ***less than significant***.

Responses a.iii), c), d): Liquefaction normally occurs when sites underlain by saturated, loose to medium dense, granular soils are subjected to relatively high ground shaking. During an earthquake, ground shaking may cause certain types of soil deposits to lose shear strength, resulting in ground settlement, oscillation, loss of bearing capacity, landsliding, and the buoyant rise of buried structures. The majority of liquefaction hazards are associated with sandy soils, silty soils of low plasticity, and some gravelly soils. Cohesive soils are generally not considered to be susceptible to liquefaction. In general, liquefaction hazards are most severe within the upper 50 feet of the surface, except where slope faces or deep foundations are present.

Expansive soils are those that undergo volume changes as moisture content fluctuates; swelling substantially when wet or shrinking when dry. Soil expansion can damage structures by cracking foundations, causing settlement and distorting structural elements. Expansion is a typical characteristic of clay-type soils. Expansive soils shrink and swell in volume during changes in moisture content, such as a result of seasonal rain events, and can cause damage to foundations, concrete slabs, roadway improvements, and pavement sections.

Soil expansion is dependent on many factors. The more clayey, critically expansive surface soil and fill materials will be subjected to volume changes during seasonal fluctuations in moisture content. Figure 8 shows the soils within the Project site. The soils encountered at the Project site consist of Rincon silty clay loam and Brentwood silty clay loam.

Future development of the Project could expose people or structures to adverse effects associated with liquefaction and/or soil expansion. Construction of the Project would be required to comply with the City's General Plan policies related to geologic and seismic hazards. These policies obligate the City to require that new development be constructed according to the requirements of the Uniform Building Code to ensure structures are able to withstand the effects of seismic activity, including liquefaction (Policy VII.A.1), and ensure that underground utilities are designed to withstand seismic forces in accordance with state requirements (Policy VII.A.2).

With implementation of the following mitigation measures, this potential impact would be ***less than significant***.

Mitigation Measure(s)

Mitigation Measure GEO-1*: Prior to issuance of any building permits, the developer shall be required to submit building plans to the City of Winters for review and approval. The building plans shall also comply with all applicable requirements of the most recent California Building Standards Code. All on-site soil engineering activities shall be conducted under the supervision of a licensed geotechnical engineer or certified engineering geologist.*

Mitigation Measure GEO-2*: Prior to submittal of improvement plans, a geotechnical/soils report shall be submitted to the City of Winters for review and approval, as a condition on the tentative map. The geotechnical/soils report shall incorporate an analysis of the susceptibility of the Project site to liquefaction, and unstable and expansive soils, in order to appropriately inform the final design of Project roadways and building pad compaction.*

Response b): The Project site is currently vacant and was formerly used as an orchard. According to the Project site plans prepared for the Project, development of the Project would result in the

creation of new impervious surface areas throughout the Project site. The development of the Project site would also cause ground disturbance of top soil. The ground disturbance would be limited to the areas proposed for grading and excavation, including the proposed internal streets, residential building pads, and drainage, sewer, and water infrastructure improvements. After grading and excavation, and prior to overlaying the disturbed ground surfaces with impervious surfaces and structures, the potential exists for wind and water erosion to occur, which could adversely affect downstream storm drainage facilities.

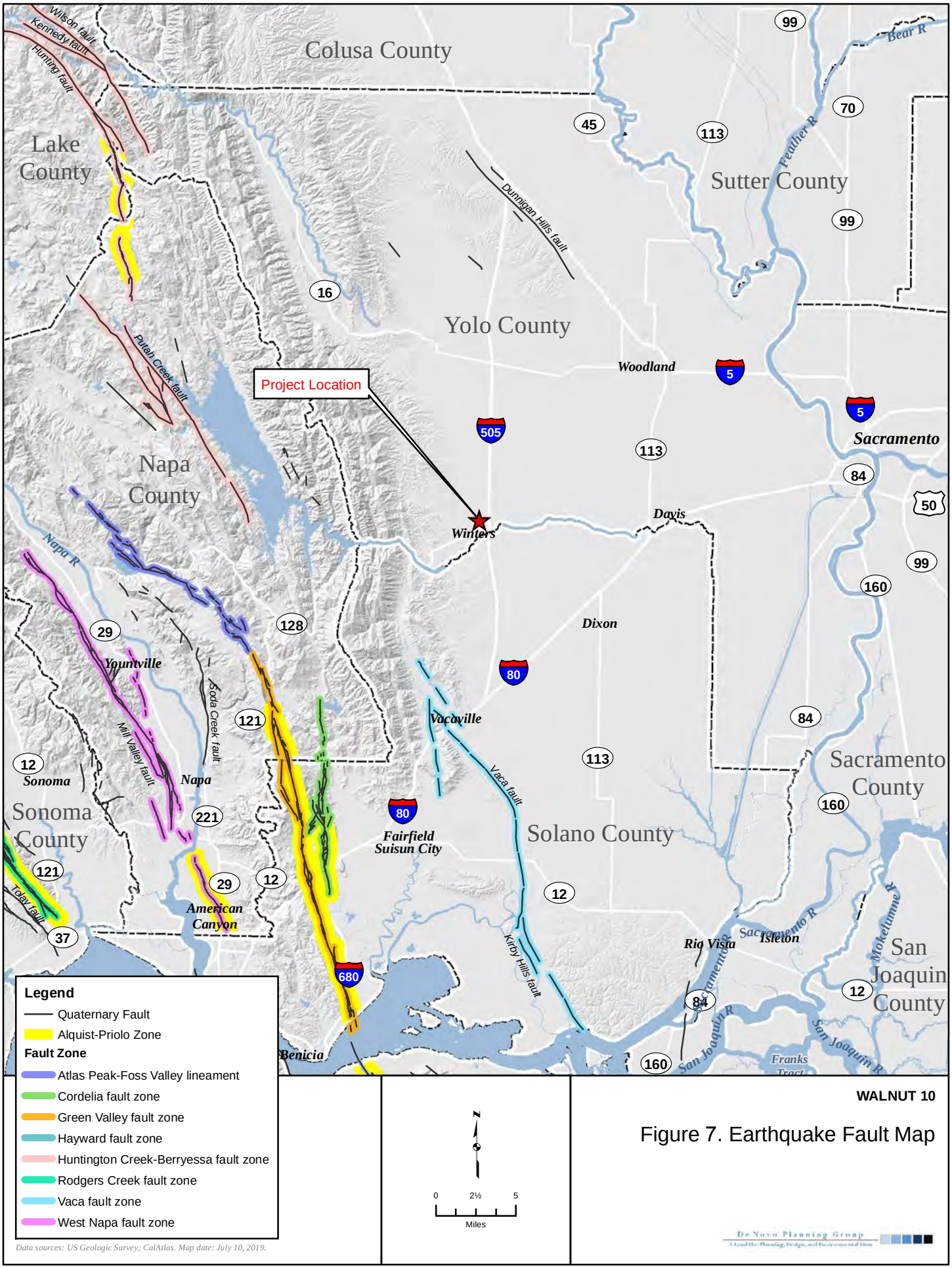
Without implementation of appropriate Best Management Practices (BMPs) related to prevention of soil erosion during construction, development of the Project would result in a potentially significant impact with respect to soil erosion. Implementation of the following mitigation measures would ensure the impact is ***less than significant***.

Mitigation Measure(s)

Mitigation Measure GEO-3*: The Project applicant shall submit a Notice of Intent (NOI) and Storm Water Pollution Prevention Plan (SWPPP) to the RWQCB in accordance with the NPDES General Construction Permit requirements. The SWPPP shall be designed to control pollutant discharges utilizing Best Management Practices (BMPs) and technology to reduce erosion and sediments. BMPs may consist of a wide variety of measures taken to reduce pollutants in stormwater runoff from the Project site. Measures shall include temporary erosion control measures (such as silt fences, staked straw bales/wattles, silt/sediment basins and traps, check dams, geofabric, sandbag dikes, and temporary revegetation or other ground cover) that will be employed to control erosion from disturbed areas. Final selection of BMPs will be subject to approval by the City of Winters and the RWQCB. The SWPPP will be kept on site during construction activity and will be made available upon request to representatives of the RWQCB.*

Response e): The Project has been designed to connect to the existing City sewer system and septic systems will not be used. Therefore, ***no impact*** would occur related to soils incapable of adequately supporting the use of septic tanks.

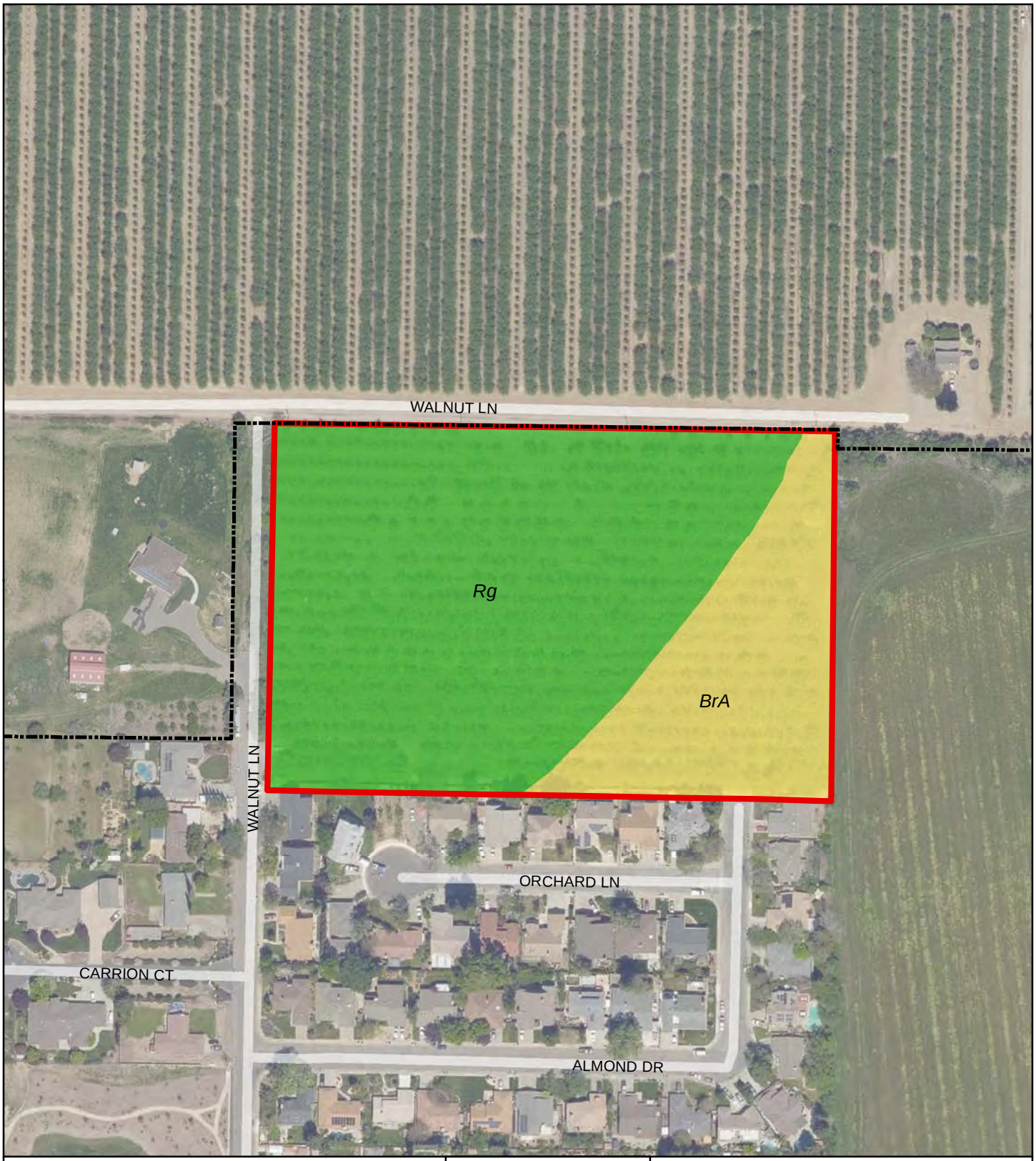
Response f): A Cultural and Paleontological Resources Inventory (Study) for the Project was prepared by Natural Investigations Company on May 1, 2019, as discussed in Section V, Cultural Resources. The Study did not identify any paleontological resources of concern in the literature search or the field walk. The Study identified that the potential for the discovery of paleontological resources within the Project site is low. Additionally, unique geologic features are not located on the site. The site is currently undeveloped and surrounded by existing or future development. As discussed in Section V, Cultural Resources, should artifacts or unusual amounts of stone, bone, or shell be uncovered during construction activities, an archeologist should be consulted for an evaluation. Implementation of Mitigation Measure CLT-2 would require investigations and avoidance methods in the event that a previously undiscovered cultural resource is encountered during construction activities. Additionally, Mitigation Measure CLT-2 requires that if any fossils are encountered, there can be no further disturbance of the area surrounding this find until the materials have been evaluated by a qualified paleontologist, and appropriate treatment measures have been identified. With implementation of Mitigation Measure CLT-2, impacts to paleontological resources or unique geologic features are not expected. This is a ***less than significant*** impact.



WALNUT 10

Figure 7. Earthquake Fault Map

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Legend

Project Boundary (±10.1 acres)

City of Winters

NRCS Soil Description

BrA - Brentwood silty clay loam (±2.7 acres)

Rg - Rincon silty clay loam (±7.4 acres)

Data sources: Yolo County; NRCS Web Soil Survey, Yolo County California, 09/14/2018). Map date: July 10, 2019.

N

0 100 200

Feet

WALNUT 10

Figure 8. Soils Map

De Novo Planning Group

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VIII. GREENHOUSE GAS EMISSIONS

Would the Project:	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?			X	
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gasses?			X	

Existing Setting

Various gases in the Earth's atmosphere, classified as atmospheric greenhouse gases (GHGs), play a critical role in determining the Earth's surface temperature. Solar radiation enters Earth's atmosphere from space, and a portion of the radiation is absorbed by the Earth's surface. The Earth emits this radiation back toward space, but the properties of the radiation change from high-frequency solar radiation to lower-frequency infrared radiation.

Naturally occurring GHGs include water vapor (H_2O), carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and ozone (O_3). Several classes of halogenated substances that contain fluorine, chlorine, or bromine are also GHGs, but they are, for the most part, solely a product of industrial activities. Although the direct GHGs, including CO_2, CH_4, and N_2O, occur naturally in the atmosphere, human activities have changed their atmospheric concentrations. From the pre-industrial era (i.e., ending about 1750) to 2011, concentrations of these three GHGs have increased globally by 40, 150, and 20 percent, respectively (IPCC, 2013).

GHGs, which are transparent to solar radiation, are effective in absorbing infrared radiation. As a result, this radiation that otherwise would have escaped back into space is now retained, resulting in a warming of the atmosphere. This phenomenon is known as the greenhouse effect. Among the prominent GHGs contributing to the greenhouse effect are carbon dioxide (CO_2), methane (CH_4), ozone (O_3), water vapor, nitrous oxide (N_2O), and chlorofluorocarbons (CFCs).

Emissions of GHGs contributing to global climate change are attributable in large part to human activities associated with the industrial/manufacturing, utility, transportation, residential, and agricultural sectors. In California, the transportation sector is the largest emitter of GHGs, followed by the industrial sector (California Energy Commission, 2019).

As the name implies, global climate change is a global problem. GHGs are global pollutants, unlike criteria air pollutants and toxic air contaminants, which are pollutants of regional and local concern, respectively. California produced 424 million gross metric tons of carbon dioxide equivalents ($MMTCO_2e$) in 2017 (California Energy Commission, 2019). Based on U.S. EPA estimates that worldwide emissions from human activities totaled nearly 46 billion gross metric tons of carbon dioxide equivalents ($BMTCO_2e$) in 2010, California's incremental contribution to global GHGs is approximately 2% (U.S. EPA, 2014).

Carbon dioxide equivalents are a measurement used to account for the fact that different GHGs have different potential to retain infrared radiation in the atmosphere and contribute to the greenhouse effect. This potential, known as the global warming potential of a GHG, is also dependent on the lifetime, or persistence, of the gas molecule in the atmosphere. Expressing GHG emissions in carbon dioxide equivalents takes the contribution of all GHG emissions to the

greenhouse effect and converts them to a single unit equivalent to the effect that would occur if only CO_2 were being emitted.

Consumption of fossil fuels in the transportation sector was the single largest source of California's GHG emissions in 2017, accounting for 41% of total GHG emissions in the state. This category was followed by the industrial sector (24%), the electricity generation sector (including both in-state and out of-state sources) (15%) and the agriculture sector (8%), the residential sector (7%), and the commercial sector (5%) (California Energy Commission, 2019).

Responses to Checklist Questions

Responses a), b): Under AB 32, the California Legislature recognized California's particular vulnerability to the effects of global warming, making legislative findings that global warming will "have detrimental effects on some of California's largest industries, including agriculture, wine, tourism, skiing, recreational and commercial fishing, and forestry." (H&SC Section 38501, subd. (b)). Residents within the jurisdiction of the YSAQMD will be affected by many of these climate change effects, particularly given the importance to Yolo and Solano Counties of their agricultural economy, economic dependence on tourism, recreational fishing, and recreational boating. The Legislature also found that global warming will "increase the strain on electricity supplies necessary to meet the demand for summer air-conditioning in the hottest parts of the State." (H&SC, section 38501, subd. (b)). Since Yolo and Solano Counties are among the parts of the State that experience hot weather, this area is at a greater likelihood of suffering from any electricity shortages that are manifestations of global warming. It may also experience economic and public health damages related to changes in vegetation and crop patterns, lower summer reservoirs, and increased potential for flooding and air pollution that hotter temperatures can produce.

AB 32 mandates that emissions of GHGs must be capped at 1990 levels (H&SC Section 38530). Considering that about 40% of GHGs come from motor vehicles, Projects that generate new vehicle trips can be in conflict with AB 32 goals. While the YSAQMD does not promulgate specific thresholds associated with GHGs, the YSAQMD recommends to at least include a qualitative discussion of GHGs in air quality analyses for sizable Projects. Furthermore, SB 32, approved by the Governor in 2016, mandates that the State will need to achieve a 40% reduction in statewide GHGs below 1990 levels by 2030.

The Project would generate GHGs during the construction and operational phases of the Project. The primary source of construction-related GHGs from the Project would result from emissions of CO_2 associated with the construction of the Project (i.e. off-road construction vehicle emissions), and worker and vendor vehicle trips. Additional haul vehicle trips may be required. The Project would require limited grading, and would also include site preparation, building construction, and architectural coating phases. The operational phase of the Project would generate GHGs primarily from the Project's operational vehicle trips and building energy (electricity and natural gas) usage. Other sources of GHG emissions would be minimal.

The Metropolitan Transportation Plan/Sustainable Communities Strategy (MTP/SCS) for the Sacramento region, including Yolo County, addresses the region's land use, air quality, and transportation needs. The MTP/SCS supports the Sacramento Region Blueprint, which implements smart growth principles, including housing choice, compact development, mixed-use development, natural resource conservation, use of existing assets, quality design and transportation choice. It also provides increased transportation options while reducing congestion, shortening commute times, and improving air quality. The MTP/SCS provides policies and strategies to reduce greenhouse gas emissions. The Project site is within an

Established Community; Established Communities are anticipated to accommodate nearly two-thirds of the region's new growth. Development of the Project site with residential uses is consistent with growth anticipated in the MTP/SCS and will not interfere with implementation of the MTP/SCS.

Based on the size of the Project, that the Project site is planned for urbanization in the General Plan, and the Project is consistent with the MTP/SCS, the Project would not generate GHG emissions that would have a significant impact on the environment or conflict with any applicable plans, policies, or regulations. Moreover, the Project would not conflict with any plans, policies, or regulations adopted for the purpose of reducing the GHG emissions. The Project would a ***less than significant*** impact related to GHGs.

IX. HAZARDS AND HAZARDOUS MATERIALS

Would the Project:	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?			X	
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?			X	
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?			X	
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?			X	
e) For a Project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project result in a safety hazard or excessive noise for people residing or working in the Project area?			X	
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?			X	
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?			X	

Responses to Checklist Questions

Responses a), b): The Project would create new residential uses on a site that is surrounded by existing residential, agricultural, and open space land uses. The proposed residential land uses do not routinely transport, use, or dispose of hazardous materials, or present a reasonably foreseeable release of hazardous materials, with the exception of common hazardous materials such as household cleaners, paint, engine oil, and similar household substances. The operational phase of the Project does not pose a significant hazard to the public or the environment.

The Project site is currently vacant and was formerly used as an orchard. Like many agricultural operations, agricultural practices in the area have used agricultural chemicals as a common practice. No contaminated soils have been identified in the Project site or in the immediate vicinity above applicable levels. A Phase 1/Phase II Environmental Site Assessment was prepared to check for hazardous materials contamination on or adjacent to the Project site. The Environmental Site Assessment found no evidence of hazardous materials contamination on or adjacent to the Project site. There was no obvious evidence of bulk storage of hazardous materials or industrial facilities during the survey of the immediate property surroundings. No confirmed

state Superfund sites were located within one mile of the property. No agency-listed contaminated municipal wells, or active or inactive landfills are located within one-half mile of the Project site.

The Project site history research completed for the Project site in the Environmental Site Assessment dated back to the early 1900s, and included reviews of Sanborn maps, aerial photographs and ASTM guideline archives. The Project site has no known history of having contained above-ground or underground motor fuel tanks, pesticide mixing or storage areas, farming equipment shops, or other structures, hydraulic hoists, sumps, oil/water separators or dry-cleaning plants.

The results of the soils sampling and testing program did not reveal any organochlorine pesticide, lead or arsenic concentration that would be problematic with respect to residential or commercial development of the property. This conclusion was reached in the Environmental Site Assessment because all detections were lower than "hazardous waste" and health-based criteria, lower than the respective U.S. EPA values that could warrant further testing, mitigation, or remediation.

The Project site contains an out-of-service water supply well. However, this well would be removed during Project construction activities, in accordance with Yolo County requirements.

Construction equipment and materials would likely require the use of petroleum based products (oil, gasoline, diesel fuel), and a variety of common chemicals including paints, cleaners, and solvents. Transportation, storage, use, and disposal of hazardous materials during construction activities would be required to comply with applicable federal, state, and local statutes and regulations. Compliance would ensure that human health and the environment are not exposed to hazardous materials. Therefore, the Project would have a ***less than significant*** impact relative to this issue.

Response c): The Project site is not located within ¼ mile of an existing school. The nearest school (Winters High School) is located approximately 0.5 miles to the southwest of the Project site, at its closest point. Therefore, implementation of the Project would result in a ***less than significant*** impact relative to this topic.

Response d): According the California Department of Toxic Substances Control (DTSC) there are no Federal Superfund Sites, State Response Sites, or Voluntary Cleanup Sites on, or in the near vicinity of the Project site. The Project site is not included on a list of hazardous materials sites compiled pursuant to Government Code § 65962.5. The nearest hazardous materials site is a school investigation site, located approximately 0.5 miles to the southwest of the Project site, is the:

- Winters High School – Building C Area (site #60002563): This site is located at 101 Grant Avenue and has a current cleanup status of "No action required as of 9/20/2018". Soil at the site was contaminated with the following potential contaminants of concern: arsenic, chlordane, lead, and polychlorinated biphenyl's (PCBs).

Implementation of the Project would result in a ***less than significant*** impact relative to this environmental topic.

Response e): The Federal Aviation Administration (FAA) establishes distances of ground clearance for take-off and landing safety based on such items as the type of aircraft using the airport. The Project site is not located within the vicinity of a public airport. The closest airport

or airstrip is the Black Sky Park Airport, which is a private airport located approximately 6.5 miles southwest of the Project site. Implementation of the proposed Project would have a ***less than significant*** impact with regards to this environmental issue.

Response f): The Yolo County Office of Emergency Services (EOS) is a regional organization which is designated as the lead agency for countywide emergency management services under a Shared Services Agreement with the cities of Davis, West Sacramento, Winters and Woodland, the Yocha Dehe Wintun Nation and Yolo County Housing. The EOS is relied upon for all hazards disaster preparedness, response, recovery and mitigation efforts in Yolo County. The OES maintains an Emergency Operations Plan (EOP) that serves as the official Emergency Plan for City. It includes planned operational functions and overall responsibilities of County Departments during an emergency situation. Under the EOP, the emergency response role of cities (such as Winters) is generally focused on restoring their normal services or functional area of responsibility. During disasters, cities are more extensively involved in the emergency response by directly coordinating, communicating and assisting local governments (for instance, utilizing school districts for incidents involving shelters, school facilities or the children).

In Yolo County, all major roads are available for evacuation, depending on the location and type of emergency that arises. The Project does not include any actions that would impair or physically interfere with any of Yolo County's emergency plans or evacuation routes. Future uses on the Project site will have access to the County resources that establish protocols for safe use, handling and transport of hazardous materials. Construction activities are not expected to result in any unknown significant road closures, traffic detours, or congestion that could hinder the emergency vehicle access or evacuation in the event of an emergency. Implementation of the Project would have a ***less than significant*** impact with regards to this environmental issue.

Response g): The risk of wildfire is related to a variety of parameters, including fuel loading (vegetation), fire weather (winds, temperatures, humidity levels and fuel moisture contents), and topography (degree of slope). Steep slopes contribute to fire hazard by intensifying the effects of wind and making fire suppression difficult. Fuels such as grass are highly flammable because they have a high surface area to mass ratio and require less heat to reach the ignition point, while fuels such as trees have a lower surface area to mass ratio and require more heat to reach the ignition point.

The City has areas with an abundance of flashy fuels (i.e., grassland) in the southern portion of the City (abutting the County border) that, when combined with warm and dry summers with temperatures often exceeding 100 degrees Fahrenheit, have the potential create a situation that results in higher risk of wildland fires. Most wildland fires are human caused, so areas with easy human access to land with the appropriate fire parameters generally result in an increased risk of fire.

The City contains areas with "moderate", "high", and "very high" and ranks on CAL FIRE's Local Responsibility Area (LRA) Fire Hazard Severity Zone maps. However, the Project site is not located within such areas. The Project site is located in an area with a "Local Responsibility Zone (LRA) - Unzoned" rank. The site is also not located on a steep slope, and the site is essentially flat. Moreover, the Project site is also located in a developed area, with existing or future urban development located to the east, south, and west, and agricultural land to the north, which are not typically susceptible to wildfire. Therefore, this is a ***less than significant*** impact and no mitigation is required.

X. HYDROLOGY AND WATER QUALITY

Would the Project:	***Potentially Significant Impact***	***Less Than Significant with Mitigation Incorporation***	***Less Than Significant Impact***	***No Impact***
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?		X		
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin?			X	
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
(i) Result in substantial erosion or siltation on- or off-site;		X		
(ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;		X		
(iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or		X		
(iv) Impede or redirect flood flows?		X		
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to Project inundation?		X		
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?		X		

Responses to Checklist Questions

Response a): Implementation of Project would not violate any water quality or waste discharge requirements. Construction activities including grading could temporarily increase soil erosion rates during and shortly after Project construction. Construction-related erosion could result in the loss of soil and could adversely affect water quality in nearby surface waters. The RWQCB requires a Project-specific SWPPP to be prepared for each Project that disturbs an area one acre or larger. The SWPPP is required to include Project specific best management measures that are designed to control drainage and erosion. Mitigation Measure GEO-3 would require the preparation of a SWPPP to ensure that the Project prepares and implements a SWPPP throughout the construction phase of the Project. The SWPPP (Mitigation Measure GEO-3) and the Project specific drainage plan would reduce the potential for the Project to violate water quality standards during construction. With implementation of Mitigation Measure GEO-3, the Project would result in a ***less than significant*** impact relative to this topic.

Response b): The Project would connect to the City of Winters water system via the 8-inch water line in Walnut Lane and the 8-inch water line in Almond Drive. An 8-inch water line connection is also proposed to the northeast to connect with the future Skreden 61 subdivision.

Groundwater is the main source of water supply within the City. Sources of groundwater recharge in the vicinity of Winters primarily include subsurface inflow from the west and north of the Winters, deep percolation from precipitation and seepage from Putah Creek and Dry Creek. According to the City of Winters 2006 Water Master Plan, current groundwater supply was determined to be sufficient to meet future demands with no risk of overdraft even during consecutive dry years.

The Project would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted). Furthermore, the Project is not anticipated to significantly affect groundwater quality because sufficient stormwater infrastructure would be constructed as part of Project to detain and filter stormwater runoff and prevent long-term water quality degradation. See response d), below, for further detail. Therefore, Project construction and operation would not substantially deplete or interfere with groundwater supply or quality. This impact would be ***less than significant***.

Responses c), e): Less than Significant. When land is in a natural or undeveloped condition, soils, mulch, vegetation, and plant roots absorb rainwater. This absorption process is called infiltration or percolation. Much of the rainwater that falls on natural or undeveloped land slowly infiltrates the soil and is stored either temporarily or permanently in underground layers of soil. When the soil becomes completely soaked or saturated with water or the rate of rainfall exceeds the infiltration capacity of the soil, the rainwater begins to flow on the surface of land to low lying areas, ditches, channels, streams, and rivers. Rainwater that flows off a site is defined as storm water runoff. When a site is in a natural condition or is undeveloped, a larger percentage of rainwater infiltrates into the soil and a smaller percentage flows off the site as storm water runoff.

The infiltration and runoff process is altered when a site is developed. Buildings, sidewalks, roads, and parking lots introduce asphalt, concrete, and roofing materials to the landscape. These materials are relatively impervious, which means that they absorb less rainwater. As impervious surfaces are added to the ground conditions, the natural infiltration process is reduced. As a result, the volume and rate of storm water runoff increases. The increased volumes and rates of storm water runoff can result in flooding if adequate storm drainage facilities are not provided.

There are no rivers, streams, or water courses located on or immediately adjacent to the Project site. As such, there is low potential for the Project to alter a water course, which could lead to on or offsite flooding. Drainage improvements associated with the Project site would be located on the site adjacent to the Project site to the east, and the Project would not alter or adversely impact offsite drainage facilities. Additionally, the Project would not generate new or altered stormwater discharge into streams.

Wood Rodgers has prepared a Storm Drainage Assessment for the 71 acres encompassing both the Project site and the the Skreden 61 (aka Farmstead) property located directly to the east of the Project site (Winters 71 Storm Drainage Assessment, July 2019) (see Appendix C for further detail). In addition, Wood Rogers developed a supplementary technical memorandum (Walnut 10 Interim Condition Drainage Analysis, October 2019) that provides additional detail on interim

storm drainage improvements that would be required if the Project is developed prior the Skreden 61 property (see Appendix D for further detail). The Storm Drainage Assessment is consistent with the previously prepared Northeast Winters Drainage Study and proposes a combination of permanent and interim improvements to allow the phased construction of drainage facilities.

The Project would increase impervious surfaces throughout the Project site. The Project would require the installation of storm drainage infrastructure to ensure that storm waters properly drain from the Project site, as provided in the Storm Drainage Assessment prepared for the Project by Wood Rogers. Under existing conditions, the Project site experiences 100-Year flooding up to 2 inches, with limited locations projected for depths over 2 feet, as shown in Figure 3, Existing Condition 100-Year Flooding, of the Winters 71 Storm Drainage Assessment (see Appendix C).

The Winters 71 Storm Drainage Assessment anticipated that a flood barrier would be constructed along the northern boundary of the Project site and the Skreden 61 property. In general, drainage from the Project is designed to drain overland to the northwesterly portion of the Skreden 61 property, and also has a 24" storm drain that will connect into the Skreden 61 property storm drainage system to convey runoff to the basin and channel on the east side of the Skreden 61 property. A flood barrier is necessary across the eastern portion of the northern boundary of the Skreden 61 site to protect the site from 100-year flood events. In order to ensure that the flood barrier would not cause flooding to the north, a weir would be needed to accommodate, store, and convey overflows. A detention basin would be necessary to accommodate the 10-year storm event. In order to receive and convey off-site flows through the site, a weir will be constructed at the upstream end of the Putah Creek Diversion Channel as an "inlet" structure. These improvements are described in detail in the Winters 71 Storm Drainage Assessment and are depicted in Figures 4, 7, and 8 of the assessment (see Appendix C).

