



CITY OF MANTECA

DEVELOPMENT SERVICES DEPARTMENT

DATE: December 9, 2022

TO: Reviewing Agencies, Interested Parties, and Organizations

FROM: City of Manteca, Lead Agency

SUBJECT: **Notice of Preparation and Scoping Meeting for a Draft Environmental Impact Report and Initial Study for the Proposed LMC Manteca Project**

PURPOSE OF THIS NOTICE OF PREPARATION

In accordance with the California Environmental Quality Act (CEQA), California Code of Regulations (CCR) Section 15082, the City of Manteca has prepared this Notice of Preparation (NOP) to inform agencies and interested parties that a focused Environmental Impact Report (EIR) that scopes out several environmental review topics from further study will be prepared for the referenced project. The purpose of an NOP is to provide sufficient information about the Project and its potential environmental impacts to allow agencies and interested parties the opportunity to provide a meaningful response related to the scope and content of the EIR, including mitigation measures that should be considered and alternatives that should be addressed.

In compliance with CEQA, the City of Manteca will be the Lead Agency in preparation of the EIR. The Project location, brief description, and potential environmental effects are summarized below. Additional details about the Project's potential effects are included in the attached Initial Study.

NOP Comment Period (December 9, 2022 – January 9, 2023): The City requests review and consideration of this notice and the Initial Study and invites written comments regarding the preparation of the EIR be submitted by **January 9, 2023**. This NOP and Initial Study are available for review here: <https://www.manteca.gov/departments/development-services/planning/planning-division-documents/-folder-206>

Comments and responses to this notice must be in writing and submitted to by the close of business on the last day of the 30-day comment period. Please provide a contact name, phone number and email address with your comments. All comments must be sent to:

Toben Barnum, Associate Planner
City of Manteca, Development Services Department, Planning Division
1215 W. Center Street, Manteca, CA 95337
Phone: (209) 456-8517 Email: tbarnum@manteca.gov

Public Scoping Meeting: Pursuant to CEQA Guidelines Section 15082(c) (Notice of Preparation and Determination of Scope of EIR) and Section 15083 (Early Public Consultation), the City of Manteca will conduct a scoping meeting for the Project. **The scoping meeting will be held via zoom on December 21, 2022 at 6:00 P.M.** The City is requesting that you RSVP to Toben Barnum to obtain the link and/or telephone call-in instructions/information for the Zoom meeting.

Toben Barnum, Associate Planner

December 9, 2022

Date

Project Description

Project Title: 144-490 Quintal Road

Applicant: Quatterra Multifamily

Project Location and Setting

The Project site is comprised of four parcels totaling approximately 59.19 acres located at the juncture of Quintal Road, S. Main Street, and E. Atherton Drive in the City of Manteca. The Project site is identified by Assessor's Parcels Numbers (APNs) 224-040-52 (144 Quintal Road), 224-040-07 (292 Quintal Road), 224-040-06 (301 Quintal Road), and 224-070-11 (490 Quintal Road). The Project site is bordered by S. Main Street, vacant land, and commercial uses to the west and Highway 120 and commercial uses to the north. Existing residential developments border the Project site to the south and east.

Existing Land Uses

The Project site is currently designated Commercial Mixed Use (CMU) by the City of Manteca General Plan adopted in 2003. The Project site is currently undeveloped and does not have any structures or buildings that exist within the site; however, there is a paved roadway and several unpaved roadways that extend throughout the site.

Surrounding Land Uses

The Project site is surrounded by urban development and is located in close proximity to services and major employers, including healthcare and medical services, retail, restaurant, and market/grocery. Land uses surrounding the Project site include residential uses to the east and south; Highway 120 and commercial uses to the north; and S. Main Street, vacant land, and commercial uses to the west.

Project Components

The Project proposes to develop 818 residential dwelling units including: 672 multi-family for-rent apartments, 48 for-sale duplexes, and 98 single-family for-sale homes on an approximately 59.19 acre undeveloped site. The Project would also include an approximately 1.93 acre public open space and associated parking located onsite that would be accessible to the public as well as other amenities such as a dog park, game lawn, and club house that would only be accessible to those living in the proposed apartment complexes. Additionally, the Project would construct improvements to adjacent streets, on and offsite utility infrastructure, driveways, frontage improvements, and landscaping. The full detailed project description can be found in the attached Initial Study.

General Plan Land Use Designation

The City's current 2003 General Plan designates the entire Project site as CMU. The City is currently updating its General Plan (General Plan Update) which is anticipated to be adopted in 2022. The City's General Plan Update proposes to maintain the Project site's current designation of CMU to the area north of E. Atherton Drive. With the adoption of the General Plan Update, a portion of the Project site located south of E. Atherton Drive is anticipated to be re-designated from CMU to Medium Density Residential (MDR). The Project would be consistent with the anticipated General Plan Update if adopted before the Project entitlements. However, the Project would require approval of a General Plan Amendment if the General Plan Update is not adopted before the Project entitlements.

Zoning

The entirety of the Project site is zoned Mixed Use Commercial (CMU). A comprehensive rezoning to ensure consistency with the General Plan Update will take place at some point in the future. In the meantime, the Project proposes a rezoning to Planned Development (PD) Overlay to provide a variety of residential uses and recreational amenities, while retaining the underlying base zoning of CMU north of E. Atherton Drive and rezoning to Medium Density Residential (R-2) south of E. Atherton Drive.

Required Project Approvals

The City of Manteca is the CEQA lead agency for the Project. The Project requires the approval of the following discretionary approvals/entitlements and permits by the City of Manteca:

- General Plan Amendment (if General Plan Update is not adopted prior to Project entitlements)
- Rezoning of property south of E. Atherton Drive to R-2 to reflect General Plan MDR designation
- PD Overlay
- Major Site Plan
- Development Review
- Vesting Tentative Map

Review or approvals from other jurisdictional agencies include:

- South San Joaquin Irrigation District, specifically the relocation of their facilities Lateral-Y and Well 81
- Pacific Gas & Electric relocation and undergrounding of powerlines that run along Quintal Road
- California Department of Transportation review of proposed improvements along S. Main Street

EIR PURPOSE

The purpose of an EIR is to inform decision-makers and the general public of the potential physical environmental impacts of a proposed project that an agency (in this case, the City of Manteca) may implement or approve. The EIR process is intended to:

1. Provide information sufficient to evaluate a project and its potential for significant impacts on the environment;
2. Examine methods for avoiding or reducing significant impacts which may include project-specific mitigations or uniformly applied development regulations; and
3. Consider alternatives to the proposed project.

In accordance with CEQA, the EIR will include the following:

- A summary of the project, its potential significant environmental impacts, and mitigations required to avoid or reduce those significant impacts;
- A project description;
- A description of the existing environmental setting, potential environmental impacts, and mitigations of the project;
- Alternatives to the proposed project; and
- Other environmental consequences of the project including:
 - (1) growth inducing effects
 - (2) significant unavoidable impacts
 - (3) irreversible environmental changes
 - (4) cumulative impacts, and
 - (5) effects found not to be significant.

Following the close of the NOP comment period, a draft focused EIR will be prepared that will consider all NOP comments. In accordance with CEQA Guidelines Section 15105(a), the draft focused EIR will be released for public review and comment for a required 45-day review period.

PROBABLE ENVIRONMENTAL EFFECTS AND SCOPE OF THE EIR

Pursuant to CEQA, the discussion of potential effects on the physical environment is focused on those impacts that may be significant or potentially significant. CEQA allows a lead agency to limit the detail of discussion of the environmental effects that are not considered potentially significant (Public Resources Codes [PRC] Section 21100, California Code of Regulations [CCR] Section 15126.2(a) and 15128). CEQA requires that the discussion of any significant effect on the environment be limited to substantial, or potential substantial, adverse changes in physical conditions that exist within the affected area, as defined in PRC Section 21060.5 (statutory definition of “environment”).

Environmental effects identified in the Initial Study prepared for the Project that are dismissed as less than significant and unlikely to occur need not be discussed further in the EIR, unless the lead agency subsequently receives information inconsistent with the finding in the Initial Study (CCR Section 15143). Environmental issue areas scoped out of the focused EIR will include an explanation of why these issues would not result in significant environmental effects and are not required to be evaluated further. Environmental issue areas that would be scoped out of the focused EIR are listed below. See the attached Initial Study for supporting evidence.

- Aesthetics
- Biological Resources
- Cultural Resources
- Geology and Soils
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Mineral Resources
- Population and Housing
- Public Services
- Recreation
- Tribal Cultural Resources
- Wildfire

Based on the analysis in the attached Initial Study, the City of Manteca has determined that the Project will require preparation of a focused EIR pursuant to CEQA. The following topics will be evaluated in the EIR.

- Agricultural and Forestry Resources
- Air Quality
- Energy
- Greenhouse Gas Emissions
- Land Use and Planning
- Noise
- Transportation
- Utilities and Service Systems

Alternatives: The EIR will identify and compare a reasonable range of alternatives to the Project. Alternatives will be chosen based on their ability to avoid or reduce identified significant environmental impacts of the project while achieving most of the project objectives (CEQA Guidelines Section 15126.6).



144-490 QUINTAL ROAD PROJECT

Initial Study

December 9, 2022

Prepared for:

City of Manteca
Development Services Department,
Planning Division
1215 W. Center Street
Manteca, CA 95337

Prepared by:

Stantec Consulting Services Inc.
1340 Treat Boulevard, Suite 300
Walnut Creek, CA 94597

144-490 QUINTAL ROAD PROJECT

Initial Study

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Appendix B: Wetland Delineation Report
Appendix C: Cultural Resources Technical Memorandum
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144-490 QUINTAL ROAD PROJECT

Initial Study

Acronyms and Abbreviations

Acronyms and Abbreviations

APN	Assessor's Parcel Number
Applicant	Quarterra Multifamily
Basin Plan	Water Quality Control Plan for the Sacramento-San Joaquin River Basins
bgs	below ground surface
BMP	best management practice
BRA	Biological Resources Assessment
CAL FIRE	California Department of Forestry and Fire Protection
CalGreen	California Green Building Standards Code
CalRecycle	California Department of Resources Recycling and Recovery
CBC	California Building Code
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CGS	California Geologic Survey
City	City of Manteca
CMU	Mixed Use Commercial/Commercial Mixed Use
CNPS	California Native Plant Society
DOC	California Department of Conservation
DOF	Department of Finance
DSD	Division of Safety of Dams
DTSC	Department of Toxic Substances Control
DU	dwelling unit
DWR	Department of Water Resources
EIR	Environmental Impact Report
EOP	Emergency Operations Plan
ESJCGB	Eastern San Joaquin County Groundwater Basin
ESJGS-GSP	Eastern San Joaquin Groundwater Subbasin Groundwater Sustainability Plan
EV	electric vehicle
EVA	Emergency Vehicle Access
FEMA	Federal Emergency Management Agency
FMMP	Farmland Mapping and Monitoring Program
HRA	Health Risk Assessment
HWY	Highway
MDR	Medium Density Residential Land Use Designation
MFD	Manteca Fire Department
MMC	Manteca Municipal Code
MPD	Manteca Police Department
MUSD	Manteca Unified School District
MRZ	Mineral Resource Zone
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
OES	Office of Emergency Services
OHWM	ordinary high water mark
PD	Planned Development
Planning Area	City's General Plan boundary, includes entire City limits and Sphere of Influence
Project	144-490 Quintal Road Project
RHNA	Regional Housing Needs Allocation
RWQCB	Regional Water Quality Control Board
R-2	Medium Density Residential Zoning



144-490 QUINTAL ROAD PROJECT

Initial Study

Acronyms and Abbreviations

SGMA	Sustainable Groundwater Management Act
SJMSCP	San Joaquin County Multi-Species Habitat Conservation and Open Space Plan
SOI	Sphere of Influence
SRA	State Responsibility Area
SWIS	Solid Waste Information System
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
USACE	United States Army Corps of Engineer
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service
VHFHSZ	Very High Fire Hazard Severity Zone
VMТ	vehicle miles traveled
WSA	Water Supply Assessment



144-490 QUINTAL ROAD PROJECT

Initial Study
Introduction

1.0 INTRODUCTION

1. Project Title	144-490 Quintal Road Project
2. Lead Agency Name and Address	City of Manteca Development Services Department, Planning Division 1215 W. Center Street, Suite 201, Manteca, CA 95337
3. Contact Person and Phone Number	Toben Barnum, Associate Planner, (209) 456-8517
4. Project Location	144, 292, 301, and 490 Quintal Road, Manteca, CA
5. Project Sponsor's Name and Address	Quarterra Multifamily 492 9 th Street, Suite 300, Oakland, CA 94607
6. General Plan Designation	Commercial Mixed Use (CMU)
7. Zoning	Mixed Use Commercial (CMU)
8. Assessor Parcel Numbers	224-040-52, 224-040-07, 224-040-06, 224-040-11



144-490 QUINTAL ROAD PROJECT

Initial Study

Project Description

2.0 PROJECT DESCRIPTION

Quarterra Multifamily (Applicant), is proposing the 144-490 Quintal Road Project (Project) in the City of Manteca (City). The Project involves the development of 818 residential units including: 672 multi-family for-rent apartments, 48 for-sale two-family units, and 98 single-family for-sale homes on an approximately 59.19-acre undeveloped site. The Project would also include an approximately 1.93-acre public open space and associated parking located onsite as well as other amenities such as a dog park, game lawn, and club house. Additionally, the Project would construct improvements to adjacent streets, on and offsite utility infrastructure, driveways, frontage improvements, and landscaping.