If the Skreden 61 property isn't built in advance or concurrently with the Project, the Project would need to provide adequate drainage facilities to accommodate stormwaters. The Project proposes to grade the site to raise areas of the site by approximately 1 to 2.5 feet, as shown on Figure 5, Infrastructure Plan. In addition, a weir would be needed to accommodate, store, and convey overflows. A temporary v-ditch would be required to be installed across the Skreden 61 property and connect to an existing culvert at Grant Avenue so that the 24" storm drain on Walnut Lane can properly drain to the east and south. These improvements would ensure that the Project site is protected from 100-year flood events, as shown in Figure 8, Mitigation Facilities and Residual 100-Year Floodplain, of Appendix D. As further discussed in the Walnut 10 Interim Analysis, the Project would cause off-site increases north of Grant Avenue from 0.005 to 0.061 foot, depending on the location, as shown in Figure 9, 100-Year Flooding Impacts, of Appendix D. These increases would not have a substantial adverse effect.

Further detail regarding the drainage improvements required for the Project is provided in Appendix C, which includes both the *Winters 71 Storm Drainage Assessment Technical Memorandum*, as well as the supplementary *Walnut Lane 10 Subdivision – Interim Condition Drainage Analysis* technical memorandum. The supplementary technical memorandum provides additional required interim storm drainage requirements in the case that the Project is developed prior to the adjacent Skreden 61 property. These supplementary improvements would include the installation of box culverts at Grant Avenue, improvements at the PG&E channel, and the addition of a third lower-elevation 60-inch culvert at the end of the PG&E channel, southeast of the outfall.

The Project storm drainage plan will require the construction of new storm water drainage facilities on the Project site and on the site adjacent to the Project site (to the east), and the interim drainage improvements described above if the Project were to be developed prior to the Skreden 61 property. However, the construction of these facilities would not substantially alter the existing drainage pattern of the area, or alter the course of a stream or river, in a manner that would result in substantial erosion or siltation, substantially increase the rate or amount of surface runoff in a manner that would result in flooding, or create or contribute runoff water which would exceed the capacity or existing or planned drainage systems or provide substantial additional sources of polluted runoff. The Project would also not conflict with any water control quality plan or sustainable groundwater management plan. With implementation of the following mitigation measures, the Project would provide adequate drainage facilities to address potential flooding hazards and to ensure that any increases in stormwater are properly conveyed to the City's storm drainage system. With implementation of Mitigation Measures HYDRO-1 through HYDRO-3, the Project would have a ***less than significant*** impact relative to this environmental topic.

Mitigation Measure(s)

Mitigation Measure HYDRO-1*: Prior to issuance of building permits, the Project applicant shall implement the following flood measures to ensure that all off-site runoff entering the Project site under the worst-case condition is contained and/or conveyed to downstream facilities in order to safely convey potential flooding without creating adverse impacts. The City of Winters Public Works Department will be responsible for monitoring implementation of these flood protection measures.*

Grading and Elevation: Grading and improvements shall elevate the Project site and remove the Project site from the design 100-year storm event floodplain.

Mitigation Measure HYDRO-2*: Prior to the issuance of building permits, subject to monitoring by the City of Winters Public Works Department, if the Skreden 61 property and proposed Skreden 61 drainage improvements (i.e. the property located immediately to the east of the Project site) are not built in advance or concurrently with the Project, the Project applicant shall construct the drainage improvements as described and modeled in the Walnut 10 Subdivision Interim Condition Drainage Analysis Technical Memorandum (prepared by Wood Rogers), including installation of the temporary v-ditch across the Skreden 61 property and connecting to an existing culvert at Grant Avenue.*

Mitigation Measure HYDRO-3*: The Project Applicant shall submit a Conditional Letter of Map Revision (CLOMR) (with the supporting technical data) to FEMA and shall obtain approval from FEMA prior to the approval of grading plans.*

Response d): As shown in Figure 9, the majority of the Project site is located within the 100-year FEMA flood zone. The 100-year FEMA flood zone by definition indicates an area protected by levees from the 1% annual chance flood.

The risks of flooding hazards on the Project site and immediate surroundings are primarily related to large, infrequent storm events. These risks of flooding are greatest during the rainy season between November and March. Flooding events can result in damage to structures, injury or loss of human and animal life, exposure to waterborne diseases, and damage to infrastructure. In addition, standing floodwater can destroy agricultural crops, undermine infrastructure and structural foundations, and contaminate groundwater.

As discussed in the Storm Drainage Assessment developed for the Project, during the 100-year (design) flood event, the main flood threat to the Project from off-site areas originates in the north. A significant portion of the existing City to the west of the Project drains directly to Putah Creek through existing storm drains. Flooding from the Moody Slough and Chickahominy Slough watersheds cannot efficiently drain eastward across Interstate 505 (I-505). These floodwaters accumulate where Moody Slough crosses under I-505 and pond immediately north of the Project site during high-water events. Worst-case flooding at the proposed site would occur when uncertified embankments to the north fail.

The Project must contain and/or convey all off-site runoff entering the Project site under the worst-case condition, and must provide sufficient on-site and downstream facilities in order to safely convey proposed conditions flooding without creating adverse impacts. Wood Rodgers, Inc. (Wood Rodgers) in the Project's Storm Drainage Assessment has determined that this can be accomplished with elevation of the Project site and construction of infrastructure to convey the stormwater, as provided under Mitigation Measure HYDRO-1. Additionally, Mitigation Measure HYDRO-2 would require additional modifications to the storm drainage system, if necessary.

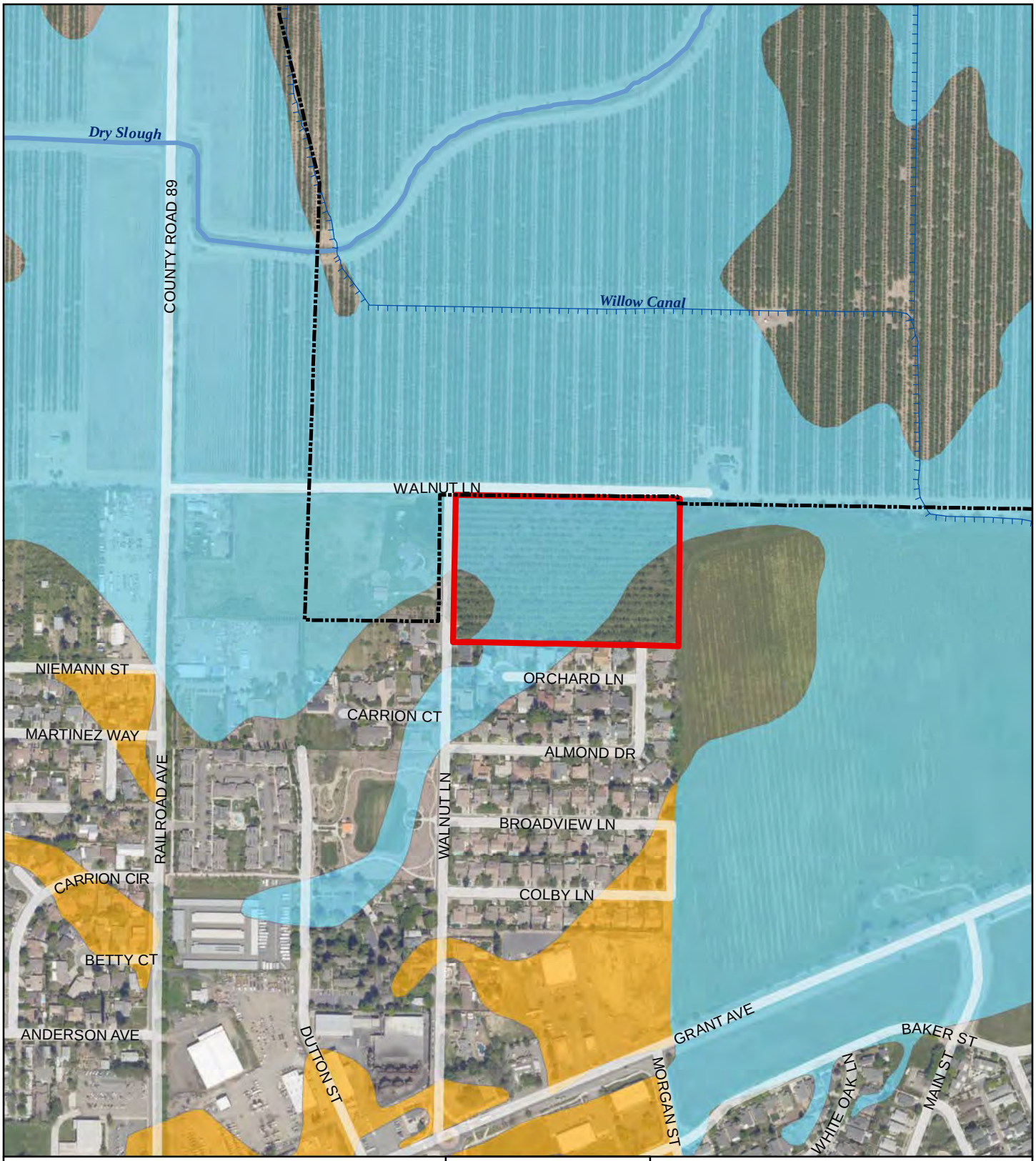
Separately, as shown in Figure 10, the Project site is located within a dam inundation area for the Monticello Dam. Dam failure is generally a result of structural instability caused by improper design or construction, instability resulting from seismic shaking, or overtopping and erosion of the dam. Larger dams that are higher than 25 feet or with storage capacities over 50 acre-feet of water are regulated by the California Dam Safety Act, which is implemented by the California Department of Water Resources, Division of Safety of Dams (DSD). The DSD is responsible for inspecting and monitoring these dams. The Act also requires that dam owners submit to the California Office of Emergency Services inundation maps for dams that would cause significant loss of life or personal injury as a result of dam failure. The County Office of Emergency Services is responsible for developing and implementing a Dam Failure Plan that designates evacuation plans, the direction of floodwaters, and provides emergency information.

Regular inspection by DSD and maintenance by the dam owners ensure that the dams are kept in safe operating condition. As such, failure of these dams is considered to have an extremely low probability of occurring and is not considered to be a reasonably foreseeable event. The Project would not expose people or structures to a significant risk of loss, injury or death involving flooding as a result of the failure of a levee or dam.

Additionally, the Project site is not anticipated to be inundated by a tsunami because it is located at an elevation of approximately 23 to 27 feet above sea level and is approximately 60 miles away from the Pacific Ocean which is the closest ocean waterbody.

Lastly, the Project site is not anticipated to be inundated by a seiche because it is not located in close proximity to a water body capable of creating a seiche.

With implementation of Mitigation Measures HYDRO-1 through HYDRO-3, implementation of the Project would have a ***less than significant*** impact relative to the risk of release of pollutants due to Project inundation by flood hazards, seiches, and tsunamis, or the potential to alter the course of a stream or river in a manner that would impede or redirect flood flows.



Legend

- Project Boundary
- City of Winters
- 100-yr Flood Zone
- 500-yr Flood Zone
- unshaded — Area of Minimal Flood Hazard

Data sources: Yolo County; FEMA. Map date: July 10, 2019.

N

0 250 500

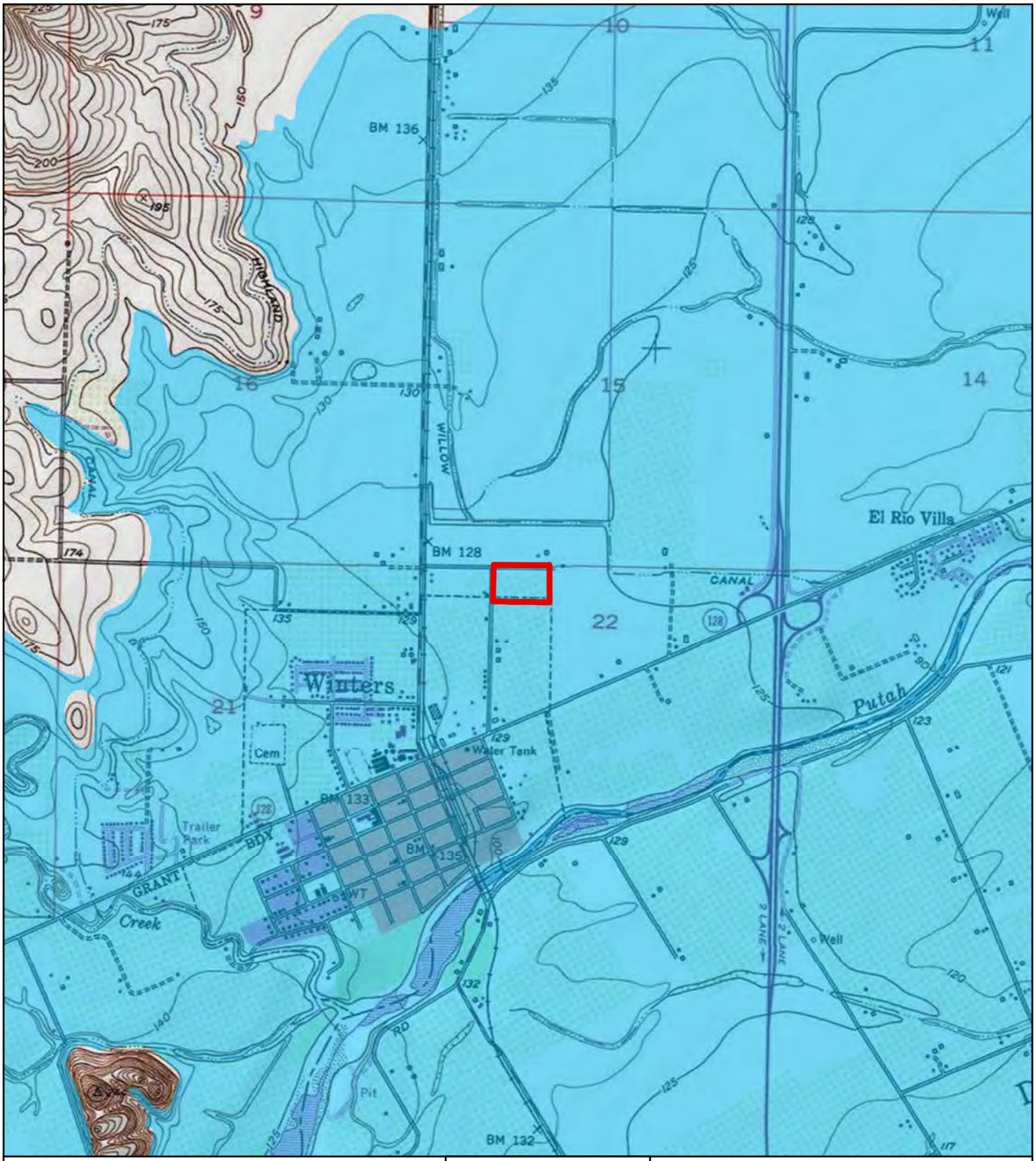
Feet

WALNUT 10

Figure 9. Flood Map

De Novo Planning Group

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Legend

Project Boundary

Monticello Dam Inundation Area

N

0 1,000 2,000

Feet

Data sources: Yolo County; CalOES; ArcGIS Online Topographic Map Service. Map date: July 10, 2019.

WALNUT 10

Figure 10. Dam Inundation Area

De Novo Planning Group

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XI. LAND USE AND PLANNING

Would the Project:	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
a) Physically divide an established community?			X	
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?			X	

Responses to Checklist Questions

Response a): The Project site is located within the Winters city limits and is adjacent primarily to residential and agricultural uses. A separate residential development (not part of the Project) is proposed on the 61-acre parcel located to the east of the Project site (located on APN #038-050-018). The Project is consistent with the surrounding uses and would not physically divide an established community. Implementation of the Project would have a ***less than significant*** impact relative to this topic.

Response b): The key planning documents that are directly related to, or that establish a framework within which the Project must be consistent, include the City of Winters General Plan and the City of Winters Zoning Ordinance.

The Project site is designated LDR by the Winters General Plan Land Use Map. According to the City of Winters General Plan, the LDR designation provides for single-family detached homes, secondary residential units, public and quasi-public uses, and similar and compatible uses. With 54 units on 10.0 acres, the proposed density would be approximately 5.4 dwelling units per gross acre, which is outside of the allowed LDR density range of 1.1 to 7.3 units per gross acre.

The Project site is zoned Single Family Residential (7,000) (R-1) by the City of Winters Zoning Map. As provided in the Winters Municipal Code, the R-1 zone accommodates a variety of uses, including permitted uses for a variety of residential uses including single-family, two-family or duplex, farmworker housing unit, and accessory dwelling units, for utility services, as well as conditional uses for bed and breakfast inns, convalescence and care service facilities, day care facilities, public parks, religious institutions, mobile homes, residential care facilities. The Project site would be rezoned to add a Planned Development (PD) overlay to accommodate reduced lot widths and reduced setbacks

Chapter 17.48 of the Winters Municipal Code Chapter states that Planned Development overlays zones are intended to achieve the General Plan goal to "to promote the development of a cohesive and aesthetically pleasing urban structure for Winters." Therefore, the P-D overlay zone has been included within the scope of the Winters zoning ordinance to allow for the maximum flexibility consistent with the minimum development standards within each underlying zone category.

The Project is consistent with the General Plan. The above analysis indicates that, with the rezone, the Project is consistent with the City of Winters Municipal Code. Therefore, the Project as proposed would not conflict with any applicable land use plan, policy, or regulation of the City that has been adopted for the purpose of avoiding or mitigating an environmental effect. Implementation of the Project would have a ***less than significant*** impact relative to this issue.

XII. MINERAL RESOURCES

Would the Project:	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?				X
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?				X

Existing Setting

The most important mineral resources in the region are sand and gravel, which are mined on Cache Creek and other channels in Yolo County. The California Geological Survey identifies areas that contain or that could contain significant mineral resources so as to provide context for local agency land use decisions and to protect availability of known mineral resources. No mineral extraction operations are known to exist in or adjacent to the Project site. The Project site is not identified by the California Department of Conservation as containing mineral resources (California Department of Conservation, 2015).

Responses to Checklist Questions

Responses a), b): There are no known mineral resources located on the Project site or in the immediate vicinity of the Project site. Additionally, there is no land designated or zoned for mineral resources within the City limits. Given that no known mineral resources are located in the vicinity of the Project, implementation of the Project would not result in the loss of availability of a known mineral resource or of a locally-important mineral resource recovery site. Therefore, there would be ***no impact*** regarding the loss of availability of a known mineral resource that would be of value to the region.

XIII. NOISE

Would the Project:	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?			X	
b) Generation of excessive groundborne vibration or groundborne noise levels?			X	
c) For a Project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project expose people residing or working in the Project area to excessive noise levels?				X

Existing Setting

Fundamentals of Acoustics

Acoustics is the science of sound. Sound may be thought of as mechanical energy of a vibrating object transmitted by pressure waves through a medium to human (or animal) ears. If the pressure variations occur frequently enough (at least 20 times per second), then they can be heard and are called sound. The number of pressure variations per second is called the frequency of sound, and is expressed as cycles per second or Hertz (Hz).

Noise is a subjective reaction to different types of sounds. Noise is typically defined as (airborne) sound that is loud, unpleasant, unexpected or undesired, and may therefore be classified as a more specific group of sounds. Perceptions of sound and noise are highly subjective from person to person.

Measuring sound directly in terms of pressure would require a very large range of numbers. The decibel (dB) scale is used to facilitate graphical visualization of large ranges of numbers. The decibel scale uses the hearing threshold (20 micropascals), as a point of reference, defined as 0 dB. Other sound pressures are then compared to this reference pressure, and the logarithm is taken to keep the numbers in a graphically practical range. The decibel scale allows a million-fold increase in pressure to be expressed as 120 dB, and changes in levels correspond closely to human perception of relative loudness.

The perceived loudness of sounds is dependent upon many factors, including sound pressure level and frequency content. However, within the usual range of environmental noise levels, perception of loudness is relatively predictable, and can be approximated by A-weighted sound levels. There is a strong correlation between A-weighted sound levels (expressed as dBA) and the way the human ear perceives sound. For this reason, the A-weighted sound level has become the standard tool of environmental noise assessment. All noise levels reported in this section are in terms of A-weighted levels and are expressed in units of dBA, unless otherwise noted.

The decibel scale is logarithmic, not linear. In other words, two sound power levels 10 dB apart differ in acoustic energy by a factor of 10. When the standard logarithmic decibel is A-weighted, an increase of 10 dBA is generally perceived as a doubling in loudness. For example, a 70 dBA sound is half as loud as an 80 dBA sound, and twice as loud as a 60 dBA sound.

Community noise is commonly described in terms of the ambient noise level, which is defined as the all-encompassing noise level associated with a given environment. A common statistical tool to measure the ambient noise level is the average, or equivalent, sound level (Leq), which corresponds to a steady-state A weighted sound level containing the same total energy as a time varying signal over a given time period (usually one hour). The Leq is the foundation of the composite noise descriptor, the day/night average level (L_{dn}), and shows very good correlation with community response to noise.

L_{dn} is based upon the average noise level over a 24-hour day, with a +10 decibel weighing applied to noise occurring during nighttime (10:00 p.m. to 7:00 a.m.) hours. The nighttime penalty is based upon the assumption that people react to nighttime noise exposures as though they were twice as loud as daytime exposures. Because L_{dn} represents a 24-hour average, it tends to disguise short-term variations in the noise environment. CNEL is similar to L_{dn}, but includes a +5 dBA penalty for evening noise. Typically, CNEL and L_{dn} values are within 0.5 dBA of each other and are often considered to be synonymous. Table NOISE-1 lists several examples of the noise levels associated with common situations.

Table NOISE-1: Typical Noise Levels

Common Outdoor Activities	*Noise Level (dBA)*	*Common Indoor Activities*
	--110--	Rock Band
Jet Fly-over at 300 m (1,000 ft)	--100--	
Gas Lawn Mower at 1 m (3 ft)	--90--	
Diesel Truck at 15 m (50 ft), at 80 km/hr (50 mph)	--80--	Food Blender at 1 m (3 ft) Garbage Disposal at 1 m (3 ft)
Noisy Urban Area, Daytime Gas Lawn Mower, 30 m (100 ft)	--70--	Vacuum Cleaner at 3 m (10 ft)
Commercial Area Heavy Traffic at 90 m (300 ft)	--60--	Normal Speech at 1 m (3 ft)
Quiet Urban Daytime	--50--	Large Business Office
Quiet Urban Nighttime	--40--	Theater, Large Conference Room
Quiet Suburban Nighttime	--30--	Library
Quiet Rural Nighttime	--20--	Bedroom at Night, Concert Hall
	--10--	Broadcast/Recording Studio
Lowest Threshold of Human Hearing	--0--	Lowest Threshold of Human

SOURCE: CALTRANS, TECHNICAL NOISE SUPPLEMENT, TRAFFIC NOISE ANALYSIS PROTOCOL. NOVEMBER 2009.

Effects of Noise on People

The effects of noise on people can be placed in three categories:

- Subjective effects of annoyance, nuisance, and dissatisfaction;
- Interference with activities such as speech, sleep, and learning; and
- Physiological effects such as hearing loss or sudden startling.

Environmental noise typically produces effects in the first two categories. Workers in industrial plants can experience noise in the last category. There is no completely satisfactory way to measure the subjective effects of noise or the corresponding reactions of annoyance and dissatisfaction. A wide variation in individual thresholds of annoyance exists and different tolerances to noise tend to develop based on an individual's past experiences with noise.

Thus, an important way of predicting a human reaction to a new noise environment is the way it compares to the existing environment to which one has adapted: the so-called ambient noise level. In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise will be judged by those hearing it.

With regard to increases in A-weighted noise level, the following relationships occur:

- Except in carefully controlled laboratory experiments, a change of 1 dBA cannot be perceived;
- Outside of the laboratory, a 3 dBA change is considered a just-perceivable difference;
- A change in level of at least 5 dBA is required before any noticeable change in human response would be expected; and
- A 10 dBA change is subjectively heard as approximately a doubling in loudness, and can cause an adverse response.

Stationary point sources of noise – including stationary mobile sources such as idling vehicles – attenuate (lessen) at a rate of approximately 6 dBA per doubling of distance from the source, depending on environmental conditions (i.e. atmospheric conditions and either vegetative or manufactured noise barriers, etc.). Widely distributed noises, such as a large industrial facility spread over many acres, or a street with moving vehicles, would typically attenuate at a lower rate.

Regulatory Setting – Winters General Plan

The City of Winters General Plan contains goals and policies for assessing noise impacts within the City. Listed below are the noise goals and policies that are applicable to the Project:

Goal III.D. To consider air quality and noise impacts along with traffic flow efficiency when making decisions about improvements to existing roadways or construction of new roadways.

> **Policy III.D.1**. To the extent feasible, the City shall provide for separation of residential and other noise-sensitive land uses from major roadways to reduce noise and air pollution impacts.

Goal VII.E: To protect city residents from the harmful and undesirable effects of excessive noise.

> **Policy VII.E.1**. The City shall evaluate the compatibility of various land uses with nearby noise sources based on the standards in Table II-3.
>
> **Policy VII.E.2**. The City shall require new residential development to comply with applicable provisions of the California State Noise Insulation Standards (California Code of Regulations, Title 24, Part 2, Appendix, Chapter 35) and the Uniform Building Code (Appendix Chapter 35), and updates thereof. These provisions include, but are not limited to, the following standards:

a) Ldn values due to exterior noise sources shall not exceed 45 dBA inside habitable rooms of new multi-family dwellings (apartments, condominiums, hotels, motels, etc.).

b) Assemblies dividing units within multi-family dwellings shall have laboratory certified STC ratings of 50 or more (NIC 45 or more if field tested). In addition, floor/ceiling assemblies shall have laboratory certified IIC ratings of 50 or more (45 if field tested).

Policy VII.E.3. Ldn values above 45 dBA due to exterior noise sources shall be prohibited inside habitable rooms of all new dwellings.

Policy VII.E.4. Non-transportation noise sources which are potentially intrusive shall be evaluated in terms of the noise level limits in Tables II-4 and II-5. In applying these limits, the corrections in Table II-6 shall be added to account for the nature of the noise.

Policy VII.E.5. The City shall require preparation of a noise study for all residential Projects proposed in areas where Ldn values exceed 60 dBA according to the contour locations set out in Table IX-4 and shown in Figure IX-8 in Chapter IX of the General Plan Background Report.

Policy VII.E.6. Any Project that would cause existing traffic-related noise levels in existing residential areas to increase more than 3dB shall be required to evaluate the feasibility of noise mitigation measures.

Policy VII.E.7. The City may also require preparation of a noise study when Ldn standards are met or inapplicable, but 1) a potentially intrusive noise source is proposed near a noise sensitive area, or 2) a noise sensitive land use is proposed near a potentially intrusive noise source.

Policy VII.E.8. Required noise studies shall be the responsibility of the Project applicant, and shall be consistent with the state guidelines for noise study reports. Such studies shall be performed by a qualified consultant and shall include the following:

a) A summary of noise data collected, and/or descriptions of the methodologies used to determine existing and expected noise levels and noise descriptors such as Leq or Ldn.

b) Figures or maps showing the locations of noise sources and noise sensitive areas.

c) A description of the impacts of existing and future (20 years hence) noise levels on the Project and/or impacts due to the Project on the surrounding area. The standards in this section of the General Plan Policy Document shall form the basis for impact assessment.

d) Specifications of any noise mitigation measures recommended to ensure compliance with the standards in this General Plan Policy Document.

e) Description of the expected effects of the mitigation measures.

Policy VII.E.9. The City shall encourage county, state, and federal agencies to actively enforce regulations dealing with noise.

Policy VII.E.10. Vehicles and other equipment operated by or on behalf of the City shall comply with all applicable noise performance standards. Noise emission shall be a consideration in the purchase of any new equipment or vehicles.

Policy VII.E.11. The City shall encourage development designers to minimize noise levels through such measures as the following:

a) Locating outdoor activity spaces such as yards, patios, and decks in areas where noise levels are low.

b) Locating and orienting buildings to place noise sensitive indoor spaces such as living rooms and bedrooms in areas with low noise levels.

c) Locating relatively non-noise sensitive structures such as commercial buildings to shield noise sensitive areas such as residences and care facilities from noise sources.

d) Using berms, walls, and setbacks to shield noise sensitive areas from noise sources. Walls shall only be used as a last resort.

e) Provide appropriate muffling devices or enclosures for new noise sources located near noise sensitive areas.

Policy VII.E.12. Deviations from City noise standards may be approved only in extreme and/or unusual circumstances. Deviations from the California State Noise Insulation Standards shall not be permitted.

Table NOISE-2: Exterior Noise Level Limits

TABLE II-4

EXTERIOR NOISE LEVEL LIMITS

Use Zone	7 a.m. - 10 p.m.	10 p.m. - 7 a.m.
	Exterior Limit in dBA Daytime	Exterior Limit in dBA Nighttime
Rural (OS)	50	40
Residential (R-1, R-2, R-3, R-4)	50	45
Parks & Recreation (P-R)	50	45
Commercial (C-1, C-2, NC, CH, CS)	63	45
Manufacturing/Industrial (M-1, M-2, PI)	73	70

These limits on intrusive noise are to be applied at any point within the boundaries of a property zoned as indicated.

Each limit is the noise level which is not to be exceeded continuously during any five minute period. If the noise level varies above and below the limit, the limit shall not be exceeded during more than one time interval in any five minute period. Noise levels higher than the applicable limit plus 15 dBA are prohibited at all times.

SOURCE: WINTERS GENERAL PLAN, TABLE II-4

Table NOISE-3: Interior Noise Level Limits

TABLE II-5

INTERIOR NOISE LEVEL LIMITS

Use Zone	7 a.m. - 10 p.m.	10 p.m. - 7 a.m.
	Interior Limit in dBA Daytime	Interior Limit in dBA Nighttime
Residential (R-1, R-2, R-3, R-4)	45	35

These levels of intrusive noise are not to be exceeded at any point within a dwelling.

Each limit is the noise level which is not be to exceeded continuously during any five minute period. If the noise level varies above and below the limit, the limit shall not be exceeded during more than one time interval in any five minute period. Noise levels higher than the applicable limit plus 15 dBA are prohibited at all times.

SOURCE: WINTERS GENERAL PLAN, TABLE II-5

Regulatory Setting – Winters Noise Control

Chapter 8.20 of the City of Winters Municipal Code provide maximum permissible sound levels for each land use. Chapter 8.20 identifies that noise level in dBA not to be exceeded continuously during any five-minute period or, if the noise level varies above and below the limit, for more than one time interval during any five-minute period. Table NOISE-4 provides the current noise level limits as established by the Winters Municipal Code.

Table NOISE-4: Noise Level Limits

Type of Zone	*Daytime 7 a.m. to 10 p.m.*	*Nighttime 10 p.m. to 7 a.m.*
Rural Residential (R-R)/open space (O-S)	50	40
Residential (R-1, R-2, R-3, R-4)	55	50
*Parks and recreation (P-R)	60	45
Commercial (C-1, C-2, D-A, D-B, O-F, C-H)	63	45
Manufacturing/Industrial (M-1, M-2, B-P)	73	70

SOURCE: CITY OF WINTERS MUNICIPAL CODE, TABLE 7-1.

**PARK AND RECREATION NOISE LIMITS ARE BASED ON SIX A.M. TO TEN P.M, CONSISTENT WITH CHAPTER 12.12 OF THE WINTERS MUNICIPAL CODE.*

8.20.070 Prohibited Actions

A. Noise Disturbances Prohibited. No person shall unnecessarily make, continue, or cause to be made or continued upon any public property, public right-of-way or private property, any noise disturbance.

B. Specific Prohibitions.

1. Music. Operating, playing or permitting the operation or playing of any radio, tape decks, compact disks, mp3 player, television, phonograph, musical instrument, or similar device which produces or reproduces sound in such a manner as to exceed the level as set forth for public space in Table 7-1 (Section 8.20.060) measured at a distance of at least fifty (50) feet (fifteen (15) meters) from such device operating on a public right-of-way or public space;

2. Loudspeakers (Sound-Amplifying Equipment). Using or operating for any purpose any loudspeaker system, or similar device between the hours of ten p.m. and seven a.m. such that the sound therefrom violates the provisions of Table 7-1 (Section 8.20.060) except for any noncommercial public speaking, public assembly or other activity for which a permit has been issued. Every user of sound-amplifying equipment shall obtain written approval from the city manager or his/her designee at least fifteen (15) days prior to the date the equipment will be used;

3. Animals. No person shall keep or maintain, or permit the keeping of, upon any premises owned, occupied or controlled by such person, any animal or fowl otherwise permitted to be kept which violates Chapter 6.04;

4. Construction/Demolition. Operating any power tools or equipment used in construction, drilling, repair, alteration, demolition work, or property maintenance between weekday and Saturday hours of seven p.m. and seven a.m. or at any time on Sundays or holidays, such that the sound therefrom creates a noise disturbance across a residential or commercial property line. Domestic power tools or equipment may be operated to ten p.m. provided the maximum noise level across the residential property line shall not exceed seventy (70) dBA;

5. Vibration. Operating or permitting the operation of any device that creates a vibration which is above the vibration perception threshold of an individual at or beyond the real

property boundary of the source if on private property or at one hundred fifty (150) feet (forty-six (46) meters) form the source if on a public space or public right-of-way;

6. Residential Air-Conditioning or Air-Handling Equipment. Operating or permitting the operation of any air-conditioning or air-handling equipment in such a manner as to exceed by five dBA the noise level limits in Table 7-1;

7. Places of Public Entertainment. Operating or playing of any loudspeaker, musical instrument, or other source of sound in any place of public entertainment that exceeds ninety-five (95) dBA as read on the slow response of a sound level meter. (Ord. 2016-08 § 3 (part): Ord. 89-04(part): prior code § 6-7.11. Formerly 8.20.100)

8.20.080 Motor vehicle noise limits.

A. Motor Vehicle. No person shall operate or cause to be operated any motorized vehicle in such a manner that the sound levels emitted therefrom violate the provisions of Section 8.20.040. This section shall apply to all motorized vehicles, including, but not limited to, personal vehicles, commercial vehicles, motorcycles, go-carts.

B. Vehicle Repair and Testing. Repairing, rebuilding, modifying, or testing any motor vehicle, motorboat, in such a manner as to create a noise disturbance across a residential real property boundary, or at any time to violate the provisions of Section 8.20.040. (Ord. 2016-08 § 3 (part): Ord. 89-04 (part): prior code § 6-7.12. Formerly 8.20.110)

8.20.090 Exemptions

A. Outdoor Activities. The provisions of this chapter shall not apply to occasional outdoor gatherings, public dances, shows, sporting and entertainment events, school bands, parades and carnivals, provided such events are conducted pursuant to a permit or license issued by the city, if required, relative to the staging of such events.

B. Existing Industrial/Commercial Operations.

1. Noise sources associated with existing food processing, agricultural packing, dairy or other industrial or commercial operations; provided, that noise levels generated by such operations do not exceed current levels; and provided further, that such operations do not exceed the noise level limits set out in Table 7-1 (Section 8.20.060).

2. Noise sources associated with agricultural operations provided such operations take place between the hours of six a.m. and eight p.m.

C. Air Conditioners and Similar Equipment. Air conditioners, pool pumps and similar equipment provided they are in good working order.

D. Public Health and Safety Operations. Work performed by city, city franchises, persons/companies under contract to the city for repairs or maintenance of roads, wells, sewers, trees, landscaping, street sweeping, garbage removal, and other similar activities.

E. Emergencies. Equipment used in emergencies, such as emergency, standby or backup generators; includes periodic testing. (Ord. 2016-08 § 3 (part): Ord. 89-04 (part): prior code § 6-7.13. Formerly 8.20.120)

R*esponses to Checklist Questions*

Response a): Construction noise would be temporary, lasting a period of a few weeks to a few months. Construction noise would differ among various stages of construction and is dependent upon the specific activities and equipment used. It is anticipated that the largest amount of construction-related noise would be generated during the initial grading and earthwork; however, the amount of grading and earthwork during Project construction would be minimal, so there would be less construction noise during installation of the solar PV panels than would be typical for other Project types (e.g. for Projects with residential or non-residential buildings).

The primary sources of noise currently present in the Project area are from noise from nearby roadways, including SR 128, from nearby from nearby agricultural operations, and from the neighboring residential communities located to the south and west. However, the Project is located in a relatively undeveloped area of Winters, and noise from these sources at the Project site is relatively minor. In addition, noise from the Project site would be generated from typical residential sources. The addtion of vehicular traffic would not substantially alter the existing nosie environment. Moreover, noise generated by the Project is required to comply with all current noise standards as established by the City, including those identified by the Winters General Plan and the current Municipal Code. Therefore, since noise assocaited with the Project and within the Project site is not expected to exceed City standards, impacts related to the generation of noise in excess of City standards from Project operations is ***less than significant***.

Response b): Vibration is like noise in that it involves a source, a transmission path, and a receiver. While vibration is related to noise, it differs in that in that noise is generally considered to be pressure waves transmitted through air, whereas vibration usually consists of the excitation of a structure or surface. As with noise, vibration consists of an amplitude and frequency. A person's perception to the vibration will depend on their individual sensitivity to vibration, as well as the amplitude and frequency of the source and the response of the system which is vibrating.

Vibration can be measured in terms of acceleration, velocity, or displacement. A common practice is to monitor vibration measures in terms of peak particle velocities in inches per second. Standards pertaining to perception as well as damage to structures have been developed for vibration levels defined in terms of peak particle velocities.

Human and structural response to different vibration levels is influenced by several factors, including ground type, distance between source and receptor, duration, and the number of perceived vibration events. Table NOISE-4 indicates that the threshold for damage to structures ranges from 0.2 to 0.6 peak particle velocity in inches per second (in/sec p.p.v). One-half this minimum threshold or 0.1 in/sec p.p.v. is considered a safe criterion that would protect against architectural or structural damage. The general threshold at which human annoyance could occur is noted as 0.1 in/sec p.p.v.

The primary vibration-generating activities associated with the Project would occur during construction when activities such as grading, utilities placement, and roadway construction occur. Sensitive receptors which could be impacted by construction related vibrations, especially vibratory compactors/rollers, are located approximately 25 to 50 feet or further from the Project site. At this distance, construction vibrations are not predicted to exceed acceptable levels. Additionally, construction activities would be temporary in nature and would likely occur during normal daytime working hours.

Construction vibration impacts include human annoyance and building structural damage. Human annoyance occurs when construction vibration rises significantly above the threshold of

perception. Building damage can take the form of cosmetic or structural. Table NOISE-5 shows the typical vibration levels produced by construction equipment.

Table NOISE-5: Effects of Vibration on People and Buildings

Peak Particle Velocity		*Human Reaction*	*Effect on Buildings*
mm/sec.	*in./sec.*		
0.15-0.30	0.006-0.019	Threshold of perception; possibility of intrusion	Vibrations unlikely to cause damage of any type
2.0	0.08	Vibrations readily perceptible	Recommended upper level of the vibration to which ruins and ancient monuments should be subjected
2.5	0.10	Level at which continuous vibrations begin to annoy people	Virtually no risk of "architectural" damage to normal buildings
5.0	0.20	Vibrations annoying to people in buildings (this agrees with the levels established for people standing on bridges and subjected to relative short periods of vibrations)	Threshold at which there is a risk of "architectural" damage to normal dwelling - houses with plastered walls and ceilings. Special types of finish such as lining of walls, flexible ceiling treatment, etc., would minimize "architectural" damage
10-15	0.4-0.6	Vibrations considered unpleasant by people subjected to continuous vibrations and unacceptable to some people walking on bridges	Vibrations at a greater level than normally expected from traffic, but would cause "architectural" damage and possibly minor structural damage.

SOURCE: CALTRANS. TRANSPORTATION RELATED EARTHBORN VIBRATIONS. TAV-02-01-R9601 FEBRUARY 20, 2002.

Table NOISE-6: Vibration Levels for Varying Construction Equipment

Type of Equipment	*Peak Particle Velocity @ 25 feet (inches/second)*	*Peak Particle Velocity @ 100 feet (inches/second)*
Large Bulldozer	0.089	0.011
Loaded Trucks	0.076	0.010
Small Bulldozer	0.003	0.000
Auger/drill Rigs	0.089	0.011
Jackhammer	0.035	0.004
Vibratory Hammer	0.070	0.009
Vibratory Compactor/roller	0.210	0.026

SOURCE: FEDERAL TRANSIT ADMINISTRATION, TRANSIT NOISE AND VIBRATION IMPACT ASSESSMENT GUIDELINES, MAY 2006

The Table NOISE-6 data indicate that construction vibration levels anticipated for the Project are less than the 0.2 in/sec p.p.v. threshold of damage to buildings and less than the 0.1 in/sec threshold of annoyance criteria at distances over 25 feet. Therefore, construction vibrations are not predicted to cause damage to existing buildings or cause annoyance to sensitive receptors. Implementation of the Project would have a ***less than significant*** impact relative to this environmental topic.

Response c): The Project site is not located within the vicinity of an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport. The closest airport or airstrip is the Blake Sky Park Airport, which is a private airport located approximately 6.5 miles southwest of the Project site. The Project would, therefore, not expose people residing or working in the Project area to excessive noise levels associated with such

airport facilities. The Project site is not located within the vicinity of a private airstrip. The Project would, therefore, not expose people residing or working in the Project area to excessive noise levels associated with such private airport facilities. Implementation of the Project would have ***no impact*** relative to this topic.

XIV. POPULATION AND HOUSING

Would the Project:	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?			X	
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?				X

Responses to Checklist Questions

Response a): Less than Significant. The Project would directly induce population growth in the area through the proposed construction of 54 single family residential units, associated amenities, and infrastructure improvements on the approximately 10.0-acre Project site. According to the 2018 U.S. Census population estimates, the population in Winters is 7,059 people, and the average number of households was 2,280. The estimated number of persons per household in Winters in 2017 was 3.10. Therefore, the Project is expected to generate approximately 167 residents at the Project site. The approximately 167 people may come from Winters or surrounding communities.

The sizing of proposed infrastructure would be specific to the number of units proposed within the Project site. As discussed below, the utility systems (e.g., water and sewer) serving the Project could accommodate the additional demands created by the Project and the Project includes infrastructure improvements needed to connect the Project to these existing utility systems. In addition, public service providers, such as police and fire, could accommodate the additional demands for service created by the Project. Implementation of the Project would not induce substantial unplanned population growth in an area, either directly or indirectly. Implementation of the Project would have a ***less than significant*** impact relative to this topic.

Response b): There are no housing units currently located on the Project site. Construction and operation of the Project would not remove any existing housing units within the City or any other jurisdiction, and would not displace any residents. There is ***no impact*** relative to this topic.

XV. PUBLIC SERVICES

	Potentially Significant Impact	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
a) Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
Fire protection?			X	
Police protection?			X	
Schools?			X	
Parks?		X		
Other public facilities?				X

Responses to Checklist Questions

Response a):

Fire Protection

The Winters Fire Department is responsible for the primary provision of fire service for the City and its residents. The Department covers approximately 86 square miles in Yolo County which make up the City of Winters and the Winters Fire District. The Winters Fire Department is located at Station No. 26, located at 700 Main Street in Winters. This facility is located approximately 1.05 miles southwest of the Project site. As of 2019, the Winters Fire Department has 43 staff, including 34 volunteer firefighters (Winters Fire Department, 2019).

In 2013, the Winters Fire Department responded to 664 9-1-1 emergencies. This represents a modest 4% increase and is the highest number of calls for service in the past five years. This still small increase represents a return to normal local fire season. Of these 664 incidents, 436 incidents occurred in the City, 163 incidents occurred in the Winters Fire District (outside of the City) and the remaining 65 were mutual aid provided. Medical emergencies, including motor vehicle accidents, comprised 60% of the total incidents. The remaining incidents were of all other types such as fire, rescue, hazardous material releases, etc. The balance between medical and fire related incidents continue to contrast with the national average of 70 – 80% medical related incidents.

The Project would add 54 residential units, which is anticipated to add 167 people to the Project site. The approximately 164 people may come from Winters or surrounding communities. The 167 people in the City would place additional demands for fire service on the Winters Fire Department.

The City receives funds for the provision of public services through development fees, property taxes, and connection and usage fees. As land is developed within the City and annexed into the City, these fees apply. The City reviews these fee structures on an annual basis to ensure that they provide adequate financing to cover the provision of city services. The City's Community Development, Public Works, and Finance Departments are responsible for continual oversight to ensure that the fee structures are adequate. The City reviews the referenced fees and user

charges on an annual basis to determine the correct level of adjustment required to reverse any deficits and assure funding for needed infrastructure going forward. The City intends to include discussion of these fees and charges as part of the annual budget hearings.

The City of Winters General Plan includes goals and policies that would allow for the Department to continue providing adequate facilities and staffing levels. Below is a list of relevant policies:

> **Policy I.F.6.** The City shall pursue the development of a public safety facility, including a fire station and police station, perhaps in conjunction with a City corporation yard in the northern part of Winters.

Goal IV.G. To ensure that an adequate level of fire protection service is maintained as new development occurs.

> **Policy IV.G.1**. The City shall encourage the Fire Protection District to maintain an overall fire insurance (ISO) rating of five or better for the city of Winters, but in no event should the ISO rating be allowed to fall below 6. The goal for average response time for Priority 1 (emergency) calls should be five minutes.
>
> **Policy VII.C.1**. The City shall require that new development provides all necessary water service, fire hydrants, and access roads consistent with Fire Protection District standards.
>
> **Policy VII.C.2**. The City shall endeavor to achieve and maintain adequate water fire-flows throughout the city and shall regularly monitor fire-flows to ensure adequacy. New development shall comply with the following minimum fire-flow rates:

Development Category Per Minute	Gallons
Single-Family Residential	1,500
Multi-family Residential	1,500
Central Business District	2,000
Industrial/Other Business Districts	3,000

> In areas where there are existing water system deficiencies, the City shall require new development to install all on-site water system improvements necessary to achieve the above fire-flow rates but may waive full compliance with these standards until existing water system deficiencies are corrected.
>
> **Policy VII.C.3**. The Fire Protection District shall maintain an ongoing fire and life safety inspection program for all public, commercial, and industrial buildings.
>
> **Policy VII.C.4**. All new development shall be constructed according to fire safety and structural stability standards contained in the latest adopted Uniform Fire and Building Codes and related regulations.
>
> **Policy VII.C.5**. To minimize the dependence of new developments on City firefighting personnel and equipment, the City may require installation of built-in fire suppression equipment in all new development.
>
> **Policy VII.C.6**. The City shall require property owners to remove fire hazards, including vegetation, hazardous structures and materials, and debris, as directed by the Fire Protection District and Public Works Department.

Policy VII.C.7. The City shall ensure that new development provides for adequate fire equipment access and, where appropriate, includes the use of fire-resistant landscaping and building materials.

Goal VII.D: To ensure that City emergency response procedures are adequate in the event of natural or man-made disasters.

Policy VII.D.3. Critical emergency response facilities such as fire, police, emergency service facilities, and utilities shall be sited to minimize their exposure to flooding, seismic effects, fire, or explosion.

Impact fees from new development are collected based upon Projected impacts from each development. The adequacy of impact fees is reviewed on an annual basis to ensure that the fee is commensurate with the service. Payment of the applicable impact fees by the Project applicant, and ongoing revenues that would come from property taxes, sales taxes, and other revenues generated by the Project, would fund capital and labor costs associated with fire protection services. Therefore, the impact of the Project on the need for additional fire services facilities is ***less than significant***.

Police Protection

The Project site is currently under the jurisdiction of the Winters Police Department. The Winters Police Department operates out of its headquarters located at 702 Main Street in Winters. The Project site is located approximately 1.04 miles southwest of the headquarters.

The Winters Police Department is a member of the Yolo Emergency Communications Agency (YECA), a joint powers agency that performs dispatching services. The Police Department combines proactive law enforcement techniques with a strong commitment to customer service. The Department is staffed with 11 sworn positions, consisting of a Chief, 3 Sergeants, 2 Corporals, 1 Detective/SRO and 4 Patrol Officers. The Department has a Reserve Officer program which provides additional assistance and coverage for full time sworn officers. The Winters Police Department works in collaboration with outside agencies in accordance to a countywide mutual aid agreement (Winters Police Department, 2019).

The Winters Police Department is organized into two divisions: Patrol and Investigations:

- Patrol Division: Officers are assigned to a patrol shift under general supervision with the expressed goal of providing public assistance; answer calls related to traffic incidents and other emergencies; enforce laws and ordinances; maintain order; prevent crime; prepare reports on activities performed; testify and present evidence in court; provide backup assistance for other officers and personnel; collect, preserve, and maintain evidence, found property and property for safekeeping; serve warrants and subpoenas and performs other related activities as needed or required. Officers are required to complete follow-up investigations on their cases and investigate each incident thoroughly.

- Investigations Division: The investigations division conducts follow-up criminal investigations on crimes reported to the Police Department. Often, investigations are started by patrol officers who, after responding to a call for service, prepare a police report which requires follow-up investigation. Once assigned to conduct the follow-up, a Detective will review a case and conduct an investigation before an arrest is made or a case is closed. A Detective will often use additional specialized training and/or outside

agency resources when conducting an investigation. Investigation staff will also provide backup assistance for other officers and personnel; collect, preserve, and maintain evidence; serve warrants and subpoenas and performs other related activities as needed or required.

The Project would add 54 residential units, which is anticipated to add 167 people to the Project site. The approximately 167 people may come from Winters or surrounding communities. The 167 people in the City would place additional demands for police service on the Winters Police Department.

The City receives funds for the provision of public services through development fees, property taxes, and connection and usage fees. As land is developed within the City and annexed into the City, these fees apply. The City reviews these fee structures on an annual basis to ensure that they provide adequate financing to cover the provision of city services. The City's Community Development, Public Works, and Finance Departments are responsible for continual oversight to ensure that the fee structures are adequate. The City reviews the referenced fees and user charges on an annual basis to determine the correct level of adjustment required to reverse any deficits and assure funding for needed infrastructure going forward. The City intends to include discussion of these fees and charges as part of the annual budget hearings.

The City's General Plan includes policies and implementation measures that would allow for the Winters Police Department to continue providing adequate staffing levels. Below is a list of relevant policies:

Policy I.F.6. The City shall pursue the development of a public safety facility, including a fire station and police station, perhaps in conjunction with a City corporation yard in the northern part of Winters.

Goal IV.F: To ensure that an adequate level of police service is maintained as new development occurs.

Policy IV.F.1. The City shall, through adequate staffing and patrol arrangements, endeavor to maintain the minimum feasible response times for police calls. The goal for average response time for Priority 1 (emergency) calls shall be three minutes.

Policy IV.F.2. The Police Department shall continually monitor response times and report annually on the results of the monitoring.

Goal VII.D: To ensure that City emergency response procedures are adequate in the event of natural or man-made disasters.

Policy VII.D.3. Critical emergency response facilities such as fire, police, emergency service facilities, and utilities shall be sited to minimize their exposure to flooding, seismic effects, fire, or explosion.

Goal VII.F: To prevent crime and promote the protection of people and property.

Policy VII.F.1. The Police Department shall provide neighborhood security and crime prevention information and training to neighborhood groups, schools, senior citizens, and homeowners' associations.

> **Policy VII.F.2**. The City shall encourage the use of physical site planning as an effective means of preventing crime. Developers shall design open spaces, parking lots, parks, play areas, and other public spaces so they can be under continuous surveillance by residents. To this end, the Police Department shall participate in the Project review process to ensure that crime prevention considerations are incorporated in the design of residential, commercial, industrial, and public facility Projects.

Impact fees from new development are collected based upon Projected impacts from each development. The adequacy of impact fees is reviewed on an annual basis to ensure that the fee is commensurate with the service. Payment of the applicable impact fees by the Project applicant, and ongoing revenues that would come from property taxes, sales taxes, and other revenues generated by the Project, would fund capital and labor costs associated with police services.

Based on the current adequacy of existing response times and the ability of the Winters Police Department to serve the City, it is anticipated that the existing police department facilities are sufficient to serve the proposed Project. Consequently, any impacts would be ***less than significant***.

Schools

The Project site is located within the service boundaries of the Winters Joint Unified School District (Winters JUSD). The Winters JUSD serves approximately 1550 students within the city of Winters and from the surrounding unincorporated areas of Yolo and Solano counties. The District schools include: Winters Elementary School (grades TK-5), Winters Middle School (grades 6-8), Winters High School (grades 9-12), Wolfskill Continuation High School/Career Readiness Academy (grades 9 - 12), and the Winters State Preschool Center and Head Start Program. The District employs approximately 200 employees and is the 2nd largest employer in Winters.

The Project includes residential units that would directly increase the student population in the area. The Project would include the development of 54 dwelling units, which would directly cause population growth and increase enrollment in the local school districts. According to Education Data Partnership, the Winters JUSD had a total of 1,531 enrolled students on census day for the 2017-2018 school year. Therefore, based on a total of 3,322 total households within the Winters JUSD (National Center For Education Statistics, 2019), the student generation rate for the Winters JUSD is approximately 0.46 students per household. Based on this rate, the Project would be expected to generate approximately 25 new students.

The Winters JUSD collects impact fees from new developments under the provisions of SB 50. Payment of the applicable impact fees by the Project applicant, and ongoing revenues that would come from taxes, would fund capital and labor costs associated with school services. The adequacy of fees is reviewed on an annual basis to ensure that the fee is commensurate with the service. Payment of the applicable impact fees by the Project applicant, and ongoing revenues that would come from property taxes and other revenues generated by the Project, would fund improvements associated with school services.

The provisions of State law are considered full and complete mitigation for the purposes of analysis under CEQA for school construction needed to serve new development. In fact, State law expressly precludes the City from reaching a conclusion under CEQA that payment of the Leroy F. Greene School Facilities Act school impact fees would not completely mitigate new development impacts on school facilities. Consequently, the City is without the legal authority under CEQA to impose any fee, condition, or other exaction on the Project for the funding of new

school construction other than the fees allowed by the Leroy F. Greene School Facilities Act. Although Winters JUSD may collect higher fees than those imposed by the Leroy F. Greene School Facilities Act, no such fees are required to mitigate the impact under CEQA. Because the Project would pay fees as required by The Leroy F. Greene School Facilities Act, this impact would be ***less than significant***.

Parks

The Project directly increases the number of persons in the area as a result of employment potential, and residential uses. The Project includes 54 residential units, which is Projected to increase the population by an estimated 167 people (based on 3.10 persons per household). For the purposes of extractive and collecting fees to mitigate for increase park demands (Quimby Act), the California Government Code Section 66477 states: *The amount of land dedicated or fees paid shall be based upon the residential density, which shall be determined on the basis of the approved or conditionally approved tentative map or parcel map and the average number of persons per household. There shall be a rebuttable presumption that the average number of persons per household by units in a structure is the same as that disclosed by the most recent available federal census or a census taken pursuant to Chapter 17 (commencing with Section 40200) of Part 2 of Division 3 of Title 4.*

The City's General Plan identifies a park standard based on a goal of seven acres of developed parkland per 1,000 residents within the city limits (Policy V.A.1). Policy V.A.2. of the General Plan identifies that the City shall require all new residential development to dedicate improved parkland or pay equivalent in-lieu fees based on a standard of five acres of improved parkland per 1,000 population.

The Project is subject to the City park dedication in-lieu fees. The payment of the City park dedication in-lieu fees would serve as an adequate offset for the park demand. As such, with the implementation of Mitigation Measure PUBLIC-1, the Project will result in a ***less than significant*** impact.

Mitigation Measure(s)

Mitigation Measure PUBLIC-1: *The applicant shall pay applicable park in-lieu fees or dedicate parkland in accordance with the City of Winters Municipal Code, consistent with Policy V.A.2. of the Winters General Plan. Proof of payment of the in-lieu fees shall be submitted to the City Engineer.*

Other Public Facilities

The Project would not result in a need for other public facilities that are not addressed above, or in Section XIX, Utilities and Service Systems. Implementation of the Project would have ***no impact*** relative to this issue.

XVI. RECREATION

	Potentially Significant Impact	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
a) Would the Project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?			X	
b) Does the Project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?				X

Responses to Checklist Questions

Responses a): The Project would result in the construction of 54 multi-family residential homes, which is anticipated to generate approximately 167 people. The City's General Plan identifies a park standard based on a goal of seven acres of developed parkland per 1,000 residents within the city limits (Policy V.A.1). Policy V.A.2. of the General Plan identifies that the City shall require all new residential development to dedicate improved parkland or pay equivalent in-lieu fees based on a standard of five acres of improved parkland per 1,000 population. Therefore, the estimated new demand for parks generated by the Project is approximately 0.84 acres of new parks. The Project does not include the construction of new parks; therefore, the developer would be required to pay in-lieu fees. The in-lieu fees would ultimately fund the construction of new park land to offset the increased demand for these facilities. With implementation of Mitigation Measure PUBLIC-1, this potential impact would be reduced to a ***less than significant*** level.

Responses b): The Project does not include the construction of recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment. Implementation of the Project would have ***no impact*** relative to this topic.

XVII. TRANSPORTATION

Would the Project:	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
a) Conflict with a program plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?			X	
b) Would the Project conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?			X	
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?			X	
d) Result in inadequate emergency access?			X	

Responses to Checklist Questions

Response a), b): A *Circulation Master Plan and Roadway Impact Fee Program Update* was prepared for the City of Winters by Fehr & Peers. This document established the City's recommended vehicle circulation threshold, identifying that the City would endeavor to maintain a Level of Service D or better. The LOS threshold does not establish a standard or requirement for individual projects, but rather provides a mechanism for the City to plan for its roadway system and establish a funding link between the need for roadway improvements and development projects. The CMP analyzes existing traffic within the Winters, including existing traffic on Grant Avenue (SR 128). The City has a goal of maintaining smooth and safe traffic flows on Grant Avenue (SR 128) as development occurs in the City. The Project site is included in the City's General Plan Land Use Map and therefore was included in the "buildout scenario" analyzed within the *Circulation Master Plan and Roadway Impact Fee Program Update*.

The Project site is located on the outskirts of the City, with a relatively low volume of traffic occurring on nearby roadways. According to the *Circulation Master Plan and Roadway Impact Fee Program Update* (CMP) prepared by Fehr & Peers, average daily traffic volume is approximately 1,780 trips per day along Walnut Lane, and 11,810 trips per day along the section of Russell Boulevard that crosses E. Grant Avenue. The Project site is included in the City's General Plan Land Use Map and therefore was included in the "buildout scenario" analyzed in the CMP, which addresses performance standards for the City's roadway facilities and Grant Avenue (State Route 128). Under buildout conditions, the General Plan would add approximately 4,333 dwelling unit equivalents (DUEs), as shown in Table 9 of the CMP, and associated trips to the existing conditions (Fall 2016). This increase in trips would result in unacceptable operations at one roadway segment and nine intersections as described in the CMP. The CMP identified two traffic signals, one roundabout, and one roadway widening program that are necessary to address the City's circulation needs based on growth anticipated under the General Plan.

Based on trip generation rates provides in Table 6 of the CMP, the Project would generate approximately 529 daily trips (based on a daily trip rate of 9.79 trips per day for single-family residential land uses). Project trips would increase the amount of traffic during Project operation that currently occurs at and within the vicinity of the Project site. Table 9 of the CMP identified an increase of 4,333 residential dwelling unit equivalents is expected at General Plan buildout. The Project would account for 1.2% of this projected growth, is within the growth projected in the CMP, and would contribute, through payment of Roadway Impact Fees, to the infrastructure

identified for the City at General Plan buildout by the CMP. Furthermore, the Project Applicant would be required to pay all applicable roadway impact fees, which are determined on a per-unit or per-square-footage basis, as required (as delineated in the CMP), as applicable. Lastly, based on the size of the Project, construction traffic would be temporary and minor.

The City of Winters Bikeway System Master Plan (BSMP), updated in January 2013, identifies needs and objectives for the City's bicycle circulation system and established specific projects and implementation measures to address the City's needs. The Proposed Bikeway Network (Figure 7 of the BSMP) does not identify any bicycle facilities, including planned bicycle lanes or bicycle paths, on or in the vicinity of the Project site. The Project would not impede implementation of the BSMP.

The Project is consistent with applicable circulation plans and standards, as described above. Therefore, this impact would be considered ***less than significant***.

Responses c), d): The Project would include construction of four access points (two connecting to Walnut Lane, one connecting to Almond Drive, and another connecting to the Skreden 61 parcel directly east of the Project site that is planned for development). The construction of the Project roadways would provide multiple points of ingress and egress.

No site circulation or access issues have been identified that would cause a traffic safety problem/hazard or any unusual traffic congestion or delay within the Project. The volumes on the internal residential roadways (with residences fronting on them) would be relatively low such that no significant conflicts would be expected with through traffic and vehicles backing out of the driveways and/or garages within the Project.

Emergency vehicles arriving to and from the Project would enter the Project site primarily from Walnut Lane and/or Almond Drive. All Project site access points would be designed to City standards that accommodate turning requirements for fire trucks. The multiple entry/exit points provide flexibility for emergency vehicles to access or evacuate from multiple directions during an emergency. The Project roadways would be designed consistent with the City's standard road plans and with California Fire Code provisions, including minimum specifications for emergency access. Internal local residential streets would have a 50-foot right-of-way, with a 17-foot vehicle travel lane, three-foot curb and gutter, five-foot sidewalk in each direction. Walnut Lane would have a 17-foot vehicle travel lane, three-foot curb and gutter, five-foot sidewalk in the northbound direction and a 16-foot travel lane southbound. The 16- and 17-foot vehicle travel lanes are adequately sized to accommodate emergency vehicles and are also of adequate width and design to accommodate emergency evacuations.

Based on the design of the site and the number of emergency access points, there would be no site circulation or access issues identified that would cause a traffic safety problem/hazard or any unusual traffic congestion or delay. The volumes on the internal residential streets would be relatively low such that no significant conflicts would be expected to occur. The site would not result in inadequate emergency access. Therefore, impacts associated with design features and emergency access would be considered ***less than significant***.

XVIII. TRIBAL CULTURAL RESOURCES

	Potentially Significant Impact	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
a) Would the Project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k)?		X		
ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1? In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resources to a California Native American tribe.		X		

Responses to Checklist Questions

Responses a), b): A Cultural and Paleontological Resources Inventory (Study) for the Project was prepared by Natural Investigations Company on May 1, 2019. The Study included an investigation based on the cultural literature, Sacred Lands File and paleontological records searches, and an intensive-level pedestrian survey of the Project site. This study was completed in compliance with the California Environmental Quality Act. The Study did not identify any cultural or paleontological resources of concern in the literature search or the field walk. The Study identified that the potential for the discovery of cultural or paleontological resources within the Project site is low.

Pursuant to the requirements of Assembly Bill 52 (AB 52), which was passed in September 2014 and took effect on July 1, 2015, the City is responsible for notifying and responding to any requests received in writing from geographically affiliated tribes for consultation regarding the potential of a Project to impact Tribal Cultural Resources (TCRs). Outreach to the geographically affiliated tribes was conducted in early 2019 in accordance with AB 52, and based on this outreach, no tribes have requested further consultation pursuant to AB 52.

As discussed in Section V, Cultural Resources, the City contacted the Yocha Dehe Wintun Nation, providing an opportunity for the Yocha Dehe Wintun Nation to comment and/or request consultation regarding the Project. The Yocha Dehe Wintun Nation indicated that the site is within its aboriginal territories. The Yocha Dehe Wintun initially indicated in a letter dated March 19, 2019 that it had concerns regarding potential impacts to cultural resources. Subsequently, via a May 6, 2019 letter, the Yocha Dehe Wintun Nation indicated it is not aware of any known cultural resources near the Project site and a monitor is not needed, but cultural sensitivity training was recommended.