This chapter describes the characteristics of the Project evaluated in this Initial Study.

2.1 PROJECT SITE

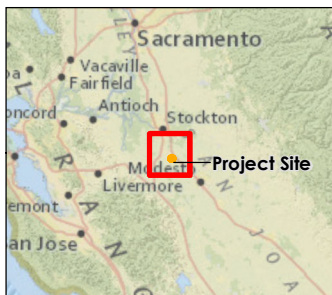
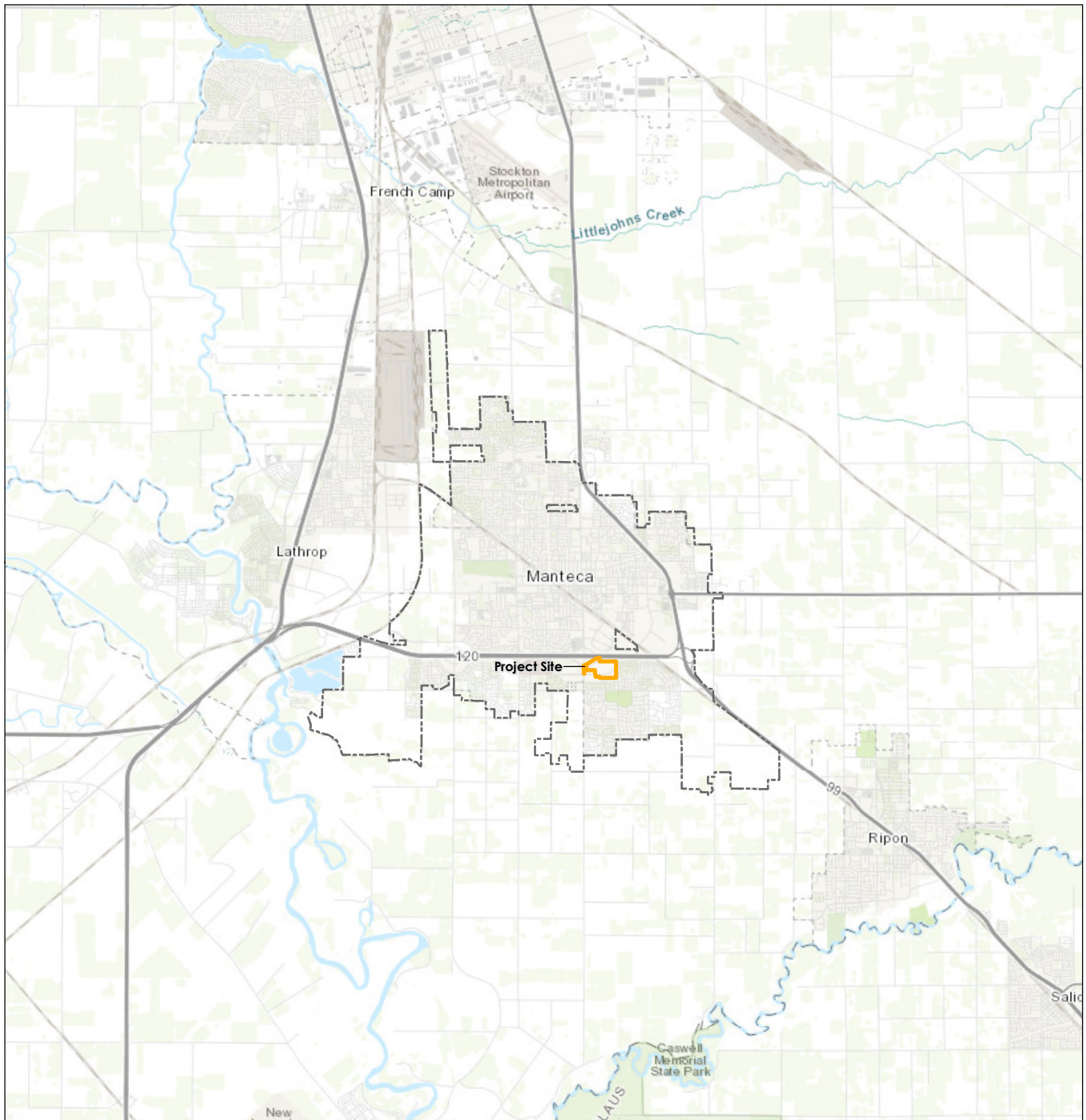
The Project is located at the juncture of Quintal Road, S. Main Street, and E. Atherton Drive in the City of Manteca, in San Joaquin County on an approximately 59.19-acre site (Figure 1). The Project site primarily consists of four parcels identified as Assessor's Parcel Numbers (APNs): 224-040-52 (144 Quintal Road), 224-040-07 (292 Quintal Road), 224-040-06 (301 Quintal Road), and 224-040-11 (490 Quintal Road) (Figure 2). The Project site is bordered by S. Main Street, vacant land, and commercial uses to the west and Highway (HWY) 120 and commercial uses to the north. Existing residential development border the Project site to the south and the east.

2.2 GENERAL PLAN LAND USE AND ZONING

The City is currently updating its General Plan (General Plan Update) which is anticipated to be adopted in early 2023. The following discussion considers both a scenario where the General Plan Update is adopted before the Project entitlements and a scenario where the General Plan Update is adopted after the Project entitlements, and the corresponding entitlement implications. Notably, for the purposes of California Environmental Quality Act (CEQA), this CEQA analysis conservatively assumes that the General Plan Update and associated environmental impact report (EIR) are not adopted prior to the Project specific entitlements such that the Project specific EIR will conduct independent CEQA analysis.

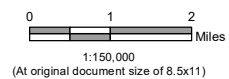
Table 2-1 provides a summary of the current and proposed General Plan land use and zoning designations. The portion of the Project site located south of E. Atherton Drive will be re-designated Medium Density Residential (MDR). A Project specific General Plan amendment to the 2003 General Plan will be needed if the General Plan Update is not adopted before the Project entitlements. In the meantime, the Project proposes a rezoning to Planned Development (PD) Overlay to provide a project that would provide a variety of residential typologies and recreational amenities, while retaining the underlying base zoning of Mixed Use Commercial (CMU) north of E. Atherton Drive and rezoning Limited Multiple-Family Dwelling (R-2) south of E. Atherton Drive. The R-2 zoning designation will make the Project site's zoning consistent with the anticipated General Plan redesignation. The Project would be consistent with the anticipated General Plan Update if adopted before the Project entitlements.





Legend

- Project Site
- City of Manteca



Project Location
Manteca, California

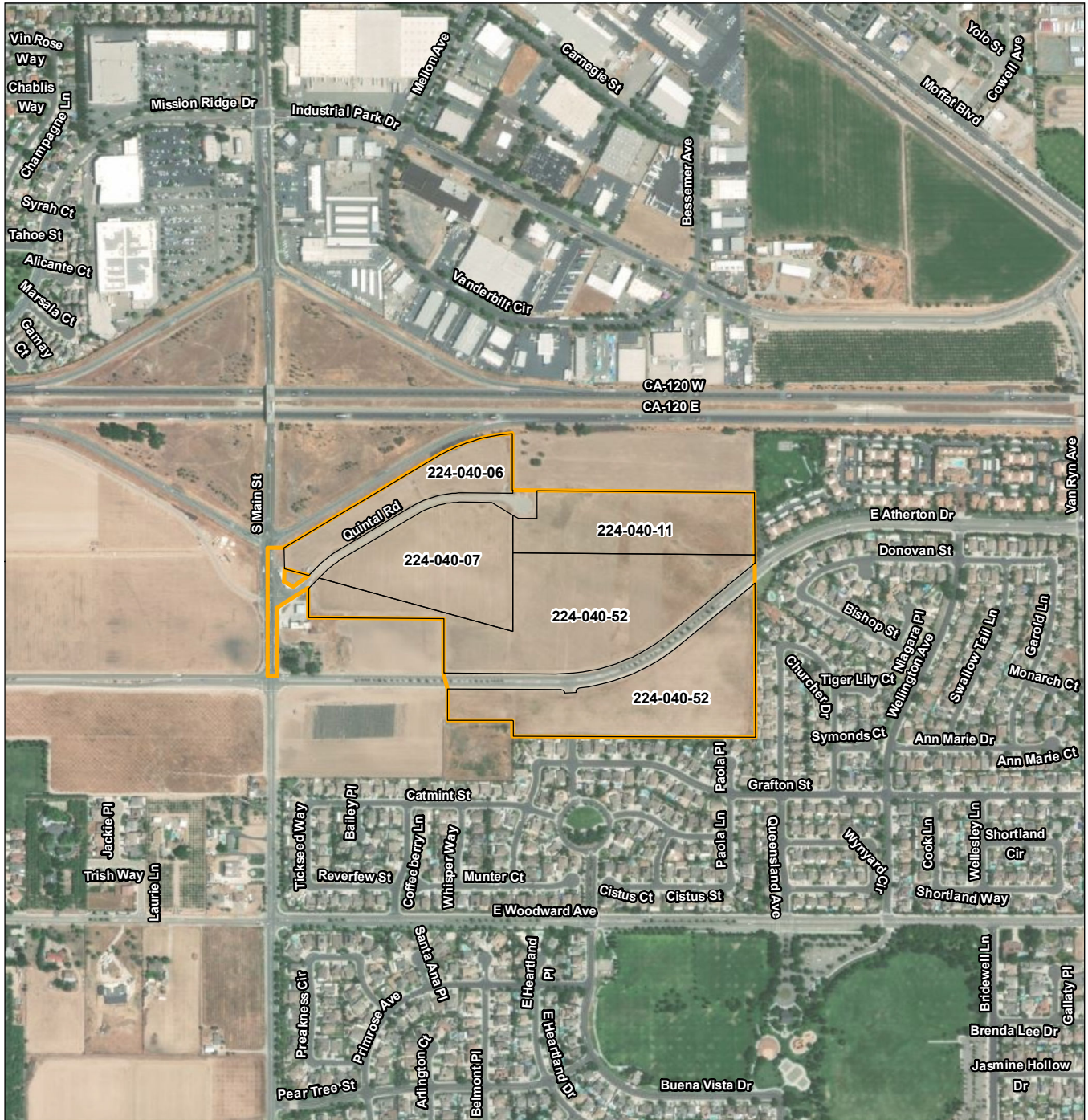
Prepared by KJ on 2022-09-02

Client/Project
144-490 Quintal Road Project

Figure No.
1

Title
Regional Location

Notes
1. Coordinate System: NAD 1983 StatePlane
California III FIPS 0403 Feet



Notes
 1. Coordinate System: NAD 1983 StatePlane
 California III FIPS 0403 Feet

Legend

- Project Site
- Assessor Parcel Number

0 300 600
 Feet
 1:10,000
 (At original document size of 8.5x11)



Project Location
 Manteca, California

Prepared by KJ on 2022-09-02

Client/Project
 144-490 Quintal Road Project

Figure No.
2

Title
Project Site

144-490 QUINTAL ROAD PROJECT

Initial Study

Project Description

Table 2-1: General Plan and Zoning

Designation	Current	Proposed
2003 General Plan	Commercial Mixed Use (CMU)	The area north of E. Atherton Drive will remain CMU. The City's General Plan Update will change the parcels south of E. Atherton Drive to Medium Density Residential (MDR) (or Project specific amendments would request similar amendments if the General Plan Update is not adopted at the time of the Project entitlements).
Zoning	Mixed Use Commercial (CMU)	CMU Base Zoning (north of E. Atherton Drive) and R-2 Base Zoning (south of E. Atherton Drive) with a PD Overlay.