Although no TCRs have been documented in the Project site, the Project is located in a region where significant cultural resources have been recorded and there remains a potential that undocumented archaeological resources that may meet the TCR definition could be unearthed or

otherwise discovered during ground-disturbing and construction activities. Due to the possible presence of undocumented TCRs within the Project site, construction-related impacts on tribal cultural resources would be potentially significant. With implementation of the following mitigation measure, construction workers would be trained to be sensitive to cultural resources and procedures would be established to address the discovery of any cultural resources, including tribal cultural resources. With implementation of Mitigation Measures CLT-1 and CLT-2, the Project would have a ***less than significant*** impact related to tribal cultural resources.

Mitigation Measures

Implement Mitigation Measures CLT-1 and CLT-2.

XIX. UTILITIES AND SERVICE SYSTEMS

Would the Project:	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
a) Require or result in the relocation or construction of new or expanded water, wastewater or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?			X	
b) Have sufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry and multiple dry years?			X	
c) Result in a determination by the wastewater treatment provider which serves or may serve the Project that it has adequate capacity to serve the Projects Projected demand in addition to the providers existing commitments?			X	
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?			X	
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?			X	

Responses to Checklist Questions

Responses a)-c):

Water

The proposed water system will be tied into the 8-inch water line in Walnut Lane and the 8-inch water line in Almond Drive. An 8-inch water line connection is also proposed to the northeast to connect with the future Skreden 61 subdivision.

It is anticipated that water supply for the Project would be local groundwater. Water distribution will be by an underground distribution system to be installed as per the City standards and specifications. The applicant for the Project will provide their proportionate share of required funding to the City for the acquisition and delivery of treated potable water supplies to the Project site through connection fees.

The City has adequate water supplies to support existing and future demand in the City, as provided within the City of Winters 2006 Water Master Plan. The City serves approximately 7,000 customers and maintains approximately 20 miles of water pipeline. The Project site is located within the area studied by the water master plan. The water master plan identifies that single family residential parcels are estimated to have a non-irrigation per capita water usage of 100 gallons per capita per day for all residential land uses. Additionally, the water master plan assumes an estimated irrigation demand of 165 gallons per day per dwelling unit. The Project includes 54 dwelling units, and an estimated population of 167 residents. Therefore, it is

estimated that the Project would generate approximately 25,610 gallons per day (16,700 gallons per day for non-irrigated uses, and 8,910 gallons per day for irrigated uses).

The 2006 Water Master Plan identifies that the City has sufficient supply for the City under buildout conditions. The 2006 Water Master Plan indicates that current groundwater supply can also meet future demands with no risk of overdraft even during consecutive dry years. Furthermore, additional wells can be developed as demand required. Therefore, the Project would not result in insufficient water supplies available to serve the Project from existing entitlements and resources. Therefore, a ***less than significant*** impact would occur related to water supply and water infrastructure.

Wastewater

The City owns and operates the Wastewater Treatment Facility (WWTF), which provides treatment and disposal of wastewater from approximately 7,000 residents in the City. The WWTF treats wastewater through a two-stage aerated pond system that includes a polishing pond and chlorination facilities for disinfection. Final effluent can be stored in four storage ponds, disposed of on 170 acres of spray fields, or provided as recycled water to local farmers for crop irrigation.

The Wastewater Treatment Facility Master Plan Update was prepared in 2017 to re-evaluate the wastewater treatment facilities necessary to serve the estimated City population of 12,243 by 2036 and comply with probable regulatory requirements and to identify the apparent best alternative for phased implementation of the facilities.

The Wastewater Treatment Facility Master Plan Update identifies two wastewater generation rates: 85 gallons per capita per day (gpcd), which represents an approximate midpoint between the pre- and post-mandatory water conservation conditions, and 102 gpcd, which represents the pre-mandatory water conservation condition. These wastewater generation rates assume a proportional increase in commercial and industrial discharges relative to the current conditions. Using these rates, it is estimated that the Project would generate approximately 14,195 to 17,034 additional gallons per day of wastewater requiring treatment. The wastewater would be treated at the WWTF. Occupancy of the Project would be prohibited without sewer allocation.

The City's available capacity would ensure that there would not be a determination by the wastewater treatment and/or collection provider that there is inadequate capacity to serve the Project's Projected demand in addition to the provider's existing commitments. Additionally, any planned expansion to the WWTF with a subsequent allocation of capacity to the Project would ensure that there would not be a determination by the wastewater treatment and/or collection provider that there is inadequate capacity to serve the proposed Project's Projected demand in addition to the provider's existing commitments.

Because the Project applicant would pay all applicable wastewater and sewer fees to develop the site, and adequate long-term wastewater treatment capacity is available to serve full build-out of the Project, a ***less than significant*** impact would occur related to requiring or resulting in the construction of new wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

Responses d), e): The City of Winters Waste Management provides solid waste hauling service for the City and would serve the Project. Solid waste from Winters is primarily landfilled at the Yolo County – Central Landfill, located in Woodland, CA.

The permitted maximum capacity at the Yolo County – Central Landfill is 49,035,200 cubic yards for solid waste, with a daily allowed throughput of 1,800 tons per day. According to CalRecycle (as of July 31, 2018), the landfill has a remaining capacity of 35,171,142 cubic yards (CalRecycle, 2019).

The residential uses are estimated to generate roughly 10 pounds per day per household. It is estimated that the proposed 54 residential units would generate 540 pounds per day (or approximately 0.27 tons per day) of solid waste.

The Project would not interfere with regulations related to solid waste, or generate waste in excess of the capacity of local infrastructure. Implementation of the Project would have a ***less than significant*** impact relative to this topic.

XX. WILDFIRE

Would the Project:	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the Project:				
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?			X	
d) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose Project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?			X	
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?			X	
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?			X	

Existing Setting

There are no State Responsibility Areas (SRAs) within the vicinity of the Project site. The City contains areas with "moderate", "high", and "very high" and ranks on CAL FIRE's Local Responsibility Area (LRA) Fire Hazard Severity Zone maps. However, the Project site is not located within such areas. The Project site is located in an area with a "Local Responsibility Zone (LRA) - Unzoned" rank. The Project site is not in the vicinity of any Very High or High Fire Hazard Severity Zones (either SRA or LRA) as mapped by CAL FIRE (Fire Hazard Severity Zones in SRA, , November 2007; Yolo County Draft Fire Hazard Severity Zones in LRA, October 2007.) Although this CEQA topic only applies to areas within a SRA or Very High FHSZ, out of an abundance of caution, these checklist questions are analyzed below.

Responses to Checklist Questions

Response a): The Project site will connect to an existing network of City streets. The proposed circulation improvements would allow for greater emergency access relative to existing conditions. The Project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. Therefore, impacts from Project implementation would be considered ***less than significant*** relative to this topic.

Response b): The risk of wildfire is related to a variety of parameters, including fuel loading (vegetation), fire weather (winds, temperatures, humidity levels and fuel moisture contents) and topography (degree of slope). Steep slopes contribute to fire hazard by intensifying the effects of wind and making fire suppression difficult. Fuels such as grass are highly flammable because they have a high surface area to mass ratio and require less heat to reach the ignition point. The Project site is located in an area that is predominately agricultural and developed, which is not considered at a significant risk of wildfire. Therefore, impacts from Project implementation would be considered ***less than significant*** relative to this topic.

Response c): The Project includes development of infrastructure (water, sewer, and storm drainage). The proposed infrastructure improvements would allow for decreased fire risk relative to existing conditions. The Project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. Therefore, impacts from Project implementation would be considered ***less than significant*** relative to this topic.

Response d): The Project site will be connecting to an existing network of City streets. The proposed circulation improvements would allow for greater emergency access relative to existing conditions. The Project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

As shown in Figure 9, the majority of the Project site is located within the 100-year FEMA flood zone. The 100-year FEMA flood zone by definition indicates an area protected by levees from the 1% annual chance flood.

The Project would require the installation of storm drainage infrastructure to ensure that storm waters properly drain from the Project site, as provided in the Storm Drainage Assessment prepared for the Project by Wood Rogers. The Project storm drainage plan will require the construction of new storm water drainage facilities on the Project site and on the site adjacent to the Project site (to the west). The Project would be required to implement Mitigation Measures HYDRO-1, -2, and -3, which would ensure that people or structures are not exposed to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes.

Landslides include rockfalls, deep slope failure, and shallow slope failure. Factors such as the geological conditions, drainage, slope, vegetation, and others directly affect the potential for landslides. One of the most common causes of landslides is construction activity that is associated with road building (i.e. cut and fill). The Project site is relatively flat; therefore, the potential for a landslide in the Project site is essentially non-existent.

Therefore, impacts from Project implementation would be considered ***less than significant*** relative to this topic.

XXI. MANDATORY FINDINGS OF SIGNIFICANCE

	Potentially Significant Impact	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
a) Does the Project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?		X		
b) Does the Project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a Project are considerable when viewed in connection with the effects of past Projects, the effects of other current Projects, and the effects of probable future Projects)?		X		
c) Does the Project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?		X		

Responses to Checklist Questions

Response a): This Initial Study includes an analysis of the Project impacts associated with aesthetics, agricultural and forest resources, air quality, biological resources, cultural resources, geology and soils, greenhouse gas emissions, hazards and hazardous materials, hydrology and water quality, land use and planning, mineral resources, noise, population and housing, public services, recreation, transportation and traffic, and utilities and service systems. The analysis covers a broad spectrum of topics relative to the potential for the Project to have environmental impacts. This includes the potential for the Project to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory. It was found that the Project would have either no impact, a less than significant impact, or a less than significant impact with the implementation of mitigation measures. For the reasons presented throughout this Initial Study, the Project would not substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory. With the implementation of mitigation measures presented in this Initial Study, the Project would have a ***less than significant*** impact relative to this topic.

Response b): This Initial Study includes an analysis of the Project impacts associated with aesthetics, agricultural and forest resources, air quality, biological resources, cultural and tribal resources, energy, geology and soils, greenhouse gas emissions, hazards and hazardous materials, hydrology and water quality, land use and planning, mineral resources, noise,

population and housing, public services, recreation, transportation/traffic, and utilities and service systems. The analysis covers a broad spectrum of topics relative to the potential for the Project to have environmental impacts. It was found that the Project would have either no impact, a less than significant impact, or a less than significant impact with the implementation of mitigation measures. These mitigation measures would also function to reduce the Project's contribution to cumulative impacts.

The Project would increase the population and use of public services and systems; however, it was found that there is adequate capacity to accommodate the Project.

There are no significant cumulative or cumulatively considerable effects that are identified associated with the Project after the implementation of all mitigation measures presented in this Initial Study. With the implementation of all mitigation measures presented in this Initial Study, the Project would have a ***less than significant*** impact relative to this topic.

Responses c): The construction phase could affect surrounding neighbors through increased air emissions, noise, and traffic; however, the construction effects are temporary and are not substantial. The operational phase could also affect surrounding neighbors through increased air emissions, noise, and traffic; however, mitigation measures have been incorporated into the Project, where warranted, that would reduce the impacts to a less than significant level. The Project would not cause substantial adverse effects on human beings. Implementation of the Project would have a ***less than significant*** impact relative to this topic.

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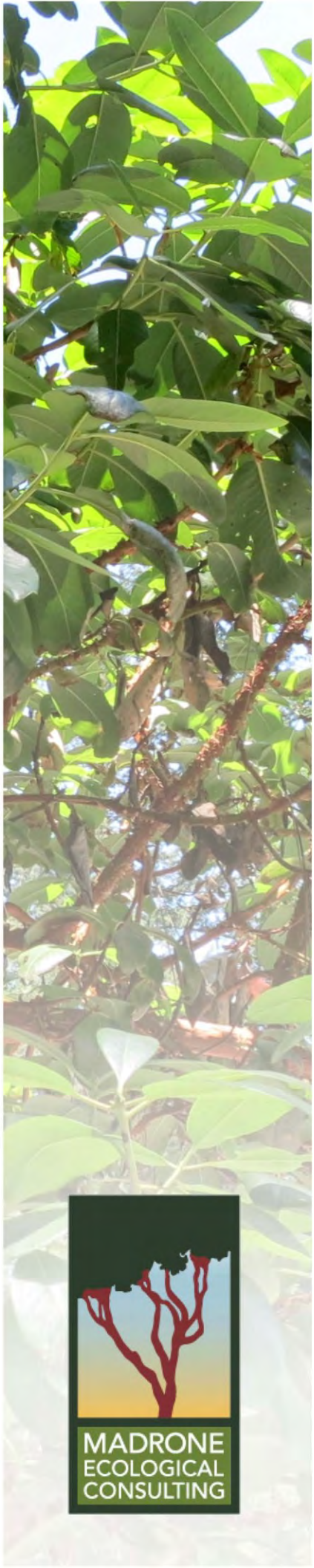
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Appendix A

Biological Resources Assessment



Biological Resources Assessment

Winters 10

Yolo County, California
July 2019

MADRONE ECOLOGICAL CONSULTING

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1.0 INTRODUCTION

This report presents the results of a Biological Resources Assessment (BRA) conducted for the Winters 10 property (Study Area). The approximately 10-acre Study Area is located in Winters, at the northern terminus of Walnut Lane, north of Highway 128. The Study Area is located in Section 22, Township 8 North, Range 1 West of the "Winters, California" 7.5-Minute Series USGS Topographic Quadrangle (USGS 2015) (**Figure 1**).

1.1 Project Description

The Applicant is proposing to subdivide the approximately 10-acre Study Area into single-family residential lots and related infrastructure.

2.0 REGULATORY SETTING

This section describes federal, state and local laws and policies that are relevant to this assessment of biological resources.

2.1 Federal Regulations

2.1.1 Federal Endangered Species Act

The Federal Endangered Species Act (FESA) of 1973 protects species that are federally listed as endangered or threatened with extinction. FESA prohibits the unauthorized "take" of listed wildlife species. Take includes harassing, harming, pursuing, hunting, shooting, wounding, killing, trapping, capturing, or collecting wildlife species or any attempt to engage in such activities. Harm includes significant modifications or degradations of habitats that may cause death or injury to protected species by impairing their behavioral patterns. Harassment includes disruption of normal behavior patterns that may result in injury to or mortality of protected species. Civil or criminal penalties can be levied against persons convicted of unauthorized "take." In addition, FESA prohibits malicious damage or destruction of listed plant species on federal lands or in association with federal actions, and the removal, cutting, digging up, damage, or destruction of listed plant species in violation of state law. FESA does not afford any protections to federally listed plant species that are not also included on a state endangered species list on private lands with no associated federal action.

2.1.2 Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) prohibits the take, possession, import, export, transport, selling, purchase, barter, or offering for sale, purchase or barter, any native migratory bird, their eggs, parts, and nests, except as authorized under a valid permit (50 CFR 21.11.). Likewise, Section 3513 of the California Fish & Game Code prohibits the "take or possession" of any migratory non-game bird identified under the MBTA. Therefore, activities that may result in the injury or mortality of native migratory birds, including eggs and nestlings, would be prohibited under the MBTA.

2.2 State Regulations

2.2.1 California Environmental Quality Act

The California Environmental Quality Act (CEQA) requires evaluations of project effects on biological resources. Determining the significance of those effects is guided by Appendix G of the CEQA guidelines. These evaluations must consider direct effects on a biological resource within the project site itself, indirect effects on adjacent resources, and cumulative effects within a larger area or region. Effects can be locally important but not significant according to CEQA if they would not substantially affect the regional population of the biological resource. Significant adverse impacts on biological resources would include the following:

- Substantial adverse effects on any species identified as candidate, sensitive, or special-status in local or regional plans, policies, or regulations or by the California Department of Fish and Wildlife (CDFW) or the U.S. Fish and Wildlife Service (USFWS) (these effects could be either direct or via habitat modification);
- Substantial adverse impacts to species designated by the California Department of Fish and Game (2009) as Species of Special Concern;
- Substantial adverse effects on riparian habitat or other sensitive habitat identified in local or regional plans, policies, or regulations or by CDFW and USFWS;
- Substantial adverse effects on federally protected wetlands defined under Section 404 of the Clean Water Act (these effects include direct removal, filling, or hydrologic interruption of marshes, vernal pools, coastal wetlands, or other wetland types);
- Substantial interference with movements of native resident or migratory fish or wildlife species population, or with use of native wildlife nursery sites;
- Conflicts with local policies or ordinances protecting biological resources (e.g. tree preservation policies); and
- Conflict with provisions of an adopted Habitat Conservation Plan (HCP), Natural Community Conservation Plan (NCCP), or other approved local, regional, or state habitat conservation plan.

2.2.2 State Endangered Species Act

With limited exceptions, the California Endangered Species Act (CESA) of 1984 protects state-designated endangered and threatened species in a way similar to FESA. For projects on private property (i.e. that for which a state agency is not a lead agency), CESA enables CDFW to authorize take of a listed species that is incidental to carrying out an otherwise lawful project that has been approved under CEQA (Fish & Game Code Section 2081).

2.2.3 Native Plant Protection Act

The Native Plant Protection Act (NPPA) was enacted in 1977 and allows the Fish and Game Commission to designate plants as rare or endangered. There are 64 species, subspecies, and varieties of plants that are

protected as rare under the NPPA. The NPPA prohibits take of endangered or rare native plants, but includes some exceptions for agricultural and nursery operations; emergencies; and after properly notifying CDFW for vegetation removal from canals, roads, and other sites, changes in land use, and in certain other situations.

2.2.4 California Water Code, Porter-Cologne Act

The Porter Cologne Act, from Division 7 of the California Water Code, requires any person discharging waste or proposing to discharge waste that could affect the quality of waters of the state to file a report of waste discharge (RWD) with the RWQCB. The RWQCB can waive the filing of a report, but once a report is filed, the RWQCB must either waive or adopt water discharge requirements (WDRs). "Waters of the state" are defined as any surface water or groundwater, including saline waters, within the boundaries of the state.

2.2.5 California Fish and Game Code, Section 3503.5 - Raptor Nests

Section 3503.5 of the Fish and Game Code makes it unlawful to take, possess, or destroy hawks or owls, unless permitted to do so, or to destroy the nest or eggs of any hawk or owl.

2.3 Local Regulations

The City of Winters has a policy regarding tree removal, but it only applies to trees within the Control Zone and public places. The Control Zone applies to specified distances between homes and sidewalks.

3.0 METHODOLOGY

3.1 Literature Review

A list of special-status species with potential to occur within the Study Area was developed by conducting a query of the following databases:

- California Natural Diversity Database (CNDDB) query of the "Winters, CA" USGS quadrangle and the surrounding eight quadrangles (CNDDB 2019) (**Attachment A**);
- USFWS Information for Planning and Conservation (IPaC) (USFWS 2019) query for the Study Area (**Attachment B**);
- California Native Plant Society (CNPS) Rare and Endangered Plant Inventory (CNPS 2018) query of the "*Winters, California*" USGS quadrangle, and the eight surrounding quadrangles (**Attachment C**); and
- Western Bat Working Group (WBWG) Species Matrix (WBWG 2019).

In addition, any special-status species that are known to occur in the region, but that were not identified in any of the above database searches were also analyzed for their potential to occur within the Study Area.

For the purposes of this Biological Resources Assessment, special-status species is defined as those species that are:

- listed as threatened or endangered, or proposed or candidates for listing by the USFWS or National Marine Fisheries Service;
- listed as threatened or endangered and candidates for listing by CDFW;
- identified as Fully Protected species or species of special concern by CDFW;
- identified as Medium or High priority species by the WBWG (WBWG 2017); and
- plant species considered to be rare, threatened, or endangered in California by the CNPS and CDFW [California Rare Plant Rank (CRPR) 1, 2, and 3]:
  - CRPR 1A: Plants presumed extinct.
  - CRPR 1B: Plants rare, threatened, or endangered in California and elsewhere.
  - CRPR 2A: Plants extirpated in California, but common elsewhere.
  - CRPR 2B: Plants rare, threatened, or endangered in California, but more common elsewhere.
  - CRPR 3: Plants about which the CNPS needs more information – a review list.

3.2 Field Surveys

Madrone Consulting, LLC (Madrone) senior biologist Bonnie Peterson conducted a field survey of the Study Area on 13 April 2018 to conduct an aquatic resources delineation, survey for rare plants and elderberry shrubs, and assess the suitability of habitats on-site to support special-status species. Meandering pedestrian surveys were performed on foot throughout the Study Area. Vegetation communities were classified in accordance with *The Manual of California Vegetation, Second Edition* (Sawyer, Keeler-Wolf and Evens 2009), and plant taxonomy was based on the nomenclature in the *Jepson eFlora* (Jepson Flora Project 2019). A list of all wildlife species observed during field surveys is included as **Attachment D**.

The results of the following surveys were also incorporated into this report:

- An aquatic resources delineation conducted by Madrone for the Study Area (Madrone 2018a),
- Special-status plant surveys conducted by Madrone throughout the Study Area (Madrone 2018b),
- A Valley elderberry longhorn beetle habitat survey conducted by Madrone throughout the Study Area (Madrone 2018c).

4.0 EXISTING CONDITIONS

The Study Area is an almond orchard. The site is bordered by single-family residential development to the south and a fallow, undeveloped agricultural field to the east. The abutting parcel to the west contains a single rural residential home and an almond orchard is located on the property to the north of the Study Area. The Study Area is situated on relatively flat terrain at an elevation of approximately 130 feet and has been leveled to facilitate flood irrigation. Based on a review of historic aerial photos (Google Earth 2019), the orchard has been in place since before 1968 and has been minimally maintained in recent years.

Vegetation within the Study Area consists primarily of planted rows of domestic almond (*Prunis dulcis*) with reed canarygrass (*Phalaris arundinacea*) and some curly dock (*Rumex crispus*) underneath the canopy. Ruderal non-native grassland species dominated by slender wild oat (*Avena barbata*) are present between rows of almond trees. Volunteer almond, wild plum (*Prunus americana*), and black walnut (Juglans nigra) are scattered throughout the Study Area and along the perimeter of the site. The northwestern corner of the site contains a patch of reed canarygrass and a Paradox walnut (*Juglans x paradox*). The U.S. Army Corps of Engineers has determined there are no Waters of the U.S. on the site (**Attachment E**). There is no Critical Habitat for federally-listed species within the Study Area.

4.1 Soils

According to the Natural Resources Conservation Service (NRCS) Soil Survey Database (NRCS 2018), two soil mapping units occur within the Study Area (**Figure 2**): (BrA) Brentwood silty clay loam, 0 to 2 percent slopes; and (Rg) Rincon silty clay loam, 0 to 1 percent slopes. Neither of these soil map units have been identified as containing special soils, such as serpentine or saline-alkali inclusions (NRCS 2018).

5.0 RESULTS

Table 1 provides a list of special-status species that were evaluated, including their listing status, and their potential to occur in the Study Area. The following set of criteria was used to determine each species' potential for occurrence on the site:

- Present: Species occurs on the site based on CNDDB records, and/or was observed on the site during field surveys.
- High: The site is within the known range of the species and suitable habitat exists.
- Moderate: The site is within the known range of the species and very limited suitable habitat exists.
- Low: The site is within the known range of the species and there is marginally suitable habitat.
- Absent/No Habitat Present: The site does not contain suitable habitat for the species or for plant species, the species was not observed during protocol-level floristic surveys conducted on-site.

Figure 3 is an exhibit displaying CNDDB occurrences of plants, wildlife, and critical habitats within five miles of the Study Area. Following the table, is a discussion of all special-status plant and animal species identified by the literature and field reviews as having potential to occur within the Study Area.

Table 1. Special-Status Species Potential for Occurrence within the Winters 10

Special-Status Species	Federal Status	State Status	Potential for Occurrence
Tricolored blackbird (*Agelaius tricolor*)	-	CT/CSC	No Habitat Present
California tiger salamander (*Ambystoma californiense*)	FT	CT	No Habitat Present
Pallid bat (*Antrozous pallidus*)	-	CSC, WBWG H	No Habitat Present
Ferris' milk-vetch *(Astragalus tener var. ferrisiae)*	-	CRPR 1B.1	No Habitat Present
Alkali milk-vetch (*Astragalus tener* var. *tener*)	-	CRPR 1B.2	No Habitat Present
Burrowing owl (*Athene cunicularia*)	-	CSC	No Habitat Present

Heartscale (*Atriplex cordulata* var. *cordulata*)	-	CRPR 1B.2	No Habitat Present
Crotch bumble bee (*Bombus crotchii*)	-	CT	No Habitat Present
Western bumble bee (*Bombus occidentalis*)	-	CT	No Habitat Present
Vernal pool fairy shrimp (*Branchinecta lynchi*)	FT	-	No Habitat Present
Swainson's hawk (*Buteo swainsoni*)	-	CT	Moderate
Mountain plover (*Charadrius montanus*)	-	CSC	No Habitat Present
Northern harrier (*Circus cyaneus*)	-	CSC	No Habitat Present
Western yellow-billed cuckoo (*Coccyzus americanus occidentalis*)	FT	CE	No Habitat Present
Townsend's big-eared bat (*Corynorhinus townsendii*)	-	WBWG H	No Habitat Present
Recurved larkspur (*Delphinium recurvatum*)	-	CRPR 1B.2	Absent
Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus)*	FT	-	No Habitat Present
Dwarf downingia (*Downingia pusilla*)	-	CRPR 2B.2	Absent
White-tailed kite (*Elanus leucurus*)	-	FP	Low
Western pond turtle *(Emys marmorata*)	-	CSC	No Habitat Present
American peregrine falcon (*Falco peregrinus anatum*)	FD	FP	No Habitat Present
Adobe-lily (*Fritillaria pluriflora*)	-	CRPR 1B.2	No Habitat Present
Brewer's western flax *(Hesperolinon breweri*)	-	CRPR 1B.2	No Habitat Present
Delta smelt (*Hypomesus transpacificus)*	FT	-	No Habitat Present
Yellow-breasted chat (*Icteria virens*)	-	CSC	No Habitat Present
Western red bat (*Lasiurus blossevillii*)	-	WBWG M	Low
Hoary bat (*Lasiurus cinereus*)	-	WBWG M	Low
Colusa layia (*Layia septentrionalis*)		CRPR 1B.2	No Habitat Present
Vernal pool tadpole shrimp *(Lepidurus packardi)*	FE	-	No Habitat Present
Jepson's leptosiphon (*Leptosiphon jepsonii)*	-	CRPR 1B.2	No Habitat Present
Baker's navarretia (*Navarretia leucocephala ssp. bakeri)*	-	CRPR 1B.1	No Habitat Present
Black-crowned night heron *(Nycticorax nycticorax)*	-	-	No Habitat Present
Bearded popcornflower *(Plagiobothrys hystriculus*)	-	CRPR 1B.1	Absent
California alkali grass (*Puccinellia simplex*)	-	CRPR 1B.2	No Habitat Present
Foothill yellow-legged frog (*Rana boylii*)	-	CT/CSC	No Habitat Present
Bank swallow *(Riparia riparia*)	-	CT	No Habitat Present
Keck's checkerbloom (*Sidalcea keckii)*	FE	CRPR 1B.1	No Habitat Present
Giant garter snake (*Thamnophis gigas*)	FT	CT	No Habitat Present
Saline clover (*Trifolium hydrophilum*)	-	CRPR 1B.2	No Habitat Present

FD- Ferally Delisted, **FT** - Federally Threatened, **FE**- Federally Endangered, **FP** – Federally Protected, **CE** - CDFW endangered or Candidate Endangered, **CT** - CDFW Threatened or Candidate Threatened, **CSC** - CDFW Species of Concern, **WL** - CDFW Watch List, **CRPR** – California Rare Plant Rank, **WBWG H** - Western Bat Working Group High Threat Rank, **WBWG M** - Western Bat Working Group Medium Threat Rank

5.1 Birds

5.1.1 Swainson's Hawk

Swainson's hawk (*Buteo swainsoni*) is a raptor species that is not federally listed, but is listed as threatened under CESA. Breeding pairs typically nest in tall trees associated with riparian corridors, and forage in grassland, irrigated pasture, and cropland with a high density of rodents. The Central Valley populations breed and nest in the late spring through early summer before migrating to Central and South America for the winter (Shuford and Gardali 2008).

Suitable foraging habitat for Swainson's hawk is absent from the Study Area; however, the almond trees within the Study Area provide acceptable but not preferred nesting habitat. The nearest documented Swainson's hawk nest presumed extant is CNDDB Occurrence #1938, which is located approximately 0.5 miles south of the Study Area along the north bank of Putah Creek (CNDDB 2018).

5.1.2 White-Tailed Kite

White-tailed kite (*Elanus leucurus*) is not federally or state listed, but is a CDFW fully protected species. This species is a yearlong resident in the Central Valley and is primarily found in or near foraging areas such as open grasslands, meadows, farmlands, savannahs, and emergent wetlands. White-tailed kites typically nest from March through June in trees within riparian, oak woodland, and savannah habitats of the Central Valley and Coast Range (Shuford and Gardali 2008).

Suitable foraging habitat for white-tailed kite is absent from the Study Area; however, the trees within the Study Area provide acceptable but not preferred nesting habitat. There are no CNDDB occurrences of white-tailed kite within 5 miles of the Study Area.

5.2 Bats

An assessment of bat habitat within the Study Area, including all potential roosting habitat features, was performed in the field to determine the likelihood of the presence of the following species.

5.2.1 Western Red Bat

Western red bat (*Lasiurus blossevillii*) is not federally or state listed, but is considered a CDFW species of special concern, and is classified by the WBWG as a High priority species. Western red bat is typically solitary, roosting primarily in the foliage of trees or shrubs (WBWG 2017). Day roosts are commonly in edge habitats adjacent to streams or open fields, in orchards, and sometimes in urban areas. There may be an association with intact riparian habitat (particularly willows, cottonwoods, and sycamores) (WBWG 2017).

Trees within the almond orchard represent suitable roosting habitat for western red bat. One CNDDB occurrence of western red bat has been documented in the CNDDB within 5 miles of the Study Area along Putah Creek (CNDDB 2018).

5.2.2 Hoary Bat

The hoary bat (*Lasiurus cinereus*) is not federally or state listed, but is classified by the WBWG as a Medium priority species. It is considered to be one of the most widespread of all American bats with a range extending from Canada to central Chile and Argentina as well as Hawaii (WBWG 2017). Hoary bats are solitary and roost primarily in foliage of both coniferous and deciduous trees, near the ends of branches at the edge of clearings (WBWG 2017). This species may also occasionally roost in caves, beneath rock ledges, in woodpecker holes, in grey squirrel nests, under wood planks, or clinging to the side of buildings (WBWG 2017).

Hoary bat has not been documented in the CNDDB within 5 miles of the Study Area (CNDDB 2018).

6.0 IMPACTS TO SENSITIVE BIOLOGICAL RESOURCES

This section details potential project impacts to the sensitive biological resources discussed above.

6.1 Sensitive Natural Communities

There are no sensitive natural communities within the Study Area. Therefore, no impacts to sensitive natural communities are anticipated for the Project.

6.2 Aquatic Resources

There are no aquatic resources within the Study Area. Therefore, no impacts to aquatic resources are anticipated for the Project.

6.3 Special-Status Plant Species

A protocol-level special-status plant survey was conducted throughout the Project and none were found (Madrone 2018a). Therefore, no impacts to special-status plant species are anticipated for the Project.

6.4 Nesting Raptors and Songbirds

Swainson's hawk, white-tailed kite, other raptors, and songbirds have the potential to nest within the Study Area, as do other more common bird species protected by the MBTA. If they were nesting on-site, removal of the nests could result in direct mortality or nest abandonment. Furthermore, birds nesting in avoided areas adjacent to construction could be disturbed by construction, which could result in nest abandonment.

6.5 Roosting Bats

Trees throughout the Study Area are habitat for various special-status bats species. If special-status bat were roosting in trees to be removed by Project construction, they could be injured or killed during the removal.

6.6 Trees Within the Control Zone

Public property or areas in the Control Zone are absent from the Study Area. Therefore, no impacts to protected tress are anticipated for the Project.

7.0 MITIGATION FOR IMPACTS TO SENSITIVE BIOLOGICAL RESOURCES

The following are mitigation measures that are often required by CEQA lead agencies for impacts to sensitive biological resources that could occur as a result of with construction of the Project.

7.1 Special-Status Plant Species

Special-status plant surveys conducted throughout the Study Area in 2018 were negative and the potential habitat present is marginal enough that establishment of new populations is very unlikely. No further mitigation is recommended.

7.2 Nesting Raptors and Other Birds

The following nest survey requirements apply if construction activities take place during the typical bird breeding/nesting season (typically February 1 through September 1):

7.2.1 Swainson's Hawk

A targeted Swainson's hawk nest survey shall be conducted throughout all publicly accessible areas within ¼ mile of the proposed construction area no later than 14 days prior to construction activities. If active Swainson's hawk nests are found within ¼ mile of a construction area, construction shall cease within ¼ mile of the nest until a qualified biologist (Project Biologist) determines that the young have fledged, or it is determined that the nesting attempt has failed. If the Applicant desires to work within ¼ mile of the nest, the Applicant shall consult with CDFW, and the City of Winters to determine if the nest buffer can be reduced. The Project Applicant, the Project Biologist, the City of Winters and CDFW shall collectively determine the nest avoidance buffer, and what (if any) nest monitoring is necessary. If an active Swainson's hawk nest is found within the Project site prior to construction and is in a tree that must be removed during nesting season, then the Project Applicant shall obtain a take permit from CDFW.

7.2.2 Burrowing Owls

The Study Area does not represent suitable habitat for burrowing owls, but adjacent buffer areas could support them. A targeted burrowing owl nest survey shall be conducted within all publicly accessible grassland areas within 250 feet of the proposed construction within 14 days prior to construction activities utilizing 60 foot transects as outlined in the *Staff Report on Burrowing Owl Mitigation* (CDFG 2012) (Staff Report). If an active burrowing owl nest burrow (i.e., occupied by more than one adult owl, and/or juvenile owls are observed) is found within 250 feet of a construction area, construction shall cease within 250 feet of the nest burrow until a qualified biologist (Project Biologist) determines that the young have fledged or it is determined that the nesting attempt has failed. If the Applicant desires to work within 250 feet of the nest burrow, the Applicant shall consult with the City of Winters to determine if the nest buffer can be reduced. During the non-breeding season (late September 1st through the end of January), the Applicant may choose to conduct a survey for burrows or debris that represent suitable nesting habitat for burrowing owls within publicly accessible buffer areas, exclude any burrowing owls observed, and collapse any burrows or remove the debris in accordance with the methodology outlined in the Staff Report.

7.2.3 Other Birds

A pre-construction nesting bird survey shall be conducted by the Project Biologist within the Study Area and a 250-foot radius of proposed construction areas, where public access is available, no more than fourteen (14) days prior to the initiation of construction. If there is a break in construction activity of more than fourteen (14) days then subsequent surveys shall be conducted.

If active raptor nests, not including Swainson's hawk are found, no construction activities shall take place within 250 feet of the nest until the young have fledged. If active songbird nests are found, a 100-foot no disturbance buffer will be established. These no-disturbance buffers may be reduced if a smaller buffer is proposed by the Project Biologist and approved by the City of Winters after taking into consideration the natural history of the species of bird nesting, the proposed activity level adjacent to the nest, habituation to existing or ongoing activity, and nest concealment (are there visual or acoustic barriers between the proposed activity and the nest). The Project Biologist can visit the nest as needed to determine when the young have fledged the nest and are independent of the site or the nest can be left undisturbed until the end of the nesting season.

7.2.4 Changes to Buffers and Completion of Nesting

Should construction activities cause a nesting bird to do any of the following in a way that would be considered a result of construction activities: vocalize, make defensive flights at intruders, get up from a brooding position, or fly off the nest, then the exclusionary buffer shall be increased such that activities are far enough from the nest to stop this agitated behavior. The exclusionary buffer will remain in place until the chicks have fledged or as otherwise determined by the Project Biologist in consultation with the City of Winters.

Construction activities may only resume within the buffer zone after a follow-up survey by the Project Biologist has been conducted and a report has been prepared indicating that the nest (or nests) are no longer active, and that no new nests have been identified.

7.3 Roosting Bats

To avoid potential impacts to foliage-roosting bat species it is recommended that all tree removal be conducted from January through April on days with temperatures in excess of 50 degrees F.

8.0 REFERENCES

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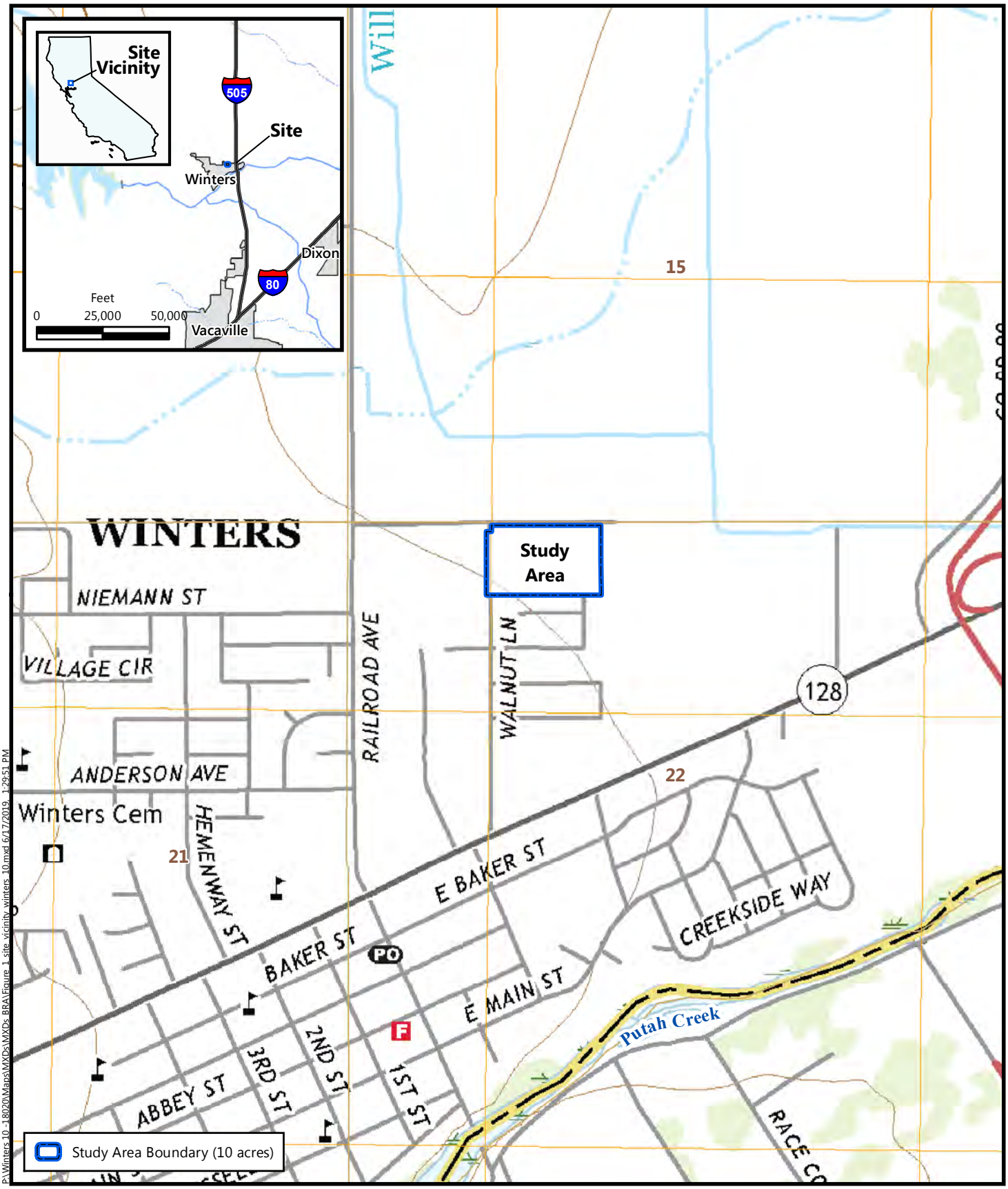
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Figures

Figure 1. Vicinity Map
Figure 2. Natural Resources Conservation Service Soils
Figure 3. California Natural Diversity Database Occurrences



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Source: United States Geologic Survey, 2015.
"Winters, California" 7.5-Minute Topographic Quadrangle
Section 22, Township 8 North, Range 1 West, MDB&M
Longitude -121.961685, Latitude 38.531988

Figure 1
Vicinity Map

Winters 10 Property
City of Winters, Yolo County, California

MADRONE ECOLOGICAL CONSULTING

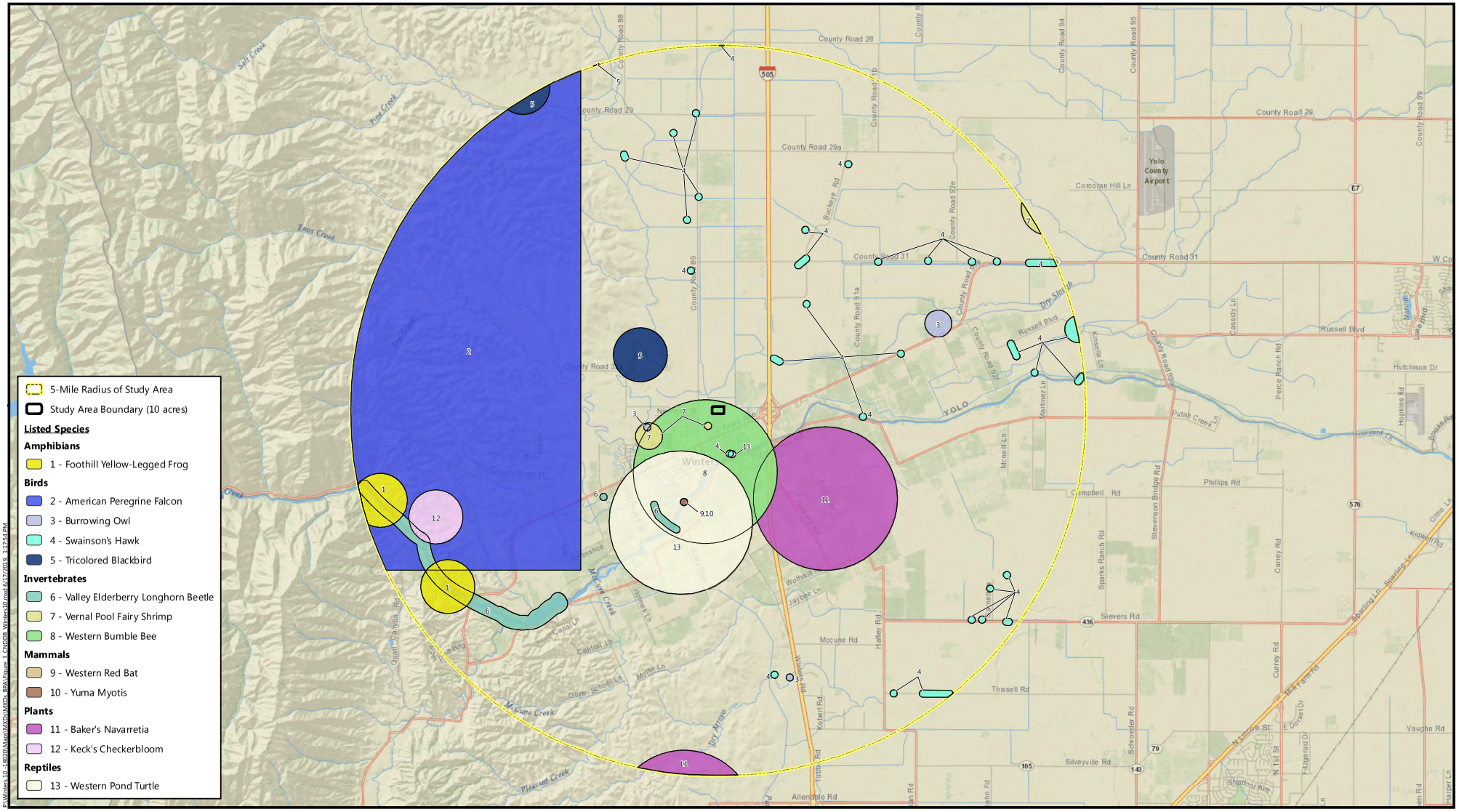


Soil Survey Source: *USDA, Soil Conservation Service. Soil Survey Geographic (SSURGO) database for Yolo County, California.*
Aerial Source: *USDA, National Agriculture Imagery Program*, 13 April 2018.

Figure 2
Natural Resources Conservation Service Soils

Winters 10 Property
City of Winters, Yolo County, California

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Source: *California Department of Fish and Wildlife*, June 2019.
Basemap Source: *National Geographic* and *ESRI*

Figure 3
California Natural Diversity Database Occurrences

Winters 10 Property
City of Winters, Yolo County, California

MADRONE ECOLOGICAL CONSULTING

Attachments

Attachment A. California Natural Diversity Database Occurrences of Plant and Wildlife Species
Attachment B. IPaC Trust Resource Report for the Study Area
Attachment C. CNPS Inventory of Rare and Endangered Plants Query for the "Winters, California" USGS Quadrangle and Eight Surrounding Quadrangles
Attachment D. Wildlife Observed
Attachment E. Winters 10 Approved Jurisdictional Dtermination

Attachment A

California Natural Diversity Database Occurrences of
Plant and Wildlife Species

Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Winters (3812158) OR Esparto (3812261) OR Madison (3812168) OR Woodland (3812167) OR Monticello Dam (3812251) OR Merritt (3812157) OR Mt. Vaca (3812241) OR Allendale (3812148) OR Dixon (3812147))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Agelaius tricolor tricolored blackbird	ABPBXB0020	None	Threatened	G2G3	S1S2	SSC
Ambystoma californiense California tiger salamander	AAAAA01180	Threatened	Threatened	G2G3	S2S3	WL
Andrena blennospermatis Blennosperma vernal pool andrenid bee	IIHYM35030	None	None	G2	S2	
Antrozous pallidus pallid bat	AMACC10010	None	None	G5	S3	SSC
Astragalus tener var. ferrisiae Ferris' milk-vetch	PDFAB0F8R3	None	None	G2T1	S1	1B.1
Astragalus tener var. tener alkali milk-vetch	PDFAB0F8R1	None	None	G2T1	S1	1B.2
Athene cunicularia burrowing owl	ABNSB10010	None	None	G4	S3	SSC
Atriplex cordulata var. cordulata heartscale	PDCHE040B0	None	None	G3T2	S2	1B.2
Bombus caliginosus obscure bumble bee	IIHYM24380	None	None	G4?	S1S2	
Bombus crotchii Crotch bumble bee	IIHYM24480	None	None	G3G4	S1S2	
Bombus occidentalis western bumble bee	IIHYM24250	None	None	G2G3	S1	
Branchinecta lynchi vernal pool fairy shrimp	ICBRA03030	Threatened	None	G3	S3	
Buteo swainsoni Swainson's hawk	ABNKC19070	None	Threatened	G5	S3	
Charadrius montanus mountain plover	ABNNB03100	None	None	G3	S2S3	SSC
Cicindela hirticollis abrupta Sacramento Valley tiger beetle	IICOL02106	None	None	G5TH	SH	
Circus hudsonius northern harrier	ABNKC11011	None	None	G5	S3	SSC
Coccyzus americanus occidentalis western yellow-billed cuckoo	ABNRB02022	Threatened	Endangered	G5T2T3	S1	
Corynorhinus townsendii Townsend's big-eared bat	AMACC08010	None	None	G3G4	S2	SSC
Delphinium recurvatum recurved larkspur	PDRAN0B1J0	None	None	G2?	S2?	1B.2

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Desmocerus californicus dimorphus valley elderberry longhorn beetle	IICOL48011	Threatened	None	G3T2	S2	
Downingia pusilla dwarf downingia	PDCAM060C0	None	None	GU	S2	2B.2
Elanus leucurus white-tailed kite	ABNKC06010	None	None	G5	S3S4	FP
Emys marmorata western pond turtle	ARAAD02030	None	None	G3G4	S3	SSC
Falco peregrinus anatum American peregrine falcon	ABNKD06071	Delisted	Delisted	G4T4	S3S4	FP
Fritillaria pluriflora adobe-lily	PMLIL0V0F0	None	None	G2G3	S2S3	1B.2
Hesperolinon breweri Brewer's western flax	PDLIN01030	None	None	G2	S2	1B.2
Icteria virens yellow-breasted chat	ABPBX24010	None	None	G5	S3	SSC
Lasionycteris noctivagans silver-haired bat	AMACC02010	None	None	G5	S3S4	
Lasiurus blossevillii western red bat	AMACC05060	None	None	G5	S3	SSC
Lasiurus cinereus hoary bat	AMACC05030	None	None	G5	S4	
Layia septentrionalis Colusa layia	PDAST5N0F0	None	None	G2	S2	1B.2
Lepidurus packardi vernal pool tadpole shrimp	ICBRA10010	Endangered	None	G4	S3S4	
Leptosiphon jepsonii Jepson's leptosiphon	PDPLM09140	None	None	G2G3	S2S3	1B.2
Linderiella occidentalis California linderiella	ICBRA06010	None	None	G2G3	S2S3	
Myotis yumanensis Yuma myotis	AMACC01020	None	None	G5	S4	
Myrmosula pacifica Antioch multilid wasp	IIHYM15010	None	None	GH	SH	
Navarretia leucocephala ssp. bakeri Baker's navarretia	PDPLM0C0E1	None	None	G4T2	S2	1B.1
Nycticorax nycticorax black-crowned night heron	ABNGA11010	None	None	G5	S4	
Plagiobothrys hystriculus bearded popcornflower	PDBOR0V0H0	None	None	G2	S2	1B.1
Puccinellia simplex California alkali grass	PMPOA53110	None	None	G3	S2	1B.2

Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Rana boylii foothill yellow-legged frog	AAABH01050	None	Candidate Threatened	G3	S3	SSC
Riparia riparia bank swallow	ABPAU08010	None	Threatened	G5	S2	
Sidalcea keckii Keck's checkerbloom	PDMAL110D0	Endangered	None	G2	S2	1B.1
Taxidea taxus American badger	AMAJF04010	None	None	G5	S3	SSC
Thamnophis gigas giant gartersnake	ARADB36150	Threatened	Threatened	G2	S2	
Valley Oak Woodland Valley Oak Woodland	CTT71130CA	None	None	G3	S2.1	

Record Count: 46

Attachment B

IPaC Trust Resource Report for the Study Area

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Yolo County, California



Local office

Sacramento Fish And Wildlife Office

(916) 414-6600
(916) 414-6713

Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846

NOT FOR CONSULTATION

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population, even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information.
2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Birds

NAME	STATUS
Yellow-billed Cuckoo Coccyzus americanus There is **proposed** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/3911	Threatened

Reptiles

NAME	STATUS
Giant Garter Snake Thamnophis gigas No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/4482	Threatened

Amphibians

NAME	STATUS
California Red-legged Frog Rana draytonii There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/2891	Threatened
California Tiger Salamander Ambystoma californiense There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/2076	Threatened

Fishes

NAME	STATUS

NOT FOR CONSULTATION

Delta Smelt Hypomesus transpacificus There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/321	Threatened

Insects

NAME	STATUS
Valley Elderberry Longhorn Beetle Desmocerus californicus dimorphus There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/7850	Threatened

Crustaceans

NAME	STATUS
Vernal Pool Fairy Shrimp Branchinecta lynchi There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/498	Threatened
Vernal Pool Tadpole Shrimp Lepidurus packardi There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/2246	Endangered

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Measures for avoiding and minimizing impacts to birds http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Nationwide conservation measures for birds http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE

NOT FOR CONSULTATION

BIRD BREEDS ACROSS ITS ENTIRE RANGE. "BREEDS ELSEWHERE" INDICATES THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)

Bald Eagle *Haliaeetus leucocephalus** This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Jan 1 to Aug 31
Black Swift *Cypseloides niger** This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8878	Breeds Jun 15 to Sep 10
Clark's Grebe *Aechmophorus clarkii** This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Jan 1 to Dec 31
Common Yellowthroat *Geothlypis trichas sinuosa** This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/2084	Breeds May 20 to Jul 31
Golden Eagle *Aquila chrysaetos** This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1680	Breeds Jan 1 to Aug 31
Lawrence's Goldfinch *Carduelis lawrencei** This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9464	Breeds Mar 20 to Sep 20
Lewis's Woodpecker *Melanerpes lewis** This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9408	Breeds Apr 20 to Sep 30
Long-billed Curlew *Numenius americanus** This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/5511	Breeds elsewhere
Nuttall's Woodpecker *Picoides nuttallii** This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9410	Breeds Apr 1 to Jul 20
Oak Titmouse *Baeolophus inornatus** This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9656	Breeds Mar 15 to Jul 15
Rufous Hummingbird *selasphorus rufus** This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8002	Breeds elsewhere
Song Sparrow *Melospiza melodia** This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds Feb 20 to Sep 5
Spotted Towhee *Pipilo maculatus clementae** This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/4243	Breeds Apr 15 to Jul 20
Tricolored Blackbird *Agelaius tricolor** This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3910	Breeds Mar 15 to Aug 10

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Willet Tringa semipalmata — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Wrentit Chamaea fasciata — Breeds Mar 15 to Aug 10
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Yellow-billed Magpie Pica nuttalli — Breeds Apr 1 to Jul 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9726

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (▪)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

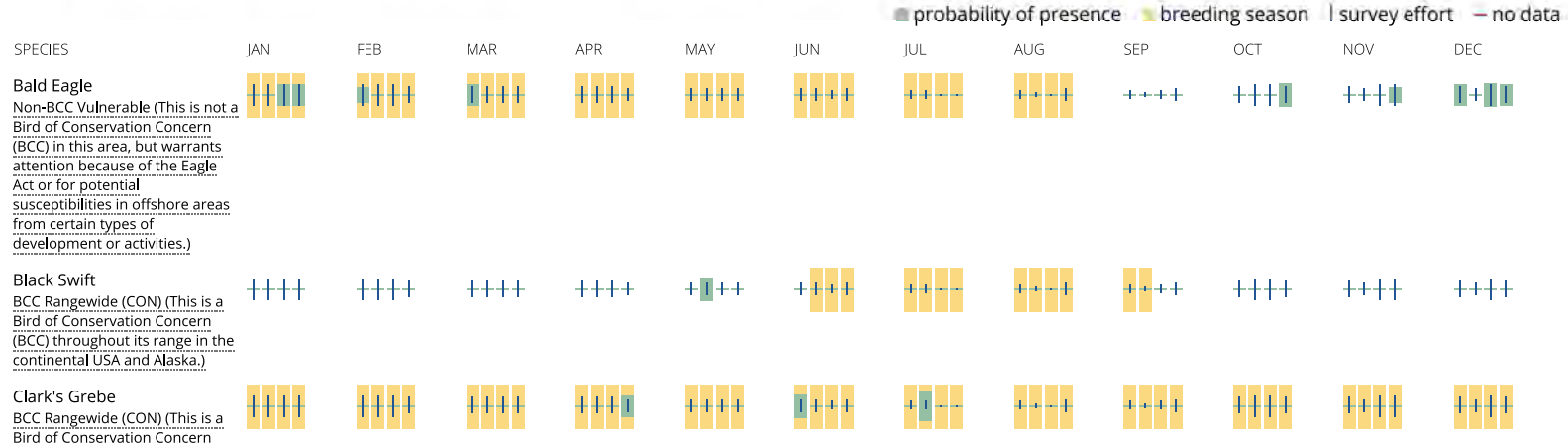
Breeding Season ( )
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

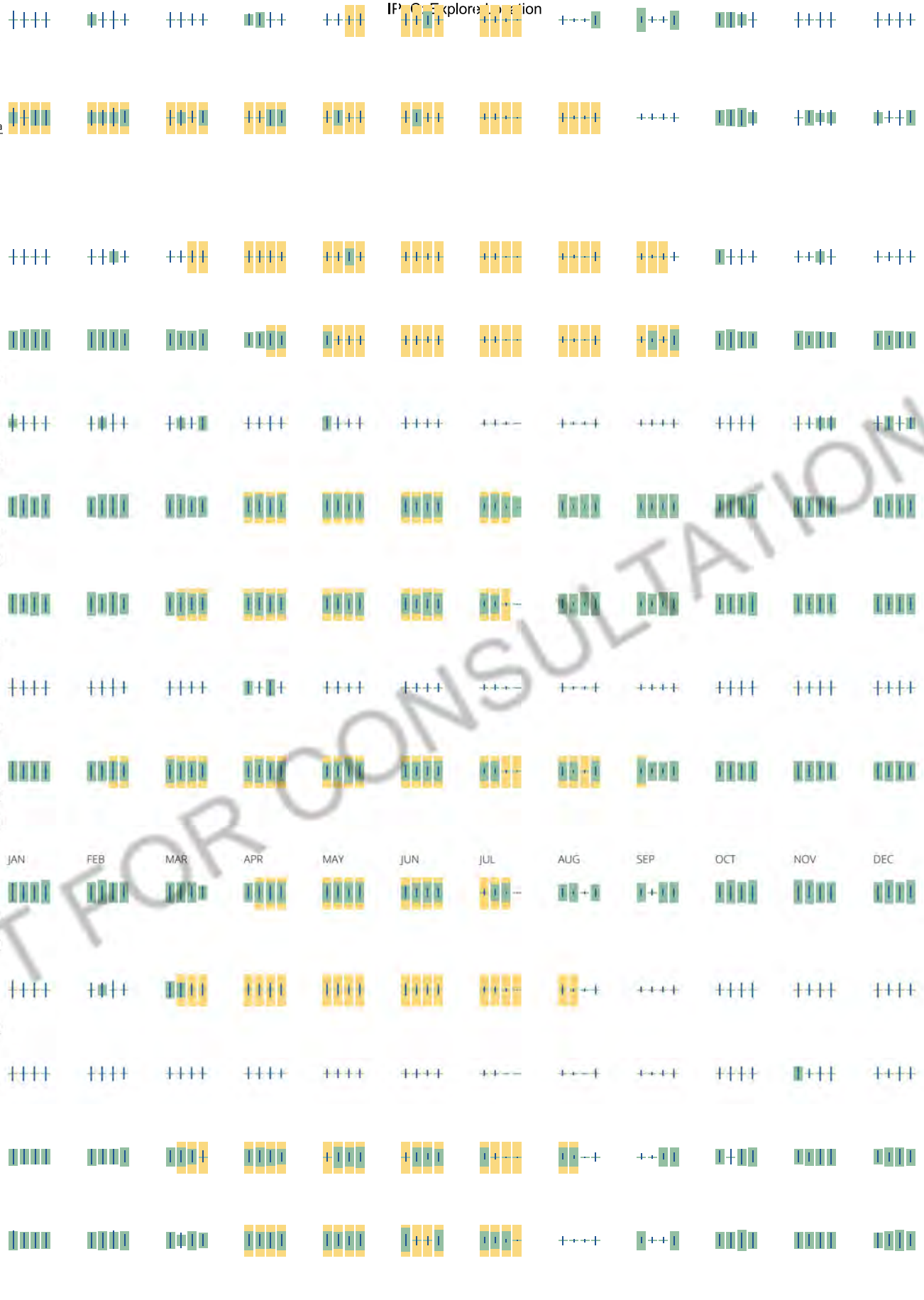
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



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Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the

Probability of Presence Summary. Additional measures and/or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the AKN Phenology Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets .

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: The Cornell Lab of Ornithology All About Birds Bird Guide, or (if you are unsuccessful in locating the bird of interest there), the Cornell Lab of Ornithology Neotropical Birds guide. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

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National Wildlife Refuge lands

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

THERE ARE NO KNOWN WETLANDS AT THIS LOCATION.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

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Attachment C

CNPS Inventory of Rare and Endangered Plants Query for the "Winters, California" USGS Quadrangle and Eight Surrounding Quadrangles

*The database used to provide updates to the Online Inventory is under construction. View updates and changes made since May 2019 here.

Plant List

14 matches found. *Click on scientific name for details*

Search Criteria

California Rare Plant Rank is one of [1A, 1B, 2A, 2B, 3], Found in Quads 3812261, 3812168, 3812167, 3812251, 3812158, 3812157, 3812241 3812148 and 3812147;

Modify Search Criteria Export to Excel Modify Columns Modify Sort Display Photos

Scientific Name	Common Name	Family	Lifeform	Blooming Period	CA Rare Plant Rank	State Rank	Global Rank
Astragalus tener var. tener	alkali milk-vetch	Fabaceae	annual herb	Mar-Jun	1B.2	S1	G2T1
Calochortus pulchellus	Mt. Diablo fairy-lantern	Liliaceae	perennial bulbiferous herb	Apr-Jun	1B.2	S2	G2
Delphinium recurvatum	recurved larkspur	Ranunculaceae	perennial herb	Mar-Jun	1B.2	S2?	G2?
Downingia pusilla	dwarf downingia	Campanulaceae	annual herb	Mar-May	2B.2	S2	GU
Fritillaria pluriflora	adobe-lily	Liliaceae	perennial bulbiferous herb	Feb-Apr	1B.2	S2S3	G2G3
Hesperolinon breweri	Brewer's western flax	Linaceae	annual herb	May-Jul	1B.2	S2	G2
Layia septentrionalis	Colusa layia	Asteraceae	annual herb	Apr-May	1B.2	S2	G2
Leptosiphon jepsonii	Jepson's leptosiphon	Polemoniaceae	annual herb	Mar-May	1B.2	S2S3	G2G3
Lessingia hololeuca	woolly-headed lessingia	Asteraceae	annual herb	Jun-Oct	3	S2S3	G3?
Malacothamnus helleri	Heller's bush-mallow	Malvaceae	perennial deciduous shrub	May-Jul	3.3	S3	G3Q
Navarretia leucocephala ssp. bakeri	Baker's navarretia	Polemoniaceae	annual herb	Apr-Jul	1B.1	S2	G4T2
Plagiobothrys hystriculus	bearded popcornflower	Boraginaceae	annual herb	Apr-May	1B.1	S2	G2
Puccinellia simplex	California alkali grass	Poaceae	annual herb	Mar-May	1B.2	S2	G3
Sidalcea keckii	Keck's checkerbloom	Malvaceae	annual herb	Apr-May(Jun)	1B.1	S2	G2

Suggested Citation

California Native Plant Society, Rare Plant Program. 2019. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). Website http://www.rareplants.cnps.org [accessed 08 July 2019].

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Attachment D

Wildlife Observed

Wildlife Species Observed within Winters 10 Study Area
13 April 2019

Scientific Name	**Common Name**
Pica nuttalli	Yellow billed Magpie
Streptopelia capicola	Ring neck Dove
Sayornis nigricans	Black phoebe
Buteo lineatus	Red shouldered hawk
Aphelocoma californica	California Scrub-jay
Tachycineta bicolor	Tree Swallow
Tyrannus verticalis	Western Kingbird

Attachment E

Winters 10 Approved Jurisdictional Determination

DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, SACRAMENTO DISTRICT
1325 J STREET
SACRAMENTO CA 95814-2922

June 12, 2019

Regulatory Division (SPK-2018-00581)

Corbett Family Trust
Attn: Mr. James R. Corbett, Trustee
44167 Greenview Drive
El Macero, California 95618

Dear Mr. Corbett:

We are responding to your March 15, 2019, request for an approved jurisdictional determination for the Winters 61 Property site. The approximately **10.0-acre** project site is located near Putah Creek, at the northern terminus of Walnut Lane, north of Highway 128, Latitude 38.528937°, Longitude -121.962116°, Winters, Yolo County, California.

Based on available information, we concur with your aquatic resources delineation which demonstrates that the entire **10.0-acre** site is entirely composed of dry land with no aquatic resources, as depicted on the enclosed April 4, 2019, *Winters 10 Property* drawing, prepared by Madrone Ecological (Enclosure 1).

Based on the information you have provided, we have determined that the work as proposed in Enclosure 1, will not result in the discharge of dredged or fill material into waters currently regulated under Section 404 of the Clean Water Act. Therefore, a Department of the Army Permit is not required for this work. Measures should be taken to prevent construction materials and/or activities from entering any waters of the United States. Appropriate soil erosion and sediment controls should be implemented onsite to achieve this end.

We are enclosing a copy of the *Approved Jurisdictional Determination Form* for your site (Enclosure 2).