2.2.1 General Plan

The current City's 2003 General Plan designates the entire Project site as CMU (Figure 3).

General Plan Update

The City's General Plan Update is currently anticipated to be adopted in early 2023. The City's General Plan Update proposes to maintain this designation to the area north of E. Atherton Drive which is defined as follows:

This designation provides for high density residential, employment centers, retail commercial, and professional offices. A mix of compatible uses is encouraged to provide neighborhood-serving sales, services, and activities, as well as employment opportunities, including offices.

Development shall include community-serving amenities and connections that distinguish them from conventional multifamily, neighborhood commercial, or office development, with the intent that a recreational area and neighborhood serving uses will provide a local gathering place for recreation and socializing much as does a small town square. For example, a residential development could include a work center that provides onsite facilities that encourage telecommuting and entrepreneurship.

Mixed uses may be integrated vertically or horizontally and shall be linked together through common walkways, plazas and parking areas, as well as linkages to the adjoining bicycle and pedestrian system.

Where required, open space, detention facilities, and parks, will be designed as an amenity within the site. Public facilities, such as post office, library, fire station, or satellite government office, shall be included where feasible.



144-490 QUINTAL ROAD PROJECT

Initial Study

Project Description

Developments shall have a shared parking program with the objective of reducing the parking required for each individual use. (City of Manteca 2021).

This land use designation allows a broad range of uses, including multi-family residential and has a standard density of 15.1 to 25 dwelling units per acre for residential developments.

With the adoption of the General Plan Update, a portion the Project site located south of E. Atherton Drive is anticipated to be re-designated from CMU to MDR (Figure 4).

The MDR land use designation anticipates a mixed of housing typologies, including but not limited to single-family homes. Specifically, the MDR designation is defined in the General Plan Update as follows:

This designation provides for smaller single-family homes in more imaginative lotting arrangements, duplex, and triplex development, smaller scale multifamily developments, including cottage homes, garden apartments, townhouses, and cluster housing, and mobile home parks. The density range will accommodate small-lot single-family homes that will typically be smaller in size and more affordable to residents. (City of Manteca 2021).

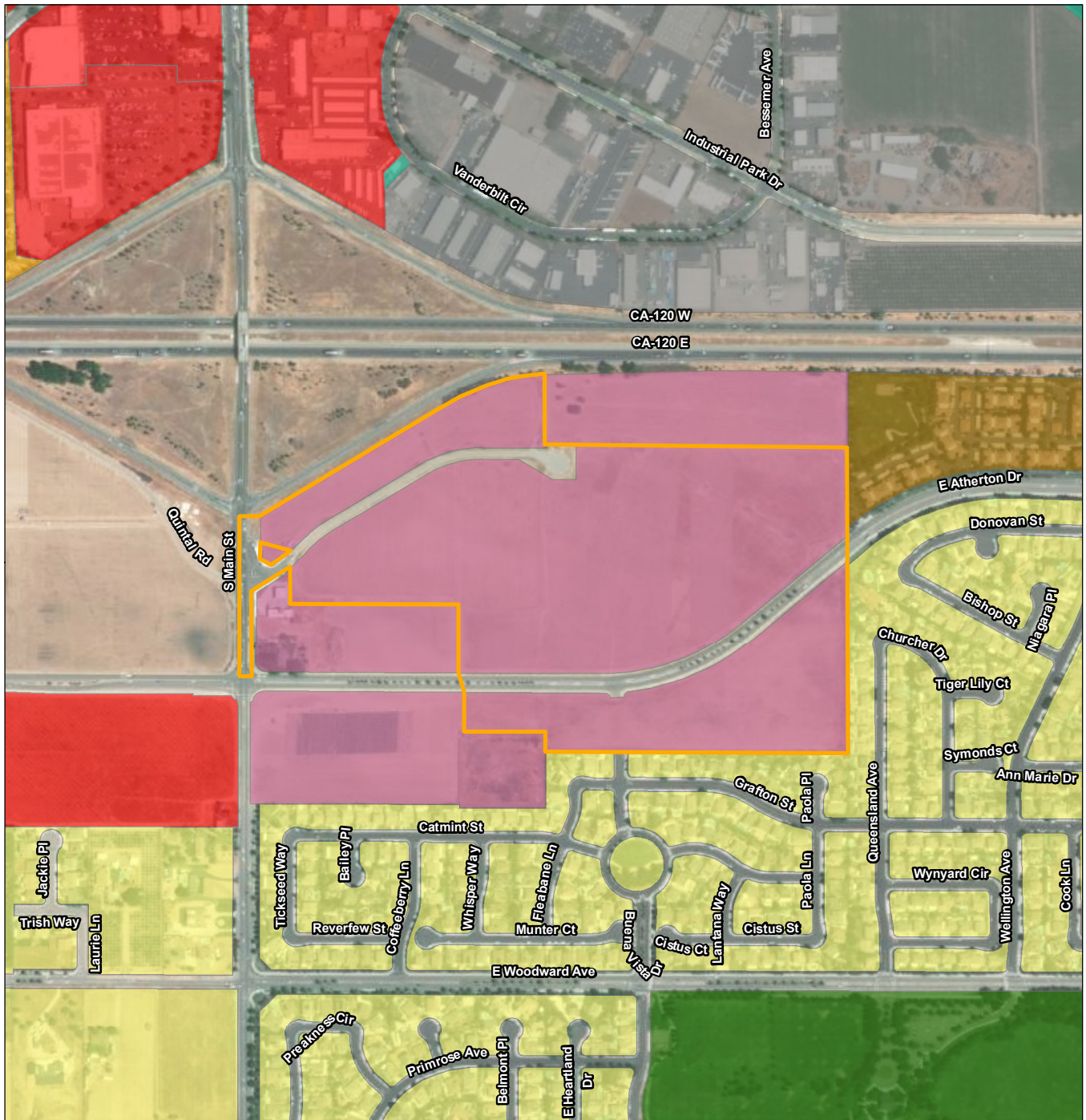
This land use designation has a standard density of 8.1 to 15 dwelling units per acre. This redesignation is being processed with the intent of transitioning from higher density to lower density housing adjacent to the existing neighboring single-family home neighborhoods.

Additionally, the General Plan Update includes a new land use policy (LU 1.5) that provides flexibility for locating uses within single development projects.

LU-1.5 For contiguous properties that are included in a single development application, flexibility may be allowed in the location of the designated uses within the subject site. The acreage of each land use designation shall be maintained, but the designated uses may be relocated within the site provided the relocation would not result in incompatibilities with adjacent or nearby land uses or designations. This policy also applied to a single property with multiple land use designations (City of Manteca 2021).

The Project proposes single-family homes south of E. Atherton Drive, consistent with the MDR designation. For the portion of the Project site located north of E. Atherton Drive, the Project proposes a mix of housing typology uses comprising a high density use, including multi-family, single-family and two-family uses. These denser residential uses are located away from existing neighboring residential communities. Accordingly, Policy LU 1.5 would allow flexibility in the location of typologies within the site such that density could be transitioned appropriately. Notably, as described above, higher density product types have been clustered in the northwest portion of the site and single-family and lower density product types have been distributed in the southeast portion of the site to transition to the adjacent single-family homes.





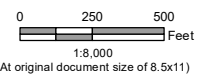
Notes
1. Coordinate System: NAD 1983 StatePlane
California III FIPS 0403 Feet

Legend

Project Site

City of Manteca 2003 General Plan Land Use Designation

- Commercial Mixed Use
- Commercial
- High Density Residential
- Light Industrial
- Low Density Residential
- Medium Density Residential
- Park
- Public/Quasi-Public



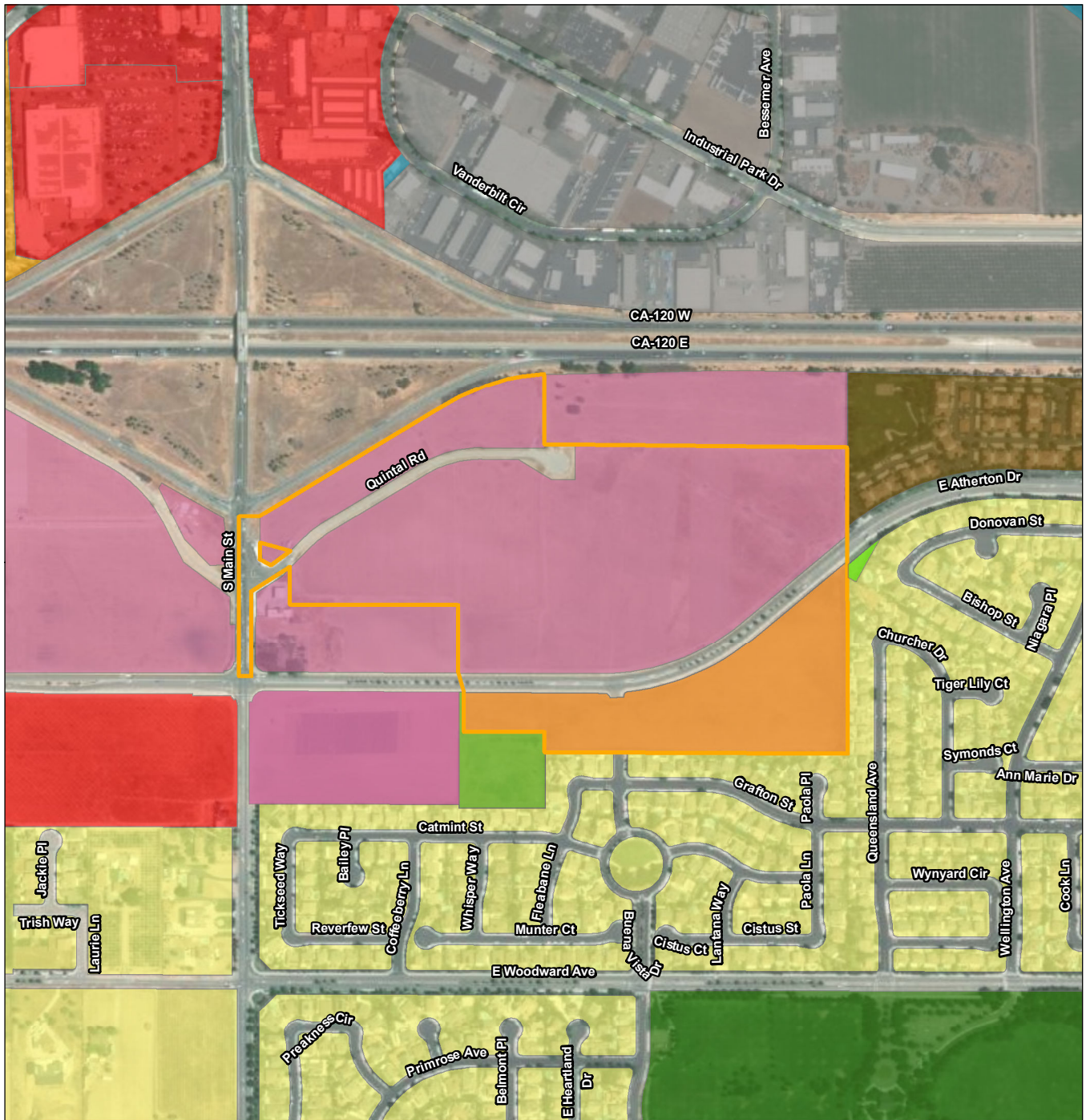
Project Location
Manteca, California

Prepared by KJ on 2022-09-02

Client/Project
144-490 Quintal Road Project

Figure No.
3

Title
**City of Manteca 2003 General Plan
Land Use Designation**



Notes
1. Coordinate System: NAD 1983 StatePlane
California III FIPS 0403 Feet

Legend

 Project Site

City of Manteca 2022 General Plan Update Land Use Designation

- Commercial Mixed Use
- Commercial
- High Density Residential
- Light Industrial
- Low Density Residential
- Medium Density Residential
- Park
- Public/Quasi-Public
- Open Space



Project Location
Manteca, California

Prepared by KJ on 2022-09-02

Client/Project
144-490 Quintal Road Project

Figure No.
4

Title
**City of Manteca 2022 General Plan
Update Land Use Designation**

144-490 QUINTAL ROAD PROJECT

Initial Study

Project Description

If the General Plan Update is adopted prior to the processing of the Project entitlements, the proposed density would be consistent with the adopted CMU and MDR designations based on an aggregated weighted calculation. When combining the minimum density requirements of the entire Project site, it would require a total of 795 units as demonstrated in Table 2-2.

Table 2-2: Project Site Aggregated Weighted Density Requirements

Parcel	Acres	Min. Density (dwelling unit [DU]/acre)	Max. Density (DU/acre)	Min. DU Required (DUs)	Max. DUs Permitted
490 Quintal Road	8.75	15.1	25	132	219
292 Quintal Road	11.39	15.1	25	172	285
301 Quintal Road	6.21	15.1	25	94	155
144 Quintal Road (North of E. Atherton Drive)	18.76	15.1	25	283	469
144 Quintal Road (South of E. Atherton Drive)	14.08	8.1	15	114	211
Total	59.19	13.43	22.62	795	1,339

Based on the total acreage of the Project site located north of E. Atherton Drive (45.11 acres), the CMU minimum density would require a minimum of 681 dwelling units. The area south of E. Atherton Drive (14.08 acres), which is anticipated to be designated MDR as a result of the General Plan Update would require a total of 114 dwelling units. The area north of E. Atherton Drive would result in a minimum of 729 dwelling units and the area south of E. Atherton Drive would result in 66 dwelling units, for an aggregate total of 795 dwelling units at the Project site as shown in Table 2-3. The Project proposes 818 units and is therefore consistent with the allowable density range.

Table 2-3: Aggregated Density Analysis

Area	Gross Acreage	Min. Required	Provided	Surplus
North of E. Atherton Drive	45.11	681	752	71
South of E. Atherton Drive	14.08	114	66	-48
Total	59.19	795	818	23

2.2.2 Zoning Districts

The City's Zoning Ordinance currently designates the entire Project site as CMU. As discussed above, the General Plan Update is anticipated in early 2023, and with this adoption, a portion of one of the Project site parcels south of E. Atherton Drive will subsequently be re-designated from CMU to MDR. To maintain consistency with the General Plan Update, the Applicant is seeking to change the zoning on the portion south of E. Atherton Drive from CMU to R-2 zoning district as the City's comprehensive Zoning



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Ordinance update is not expected to be processed until later in time. Density requirements for CMU zoned properties range from 15.1 to 25.0 dwelling units per acre. Density requirements for R-2 zoned properties range from 8.1 to 15.0 dwelling units per acre.

The Applicant is also proposing a PD Overlay for the Project site over the CMU and R-2 base zoning.

The purpose of the Planned Development Overlay Zone is to establish a process for the consideration and regulation of areas suitable for proposed comprehensive development with detailed development plans and of those areas that require special planning to provide for appropriate planned development in harmony with their natural features and other environmental consideration. MMC Section 17.30.030(A).

The proposed utilization of the PD Overlay would provide the flexibility needed to provide a variety of residential typologies and recreational uses and amenities to support the Project's future residents that is consistent with the General Plan Update. This allows for the density transition that places lower density typologies (such as single-family homes) at the southeast portion of the Project site and transition to higher density typologies at the northwest portion of the Project site. The PD Document that accompanies the rezoning would reference the development standards from the following zoning districts from the City's Municipal Code:

- Commercial Mixed Use
- R-2 Limited Multiple-Family Dwelling

As provided in MMC Section 17.30.030(E), development standards with the PD Overlay are those standards provided in the adopted PD Document. The PD Document would reference the applicable zoning regulations and standards applicable to the land area and would be adopted with the corresponding PD Overlay. As noted above, the PD Overlay would retain the underlying base zoning of CMU north of E. Atherton Drive and rezoning to a base zoning of R-2 south of E. Atherton Drive.

2.3 EXISTING SITE CONDITIONS AND OPERATIONS

The Project site is an irregularly shaped parcel. The Project site is currently vacant, undeveloped and does not have any structures or buildings that exist within the site; however, there is a paved roadway and several unpaved roadways that extend throughout the site. The site is covered by vegetation consisting of weeds and the property primarily extends over generally flat terrain. The Project site is surrounded by urban development and is located in close proximity to services and major employers, including healthcare and medical services, retail, restaurant, and market/grocery. Land uses surrounding the Project site include residential uses to the east and south, HWY 120 and commercial uses to the north, and S. Main Street, vacant land and commercial uses to west. There is a Chevron gas station located adjacent to the southwest corner of the Project site, north of E. Atherton Drive.

The Project site is currently undeveloped and does not have existing operations.



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2.4 SURROUNDING LAND USES

The Project site is surrounded by the following land uses:

- North – HWY 120 and commercial uses
- East – single-family and multi-family residential uses
- South – single-family residential uses
- West – S. Main Street, vacant land and commercial uses

2.5 PROJECT CHARACTERISTICS

The Project involves the construction and operation of 672 multi-family for-rent apartments, 48 for-sale two-family units, and 98 single-family for-sale homes on an approximately 59.19-acre undeveloped site. The Project site consists of four parcels identified as APNs 224-040-52, 224-040-07, 224-040-06, 224-040-11. The 672 multi-family apartments would be constructed in the northwestern and western portion of the site and the 98 single-family homes, and 48 two-family units would be constructed on the eastern and southern portion of the Project site (Figure 5).

The Project would also include the provision of an approximately 1.93 acre public open space located between the proposed apartments and single-family homes and linked through pedestrian pathways that would be accessible to the public as well as other resident-serving amenities such as a dog park, game lawn, and club house accessible to the Project's multi-family residential tenants. Additionally, the Project would construct improvements to adjacent and new streets, on and offsite utility infrastructure, parking, driveways, frontage improvements, and landscaping.

2.5.1 Single-family Homes Component

The Project would construct 98 detached single-family for-sale homes on the south and southwestern portion of the Project site. The single-family homes would offer three different floor plans consisting of single-story and two-story plans with two- to three-car garages with drive aprons that would be large enough for vehicle parking. Home sized would range from approximately 1,900 square feet to 3,300 square feet and include four to five bedrooms and two- to three-bathrooms, all with private open space consisting of a backyard. Lot coverage would range from 2,145 square feet per building to 2,400 square feet per building. The single-family housing component's height would vary depending on the proposed floor plan but would have a maximum height of 30 feet. (Figure 6)

Access to the single-family neighborhoods would be off of E. Atherton Drive with homes located on both the north and south side of E. Atherton Drive.





Source: Sandis 2022



Project Location
Manteca, CA
Client/Project
144-490 Quintal Road Project

Figure No.
5
Title
Site Plan



© 2021 Kevin L. Crook Architect, Inc.

Refer to landscape drawings for wall, tree, and shrub locations

1A MEDITERRANEAN



© 2021 Kevin L. Crook Architect, Inc.

Refer to landscape drawings for wall, tree, and shrub locations

2A MEDITERRANEAN



© 2021 Kevin L. Crook Architect, Inc.

Refer to landscape drawings for wall, tree, and shrub locations

3A MEDITERRANEAN

Source: Kevin L. Crook Architect, Inc.



Project Location
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Client/Project
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Figure No.

6

Title

Single-Family Elevation

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Initial Study

Project Description

2.5.2 Two-Family Housing Component

The Project would construct 48 for-sale two-family housing typologies in the eastern portion of the Project site. Chapter 17.24.020, Allowed Use Definitions, of the City's Municipal Code defines two-family housing as, "An attached building (e.g., duplex) designed for occupancy by two households living independently of each other, where both dwellings are located on a single lot." Three home plans are proposed configured into two attached units, each with a separate lot. The proposed homes include three two-story floor plans, each with two-car garages with drive aprons that would be large enough for vehicle parking. Home sizes would range from approximately 1,800 square feet to 2,300 square feet and would include three- to four-bedrooms and two- to three-bathrooms, with loft and office room options. All two-family units would include private open space consisting of a private backyard and one side yard. The two-family component would develop 24 attached units (48 two-family units) with lot sizes ranging from 3,500 square feet to 3,600 square feet and total coverage would range from 1,270 square feet to 1,622 square feet. (Figure 7)

2.5.3 Multi-Family Housing Component

The Project would construct 672 high density multi-family apartments in the north and northwestern portion of the Project site. The apartment component would include two individual communities of 312 and 360 residential units in a three-story garden style apartment complex. The 672 residential units would be spread out across 31 three-story buildings and with unit sizes ranging from 637 square feet to 1,434 square feet and would range from one-bedroom units to three-bedroom units, with one to two bathrooms each. The 31 buildings would be constructed of three different building types, ranging from 7,700 square feet per building to 10,100 square feet per building. Quarterra Multifamily would develop two phases of apartment complexes at the same time, as two standalone, independent communities. The Phase I complex would consist of 312 residential units spread across 13 residential buildings while the Phase II complex would consist of 360 residential units spread across 18 residential buildings. Phase I would include 156 one-bedroom units, 120 two-bedroom units, and 36 three-bedroom units. Phase II would include 252 one-bedroom units and 108 two-bedroom units.

Private open space would be provided for each unit in the form of private balconies on the upper level and patios on the ground level. The Phase I complex would have a maximum height of 34 feet 10 inches and the Phase II complex would have a maximum height of 37 feet. (Figure 8)

In addition to the residential buildings, the apartment component would construct two separate clubhouses with pool amenities, indoor community space, management office as well as three-stream waste management facilities, open spaces such as dog parks and pocket parks, and parking in each apartment complex. Each clubhouse would be approximately 5,000 square feet and would include the leasing office and manager offices for the associated apartment complex, as well as a fitness room, bathrooms, package centers, social/party lounge and storage rooms. Each clubhouse and associated shared amenities would only be accessible to those living in the individual apartment complexes. A dog park would be provided within a Phase II apartment complex and would only be accessible to residents of the apartment complex. Phase I would include 244,300 square feet of open space and Phase II would include 282,900 square feet of open space.





Early California Scheme 1



Mediterranean Revival Scheme 4

Source: BSB Design 2022



Project Location
Manteca, CA

Client/Project
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Figure No.

7

Title

Two-Family Housing Elevation



Multi-family Garden Walk-up building type concept elevations.



Multi-family Tuck-under building type concept elevations.

Source: BSB Design 2022



Project Location
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Client/Project
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Figure No.

8

Title

Multi-family Apartment Elevation

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2.5.4 Offsite Traffic Improvements

The Project would install a new curb and gutter and construct a new northbound lane of travel along S. Main Street between E. Atherton Drive and HWY 120 Right-of-Way. The new curb and gutter and travel lane improvements would tie into the existing eastbound on ramp to HWY 120. The Project would also restripe the same S. Main Street segment in accordance with the new curb and gutter and travel lane improvements described above. Additionally, the Project would install a new curb and gutter that extends approximately 200 feet east from the S. Main Street and E. Atherton Drive intersection along the north edge of the westbound lane of travel on E. Atherton Drive. The Project would also install a new traffic signal at the intersection of E. Atherton Drive and Buena Vista Drive, as it extends north across E. Atherton Drive. Finally, the Project would construct a new minor street stop-controlled intersection at Street D, as it crosses E. Atherton Drive from the northern portion of the Project area to the southern portion of the Project area.

The Project also proposes to upgrade the traffic signals at the intersection of S. Main Street and E. Atherton Drive, and both signals at the north and south intersections of S. Main Street and HWY 120 off and on ramps with modern traffic signal controllers to appropriately synchronize the timing of the signals of all of the aforementioned signals. Access to and from the Project site would be right in and right out from S. Main Street at Quintal Road. There would be no left turn in or out onto S. Main Street from Quintal Road as a median on S. Main Street would block access. Additionally, the Project proposes to extend a Class I bicycle trail across the northern frontage of E. Atherton Drive which would be designed and constructed per the City's standards for a 24 foot Class I bicycle lane (Figure 9a and 9b).