This approved jurisdictional determination is valid for five years from the date of this letter, unless new information warrants revision of the determination before the expiration date. If you object to this determination, you may request an administrative appeal under Corps regulations at 33 Code of Federal Regulations (CFR) Part 331.

A *Notification of Appeal Process* (NAP) *and Request for Appeal* (RFA) Form is enclosed (Enclosure 3). If you request to appeal this determination, you must submit a completed RFA form to the South Pacific Division Office at the following address: Administrative Appeal Review Officer, Army Corps of Engineers, South Pacific Division, CESPD-PDO, 1455 Market Street, 2052B, San Francisco, California 94103-1399, Telephone: 415-503-6574, FAX: 415-503-6646.

In order for an RFA to be accepted by the Corps, we must determine that the form is complete, that it meets the criteria for appeal under 33 CFR Part 331.5, and that the form was received by the Division Office within 60 days of the date of the NAP. It is not necessary to submit an RFA form to the Division Office unless you object to the determination in this letter.

We recommend that you provide a copy of this letter and notice to all other affected parties, including any individual who has an identifiable and substantial legal interest in the property.

This approved jurisdictional determination has been conducted to identify the limits of aquatic resources subject to U.S. Army Corps of Engineers jurisdiction under Section 404 of the Clean Water Act for the particular site identified in this request.

We appreciate feedback, especially about interaction with our staff and our processes.

Please refer to identification number SPK-2018-00581 in any correspondence concerning this project. If you have any questions, please contact Ramon Aberasturi at the U.S. Army Corps of Engineers, Regulatory Division, 1325 J Street, Room 1350, Sacramento, California 95814-2922, by email at *Ramon.Aberasturi@usace.army.mil*, or telephone at (916) 557-6865. For program information or to complete our Customer Survey, visit our website at *www.spk.usace.army.mil/Missions/Regulatory.aspx*.

Sincerely,



For: William Guthrie
Chief, California Delta Section

Enclosures

cc: (w/encls)
Ms. Sarah Vonderohe, Madrone Ecological, svonderohe@MadroneEco.com
Ms. Stephanie Tadlock, CRWQCB Tadlock, Stephanie.Tadlock@Waterboards.cal.gov

NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND REQUEST FOR APPEAL

Applicant: Corbett Family Trust Attn: Mr. James R. Corbett, Trustee	File No.: SPK-2018-00581	Date: June 12, 2019

Attached is:		See Section below
	INITIAL PROFFERED PERMIT (Standard Permit or Letter of permission)	A
	PROFFERED PERMIT (Standard Permit or Letter of permission)	B
	PERMIT DENIAL	C
→	APPROVED JURISDICTIONAL DETERMINATION	D
	PRELIMINARY JURISDICTIONAL DETERMINATION	E

SECTION I - The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found at *http://www.usace.army.mil/cecw/pages/reg_materials.aspx* or Corps regulations at 33 CFR Part 331.

A: INITIAL PROFFERED PERMIT: You may accept or object to the permit.

- ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.

- OBJECT: If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the district engineer. Your objections must be received by the district engineer within 60 days of the date of this notice, or you will forfeit your right to appeal the permit in the future. Upon receipt of your letter, the district engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the district engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.

B: PROFFERED PERMIT: You may accept or appeal the permit.

- ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.

- APPEAL: If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer (address on reverse). This form must be received by the division engineer within 60 days of the date of this notice.

C: PERMIT DENIAL: You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer (address on reverse). This form must be received by the division engineer within 60 days of the date of this notice.

D: APPROVED JURISDICTIONAL DETERMINATION: You may accept or appeal the approved JD or provide new information.

- ACCEPT: You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice, means that you accept the approved JD in its entirety, and waive all rights to appeal the approved JD.

- APPEAL: If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer (address on reverse). This form must be received by the division engineer within 60 days of the date of this notice.

E: PRELIMINARY JURISDICTIONAL DETERMINATION: You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also you may provide new information for further consideration by the Corps to reevaluate the JD.

SECTION II - REQUEST FOR APPEAL or OBJECTIONS TO AN INITIAL PROFFERED PERMIT

REASONS FOR APPEAL OR OBJECTIONS: (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)

ADDITIONAL INFORMATION: The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.

POINT OF CONTACT FOR QUESTIONS OR INFORMATION:

If you have questions regarding this decision and/or the appeal process you may contact:

Ramon Aberasturi
Regulatory Project Manager
California Delta Section
U.S. Army Corps of Engineers

Phone: 916-557-6865, FAX 916-557-7803
Email: Ramon.Aberasturi@usace.army.mil

If you only have questions regarding the appeal process you may also contact:

Thomas J. Cavanaugh
Administrative Appeal Review Officer
U.S. Army Corps of Engineers
South Pacific Division
1455 Market Street, 2052B
San Francisco, California 94103-1399
Phone: 415-503-6574, FAX 415-503-6646
Email: Thomas.J.Cavanaugh@usace.army.mil

RIGHT OF ENTRY: Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15 day notice of any site investigation, and will have the opportunity to participate in all site investigations.

	Date:	Telephone number:
_____ Signature of appellant or agent.		

Appendix B

Energy Calculations

On-road Mobile (Operational) Energy Usage

Note: For the sake of simplicity, it was assumed that passenger vehicles, light duty trucks, motorcycles, and mobile homes use gasoline, and all medium-duty trucks, heavy-duty trucks, and buses use diesel fuel.

Unmitigated:

Step 1: **Average Daily VMT:**

4,757

Step 2: Given:

Fleet Mix (provided by CalEEMod v2016.3.2)

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
55.6%	4.4%	21.0%	11.6%	1.7%	0.6%	2.5%	1.6%	0.2%	0.2%	0.5%	0.1%	0.1%

And:

Gasoline MPG Factors for each Vehicle Class (from EMFAC2017) - Year 2020

LDA	LDT1	LDT2	MDV	MCY	MH	OBUS	UBUS
30.12306629	25.592017	23.465551	19.26164945	37.13025919	4.679834856	4.6409952	4.9638056

Diesel MPG Factors for each Vehicle Class (from EMFAC2017) - Year 2020

LHD1	LHD2	MHD	HHD	SBUS
17.39324333	15.616565	8.869765	5.297741885	7.896666007

Therefore:

Weighted Average MPG Factors

Gasoline: **27.0** Diesel: **10.8**

Step 3: **Therefore:**

164 daily gallons of gasoline **30 daily gallons of diesel**

or

59,997 annual gallons of gasoline	**10,871 annual gallons of diesel**

On-road Mobile (Construction) Energy Usage - Site Preparation

Step 1: **Estimated Total Daily Worker Trips**

18

Estimated Worker Trip Length (miles)

14.7

Therefore:

Average Worker Daily VMT:

265

Step 2: Given:

Assumed Fleet Mix for Workers

LDA	LDT1	LDT2
0.3333333	0.3333333	0.3333333

And:

Gasoline MPG Factors for each Vehicle Class (from EMFAC2017) - Year 2020

LDA	LDT1	LDT2
30.123066	25.592017	23.465551

Therefore:

Weighted Average Worker MPG Factor

26.4

Step 3: **Therefore:**

10.0 **Worker daily gallons of gasoline**

Step 4: 10 **# of Days (see CalEEMod)**

Therefore:

Result: **100** **Total gallons of gasoline**

On-road Mobile (Construction) Energy Usage - Grading

Step 1: **Estimated Total Daily Worker Trips**

20

Estimated Worker Trip Length (miles)

14.7

Therefore:

Average Worker Daily VMT:

294

Step 2: Given:

Assumed Fleet Mix for Workers

LDA	LDT1	LDT2
0.3333333	0.3333333	0.3333333

And:

Gasoline MPG Factors for each Vehicle Class (from EMFAC2014) - Year 2020

LDA	LDT1	LDT2
30.123066	25.592017	23.465551

Therefore:

Weighted Average Worker MPG Factor

26.4

Step 3: **Therefore:**

11.1 **Worker daily gallons of gasoline**

Step 4: 20 **# of Days (see CalEEMod)**

Therefore:

Result: **223** **Total gallons of gasoline**

On-road Mobile (Construction) Energy Usage - Paving

Step 1: **Estimated Total Daily Worker Trips**

12

Estimated Worker Trip Length (miles)

14.7

Therefore:

Average Worker Daily VMT:

176

Step 2: Given:

Assumed Fleet Mix for Workers

LDA	LDT1	LDT2
0.3333333	0.3333333	0.3333333

And:

Gasoline MPG Factors for each Vehicle Class (from EMFAC2014) - Year 2020

LDA	LDT1	LDT2
42.47834	36.227955	36.672969

Therefore:

Weighted Average Worker MPG Factor

38.5

Step 3: **Therefore:**

4.6 **Worker daily gallons of gasoline**

Step 4: 15 **# of Days (see CalEEMod)**

Therefore:

Result: **69** **Total gallons of gasoline**

On-road Mobile (Construction) Energy Usage - Building Construction

Step 1:

Estimated Total Daily Worker Trips

15

Estimated Total Daily Vendor Trips

11

Estimated Worker Trip Length (miles)

14.7

Estimated Vendor Trip Length (miles)

6.9

Therefore:

Average Worker Daily VMT:

220.50

Average Vendor Daily VMT:

76

Step 2:

Given:

Assumed Fleet Mix for Workers

LDA	LDT1	LDT2
0.33333333	0.3333333	0.3333333

Assumed Fleet Mix for Vendors

MHD	HHD
0.5	0.5

And:

MPG Factors for each Vehicle Class (from EMFAC2014) - Year 2020

Gasoline:

LDA	LDT1	LDT2
42.4783397	36.227955	36.672969

Diesel:

MHD	HHD
12.54155002	8.8781162

Therefore:

Weighted Average Worker (Gasoline) MPG Factor

38.5

Weighted Average Vendor (Diesel) MPG Factor

10.7

Step 3:

Therefore:

6 **Worker daily gallons of gasoline**

Therefore:

7 **Vendor daily gallons of diesel**

Step 4:

300 **# of Days (see CalEEMod)**

Therefore:

1,720 **Total gallons of gasoline**

Therefore:

2,126 **Total gallons of diesel**

On-road Mobile (Construction) Energy Usage - Architectural Coating

Step 1: **Estimated Total Daily Worker Trips**

8

Estimated Worker Trip Length (miles)

14.7

Therefore:

Average Worker Daily VMT:

118

Step 2: Given:

Assumed Fleet Mix for Workers

LDA	LDT1	LDT2
0.3333333	0.3333333	0.3333333

And:

Gasoline MPG Factors for each Vehicle Class (from EMFAC2014) - Year 2020

LDA	LDT1	LDT2
42.47834	36.227955	36.672969

Therefore:

Weighted Average Worker MPG Factor

38.5

Step 3: **Therefore:**

3.1 **Worker daily gallons of gasoline**

Step 4: 60 **# of Days (see CalEEMod)**

Therefore:

Result: **183** **Total gallons of gasoline**

Winters 71
Storm Drainage Assessment
Technical Memorandum

July 2019

Prepared by

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Appendix C

Winters 71 Storm Drainage Assessment

WOOD RODGERS

TECHNICAL MEMORANDUM

TO: Mr. Mark Skreden, Skreden Commercial Real Estate
Mr. Jim Corbett, Spectrum Capital Corporation

FROM: Mr. Michael Nowlan, PE, CFM, Wood Rodgers, Inc.
Mr. Jonathan Kors, PE, Wood Rodgers, Inc.

DATE: July 16, 2019

SUBJECT: Winters 71 (Farmstead and Walnut Lane 10) Storm Drainage Assessment

---

INTRODUCTION

The Winters 71 Project (Project) is located in the City of Winters, California (City), near the intersection of East Grant Avenue (State Route 128) and Timber Crest Road as shown on the attached location map (**Figure 1**). The Project is comprised of two separate developments: the Farmstead Development (61 acres of the proposed development) and the Walnut Lane 10 Development (10 acres of the proposed development). The proposed Project must include appropriately-sized and configured storm drainage facilities that sufficiently handle on-site flooding and prevent the worsening of flooding conditions for surrounding (off-site) properties. This Technical Memorandum (TM) provides documentation for the analysis performed relative to the proposed storm drainage facilities. Stormwater quality issues are addressed in a separate memorandum, which is included with this TM as **Attachment A**.

CITY STORM DRAINAGE MASTER PLAN

The City of Winters commissioned Wood Rodgers for the development of a Draft Storm Drainage Master Plan (SDMP) for the northeast corner of the City (*Draft Storm Drainage Master Plan - Northeast Area, City of Winters, California, August 2018*). Under the ultimate plan outlined in the SDMP, the Project can drain its runoff to the proposed Putah Creek Diversion Channel without on-site flood detention being required. This on-site runoff from the Project occurs prior to the occurrence of peak flows from the north (flows that originate from overspill at Chickahominy Slough). However, storage is necessary for conveying flows emanating from the north as discussed within this TM. **Figure 2** shows the hydrograph timing of the local and northerly overflows reaching the Putah Creek Diversion Channel. However, the SDMP identifies a channel facility that is aligned through the proposed development for conveying drainage flows emanating from Chickahominy Slough to Putah Creek. This SDMP facility is a regional project benefitting a significant number of other properties within the City's General Plan. The implementation of this diversion channel will require significant time and resources to address all

agency/environmental permitting, design, and construction challenges for discharging directly to Putah Creek.

While the Putah Creek Diversion Channel offers a way of conveying on-site generated runoff safely to Putah Creek, the diversion channel alone does not protect the Project from being subjected to adverse flood impacts. As discussed further below, the SDMP also identifies levees, channels, weirs, and detention basins to the north that act together with the Putah Creek Diversion Channel as a drainage system, to protect all lands within the City's General Plan. It is anticipated that the City will update its drainage impact fees, which will allow a mechanism for sharing the financial burden of constructing these updated ultimate facilities. However, constructing all of the ultimate SDMP facilities required to protect the Project at this time is too great for the Project alone to bear, therefore, Wood Rodgers has evaluated an interim drainage solution which allows the Project to move forward until all ultimate facilities can be fully implemented. The interim solution seeks to construct the minimum combination required of the ultimate facilities and interim facilities, to establish the most cost-effective Project moving forward.

EXISTING FLOOD CONDITIONS

As discussed in the SDMP Update, during the 100-year (design) flood event, the main flood threat to the Project from off-site areas originates in the north. A significant portion of the existing City to the west of the Project drains directly to Putah Creek through existing storm drains. Flooding from the Moody Slough and Chickahominy Slough watersheds cannot efficiently drain eastward across Interstate 505 (I-505). These floodwaters accumulate where Moody Slough crosses under I-505 and pond immediately north of the Project during high-water events. While the master plan only evaluated overflow spilling into the Project area from an un-failed condition under existing conditions, worse case flooding for the Project occurs when uncertified embankments to the north fail. As part of defining the mitigation, the Project must identify which off-site structures will remain uncertified/unimproved after the Project is constructed in order to define the worst-case existing condition from which the Project must be protected.

In an undeveloped condition, the Project area does provide a measure of on-site floodplain storage, which attenuates the combined flow passing through the site and discharges through two existing culverts (a 24-inch pipe and a 36-inch pipe) under Grant Avenue. Once flow has passed south of Grant Avenue, it is conveyed through the recently-constructed Pacific Gas and Electric Company (PG&E) Channel to Putah Creek through an existing California Department of Transportation (Caltrans) facility (described below). The channel in operation today generally aligns with the future ultimate Putah Creek Diversion Channel corridor; however, it differs from the ultimate design in two major ways. First, the PG&E Channel was not constructed to the full depth and width of the Putah Creek Diversion Channel; therefore, it cannot convey the ultimate (proposed) flows of the master plan without modification. Second, the channel does not connect directly south to Putah Creek as shown in the master plan. Instead, the channel turns eastward, running parallel

to the right bank of Putah Creek, and drains through a temporary culvert into an existing Caltrans drainage ditch, which ultimately discharges south into Putah Creek. Because of this configuration, the PG&E channel is shallower, narrower, and longer than the ultimate channel alignment. Taken together, this contributes to a smaller flow capacity.

The existing condition flooding is shown on **Figure 3**, which includes failure of off-site structures located to the north of the proposed Project boundary. The peak flow entering the Project area from the north is 132 cfs during the 100-year event.

PROPOSED INTERIM FLOOD SOLUTION

The Project must contain and/or convey all off-site runoff entering the Project area under the worst-case condition, and must provide sufficient on-site and downstream facilities in order to safely convey proposed conditions flooding without creating adverse impacts. Wood Rodgers, Inc. (Wood Rodgers) has determined that this can be accomplished with a new flood barrier and overflow weir, an on-site detention basin, and downstream channel/culvert improvements.

Flood Barrier

A flood barrier and weir is proposed across the northern boundary of the Project that would extend to high ground along County Road 90 to create a certifiable levee/floodwall structure. This would protect the Project area from flows coming from the north as well as failures of any uncertified structure to the north, without worsening flooding on other properties. The weir is necessary in order to continue accepting existing overflow from the north in a safe and controlled manner without increasing upstream water surfaces.

With the design overflow condition from the north established, this flow must be safely stored and/or conveyed downstream. The Project proposes using a combination of on-site storage with limited downstream conveyance improvements to mitigate the impacts of the design 100-year storm event.

Detention Basin

As discussed above, a detention basin is required to hold and convey flows emanating from the north in a similar way to flows that occur under existing conditions. **Figure 4** depicts the configuration of the detention basin and associated interim facilities. **Figure 5** provides the proposed lot/street configuration as well as preliminary storm drain alignments for the Farmstead portion of the Project. **Figure 6** provides a similar proposed configuration for the Walnut Lane 10 portion of the Project. A schematic representation of the detention basin and benched areas adjacent to the channel are shown on **Figure 7**. The detention basin is configured to store the 10-year storm event in the eastern portion of the park site,

without inundating the central western area benched/raised portion of the park, which is inundated during the 100-year storm.

On-site detention within the proposed park area is contained by a raised access roadway between the park detention pond and the proposed channel, which also provides detention storage under the interim Project configuration. On-site storm drains will enter the composite detention storage at several locations. The largest storm drain serving the majority of the development site will enter the park detention basin at the northwest corner, and will discharge into a swale flowing eastward across the northern boundary of the detention basin. This park detention basin will discharge through a 48-inch pipe into channel improvements identified as the Putah Creek Diversion Channel Corridor. A second storm drain connection will drain the northeast portion of the development directly into the Putah Creek Diversion Channel, given that stormwater quality treatment is handled on each parcel. A water quality treatment approach for the Project is discussed in **Attachment A**. Specific discharge locations for each of the commercial sites have yet to be determined as site layouts will dictate where on-site treatment will occur and where discharge can be most effectively accomplished.

Putah Creek Diversion Channel

In order to receive and convey off-site flows through the site, a weir will be constructed at the upstream end of the Putah Creek Diversion Channel as an "inlet" structure. The proposed weir is 25 feet long with a weir crest elevation of 126.6 feet (NAVD 88) with sideslopes at 3 horizontal to 1 vertical (3H:1V) as shown in the cross section on **Figure 8**. The weir will be located at the north end of the proposed Putah Creek Diversion Channel segment north of Grant Avenue, which is consistent with the ultimate SDMP channel configuration.

The interim cross section geometry of the proposed drainage channel differs from the ultimate channel configuration in several ways. First, the proposed SDMP channel invert is high enough to impact development grading elevations due to the flatter terrain affecting pipe diameters and the minimum pipe cover requirements. After evaluating preliminary site grading, it is recommended that the ultimate drainage channel be lowered to one foot below the SDMP channel profile. The cost associated with lowering the channel invert, ultimate Grant Avenue culverts, and the outfall structure is minimal compared to the net benefit of reducing/eliminating soil import to the Project. To achieve the channel lowering by one foot, Wood Rodgers recommends projecting the bank slopes deeper within the 25-foot bottom width, reducing the bottom width to 19 feet.

This revised ultimate channel geometry proposed north of Grant Avenue acts as conveyance and detention storage for the Project. After discussions with the City, it was determined that, since the interim Project requires modification of the existing culverts under Grant Avenue, the ultimate Grant Avenue culverts should be constructed. Under the current draft of the SDMP, the Grant Avenue crossing is a double 8-foot by 7-foot box culvert. After evaluating the utilities crossings in the area, it is proposed to construct a double 12-foot by 5-foot box culvert, providing conveyance capacity equivalent to the ultimate culvert with a lower soffit elevation. Downstream of Grant Avenue, the ultimate channel width does not need to be constructed under interim conditions. However, the revised ultimate channel invert does need to be constructed in order to effectively drain all waters from the detention basin. Wood Rodgers proposes modifying the current PG&E channel by excavating the bottom to a lower elevation with a V-ditch configuration. The lowering of this channel segment (without widening) will require the construction of a new interim culvert connection between the lowered PG&E channel into the existing Caltrans Ditch, while maintaining the existing culverts at this same location. Wood Rodgers has determined that an additional culvert with a 60-inch diameter is necessary to convey the required 100-year flooding discharge into the Caltrans Ditch.

The only potential constraints to lowering the ultimate channel profile are three existing utilities (an existing gravity sewer main, an existing sewer force main, and a water main) crossing under the PG&E channel alignment along the projected East Baker Street alignment. From record drawing information provided by the City, the crown of the highest existing pipeline sits approximately 1.5 feet below the proposed lowered channel profile. Lowering of the channel invert could make it necessary to provide a protective cover over the pipelines within the channel.

HYDRAULIC RESULTS

The interim configuration and preliminary grading and drainage layouts produce peak flow and water surface elevations that are contained and will not adversely affect upstream, adjacent, or downstream properties. Locations where peak flow and water surface elevations are reported for both pre-project and post-project conditions are shown on **Figure 9**. **Table 1** (below) provides a summary of 100-year peak flows and water surface elevations at these identified locations.

Table 1

	Pre-project Condition		Interim Condition	
	Stage (ft, NAVD88)	**Peak Flow (cfs)**	**Stage (ft, NAVD88)**	**Peak Flow (cfs)**
Location 1	127.4	132	122.9	132
Location 2	127.4	78	122.8	132
Location 3	124.8	73	122.8	132
Location 4	124.7	63	121.8	132

FUTURE SDMP INTEGRATION

The Farmstead and Walnut Lane 10 development projects must successfully drain as part of the ultimate SDMP drainage system, as well as during interim developed conditions. The transition from interim conditions to SDMP buildout conditions will not require any reconfiguration of the Winters 71 Project on-site. A new (ultimate) weir structure will need to be constructed to the north of the Project, in accordance with the SDMP, to replace the interim conditions weir defined in this report. The ultimate channel within the Project and Grant Avenue crossing will already be constructed. The interim flood barrier can remain in place. Off-site, downstream channel widening and the proposed SDMP Putah Creek outfall structure will need to be constructed. The ultimate conditions 100-year water surface elevations are contained within the channel and are compared to interim conditions in **Table 2**.

Table 2

	Interim Condition	Ultimate Condition
	Stage (ft, NAVD88)	**Stage (ft, NAVD88)**
Location 1	122.9	124.1
Location 2	122.8	123.2
Location 3	122.8	122.9
Location 4	121.8	--

CONCLUSIONS AND RECOMMENDATIONS

The Project, as configured, safely addresses storm drainage impacts for the Farmstead and Walnut Lane 10 proposed developments, consistent with the City's draft SDMP efforts. Before the

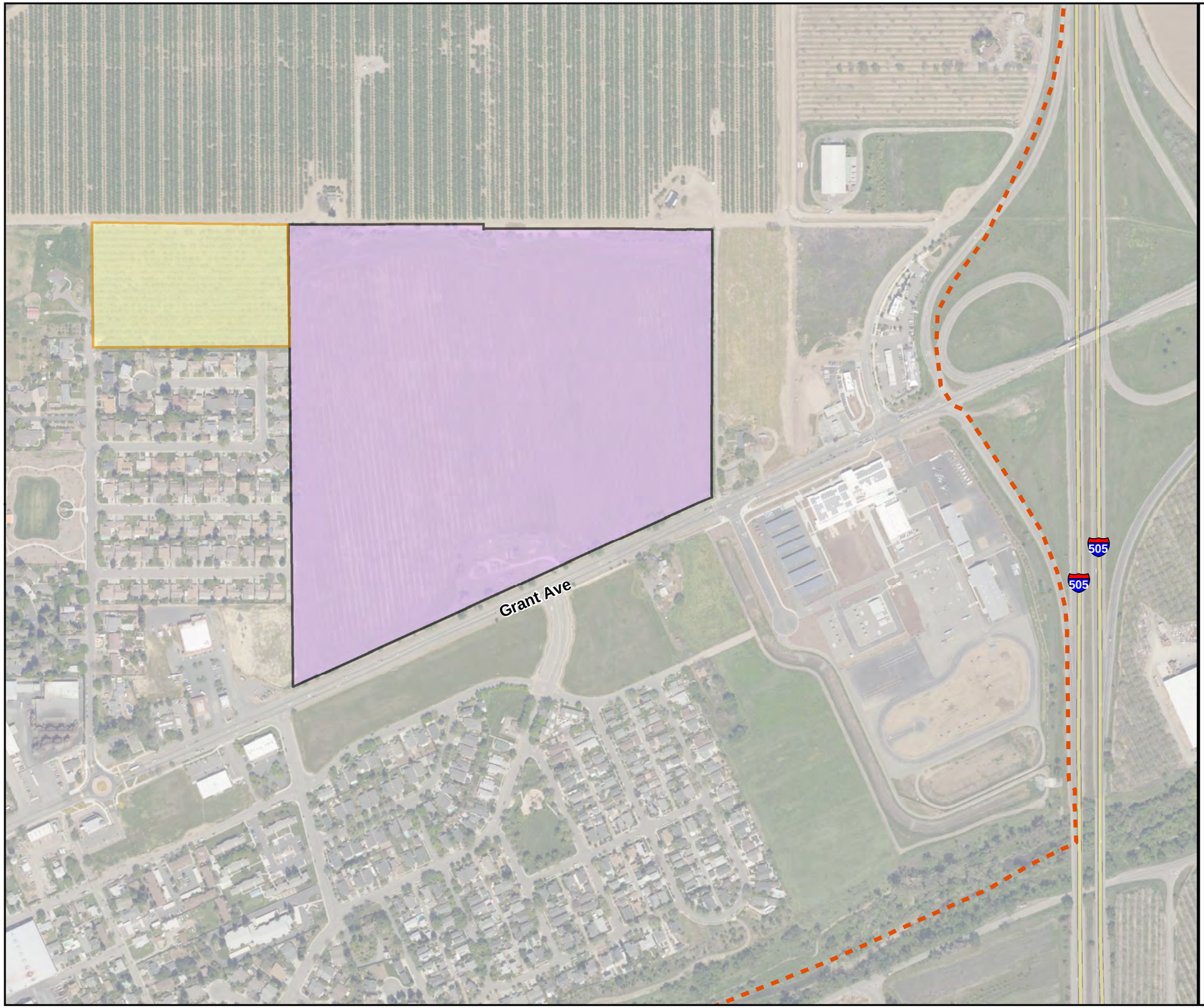
construction of these projects can occur, drainage conditions (existing and future) must be submitted and reviewed by all state and federal agencies dealing with development approval. A submittal to the Federal Emergency Management Agency (FEMA) can be made to establish the pre-project flooding conditions and residual floodplain in the vicinity of the Project. It is up to the City as the Floodplain Administrator for FEMA to address coordination and timing of such an effort. The detailed hydrologic and hydraulic assessments that have been performed will also be provided to Caltrans in order to secure an encroachment permit to proceed with physical changes affecting the drainage of state facilities. After initial reviews and approvals are made, design improvement plans and water quality permitting can be prepared to ensure that on-site measures are fully identified and validated by the City and by state agencies.