2.5.5 Future Residents Estimate

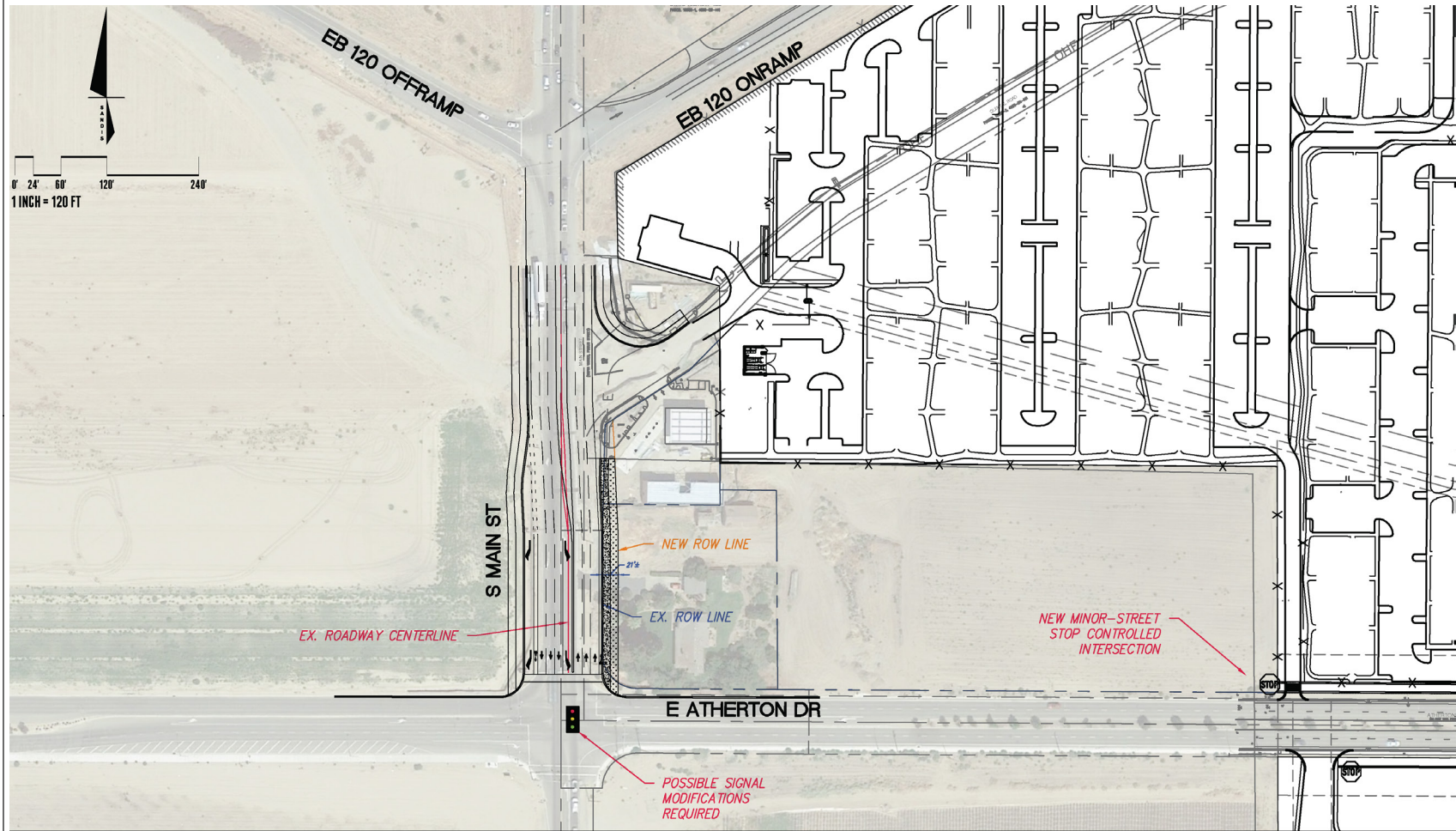
The City's General Plan Update EIR identifies an average household size of 3.18 persons per household in 2020 (City of Manteca 2021b) for single-family and two-family housing typologies. The City of Manteca Parks and Recreation Master Plan identified an average household size of 2.2 persons per household (City of Manteca 2016b). Using an average household size of 3.18 persons per household for the single-family (98 units) and two-family (48 units) components, and 2.2 people per household for the multi-family component (672 units), the Project's development of 818 new housing units would result in an increase of 1,943 residents.

In addition, it is anticipated that up to 11 staff would work at the apartment component. The 11 staff members are anticipated to be a part of the local labor force and would support the two apartment complexes.

2.5.6 Landscaping

The Project would provide landscaping throughout the site. Landscaped areas include pocket parks, resting areas along paseos, and along the Project frontages. The Project would include the use of drought-tolerant and low water use plants. Trees and landscaping would be located along sidewalks, walks, and medians throughout the site (Figure 10).





Source: Sandis 2022



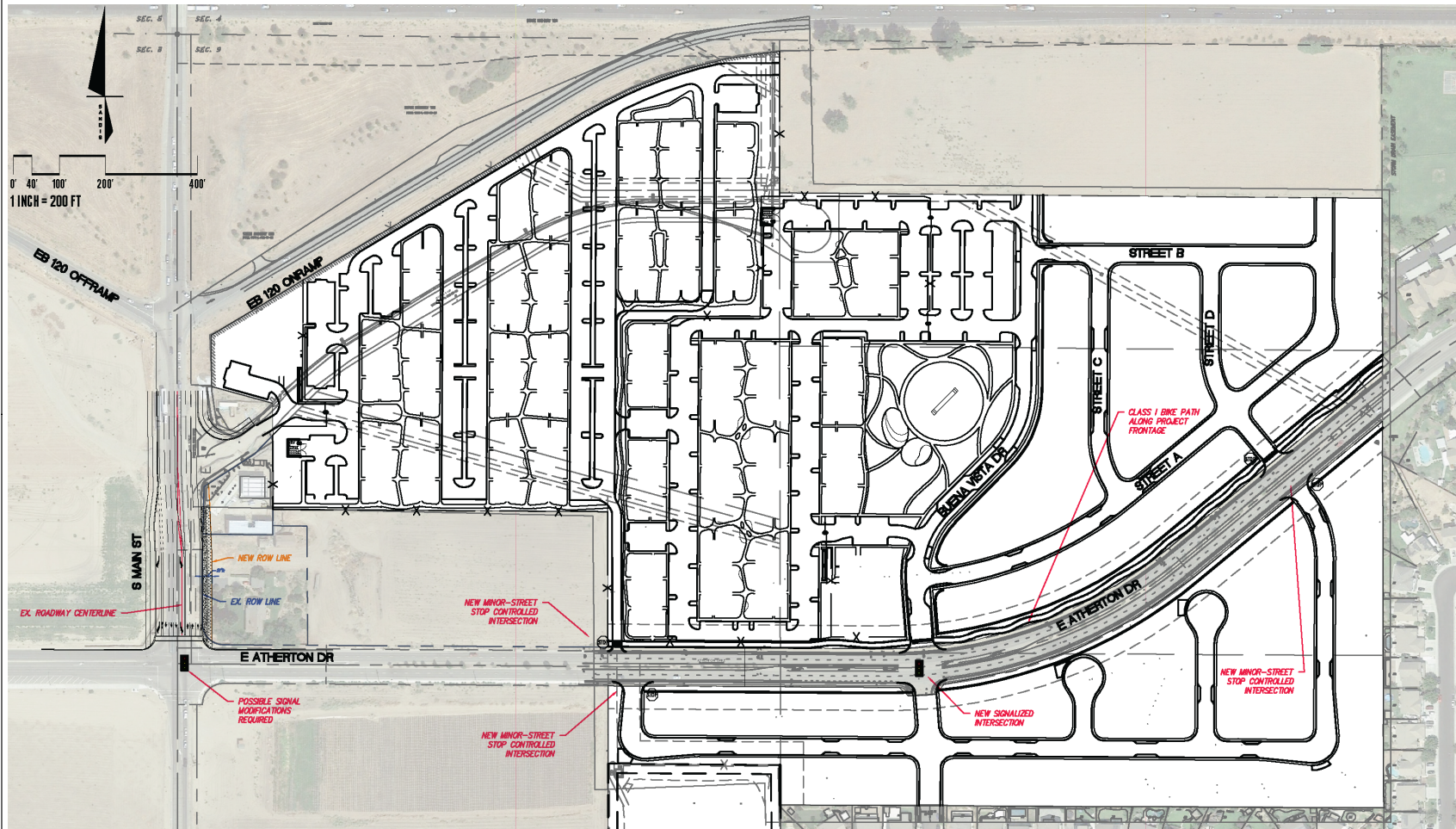
Project Location
Manteca, CA
Client/Project
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Figure No.

9a

Title

**Offsite Traffic Improvements - S.
Main Street**



Source: Sandis 2022



Project Location
Manteca, CA
Client/Project
144-490 Quintal Road Project

Figure No.

9b

Title

Offsite Traffic Improvements -
E. Atherton Drive



Source: BBS Design 2022



Project Location

Manteca, CA

Client/Project

144-490 Quintal Road Project

Figure No.

10

Title

Landscape Plan

144-490 QUINTAL ROAD PROJECT

Initial Study

Project Description

2.5.7 Open Space Areas

The Project includes the development of an approximately 1.93-acre public open space. Central to the development, the public open space would provide open space designated for public use in the same way as a public park and offer green lawns and space for active and passive uses for all visitors. The public open space would include amenities such as a picnic area with shade canopy, active recreation court with cricket pitch, kids play area, multi-use pathways, strolling pathways and a flex court. The public open space would be accessible to all area residents and visitors.

Private open spaces areas for the single-family component would be provided through backyards included for all single-family homes and through backyard and side yard spaces for the two-family component. Open space for the apartment component would be provided through a combination of private and common areas. Private balconies on the upper level and patios on the ground level are included for each unit. Common open space within the apartment complexes would include landscaped paseos, pocket parks, dog park, and game lawn only accessible to those residing in the apartment complexes.

2.5.8 Vehicular Access

Primary site access to the new developments would be through the abandoned but existing Quintal Road, located off S. Main Street and two new commercial roads located off of E. Atherton Drive that would be constructed for the Project. One of the new commercial streets would be Buena Vista Road, which would be extended from its current terminus to E. Atherton Drive across to the north through the Project site to provide access to the northern and southern parcels. A new signalized intersection would be established at the intersection of E. Atherton Drive and Buena Vista Road. The new Buena Vista Road extension would provide access to the Phase III single-family and two-family components, and the Phase I apartment complex. The other new commercial street, referenced as Street D, would provide a secondary entrance and exit into the Phase III residential development in the northern and southern parcels from E. Atherton Drive. Street D would have limited turn in/turn out ability due to the existing central median along E. Atherton Drive and would be constructed with a new signalized intersection.

The Phase I apartment complex would have two gated entrances, located off of the new extended Buena Vista Road. One gated entrance would be provided for the Phase II apartment complex which would be located off of Quintal Road.

These access points would meet the City's requirements for fire apparatus access as well as emergency ingress and egress from the Project site. The Project would also include three other access points for fire access to the site. The first access point would be located at the end of Quintal Road and access would be available from the adjacent vacant parcel. Quintal Road would be 26 feet wide, and which would allow for fire apparatus access. Quintal Road would have a 26 foot access easement and this access location would only be used for emergency access. The second fire access point would be located in the northeast corner of the Project site between the single-family residential developments. The second access point would also have a 26 foot wide fire access easement and would have limited public access with a crash-gate installed. The third access point would be the additional 20-foot Emergency Vehicle Access (EVA) lane that would be located at the southwest corner of the Project site, north of E. Atherton Drive. This additional EVA lane was required by the City's Fire Marshall. This lane would provide one-way



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Project Description

access from the multi-family development to E. Atherton Drive for residents and fire personnel to exit the Project site and turn right onto E. Atherton Drive. The exit would be gated and equipped with an electronic switch/opticon system to allow residents and the Manteca Fire Department access from the Project site. The new Buena Vista Road segment would have an 80 foot right of way which would allow for emergency vehicle access. (Figure 11).

2.5.9 Parking

As summarized in Table 2-4, the Project would provide 1,437 parking spaces, of which 262 would be Electric Vehicle (EV) spaces per California Green Building Standards Code (CalGreen) requirements. Of the 262 EV spaces, 58 EV spaces would be fully functional on Day 1 of operation and 204 EV spaces would be pre-wired for future use. Additionally, the Project would provide 23 ADA parking spaces, four of which would be ADA Van accessible, per California Building Code (CBC) requirements. The single-family and two-family homes would each provide two- to three-car garages with drive aprons that would be large enough for vehicle parking. The proposed parking for the Project meets or exceeds the parking requirements as outlined in the City's Municipal Code Section 15.52.050 and CalGreen Code Sections 4.106.4.1 and 4.106.4.2.2.