LOCATION MAP

WINTERS 71 DRAINAGE ANALYSIS

WINTERS, YOLO COUNTY, CALIFORNIA

JULY, 2019



NORTH

0 200 400

FEET

- City General Plan Boundary
- Walnut Lane 10
- Farmstead
- Interstate

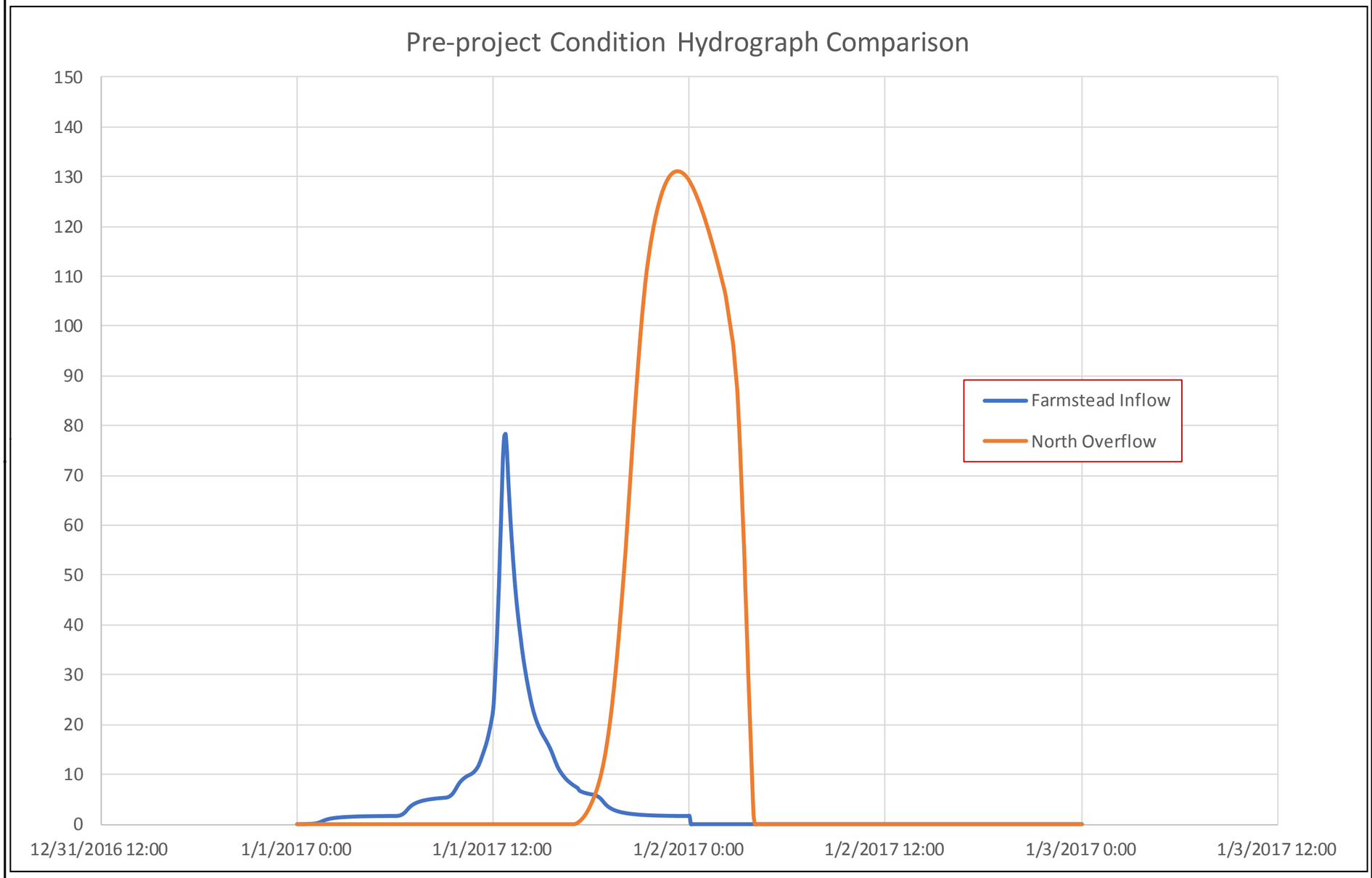


PRELIMINARY

WOOD RODGERS

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FIGURE 1



PRE-PROJECT HYDROGRAPH COMPARISON

WINTERS 71 DRAINAGE ANALYSIS

WINTERS, YOLO COUNTY, CALIFORNIA

JULY, 2019

NORTH

0 200 400

FEET

PRELIMINARY

WOOD RODGERS

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FIGURE 2

EXISTING CONDITION FLOODING - 100-YEAR

WINTERS 71 DRAINAGE ANALYSIS

WINTERS, YOLO COUNTY, CALIFORNIA

JULY, 2019

NORTH

0 200 400

FEET

City General Plan Boundary

100-Year Flooding Depth (ft)

- 0 - 3"
- 3" - 6"
- 6" - 1'
- 1' - 2'
- >2'

Grant Ave

Flooding in PG&E Channel Not Shown

PRELIMINARY

WOOD RODGERS

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FIGURE 3

PROPOSED DRAINAGE FACILITY LAYOUT

WINTERS 71 DRAINAGE ANALYSIS

WINTERS, YOLO COUNTY, CALIFORNIA

JULY, 2019

North of the Projects
Interim 100-Year WSE: 128.3 ft

Proposed Interim Weir:
Weir Length: 25 ft
Crest Elevation :126.6 ft
Peak 100-Year Overflow: 132 cfs

Ultimate Channel
Bottom Width: 19 ft
Side Slope: 3H:1V
Invert: 118.8 ft
Interim 100-Year WSE: 122.9 ft

Proposed Flood Berm
Top Elevation: 131.9

On Site Detention Basin
Low Flow Ditch Invert: 118.5 ft
Bottom Elevation: 119.5 ft

Walnut Lane 10 - Proposed
53 lots Development
See Figure 6

Ground Elevation: 122.3 ft
Interim 100-Year WSE: 122.9 ft

Farmstead - Proposed
215 lots Development
See Figure 5

Proposed 48" Culvert
Length: 56 ft
Upstream Invert: 118.5 ft
Downstream Invert: 118.4

10-Year WSE: 122.3 ft

Proposed Ultimate Culverts:
Double 12'x5'
Length: 188 ft
Upstream Invert: 118.2 ft
Downstream Invert: 118.0 ft

Ultimate Channel
Bottom Width: 25 ft
Side Slope: 3H:1V
Invert: 118.2 ft
Interim100-Year WSE: 122.8 ft

PG&E Channel Improvement:
Ultimate Invert: 118 ft
Bottom Width: 5 ft
Side Slope: 3H:1V
Interim 100-Year WSE: 122.8 ft

PG&E Channel Improvement

PG&E Channel Improvement:
Interim Invert: 117.5 ft
Interim Bottom Width: 5 ft
Side Slope: 3H:1V
Interim 100-Year WSE: 121.8 ft

PG&E Channel Improvement:
60" Outlet Culvert to Caltranss Ditch
Energy Dissipation Structure

NORTH

0 200 400

FEET

- PG&E Interim Channel Improvement
- Proposed Culvert
- City General Plan Boundary
- Flood Berm
- Farmstead
- Walnut 10

PRELIMINARY

WOOD RODGERS

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FIGURE 4

FARMSTEAD PRELIMINARY ON-SITE LAYOUT

WINTERS 71 DRAINAGE ANALYSIS

WINTERS, YOLO COUNTY, CALIFORNIA

JULY, 2019

NORTH

0 150 300

FEET

Drainage Pipe

Lots/Streets

City General Plan Area

Grant Ave

PRELIMINARY

WOOD RODGERS

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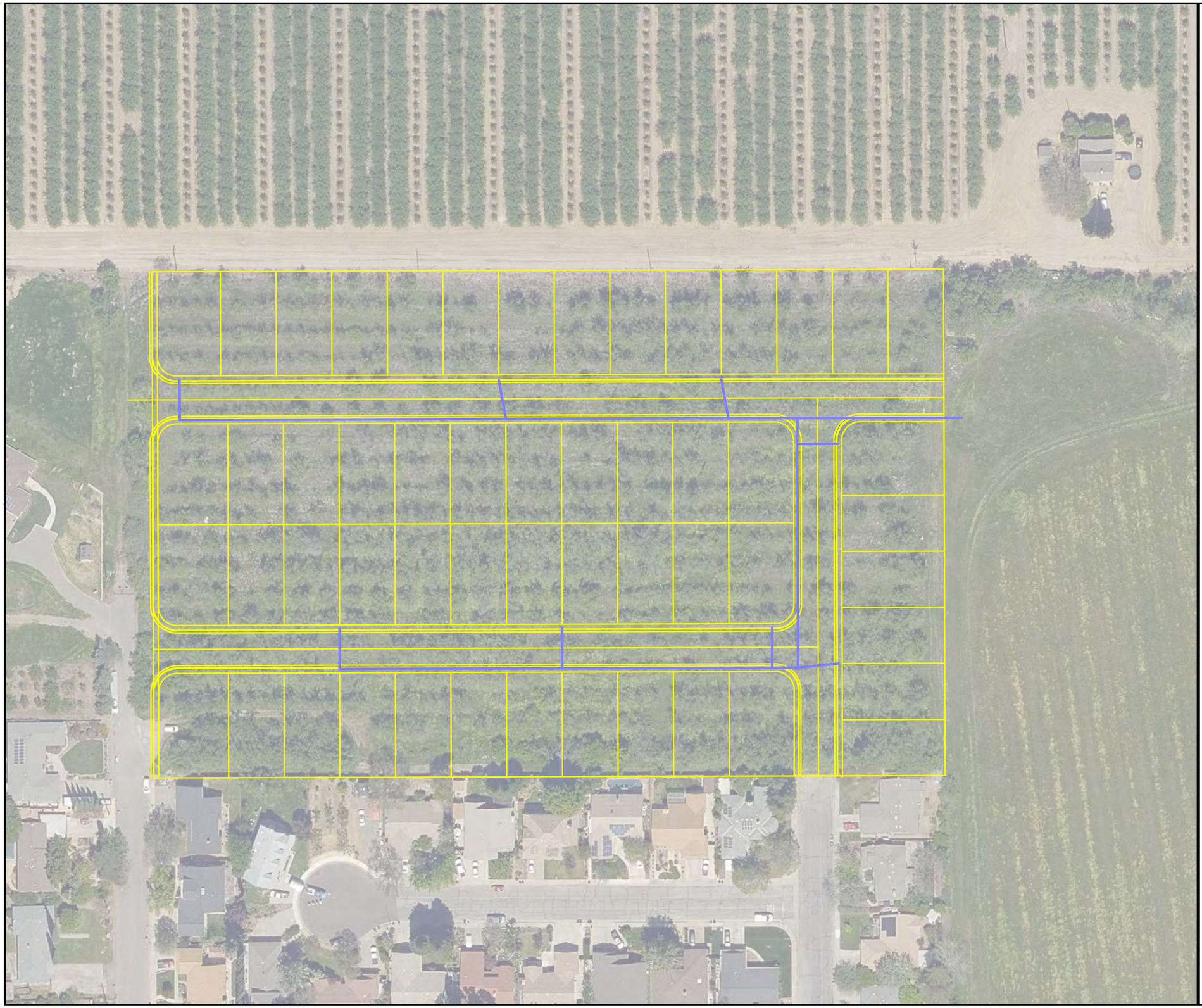
FIGURE 5

WALNUT LANE 10 PRELIMINARY ON-SITE LAYOUT

WINTERS 71 DRAINAGE ANALYSIS

WINTERS, YOLO COUNTY, CALIFORNIA

JULY, 2019



PRELIMINARY

WOOD RODGERS

\\woodrodgers.loc\ProductionData\Jobs\3000-s\3559 Skreden Commercial Real Estate\3559002_Property_Drainage_Study\GIS\Tasks\Report\Fig06_Walnut Lane_Onsite_Lots.mxd 7/15/2019 5:46:34 PM wli

FIGURE 6



PARK DETENTION SCHEMATIC

WINTERS 71 DRAINAGE ANALYSIS

WINTERS, YOLO COUNTY, CALIFORNIA

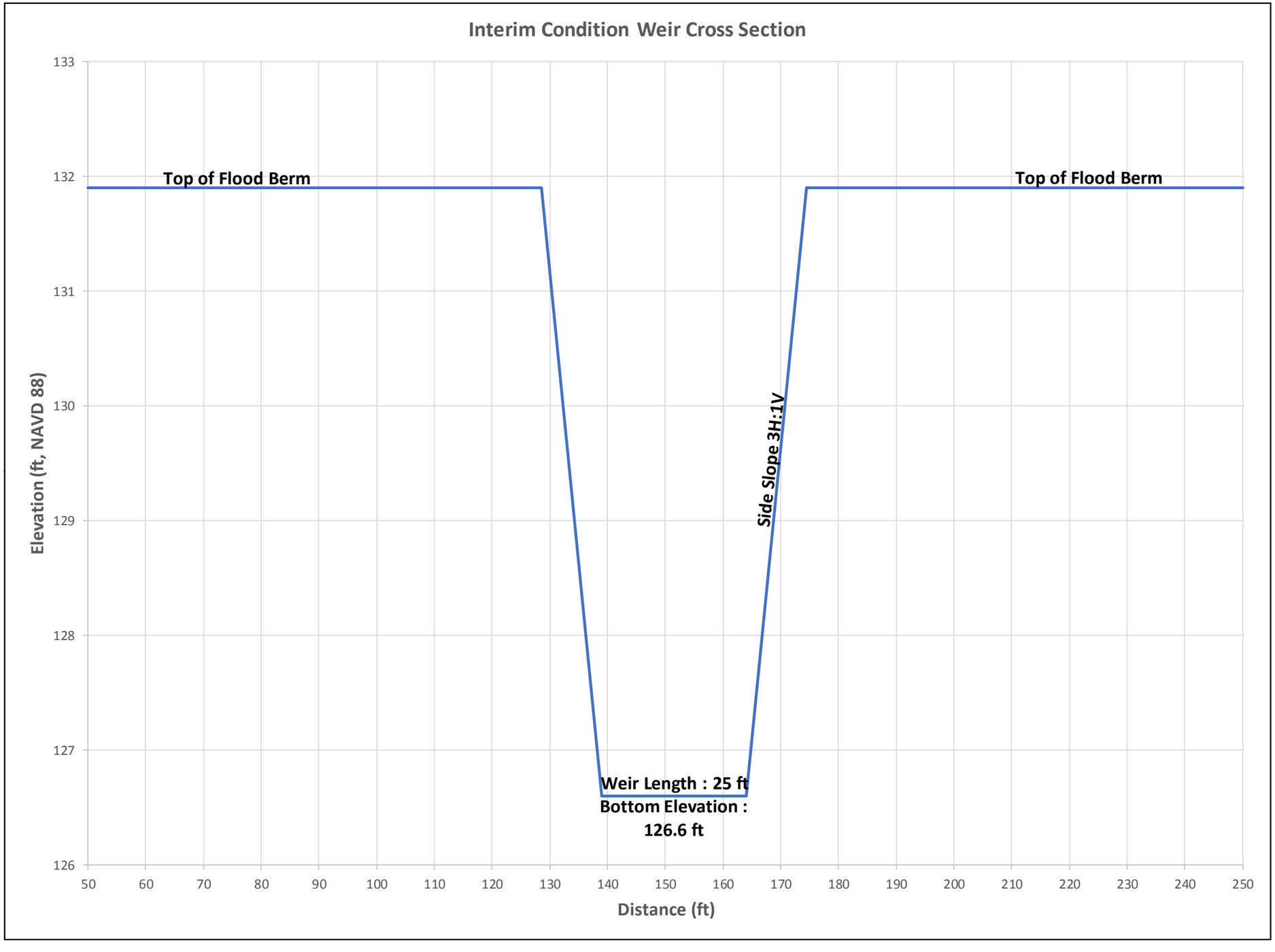
JULY, 2019

PRELIMINARY

WOOD RODGERS

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FIGURE 7



WEIR CROSS SECTION

WINTERS 71 DRAINAGE ANALYSIS

WINTERS, YOLO COUNTY, CALIFORNIA

JULY, 2019

NORTH

0 200 400

FEET

PRELIMINARY

WOOD RODGERS

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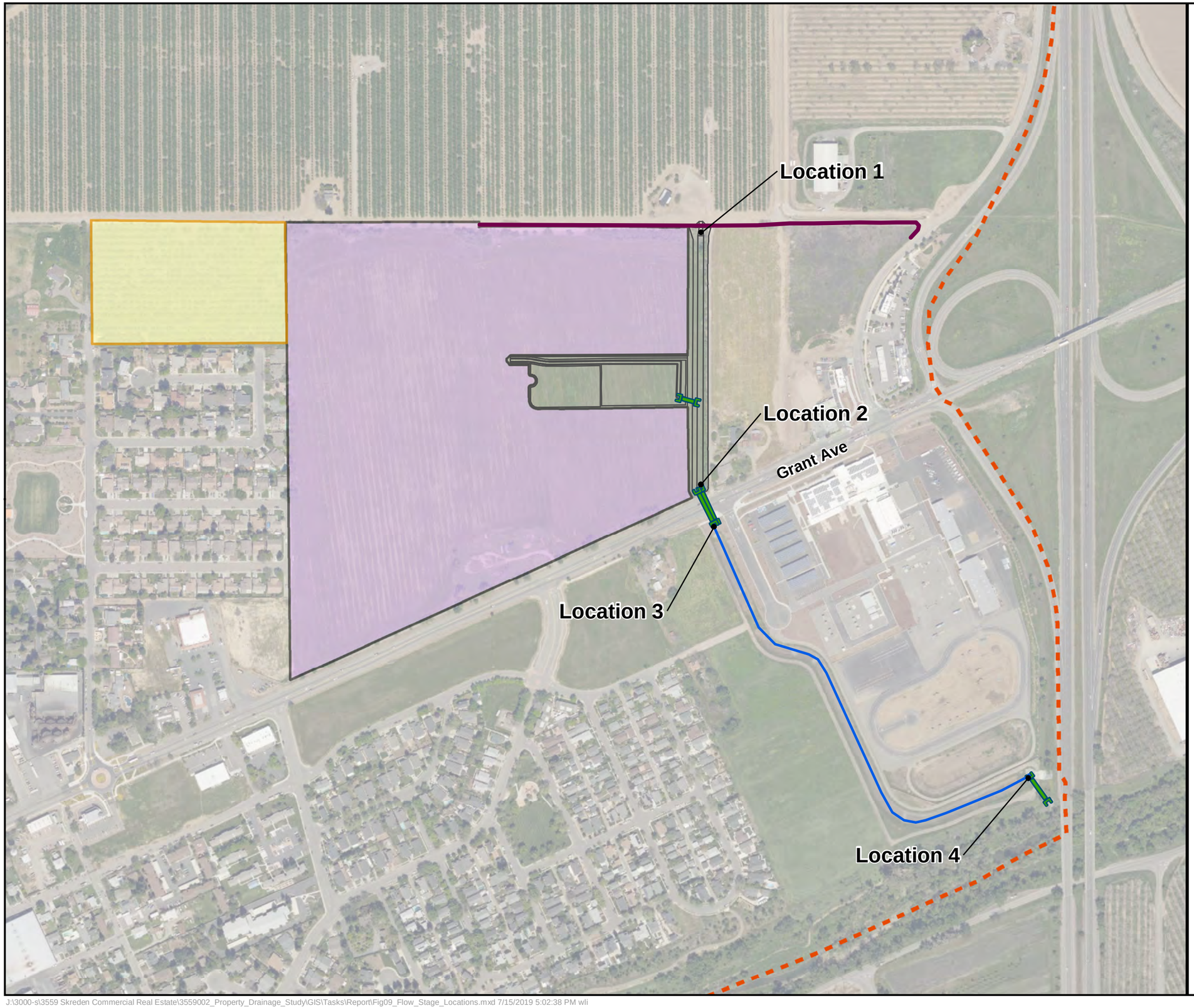
FIGURE 8

FLOW/STAGE LOCATIONS

WINTERS 71 DRAINAGE ANALYSIS

WINTERS, YOLO COUNTY, CALIFORNIA

JULY, 2019



NORTH

0 200 400

FEET

- Flood Berm
- PG&E Interim Channel Improvement
- Proposed Culvert
- Walnut Lane 10
- Farmstead
- City General Plan Boundary

PRELIMINARY

WOOD RODGERS

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FIGURE 9

ATTACHMENT A

WOOD RODGERS
BUILDING RELATIONSHIPS ONE PROJECT AT A TIME

TECHNICAL MEMORANDUM

To: Alan Mitchell, PE, Ponticello Enterprises

From: Michael Towne, PE

Date: July 12, 2019

Subject: Walnut 10/ Farmstead Water Quality Design Approach
APNs: 038-050-019, 038-050-018
Yolo County Subdivision #s: 5173, 5174

This memorandum addresses the design approaches to be taken by the builder(s) of the subject subdivisions to comply with the State Storm Water Resources Control Board's General Construction Permit Order 2009-0009-DWQ (amended by 2010-0014-DWQ & 2012-0006-DWQ). The project is located outside of a jurisdiction covered by a Municipal Separate Storm Sewer System (MS4) Permit and is therefore subject to the State's requirements.

The Post-Construction Water Balance Calculator (**Figure 1**) was used as a basis for determining water quality compliance for the General Construction Permit. Water quality treatment will need to be achieved by a variety of measures that address the flow from the 85th percentile, 24 hour storm event. Tree planting should be on the order of two trees per lot on average. This is a combined 262 lot subdivision which would equate to 524 trees (some of these will be in the park). Home construction should include the use of roof gutter downspouts that drain less than 600 square feet of roof to a sheet-flow, landscaped area.

These measures alone meet the minimum requirements of the Water Balance Calculator and therefore no additional water quality measures are necessary. An additional water quality feature will be a drain outfall that runs through a vegetated swale. The swale is unable to meet the design guidelines of the California Stormwater BMP Handbook due to the size of the area being drained and it therefore cannot be included in the measures used in the Water Balance Calculator. The normal depth in the swale is approximately 1.6' which is above the 4" threshold. However, the 400+' long swale will vastly exceed the required length for contact time. **Figure 2** shows the calculations associated with this swale.

The remaining developable acreage of the Farmstead site consists of commercial parcels. Theses parcels will be subject to water quality treatment through on-site low impact development (LID) measures before discharging into the storm drainage conveyance system. Design of the commercial sites and their LID features are not intended to be addressed with this memo.

FIGURE 1

Post-Construction Water Balance Calculator

3	User may make changes from any cell that is orange or brown in color (similar to the cells to the immediate right). Cells in green are calculated for you.			(Step 1a) If you know the 85th percentile storm event for your location enter it in the box below		(Step 1b) If you can not answer 1a then select the county where the project is located (click on the cell to the right for drop-down): This will determine the average 85th percentile 24 hr. storm event for your site, which will appear under precipitation to left.		***YOLO***					
4						(Step 1c) If you would like a more percise value select the location closest to your site. If you do not recgonize any of these locations, leave this drop-down menu at location. The average value for the County will be used.		**DAVIS 2 WSW EXP FARM**					
5	***Project Information***					***Runoff Calculations***							
6	***Project Name:***	***Corbett 10***				(Step 2) Indicate the Soil Type (dropdown menu to right):		***Group C Soils***		**Low infiltration. Sandy clay loam. Infiltration rate 0.05 to 0.15 inch/hr when wet.**			
7	***Waste Discharge Identification (WDID):***	***Optional***				(Step 3) Indicate the existing **dominant** non-built land Use Type (dropdown menu to right):		***Cultivated Agricultural: minor crop residue cover***					
8	***Date:***	***Optional***				(Step 4) Indicate the proposed **dominant** non-built land Use Type (dropdown menu to right):		***A mix of lawn, grass, pasture and tress covering less than 50% of the open space***					
9	***Sub Drainage Area Name (from map):***	***Optional***						**Complete Either**					
10	***Runoff Curve Numbers***							**Sq Ft**	**Acres**	**Acres**			
11	**Existing Runoff Curve Number**	**88**				*(Step 5) Total Project Site Area:*			**71.00**	**71.00**			
12	**Proposed Development Runoff Curve Number**	**90**				*(Step 6) Sub-watershed Area:*			**71.00**	**71.00**			
13	***Design Storm***					*Percent of total project :*		**100%**					
14	Based on the County you indicated above, we have included the 85 percentile average 24 hr event - P85 (in)^ for your area.	**0.65**	**in**										
15	The Amount of rainfall needed for runoff to occur (Existing runoff curve number -P from existing RCN (in)^)	**0.27**	**In**			***(Step 7) Sub-watershed Conditions***		**Complete Either**		**Calculated Acres**			
16	P used for calculations (in) (the greater of the above two criteria)	**0.65**	**In**			Sub-watershed Area (acres)		**Sq Ft**	**Acres**	**71.00**			
17	^Available at www.cabmphandbooks.com					Existing Rooftop Impervious Coverage			**0**	**0.00**			
18						Existing Non-Rooftop Impervious Coverage			**0**	**0.00**			
19						Proposed Rooftop Impervious Coverage			**23.43**	**23.43**			
20						Proposed Non-Rooftop Impervious Coverage			**11.5**	**11.50**			
21													
22						***Credits***		**Acres**		**Square Feet**			
23						Porous Pavement		**0.00**		**0**			
24						Tree Planting		**1.97**		**85,813**			
25	**Pre-Project Runoff Volume (cu ft)**	**21,188**	**Cu.Ft.**			Downspout Disconnection		**23.43**		**1,020,611**			
26	**Project-Related Runoff Volume Increase w/o credits (cu ft)**	**9,509**	**Cu.Ft.**			Impervious Area Disconnection		**0.00**		**0**			
27						Green Roof		**0.00**		**0**			
28						Stream Buffer		**0.00**		**0**			
29	**Project-Related Volume Increase with Credits (cu ft)**	**0**	**Cu.Ft.**			Vegetated Swales		**0.00**		**0**			
30						**Subtotal**		**25.40**		**1,106,424**			
31						**Subtotal Runoff Volume Reduction Credit**		**10982 Cu. Ft.**					
32													
33	You have achieved your minimum requirements					***(Step 9) Impervious Volume Reduction Credits***		**Volume (cubic feet)**					
34						Rain Barrels/Cisterns		**0 Cu. Ft.**					
35						Soil Quality		**0 Cu. Ft.**					
36						**Subtotal Runoff Volume Reduction**		**0 Cu. Ft.**					
37						**Total Runoff Volume Reduction Credit**		**10,982 Cu. Ft.**					
38													
39													

Walnut 10/Farmstead

Stormwater Quality Swale Calculations

Updated: 5/22/2019

				Swale Geometrics						Hdyraulics			Water Quality	
C	Intensity	Area	WQF	US FL Elev.	DS FL Elev.	Swale Slope	Bottom Width	Side Slope	Swale Length	Manning's "n"	WQ Velocity	Normal Depth	Retention Time	Length Required
---	(in/hr)	(ac)	(cfs)	(ft)	(ft)	(ft/ft)	(ft)	(H:V)	(ft)	---	(fps)	(ft)	(mins)	(ft)
0.50	0.20	71.0	7.10	121.5	119.5	0.0020	10	3	100	0.250	0.3	1.61	10	178

Notes

1. Methodology based on New Development and Redevelopment BMP Handbook and Post-Construction Water Balance Calculator
2. Roughness coefficient for water quality flow is 0.25 per the BMP Handook

Appendix D

Walnut 10 Storm Drainage Assessment

TECHNICAL MEMORANDUM – DRAFT

TO: Mr. Jim Corbett, Spectrum Capital Corporation

FROM: Mr. Michael C. Nowlan, P.E., Wood Rodgers, Inc.
Dr. Wayne Li, P.E., Wood Rodgers, Inc.

SUBJECT: Walnut Lane 10 Subdivision - Interim Condition Drainage Analysis

DATE: October 29, 2019

INTRODUCTION

The proposed Walnut Lane 10 Project (Project) is a 10-acre residential development located in the City of Winters, California, northeast of the intersection of Walnut Lane and Almond Drive as shown on **Figure 1** (attached). It is part of the Winters 71 Project which is comprised of two separate developments: the Farmstead 61 residential subdivision development and the Walnut Lane 10 residential subdivision development. In the event the Walnut Lane 10 residential subdivision develops ahead of the Farmstead 61 residential subdivision, it will require an interim storm drainage design that can sufficiently handle on-site flooding and prevent the worsening of flooding conditions off-site.

PROJECT DESCRIPTION

The Walnut Lane 10 Project is located within the land use zone "R-1 (Low Density Residential)" designated in the City of Winters Land Use General Plan. The 10-acre land area currently being used as an orchard will be developed to incorporate 54 units of single-family residential housing. Access to the Project will be provided through the existing roads, Walnut Lane and Almond Drive, and the future Farmstead 61 residential subdivision development. Under existing conditions, runoff from the project site (mainly orchard land) drains to the north of the project site. Under ultimate conditions, runoff generated from the impervious surfaces will drain to a stormwater collection system that connects with the Farmstead 61 future storm drain system and detention basin. If the future Farmstead 61 subdivision development is delayed, the interim condition runoff from the Walnut Lane 10 development will need to be collected by the on-site storm drain system and outfall to the east across existing properties without increasing peak flooding.

PURPOSE

The purpose of this draft technical memorandum is to: 1) provide descriptions about the background and previous studies performed for the overall drainage plan in the City of Winters (City); 2) reference documentation on existing and ultimate drainage conditions performed through previous studies; and 3) perform the interim condition drainage analysis to determine conceptual design requirements for the Walnut Lane 10 Project.

PREVIOUS STUDIES

City Storm Drainage Master Plan – The City of Winters commissioned Wood Rodgers, Inc. (Wood Rodgers) to develop a Storm Drainage Master Plan (SDMP) for the northeast portion of the City (Storm Drainage Master Plan - Northeast Area, City of Winters, California, August 2018). Under the ultimate plan outlined in the SDMP, the Project can drain its runoff to the proposed Putah Creek Diversion Channel without on-site flood detention being required. While the Putah Creek Diversion Channel offers a way of safely conveying on-site generated runoff to Putah Creek, the diversion channel alone does not protect the Winters 71 Project from being subjected to adverse flood impacts. The SDMP also identifies levees, channels, weirs, and detention basins to the north that act together with the Putah Creek Diversion Channel as a drainage system to protect all lands within the City's General Plan. The SDMP report has been provided to the City and is not included as an attachment to this memorandum. It is anticipated that the City will update its drainage impact fees, which would allow a mechanism for sharing the financial burden of constructing these updated ultimate facilities.

Winters 71 (Farmstead and Walnut Lane 10) Storm Drainage Assessment – The Winters 71 Project is comprised of two separate developments: the Farmstead Development (61 acres of proposed development) and the Walnut Lane 10 Development (10 acres of proposed development). Constructing all of the ultimate SDMP facilities required to protect the Winters 71 Project at this time is too great for the Walnut Lane 10 and Farmstead 61 Projects alone; therefore, Wood Rodgers evaluated a phased drainage alternative that would allow the Winters 71 Project to move forward. This phased alternative constructs a combination of the required ultimate facilities and interim facilities in order to establish the most cost-effective Project moving forward. The Winters 71 Project evaluated and proposed interim storm drainage facilities that could handle on-site flooding and prevent the worsening of flooding for surrounding properties. The proposed storm drainage facilities for the Winters 71 Project include a flood barrier, a weir, culvert improvements, a detention basin and a portion of the Putah Creek Diversion Channel, as well as deepening of the existing PG&E Channel. The transition from interim condition to ultimate condition will not require any reconfiguration of the Winters 71 Project on-site. The drainage analysis for the Winters 71 Project was provided to the City in an earlier technical memorandum and is not attached to this draft technical memorandum.

EXISTING CONDITIONS

In the SDMP report, it was determined that the main flood threat to the Winters 71 Project during the 100-year design flood event originated from off-site areas in the north. These floodwaters accumulate where Moody Slough crosses under Interstate 505 (I-505) and pond immediately north of the Project during high-water events. While the City's master plan only evaluated overflow spilling into the Project area from an un-failed condition under existing conditions, worst-case flooding for the Project occurs when uncertified embankments to the north fail. Various failure scenarios of uncertified off-site structures were evaluated in the Winters 71 TM to create the worst-

case existing condition, which serves as a basis for evaluating any interim condition drainage for the Walnut Lane 10 Project. **Figure 2** shows the 100-year flooding resulting from this worst-case existing condition analysis. The worst-case existing condition is the same for the Winters 71 Project and the Walnut Lane 10 Project.

ULTIMATE CONDITIONS (FULL BUILDOUT OF NORTHEAST WINTERS)

Under the ultimate condition, overflow from the Moody Slough watershed will be diverted to Putah Creek via a new diversion channel in order to mitigate the full buildout condition in the Moody Slough watershed. The peak flow diverted through the ultimate condition detention basin, which is located north of the Winters 71 Project, is 599 cfs during the 100-year design storm. The diversion channel downstream of the detention basin overflow location has a proposed bottom width of 25 feet, with an upstream invert elevation of 119.1 feet (North American Vertical Datum of 1988 (NAVD 88)) and an invert of 118.5 feet (NAVD 88) at Grant Avenue. The existing culverts under Grant Avenue immediately north of the Pacific Gas and Electric Company (PG&E) Gas Operations Technical Training Center (GOTTC) are not large enough nor deep enough to convey the needed capacity of the proposed diversion channel draining to Putah Creek. The two existing culverts are, therefore, proposed to be upgraded to convey the peak flow under ultimate conditions. The proposed channel must be constructed at a location south of Grant Avenue with the same cross section before discharging directly to Putah Creek through a new increased-capacity outfall structure. The new outfall structure will require energy dissipation to prevent erosion of the bank when peak flow is discharging into the Putah Creek corridor. The existing channel connection to the Caltrans Ditch can be abandoned at that time.

INTERIM WALNUT LANE 10 CONDITIONS

The Winters 71 technical memorandum identified the required drainage design necessary to allow development of Winters 71 to occur in advance of the full buildout or ultimate solution, when all future drainage facilities are in place. These facilities are identified in the City's SDMP. The following are our recommendations and findings if the Walnut Lane 10 Project is going to be developed ahead of the Farmstead 61 Project:

Hydrology – Under this new interim condition, the Walnut Lane 10 Project will be developed as a 54-unit single-family residential subdivision, and the Farmstead 61 Project will remain as agriculture land. The interim Walnut Lane 10 condition and the existing condition watersheds are both shown on **Figure 3**, reflecting an acreage incorporating the Walnut Lane 10 property being shifted to the watershed labeled "2910". A HEC-HMS model was developed to evaluate the 100-year interim condition runoff. **Figure 4** shows the results of the 100-year runoff hydrographs from the interim Walnut Lane 10 condition and existing condition for the watershed incorporating the future Winters 71 Project site. As indicated in Figure 4, the peak flow increases from 78 cfs (existing condition) to 90 cfs (interim condition) as a result of incorporating runoff from the Walnut Lane 10 development.

Facilities – **Figure 5** shows the proposed development of the Walnut Lane 10 Project with on-site drainage facilities and the temporary swale required to gravity discharge to Grant Avenue. The on-site storm drainage pipes will collect surface runoff from the development and will discharge it to the swale passing through the existing Farmstead 61 property. Ultimately, when the future Farmstead 61 Project develops, the Walnut Lane 10 runoff will be conveyed through the Farmstead storm drainage system and outfall to a detention basin located on the Farmstead site, as proposed in the Winters 71 Project technical memorandum.

Residual Flooding – For the unmitigated Walnut Lane 10 condition, an Infoworks ICM model was developed to evaluate the 100-year flooding impact compared with the worst-case existing condition shown on Figure 2. **Figure 6** shows the result of the unmitigated with-project condition residual flooding, and **Figure 7** shows the difference in flooding depth between the worst-case existing condition and the unmitigated Walnut Lane 10 condition north of Grant Avenue. The results show that development of the Walnut 10 subdivision causes increases in the 100-year flooding depth from 0.005 to 0.050 of a foot, except at one location near the freeway where the maximum depth increase is 0.061 foot.

To eliminate any increase in flood levels on adjacent properties, the minimum required portion of the improvements that were proposed in the Winters 71 drainage analysis (which included the ultimate Grant Avenue Culverts, PG&E channel improvement and the additional culvert discharging to the Caltrans Ditch) were evaluated. **Figure 8** shows the residual flooding that resulted from these improvements. **Figure 9** shows the difference in flooding depth between the worst-case existing condition and the mitigated interim Walnut Lane 10 condition with the facilities improvements mentioned above. The results show that the Walnut Lane 10 Project should incorporate the drainage facility improvements shown in Figure 8 and listed in the conclusion below in order to eliminate any potential impact.