Table 2-4: Parking Ratio Calculations

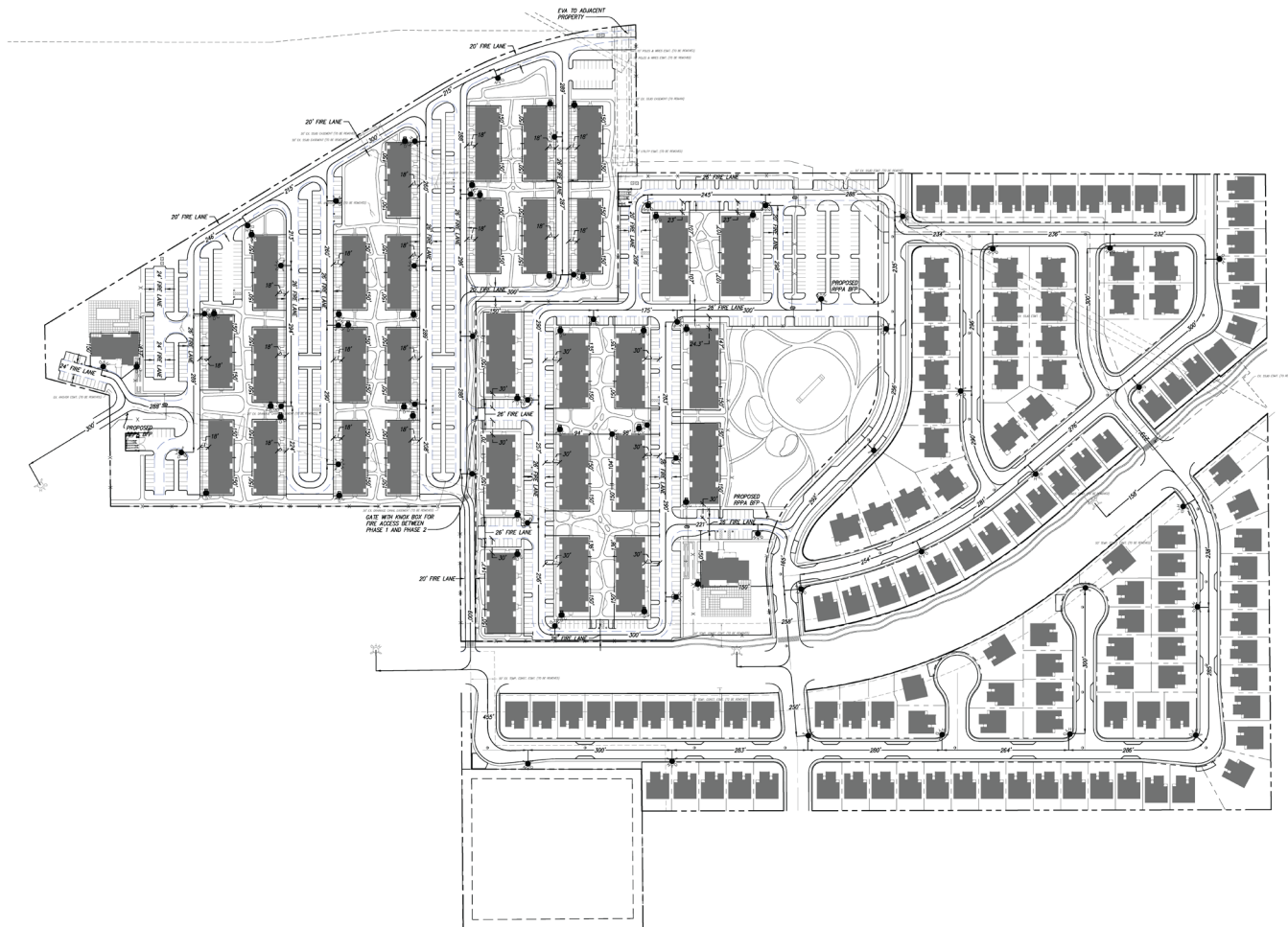
Phase	Total Park Spaces Required	Total Parking Spaces Provided
Phase I (Multi-family)	546	551
Phase II (Multi-family)	594	594
Phase III (Single-family and Two-family)	184	292
Total	1,324	1,437

The City's Municipal Code Chapter 17.52.110, Table 17.52.110-1 requires the provision of 10 bicycle parking spaces for projects that provide greater than 400 parking spaces. Per CalGreen requirements, one bicycle parking space is required per every two dwelling units. Therefore, 156 bicycle parking spaces would be provided for Phase I, 180 bicycle parking spaces would be provided for Phase II, and 73 bicycle parking spaces would be provided for Phase III, for a total of 409 parking spaces. The Project's bicycle parking would exceed the City's requirements and comply with CalGreen standards.

2.5.10 Lighting and Security

Exterior lighting would be provided through the site for security and safety purposes. Exterior lighting provided would include pole lighting and wall mounted exterior lights. Fencing would surround the two apartment complexes, and each would have gated entry into the respective complex. There would not be onsite security guards to maintain the entrances.





Source: Sandis 2022



Project Location
Manteca, CA
Client/Project
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Figure No.
11
Title
Fire Access Plan

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Initial Study

Project Description

2.5.11 Utilities

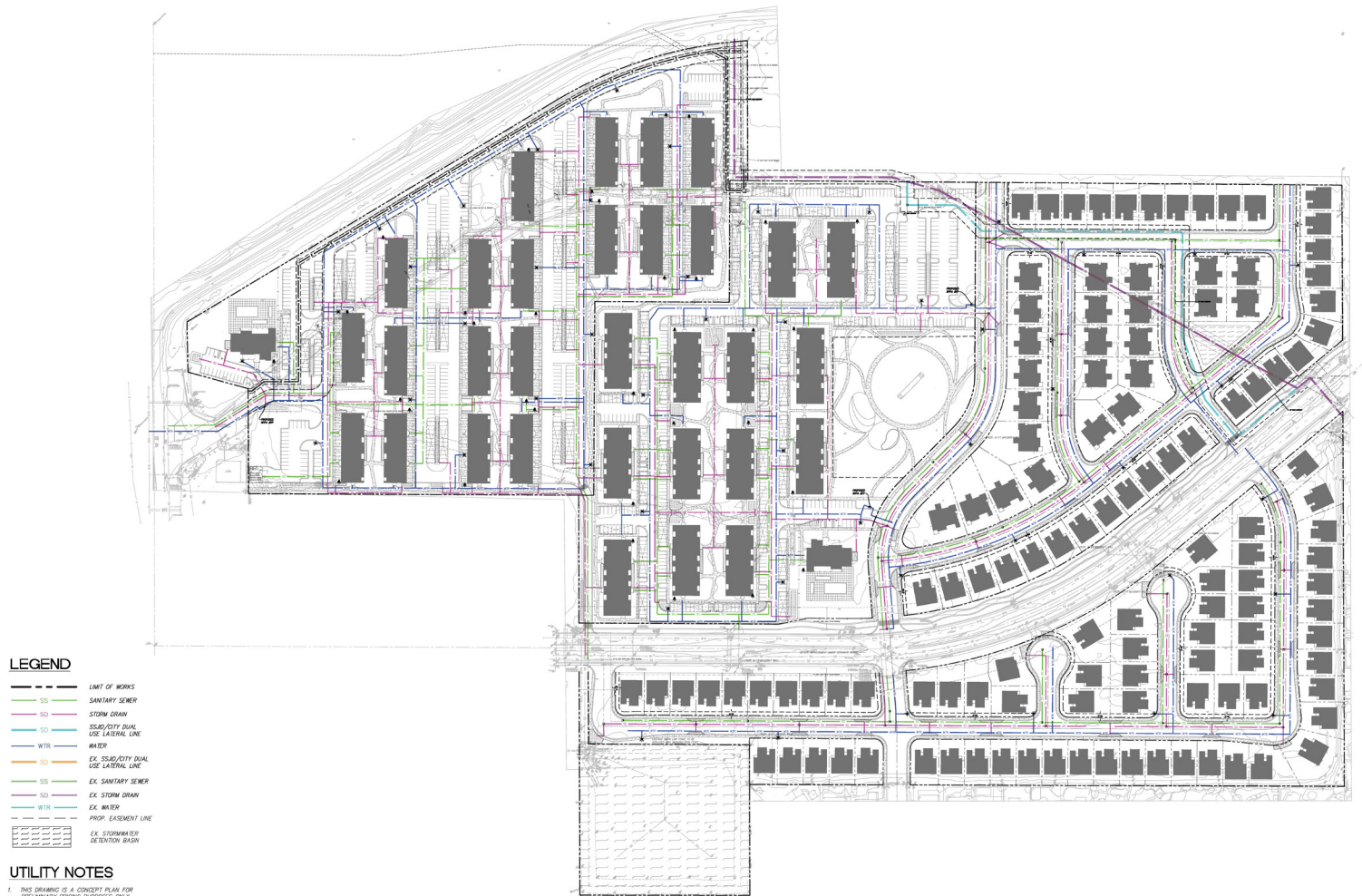
Water Supply

There are existing water mains located along E. Atherton Drive and S. Main Street. The existing water mains would not require upsizing or relocation to implement the Project. The Project would install a new 8 inch water mains throughout the site which would connect to the existing water mains located along E. Atherton Drive and S. Main Street. Private water mains would also be constructed to serve each individual proposed structure (Figure 12). Additionally, the Project would construct new fire hydrants throughout the Project site. All water distribution improvements for the Project would be constructed and designed in accordance with the City's standards and specifications.

Wastewater

There are existing sanitary sewer mains located along E. Atherton Drive and S. Main Street. The existing sanitary sewer mains would not require upsizing or relocation to implement the Project. The Project would construct new 6 inch sanitary sewer mains throughout the site which would connect to 4 inch private lines that serve each individual proposed structure. The 6 inch sewer main running throughout the site would connect to the existing sanitary sewer mains located along E. Atherton Drive and S. Main Street. The sewer system for the Project has been designed to be gravity systems. All sewer distribution improvements would be constructed and designed in accordance with the City's standards and specifications.





Source: Sandis 2022



Project Location
Manteca, CA

Client/Project
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Figure No.
12

Title
Utility Plan

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Initial Study

Project Description

Stormwater

The Project proposes to utilize the existing 2.88-acre detention basin located adjacent to the southwest corner of the southern parcel to provide both stormwater detention and treatment onsite. The existing detention basin has been sized to attenuate a 10-year, 48-hour storm event and has been designed to empty within a maximum of 96 hours. The proposed development would tie into the City's existing 48-inch diameter stormwater drainage system, located along E. Atherton Drive. The City's stormwater drainage system is managed by the City's Public Works Department. Additionally, there is an existing 48-inch diameter South San Joaquin Irrigation District/City dual use lateral line that is located and runs through the Project site and would be relocated within a new 30-foot easement that runs along the Buena Vista Drive right of way extension at the north end, then down Street D before finally tying back into E. Atherton Drive on the south end.

Electricity, Gas, and Telecommunication

Pacific Gas & Electric Company (PG&E) would provide electricity and natural gas services to the Project site. The Project would connect to existing electric and natural gas lines in the area. The Project would include energy conservation features including solar panels and would be designed in accordance with CalGreen Tier 1 standards. The Project would also relocate and underground (PG&E Rule 20) approximately 2,000 feet of power lines that currently run above grade from Hwy 120 along Quintal Road and then south along S. Main Street and terminate at the intersection of S. Main Street and E. Atherton Drive. The undergrounded lines along S. Main Street would allow for the additional lane of travel referenced in Section 2.5.4, Offsite Traffic Improvements.

2.6 PROJECT CONSTRUCTION

2.6.1 Schedule

The Project would be constructed in two phases. Phase A would include construction of the two-family and single-family residential typologies (Phase III). Phase B would include development of the apartment components (Phases I and II). Phase A would take place over 2.5 years with construction starting in December 2023 and complete in April 2026. Phase B would be constructed over the same time period. All construction activities would be consistent with the requirements of the City's Municipal Code and would occur between 7:00 a.m. to 7:00 p.m. on Monday through Friday, and 8:00 a.m. to 6:00 p.m. on Saturdays. No construction would be permitted outside of these hours or on Sundays or federal holidays. The offsite improvements would occur six months after the onsite improvements have been completed around April 2026 and would last approximately eight months. The offsite improvements would not be a separate phase but would occur within the scope of the two phases.

2.6.2 Access and Staging

All construction materials would be stored onsite, and construction of the Project is not anticipated to require road closures.



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Project Description

2.6.3 Construction Equipment and Workers

The Project's Phase A and Phase B construction would require the same construction equipment and would include equipment typically required for site preparation, grading, building construction, paving, and architectural coating. The construction of offsite improvements would require construction equipment required for grubbing and land clearing, grading and excavation, drainage, utilities, and subgrade work, and paving. The Project's Phase A construction is expected to require approximately 100 workers during peak construction stage and peak construction traffic is anticipated to require approximately 275 off-haul truck trips per day. The Project's Phase B construction is expected to require approximately 150 workers during peak construction stage and peak construction traffic is anticipated to require approximately 300 off-haul truck trips per day.

2.6.4 Construction Activities

The Project site currently consists almost entirely of pervious areas. The Project is anticipated to disturb a total of 64 acres and would develop 46 acres of impervious surfaces and 18 acres of pervious surfaces, which would include landscaped areas and open spaces. The Project is anticipated to have a maximum excavation depth of 10 feet. The Project is anticipated to require a cut volume of 65,600 cubic yards and fill volume of 63,600 cubic yards for a total net volume of 2,000 cubic yards.

2.7 REQUIRED PROJECT APPROVALS

The following discretionary approvals and permits are anticipated for the Project:

City of Manteca

- General Plan Amendment for the property south of E. Atherton Drive from CMU to MDR (if General Plan Update not adopted prior to Project entitlements).
- Rezoning property south of E. Atherton Drive from CMU to R-2 for General Plan consistency to correspond to the MDR designation.
- PD Overlay.
- Major Site Plan Development Review
- Vesting Tentative Map
- Development Agreement

Other

- South San Joaquin Irrigation District, specifically the relocation of their facilities Lateral-Y and Well 81
- PG&E relocation and undergrounding of powerlines that run along Quintal Road
- Caltrans review-of proposed improvements along S. Main Street



144-490 QUINTAL ROAD PROJECT

Initial Study

Environmental Checklist and Environmental Evaluation

3.0 ENVIRONMENTAL CHECKLIST AND ENVIRONMENTAL EVALUATION

The environmental factors checked below would potentially be affected by this Project, involving at least one impact that is a "Potentially Significant Impact," as indicated by the checklist on the following pages.

- | | | |
|---|---|--|
| <input type="checkbox"/> Aesthetics | <input type="checkbox"/> Hazards and Hazardous Materials | <input checked="" type="checkbox"/> Transportation |
| <input checked="" type="checkbox"/> Agricultural and Forestry Resources | <input type="checkbox"/> Hydrology and Water Quality | <input type="checkbox"/> Tribal Cultural Resources |
| <input checked="" type="checkbox"/> Air Quality | <input checked="" type="checkbox"/> Land Use and Planning | <input checked="" type="checkbox"/> Utilities and Service Systems |
| <input checked="" type="checkbox"/> Biological Resources | <input type="checkbox"/> Mineral Resources | <input type="checkbox"/> Wildfire |
| <input type="checkbox"/> Cultural Resources | <input checked="" type="checkbox"/> Noise | <input checked="" type="checkbox"/> Mandatory Findings of Significance |
| <input checked="" type="checkbox"/> Energy | <input type="checkbox"/> Population and Housing | |
| <input type="checkbox"/> Geology and Soils | <input type="checkbox"/> Public Services | |
| <input checked="" type="checkbox"/> Greenhouse Gas Emissions | <input type="checkbox"/> Recreation | |

Determination

Based on this initial evaluation:

- ☐ I find that the proposed project COULD NOT have a significant effect on the environment and a NEGATIVE DECLARATION will be prepared.
- ☐ I find that although the proposed 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 proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- ☐ I find that the proposed 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.



December 9, 2022

Signature

Date

Toben Barnum, Associate Planner
City of Manteca Development Services Department, Planning Division
1215 W. Center Street, Suite 201, Manteca, CA 95337



144-490 QUINTAL ROAD PROJECT

Initial Study

Environmental Checklist and Environmental Evaluation

3.1 AESTHETICS

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Discussion of Impacts

a) Have a substantial adverse effect on a scenic vista?

No Impact. According to the General Plan Update EIR, there are no officially designated scenic vista points within the City. The most significant visual features within or adjacent to the City are the San Joaquin River located to the west of the City and agricultural land and open space located in undeveloped areas within and surrounding the City (City of Manteca 2021b). These visual features are not located within the vicinity of the Project site and are not visible from the Project site. The Project site is located within an urbanized area of the City and existing developments surrounding the site obscure views to these visual features. Existing visual obstructions to these features include existing commercial and residential developments surrounding the site as well as HWY 120 which borders the Project site to the north with its off and on ramp to the west. Therefore, the Project would have no impact on scenic vista.

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

No Impact. According to a review of the Caltrans California State Scenic Highway System Map, there are no state designated or eligible scenic highway located near the Project area. The closest State designated scenic highway is Interstate 580, located more than 14 miles southwest of the Project site. (Caltrans 2022). Therefore, the Project would not damage scenic resources within a state scenic highway and there would be no impact.



144-490 QUINTAL ROAD PROJECT

Initial Study

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- 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?**

Less Than Significant Impact. The Project is located in an urbanized area of the City and therefore, this section analyzes the Project's potential to conflict with applicable zoning and other regulations governing scenic quality. The City's Zoning Ordinance establishes specific standards with which developments must comply such as minimum lot size, maximum building height, minimum building setbacks, and a list of allowable uses. The entirety of the Project site is currently zoned CMU. The Project proposes a rezoning to a PD Overlay over the entirety of the Project site while retaining the underlying base zoning of CMU north of E. Atherton Drive and rezoning to R-2 south of E. Atherton Drive. The Project would be designed and constructed in accordance with the standards set in the PD Document, which permits a total height of 30 feet for single-family and two-family homes and 45 feet for multi-family apartments, to ensure that the Project would not result in any visual impacts. The Project is not located within the vicinity of scenic resources and existing development surrounding that site obstruct views of scenic resources within the City and therefore, the Project would not conflict with General Plan Update policies governing scenic quality. Conformance with the PD Document and any applicable Zoning Ordinance standards would ensure that the Project would not conflict with applicable zoning or other regulations governing scenic quality, and impacts would be less than significant.

- d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?**

Less Than Significant Impact. The Project site is currently undeveloped and there are no sources of light and glare that currently exists at the site. The Project site is located in an urbanized area of the City and developments surrounding the site contain multiple sources of lighting that are typical to developed areas including exterior lighting on residential and commercial buildings, parking lot lighting, streetlights, and vehicle headlights. Glare from adjacent land uses emanates from parked cars, passing cars, and windows on nearby buildings. The Project would be constructed in accordance with the City's Municipal Code Chapter 17.50, Lighting, which contains standards and provisions related to exterior lighting such as, but not limited to, shielding, level of illumination, and height requirements of outdoor lighting. Additionally, the Project would prepare and submit a lighting plan as required by the City's Municipal Code Section 17.50.070. The Project would be consistent with General Plan Update policies identified to minimize light and glare impacts from new developments such as General Plan Update Policy LU-3.8 requires that proposed development projects be designed to maximize compatibility between existing and surrounding uses and reduce any potential impacts associated with aesthetics and lighting (City of Manteca 2021a). In the event the General Plan Update is not adopted at the time of Project entitlements, the Project would incorporate such policies to be consistent with the General Plan Update. Implementation of General Plan Update policies would ensure that new development projects utilize appropriate building materials that do not result in a significant increase in lighting and glare. Therefore, with the implementation of applicable General Plan Update policies and compliance with the City's lighting and glare standards, the Project would not result in a new source of substantial light or glare and impacts would be less than significant.



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3.2 AGRICULTURAL 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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Conflict with existing zoning for agricultural use or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with existing zoning for, or cause rezoning of, forestland (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in the loss of forestland or conversion of forestland to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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 forestland to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion of Impacts

- 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?**

Potentially Significant Impact. The California Department of Conservation (DOC), as part of its Farmland Mapping and Monitoring Program (FMMP), prepares Important Farmland Maps indicating the potential value of land for agricultural production. The FMMP designates the Project site as Farmland of Statewide Importance and Farmland of Local Importance (DOC 2022). Therefore, development of the Project may result in the conversion of farmland to non-agricultural uses which could be a potentially significant impact. The Project's impact from conversion of agricultural land would be analyzed fully in the EIR.

- b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?**

No Impact. The Project site is zoned CMU by the City's zoning code. The zoning designation does not allow for agricultural uses and the Project site is not under a Williamson Act contract (City of Manteca



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2021b). Therefore, construction and operation of the Project would not conflict with existing zoning for agricultural use or with a Williamson Act contract, and there would be no impact.

c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined by Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production as defined by Government Code Section 51104(g))?

d) Result in loss of forest land or conversion of forest land to non-forest use?

No Impact. The discussion below applies to Impact (c) and (d) as outlined above.

The City's General Plan Update EIR identifies that there are no forest lands or timberlands located within the City (City of Manteca 2021b). There are no parcels within the City that are currently zoned as forest land, timberland, or timberland production. Therefore, development of the Project would not result in conflict with zoning for forest land or timberland and would not result in the loss of forest land or conversion of forest land for non-forest uses. As such, there would be no impact.

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?

No Impact. There are lands designated as Farmland of Statewide Importance by the DOC located to the west of the Project site. However, the Project site and surrounding areas are not used or designated by the City for agricultural or forest land uses. Construction and operation of the Project would not involve changes in the existing environment which would result in conversion of Farmland to non-agricultural uses or conversion of forest land to non-forest uses. Therefore, there would be no impact.



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3.3 AIR QUALITY

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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 (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Expose sensitive receptors to substantial pollutant concentrations?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Discussion of Impacts

a) Conflict with or obstruct implementation of the applicable air quality plan?

Potentially Significant Impact. The Project's construction and operation could emit air pollutants that have the potential to conflict with or obstruct implementation of an applicable air quality plan, resulting in a potentially significant impact. An Air Quality, Greenhouse Gas, and Energy Study is being prepared for the Project to determine the air quality impacts resulting from the Project. The study has not been completed at the time of writing this Initial Study and therefore, the results of the study would be analyzed in the EIR. As such, the Project's potential to conflict with an applicable air quality plan adopted for the purpose of reducing air quality impacts is potentially significant and impacts would be further analyzed in the EIR.

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?

Potentially Significant Impact. The construction and operational emissions resulting from the Project could exceed the threshold of significance for air pollutants and emissions and could be cumulatively considerable resulting in a potentially significant impact. An Air Quality, Greenhouse Gas, and Energy Study is being prepared for the Project to determine net increase of pollutants resulting from implementation of the Project. The study has not been completed at the time of writing this Initial Study and therefore, the results of the study and air quality modeling would be analyzed in the EIR. As such, there is a potentially significant impact and the Project's potential to result in a cumulatively considerable net increase of pollutants would be further analyzed in the EIR.



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c) Expose sensitive receptors to substantial pollutant concentrations?

Potentially Significant Impact. Sensitive receptors refer to those individuals of the population most susceptible to poor air quality including children, the elderly, and those with pre-existing health problems affected by air quality. Construction and operational emissions from the Project could expose sensitive receptors to substantially pollutant concentrations and result in a potentially significant impact. In addition to the Air Quality, Greenhouse Gas, and Energy Study mentioned above, the Project is preparing a Health Risk Assessment (HRA) to evaluate potential health risk impacts to sensitive receptors. The study has not been completed at the time of writing this Initial Study and therefore, the results of the study and the HRA would be analyzed in the EIR. As such, there is a potentially significant impact and the Project's potential to expose sensitive receptors to substantial pollutant concentrations would be further analyzed in the EIR.

d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Less Than Significant Impact. The Project would develop residential uses and construction and operation of the Project would not generate substantial odors that would affect substantial number of people. Land uses typically considered associated with odors include wastewater treatment facilities, waste-disposal facilities, or agricultural operations and the Project does not contain any land uses typically associated with emitting odors. During operation, Project developments could generate odors from cooking or trash enclosures. These odors would not be substantial enough to be considered nuisance odors that would affect a substantial number of people. During Project related construction activities on the Project site, construction equipment exhaust, painting, and paving activities would temporarily generate odors. Any construction-related odor emissions would be temporary and intermittent. Additionally, noxious odors would be confined to the immediate vicinity of the construction equipment. Therefore, Project impacts from odors would be less than significant.



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3.4 BIOLOGICAL RESOURCES

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations, or by the California Department of Fish or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Cardno Inc. (Cardno; now Stantec) completed a Biological Resource Assessment (BRA) to assess for sensitive biological resources (wildlife species, plant species and habitats) within the Project area. The BRA includes results from a biological reconnaissance survey and desktop and resource assessment of the Project area. The reconnaissance survey was conducted by two Cardno biologist walking the entire Project area to identify any sensitive biological resources. The biologists recorded the dominant plant species within the Project area which included the following: Telegraph weed (*Heterotheca grandiflora*), prickly Russian thistle (*Salsola tragus* L.), and colocynth (*Citrullus colocynthis*). Within the Project area no suitable habitat for special-status species was observed, but a seasonal drainage occurs at the far east side of the Project area, approximately 50 feet south of E Atherton Drive. The seasonal drainage was identified based on a change in the vegetation community and the dominant plant species included giant reed (*Arundo donax*) and various non-native grass species. The seasonal drainage is approximately 150



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feet in length and 20 feet wide. A formal delineation of this feature determined that it does not meet the requirements to fall under the jurisdiction of the United States Army Corps of Engineer (USACE), Regional Water Quality Control Board (RWQCB) or the California Department of Fish and Wildlife (CDFW).