Water Quality – The interim drainage condition will convey runoff from the Walnut Lane 10 development via a lengthy vegetated swale; however, the off-site swale is not required to meet water quality requirements. Details of water quality design and calculations for on-site areas are provided in a separate memo to the City of Winters dated 2019 (see attached **Appendix A**).

CONCLUSION

This analysis evaluated the interim condition 100-year flooding impact caused by development of the Walnut 10 subdivision and the mitigation required to eliminate these off-site impacts. The results show that the Project's impact can be eliminated through drainage facilities improvements including: 1) the ultimate Grant Avenue box culverts; 2) the PG&E channel improvement; and 3) the 60-inch culvert discharging to the Caltrans Ditch. The proposed facilities improvements safely address storm drainage impacts and are consistent with the City's SDMP efforts.

LOCATION MAP

WALNUT LANE 10 DRAINAGE ANALYSIS

WINTERS, YOLO COUNTY, CALIFORNIA

OCTOBER, 2019

NORTH

0 200 400

FEET

Walnut Lane 10

Farmstead 61

Walnut Ln

Almond Dr

Grant Ave

505

505

505

City General Plan Boundary

Walnut Lane 10

Farmstead 61

Interstate



PRELIMINARY

WOOD RODGERS

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FIGURE 1

"WORST-CASE" EXISTING CONDITION FLOODING - 100-YEAR

WALNUT LANE 10 DRAINAGE ANALYSIS

WINTERS, YOLO COUNTY, CALIFORNIA

OCTOBER, 2019

NORTH

0 200 400

FEET

City General Plan Boundary

Walnut Lane 10

Farmstead

100-Year Flooding Depth (ft)

0 - 3"

3" - 6"

6" - 1'

1' - 2'

>2'

Feature Class Type

Interstate

505

505

Grant Ave

Flooding in PG&E Channel Not Shown

PRELIMINARY

WOOD RODGERS

\\woodrodgers.loc\ProductionData\Jobs\3000-s\3563.002_Winters_Corbett_OA\GIS\Tasks\TM\Fig02_100YR_ExistingCondition_Flooding.mxd 10/28/2019 4:31:19 PM wli

FIGURE 2

WATERSHED MAP

WALNUT LANE 10 DRAINAGE ANALYSIS

WINTERS, YOLO COUNTY, CALIFORNIA

OCTOBER, 2019

NORTH

0 200 400

FEET

- Interim Condition Watershed
- Existing Condition Watershed
- City General Plan Boundary
- Interstate

Walnut Lane 10

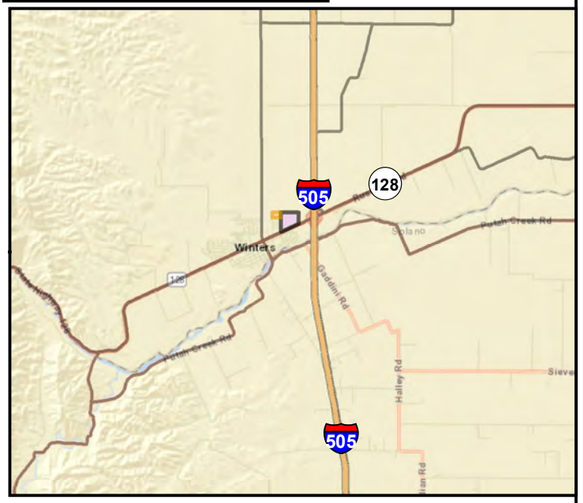
Farmstead 61

2910

128

505

Putah Creek



PRELIMINARY

WOOD RODGERS

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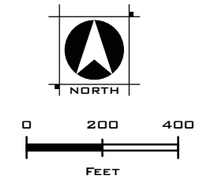
FIGURE 3

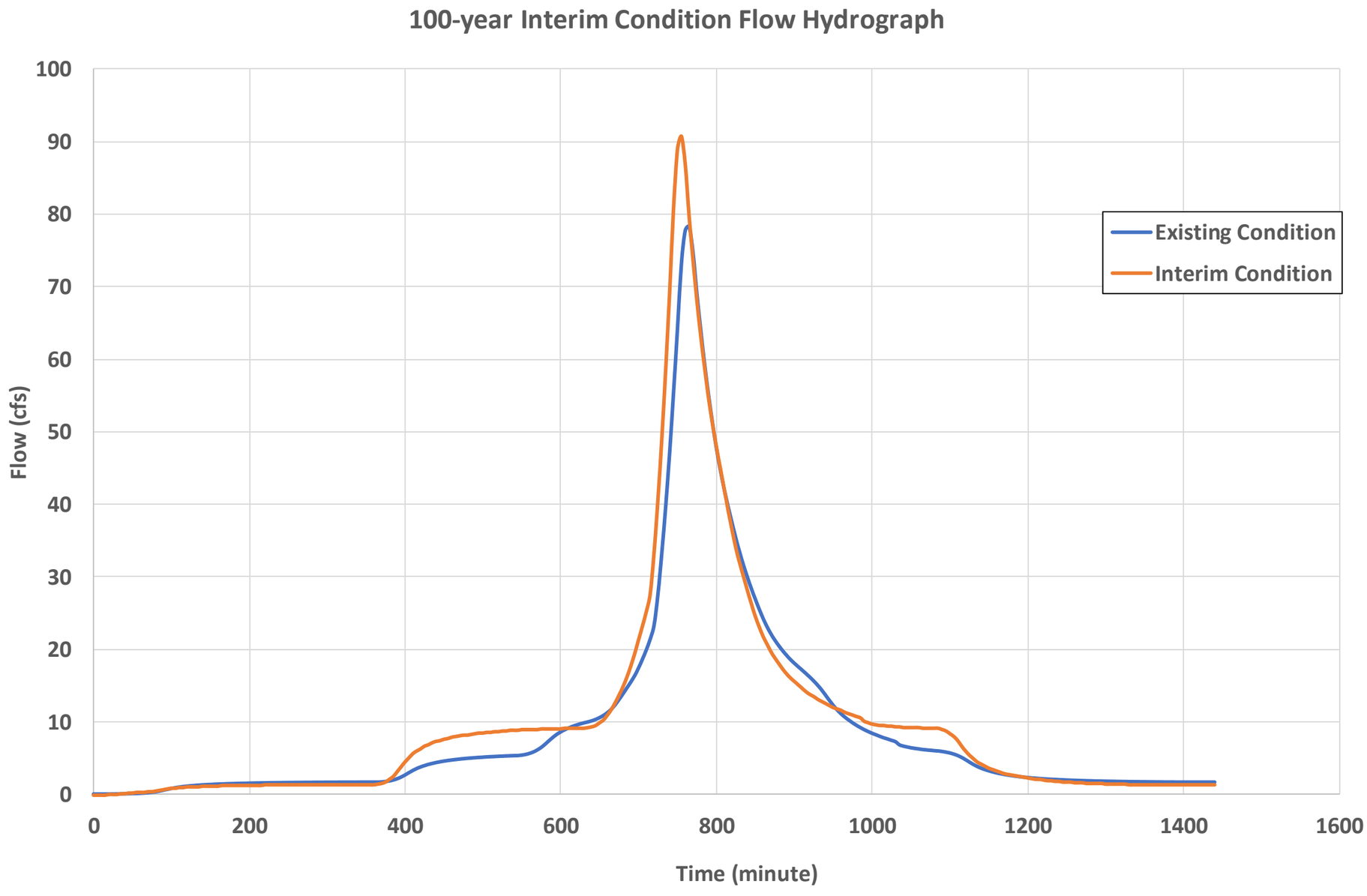
100-YEAR RUNOFF HYDROGRAPH

WALNUT LANE 10 DRAINAGE ANALYSIS

WINTERS, YOLO COUNTY, CALIFORNIA

OCTOBER, 2019



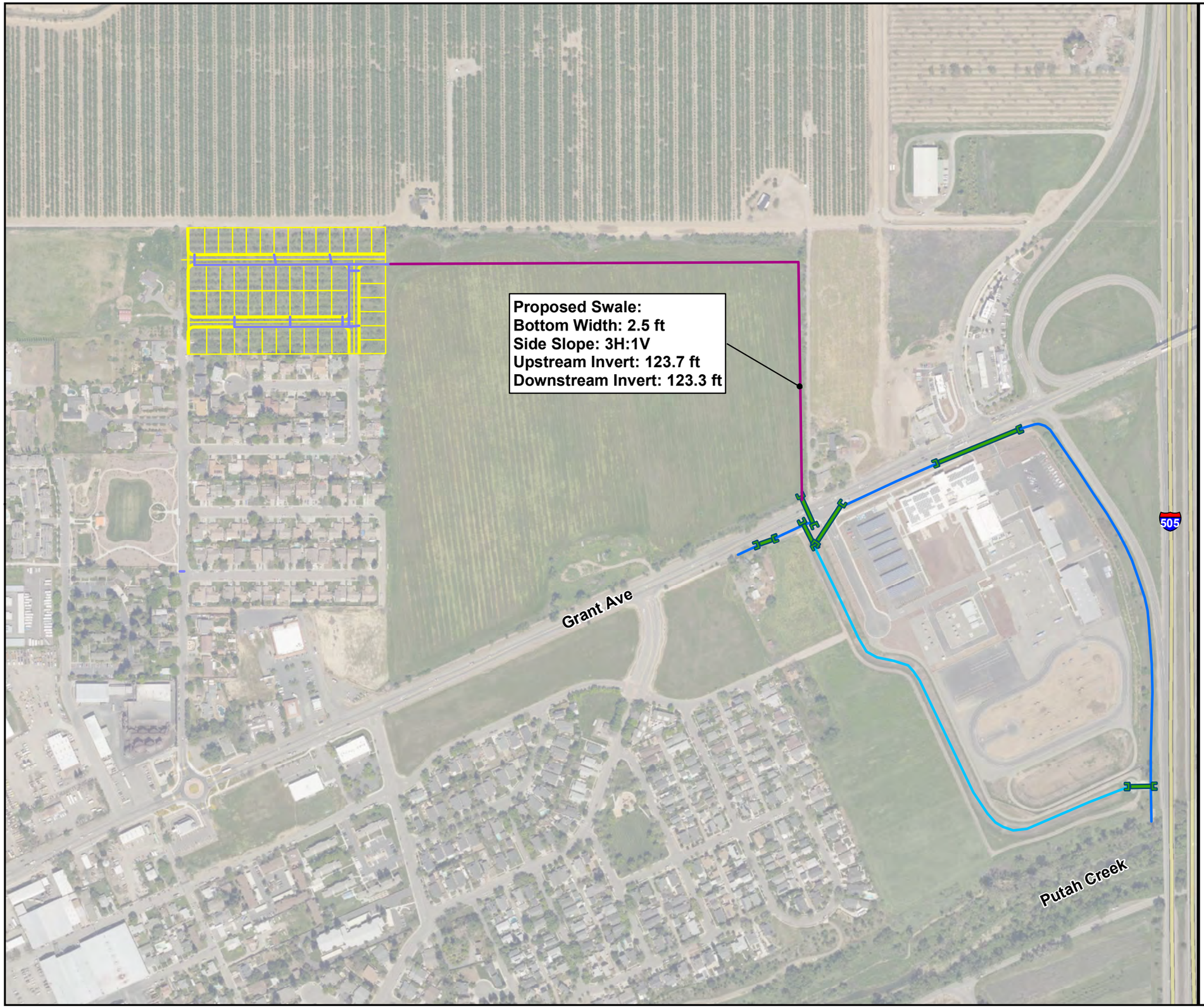


PRELIMINARY

WOOD RODGERS

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FIGURE 4



UNMITIGATED PROJECT LAYOUT

WALNUT LANE 10 DRAINAGE ANALYSIS

WINTERS, YOLO COUNTY, CALIFORNIA

OCTOBER, 2019

NORTH

0 200 400

FEET

- Lots/Streets
- Proposed Drainage Pipe
- Existing PG&E Channel
- Existing Caltran's Ditch
- Proposed Water Quality Swale
- Existing Culvert

Feature Class Type

- Interstate

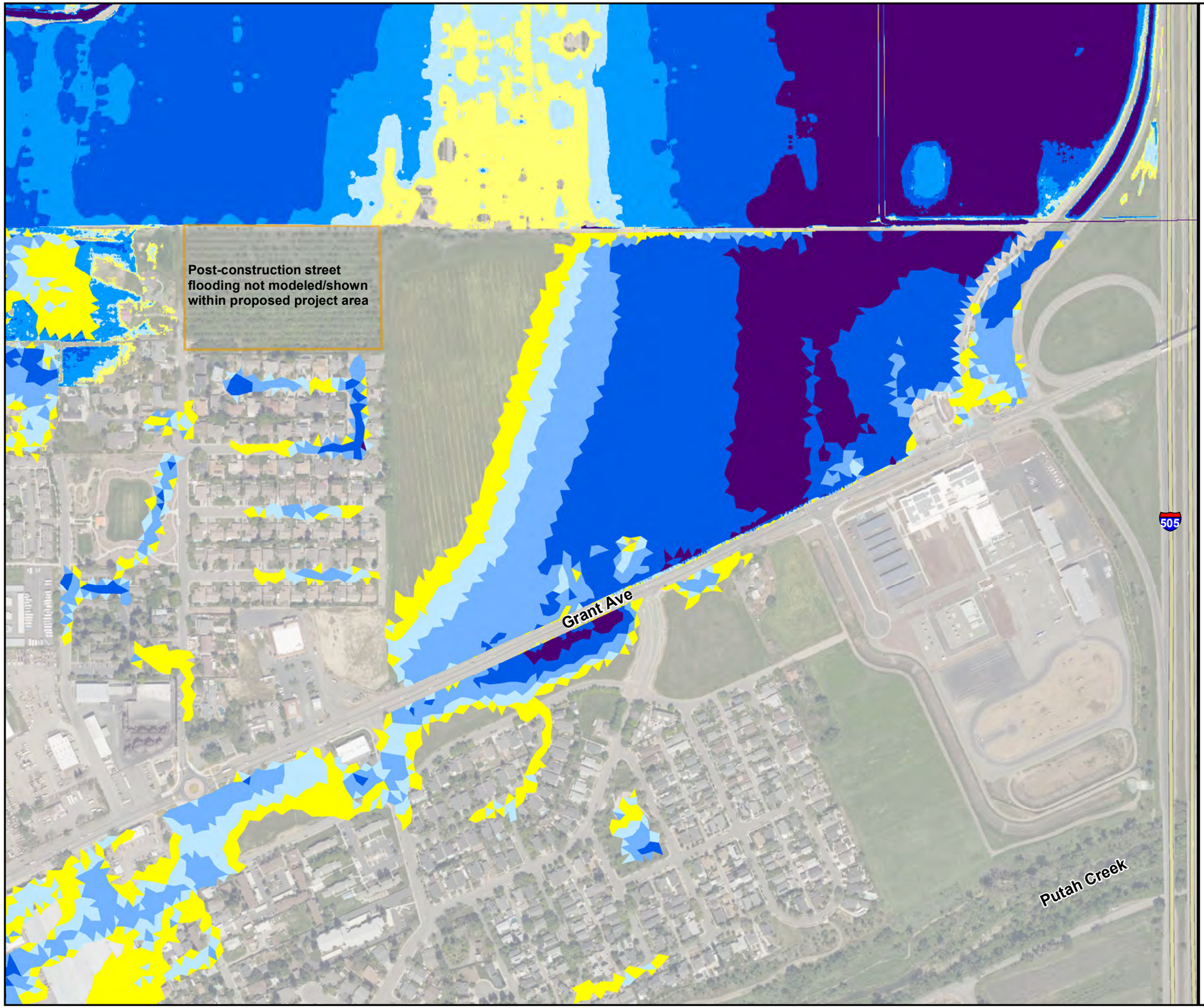
PRELIMINARY

WOOD RODGERS

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FIGURE 5

UNMITIGATED 100-YEAR FLOODPLAIN
WALNUT LANE 10 DRAINAGE ANALYSIS
WINTERS, YOLO COUNTY, CALIFORNIA
OCTOBER, 2019



NORTH

0 200 400

FEET

Walnut Lane 10

100-Year Flooding Depth (ft)

- 0 - 3"
- 3" - 6"
- 6" - 1'
- 1' - 2'
- > 2'

PRELIMINARY

WOOD RODGERS

\\woodrodgers.loc\ProductionData\Jobs\3000-s\3563.002_Winters_Corbett_OA\GIS\Tasks\TM\Fig06_Walnut Lane_Residual_Flooding.mxd 10/28/2019 4:42:08 PM wli

FIGURE 6

100-YEAR FLOODING IMPACTS
WALNUT LANE 10 DRAINAGE ANALYSIS
WINTERS, YOLO COUNTY, CALIFORNIA
OCTOBER, 2019

NORTH

0 200 400
FEET

Flooding Depth Difference (ft)

- -0.002 - 0.005
- 0.005 - 0.01
- 0.01 - 0.05
- 0.05 - 0.061

Note:The flooding depth difference shown on this map is between the Worst-Case Existing condition and the Unmitigated Walnut Lane 10 condition

Grant Ave

Putah Creek

505

PRELIMINARY

WOOD RODGERS

\\woodrodgers.loc\ProductionData\Jobs\3000-s\3563.002_Winters_Corbett_OA\GIS\Tasks\TM\Fig07_Walnut Lane_Impact_Map.mxd 10/23/2019 10:59:35 AM wli

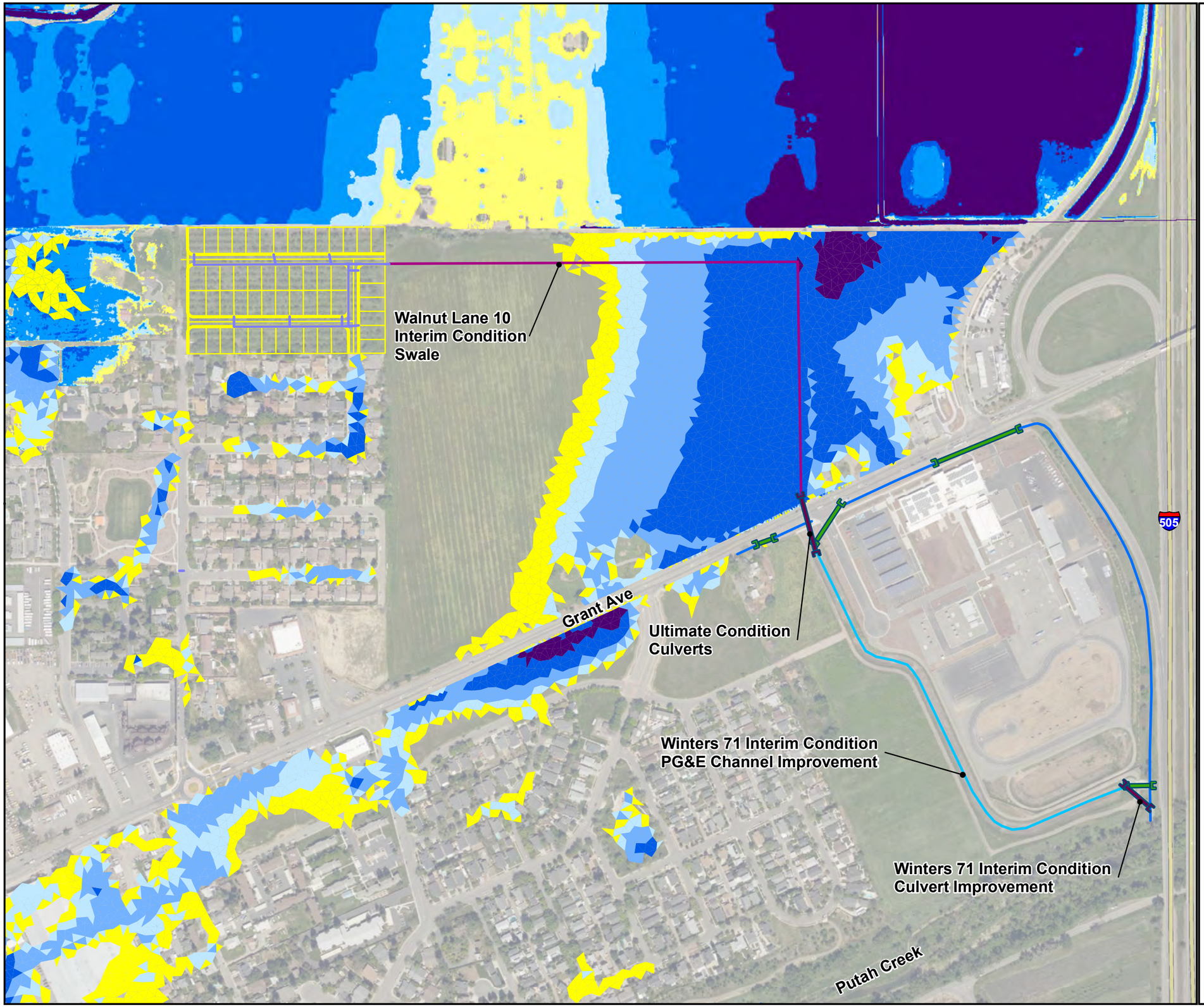
FIGURE 7

MITIGATION FACILITIES AND RESIDUAL 100-YEAR FLOODPLAIN

WALNUT LANE 10 DRAINAGE ANALYSIS

WINTERS, YOLO COUNTY, CALIFORNIA

OCTOBER, 2019



NORTH

0 200 400

FEET

- Culvert Improvement
- Existing Caltrans Ditch
- PG&E Channel Improvement
- Lots/Streets
- Proposed Swale
- Proposed Drainage Pipe
- Existing Culvert

100-Year Flooding Depth (ft)

- 0 - 3"
- 3" - 6"
- 6" - 1'
- 1' - 2'
- > 2'

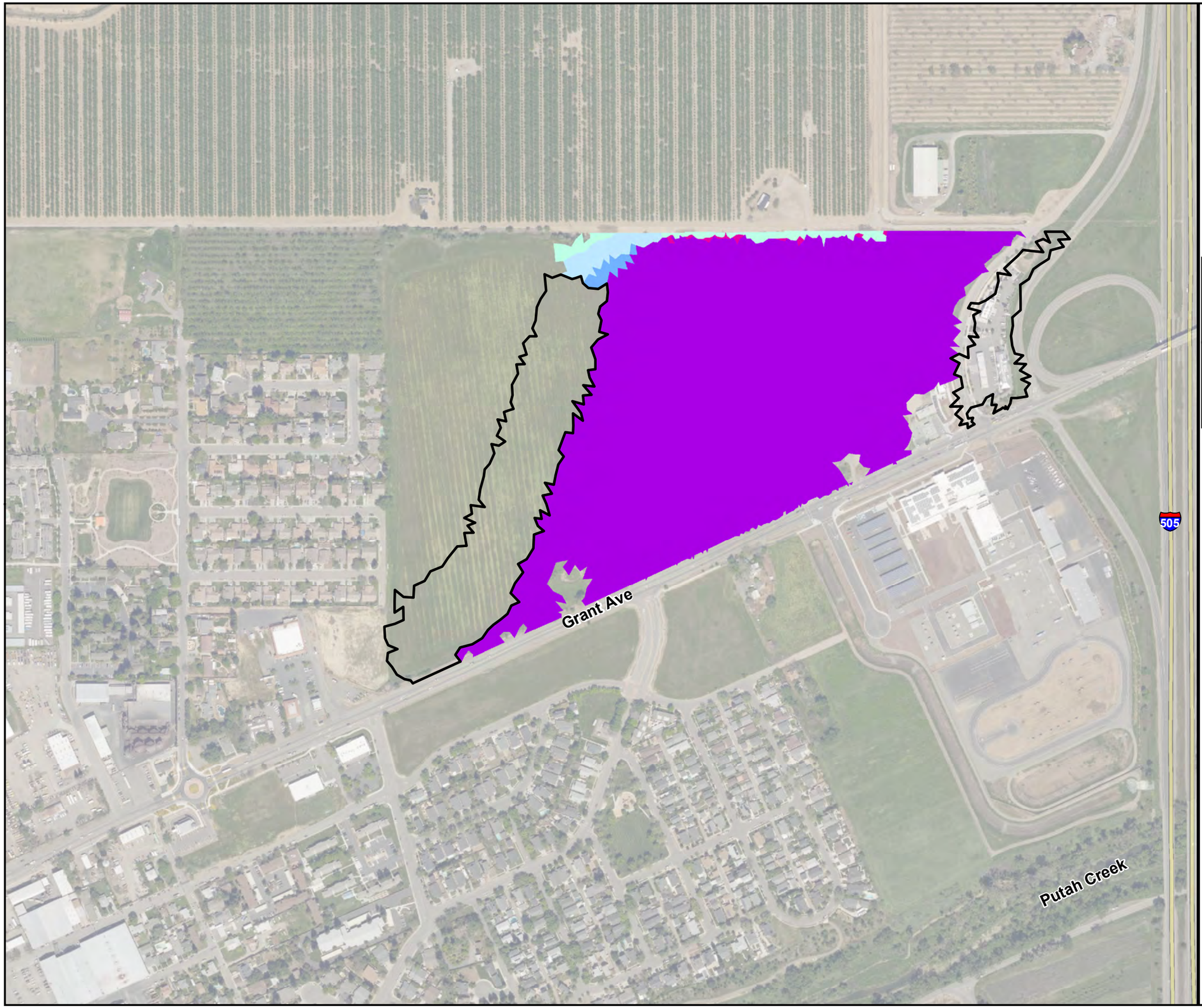
PRELIMINARY

WOOD RODGERS

\\woodrodgers.loc\ProductionData\Jobs\3000-s\3563.002_Winters_Corbett_OA\GIS\Tasks\TM\Fig08_Walnut Lane_Residual_Flooding_improvement.mxd 10/23/2019 11:03:32 AM wli

FIGURE 8

100-YEAR FLOODPLAIN REDUCTION
WALNUT LANE 10 DRAINAGE ANALYSIS
WINTERS, YOLO COUNTY, CALIFORNIA
OCTOBER, 2019



NORTH

0 200 400
FEET

Areas out of floodplain

Flooding Depth Difference (ft)

- < -1
- -1 - -0.75
- -0.75 - -0.5
- -0.5 - -0.1
- -0.1 - 0

Note:The flooding depth difference shown on this map is between the Worst-Case Existing condition and the mitigated Walnut Lane 10 Interim condition

PRELIMINARY

WOOD RODGERS

\\woodrodgers.loc\ProductionData\Jobs\3000-s\3563.002_Winters_Corbett_OA\GIS\Tasks\TM\Fig09_Walnut Lane_Impact_Map_Improvement.mxd 10/29/2019 3:04:17 PM wli

FIGURE 9

WOOD RODGERS
BUILDING RELATIONSHIPS ONE PROJECT AT A TIME

October 23, 2019

TO: Mr. Jim Corbett, Spectrum Capital Corporation

FROM: Michael Towne, P.E., Wood Rodgers, Inc.

SUBJECT: **Walnut 10 Water Quality Design Approach**

DATE: October 23, 2019

This memorandum addresses the design approaches to be taken by the builder of the subject subdivision to comply with the State Storm Water Resources Control Board's General Construction Permit Order 2009-0009-DWQ (amended by 2010-0014-DWQ & 2012-0006-DWQ). The project is located outside of a jurisdiction covered by a Municipal Separate Storm Sewer System (MS4) Permit and is therefore subject to the State's requirements.

The Post-Construction Water Balance Calculator (below) was used as a basis for determining water quality compliance for the General Construction Permit. Water quality treatment will need to be achieved by a variety of measures that address the flow from the 85th percentile, 24 hour storm event. Tree planting should be done on the order of two trees per lot. This is a 54 lot subdivision which would equate to 108 trees. Home construction should include the use of roof gutter downspouts that drain less than 600 square feet of roof to a sheet-flow, landscaped area.

The remaining runoff volume reduction credits can be achieved by the use of soil amendments. According to the Water Balance Calculator, this can be accomplished by amending approximately 2.2 acres of soil amendments to a depth of 6 inches or alternatively 1.1 acres to a depth of 1 foot. The amendments can be done with the front and rear lot landscaping throughout the subdivision and should be done after home construction to limit any sort of compaction. A bulk density equal to or less than 1.4 g/cm^3 should be achieved in the amended areas.

Post-Construction Water Balance Calculator

User may make changes from any cell that is orange or brown in color (similar to the cells to the immediate right). Cells in green are calculated for you.

(Step 1a) If you know the 85th percentile storm event for your location enter it in the box below

(Step 1b) If you can not answer 1a then select the county where the project is located (click on the cell to the right for drop-down): This will determine the average 85th percentile 24 hr. storm event for your site, which will appear under precipitation to left.

YOLO

(Step 1c) If you would like a more percise value select the location closest to your site. If you do not recgonize any of these locations, leave this drop-down menu at location. The average value for the County will be used.

DAVIS 2 WSW EXP FARM

Project Information			***Runoff Calculations***		
Project Name:	***Walnut 10***	(Step 2) Indicate the Soil Type (dropdown menu to right):	***Group C Soils***	**Low infiltration. Sandy clay loam. Infiltration rate 0.05 to 0.15 inch/hr when wet.**	
Waste Discharge Identification (WDID):	***Optional***	(Step 3) Indicate the existing **dominant** non-built land Use Type (dropdown menu to right):	***Wood & Grass: >75% ground cover***		
Date:	***Optional***	(Step 4) Indicate the proposed **dominant** non-built land Use Type (dropdown menu to right):	***A mix of lawn, grass, pasture and tress covering 50-75% of the open space***		
Sub Drainage Area Name (from map):	***Optional***		**Complete Either**		
Runoff Curve Numbers			**Sq Ft**	**Acres**	**Acres**
Existing Runoff Curve Number	**72**	*(Step 5) Total Project Site Area:*		**10.00**	**10.00**
Proposed Development Runoff Curve Number	**89**	*(Step 6) Sub-watershed Area:*		**10.00**	**10.00**
Design Storm		*Percent of total project :*	**100%**		
Based on the County you indicated above, we have included the 85 percentile average 24 hr event - P85 (in)^ for your area.	**0.65** **in**				
The Amount of rainfall needed for runoff to occur (Existing runoff curve number -P from existing RCN (in)^)	**0.79** **In**	***(Step 7) Sub-watershed Conditions***	**Complete Either**		**Calculated Acres**
P used for calculations (in) (the greater of the above two criteria)	**0.79** **In**	Sub-watershed Area (acres)	**Sq Ft**	**Acres**	**10.00**
^Available at www.cabmphandbooks.com		Existing Rooftop Impervious Coverage		**0**	**0.00**
		Existing Non-Rooftop Impervious Coverage		**0**	**0.00**
		Proposed Rooftop Impervious Coverage		**3.3**	**3.30**
		Proposed Non-Rooftop Impervious Coverage		**2.64**	**2.64**
		Credits	**Acres**		**Square Feet**
		Porous Pavement	**0.00**		**0**
		Tree Planting	**0.41**		**17,860**
Pre-Project Runoff Volume (cu ft)	**1** **Cu.Ft.**	Downspout Disconnection	**3.30**		**143,748**
Project-Related Runoff Volume Increase w/o credits (cu ft)	**5,983** **Cu.Ft.**	Impervious Area Disconnection	**0.00**		**0**
		Green Roof	**0.00**		**0**
		Stream Buffer	**0.00**		**0**
Project-Related Volume Increase with Credits (cu ft)	**0** **Cu.Ft.**	Vegetated Swales	**0.00**		**0**
		Subtotal	**3.71**		**161,608**
		Subtotal Runoff Volume Reduction Credit	**2220 Cu. Ft.**		
You have achieved your minimum requirements		***(Step 9) Impervious Volume Reduction Credits***	**Volume (cubic feet)**		
		Rain Barrels/Cisterns	**0 Cu. Ft.**		
		Soil Quality	**3,833 Cu. Ft.**		
		Subtotal Runoff Volume Reduction	**3,833 Cu. Ft.**		
		Total Runoff Volume Reduction Credit	**6,053 Cu. Ft.**		