In addition to a biological reconnaissance survey, Cardno completed a desktop analysis to identify sensitive biological resources that may occur within the proposed Project site and region, as defined by CDFW, the U.S. Fish and Wildlife Service (USFWS), and California Native Plant Society (CNPS). The following resources were used to identify those potentially occurring biological resources:

- CDFW CNDDDB records search of special-status species and habitat observations within a five-mile radius
- CNPS online Inventory of Rare and Endangered Plants of California for Manteca, Avena, Peters, Lathrop, Stockton West, Stockton East, Salida, Vernalis and Ripon USGS 7.5-minute Quads
- USFWS list of endangered, threatened, and candidate species that may occur within the proposed Project site
- USFWS Designated Critical Habitat data for federally threatened and endangered species

See Appendix A and B for the Biological Resource Assessment and Wetland Delineation Report, respectively.

Discussion of Impacts

- 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?**

Less Than Significant Impact With Mitigation Incorporated. As discussed in the BRA, one plant species, lesser saltscare (*Atriplex minuscula*), has a low potential to occur within the Project area. While the Project occurs within the range for this species, the disturbed nature of the Project area provides low quality habitat for this species. Due to the low-quality habitat, this species is not expected to occur. No effects to special-status plants are anticipated. Two wildlife species, loggerhead shrike (*Lanius ludovicianus*) and Swainson's hawk (*Buteo swainsoni*), have moderate potential to occur within the Project area. The small grove of deciduous trees located just outside the Project area to the north provide suitable nesting habitat for Swainson's hawk, and the small grove of trees and line of trees within the median of E Atherton Dr provide suitable nesting habitat for loggerhead shrike. Marginal foraging habitat occurs within the Project area. One species, burrowing owl (*Athene cunicularia*), has low potential to occur in the Project area. No ground squirrels or ground squirrel burrows were observed during the reconnaissance survey to provide habitat for burrowing owl. The species identified as having low potential to occur is not expected to occur due to the poor-quality habitat within the Project area. The Project area does provide suitable nesting habitat for migratory birds. There is a small grove of deciduous trees located just outside the Project area to the north, and a line of trees within the median of E Atherton Dr that provide suitable nesting habitat for non-listed birds. The presence of trees on-site and in the vicinity



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of the Project area could provide suitable nesting and foraging habitat for various bird species that are protected by the Migratory Bird Treaty Act or California Fish and Game Code. Therefore, construction activities could have the potential to affect nesting birds if construction activities were to occur during the breeding season (i.e., February 1 through August 31).

To avoid any potential impacts to loggerhead shrike, Swainson's hawk or nesting birds, Mitigation Measure BIO-1 is recommended for this Project. As such, potential impacts to nesting birds would be less than significant with mitigation incorporated.

BIO-1: Avoid Disturbance of Nesting Birds. Vegetation removal and construction activities shall be initiated during the non-nesting season for migratory birds from September 1 to January 31. If work cannot be initiated during this period, a nesting bird survey shall be performed by a qualified biologist for species protected by the Migratory Bird Treaty Act and California Fish and Game Code within a 250-foot radius of proposed construction activities for passerines, and .25 miles for raptors, no more than two weeks prior to the start of construction activities. If active nests are found, a no-disturbance buffer shall be placed around the nest until young have fledged or the nest is determined to be no longer active by the biologist. The size of the buffer shall be determined by the biologist based on species and proximity to activities and may be reduced at the discretion of the biologist. Active nests shall be monitored by a biologist to determine time of fledging.

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

No Impact. The proposed Project would not alter or adversely affect riparian areas or other sensitive natural communities, including wetlands, because no riparian areas or other sensitive natural communities were identified. Predominant species observed within the Project area include Telegraph weed, Russian thistle, Palmer amaranth (*Amaranthus palmeri*), common sunflower (*Helianthus annuus*), mat amaranth (*Amaranthus blitoides*) and colocynth. Other species observed include a species of oat (*Avena* spp.), species of radish (*Rhaphanus* spp.), and hedge bindweed (*Calystegia sepium*). There is a change of vegetation within the Project area where there is a seasonal drainage on the eastern side of the Project area. Species observed within the seasonal drainage include giant reed (*Arundo donax*), rough cocklebur (*Xanthium strumarium*), Palmer amaranth (*Amaranthus palmeri*), brome fescue (*Festuca bromoides*), hairy crab grass (*Digitaria sanguinalis*), California melic (*Melica imperfecta*), Bermuda grass (*Cynodon dactylon*), and tall manna grass (*Glyceria elata*). Telegraph weed and Russian thistle were also present within the seasonal drainage. Therefore, the proposed Project would have no impact on riparian areas or other sensitive natural communities.

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?

No Impact. The proposed Project would not adversely affect state or federally protected wetlands because no wetlands under the RWQCB or USACE jurisdiction were identified on the site. The National Wetlands Inventory showed two riverinies within the Project area, and a seasonal drainage that was observed during the biological reconnaissance survey. Wetland delineations then occurred at identified



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sampling points within the Project area based on the National Wetlands Inventory data and observations from the biological survey. Based on the findings in the wetland delineation report (Appendix B), the Project area contains no wetlands or other waters that are potentially subject to the USACE jurisdiction pursuant to the Clean Water Act. No portion of the Project area meets the three criteria for federal wetlands (dominance of hydrophytic vegetation, evidence of wetland hydrology, and hydric soils) and no surface water was present during the survey event. In addition, no other waters were identified based on the lack of an ordinary high water mark (OHWM) and connectivity to a downstream Traditional Navigable Water. The three water features are also not considered potential waters of the State because they lack an OHWM and connectivity to downstream waters and did not contain hydrophytic vegetation, evidence of wetland hydrology, and hydric soils. As such, there is no impact to state or federally protected wetlands.

Based off the site plan presented in Figure 5, no construction is planned within at least 25 feet of the season drainage; therefore, no impacts are expected to this feature and no mitigation or minimization measures are required. If site plans change and impacts are anticipated to this feature, it may be necessary to coordinate with the USACE and/or RQQCB to get final authority in determining the status and presence of jurisdictional wetlands/waters and the extent of their boundaries.

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?

No Impact. Extensive development, roadways, and highways surround the Project site, which minimizes the opportunity for wildlife to move freely across the vicinity of the Project site. In addition, the Project site does not represent a corridor that links areas of open space lands. The City's General Plan Update EIR identifies that there are no wildlife movement corridors that have been identified within the City and the City does not provide an important connection between any areas of natural habitat that would otherwise be isolated (City of Manteca 2021b). Additionally, the CDFW California Habitat Connectivity map identifies the Project site as being located in an area with limited connectivity opportunity (CDFW 2022). As such, the Project site is not considered to support wildlife movement or native wildlife nursery sites, and there would be no impact from construction and operation of the Project.

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

No Impact. The City's Municipal Code Section 17.48.060, Landscape Care, Maintenance, and Replacement, provides regulations for the removal of existing trees. Section 17.48.060 indicates that the removal of a tree should not be conducted unless it is determined that it is infeasible to save the tree by any other method and prior to the removal of any tree, approval from the Planning Director is required. The Project site is covered by vegetation consisting of weeds but does not include any existing trees. Therefore, the Project would not require the removal of any trees that could conflict with a tree preservation policy or ordinance. The Project would not conflict with any policies or ordinances protecting biological resources and there would be no impact.

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?



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Less Than Significant Impact. The City is a signatory of the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP) which was approved in 2000-. The Project would not re-designate any land currently designated for open space or habitat protection and as such, would be consistent with the adopted SJMSCP in terms of land uses and habitat conservation. The Project would be consistent with the provisions of the SJMSCP as required by General Plan Update Implementation measure RC-9a. (City of Manteca 2021a). Therefore, construction and operation of the Project would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan and impacts would be less than significant.



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3.5 CULTURAL RESOURCES

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource as identified in Section 15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Discussion of Impacts

a) Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?

No Impact.

A desktop review of buildings over the age of 45 was conducted by an architectural historian, and no historic resources (likely eligible under state, federal, or local historic preservation criteria) were identified. Thus, the Project is not anticipated to have an impact on any known or potential historical resources

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?

Less Than Significant.

According to the City's General Plan Update EIR, the City currently has 95 previously recorded archaeological sites and six built resources within the City's General Plan Update boundary (Planning Area). The City's Planning Area includes the entire City limits and the City's Sphere of Influence (SOI). General Plan Update Implementation measure RC-11a requires a records search be conducted for any proposed development project to determine whether the site contains any known archaeological, historic, cultural, or paleontological resources and/or to determine the potential for discovery of additional resources. Additionally, General Plan Update Implementation measure RC-11b requires a cultural and archaeological survey be conducted prior to approval of any project which would require excavation in an area that is sensitive for resources (City of Manteca 2021a).

In accordance with General Plan Update Implementation measure RC-11a, a records search was conducted, and a Cultural Resources Study and associated site surveys were prepared for the Project (Appendix C). Identification efforts included a records search at the Central California Information Center of the California Historical Resources Information System in Turlock, California, and Sacred Lands files maintained by the Native American Heritage Commission. The records search included a review of records for the Project area and a surrounding radius of 0.50 mile. A pedestrian survey of the Project area



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was also completed. The records search, desktop review, Native American consultation and pedestrian survey did not identify any archaeological resources within the Project area.

- c) Although very unlikely, if archaeological resources are encountered during construction, adherence to the General Plan Update Implementation measure RC-11b would be required to ensure that potentially significant archaeological resources pursuant to Section 15064.5 are treated appropriately. Therefore, impacts associated with damage to buried archaeological resources would remain less than significant. **Disturb any human remains, including those interred outside of formal cemeteries?**

Less Than Significant Impact. Though the potential for human remains is low, the Project would require excavation and ground disturbing activities which could lead to the discovery of human remains or other cultural resources that are currently undiscovered. The General Plan Update requires that human remains are treated in compliance with the provisions of the California Health and Safety Code Section 7050.5 and California Public Resources Code Section 5097.98. If human remains are uncovered during ground-disturbing activities, the Project would be consistent with General Plan Update Implementation measure RC-11j which outlines required procedures in the event that human remains are discovered (City of Manteca 2021a). With compliance with of California Health and Safety Code Section 7050.5, California Public Resources Code Section 5097.98, and applicable General Plan Update policies and measures, impacts resulting from inadvertent disturbance to human remains would be less than significant.



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3.6 ENERGY

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Conflict with or obstruct a State or local plan for renewable energy or energy efficiency?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Discussion of Impacts

a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

Potentially Significant Impact. The Project would increase energy usage at the site during construction and operation of the Project. An Air Quality, Greenhouse Gas, and Energy Study is being prepared for the Project to analyze the potential energy use of the Project and the potential increases associated with implementation of the Project. The study has not been completed at the time of writing this Initial Study and therefore, the results of the study would be analyzed in the EIR. Therefore, this impact is potentially significant, and impacts related to energy from the Project would be further analyzed in the EIR.

b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

Potentially Significant Impact. As stated above, an Air Quality, Greenhouse Gas, and Energy Study is being prepared for the Project. The results of the study would determine whether the Project would conflict with or obstruct a state or local plan for renewable energy or energy efficiency. The study has not been completed at the time of writing this Initial Study and therefore, this impact is potentially significant and would be further analyzed in the EIR.



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3.7 GEOLOGY AND SOILS

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Discussion of Impacts

- 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 Geologic for the area or based on other substantial evidence of a known fault?



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No Impact. The Project site is not located within a Alquist-Priolo Fault Zone and no known active or potentially active faults runs through the Project site. According to the Geotechnical Evaluation prepared for the Project by Rockridge Geotechnical in November 2021 (Geotech report) (Appendix A), the closest fault is the Great Valley 07 fault segment which is located approximately 15.5 miles southwest of the site. Therefore, the Project is not at risk of a rupture of a known earthquake fault and there would be no impact.

ii) Strong seismic ground shaking?

Less Than Significant Impact. The Project site is located in a seismically active region and therefore, has the potential to experience strong seismic ground shaking. The Geotech report prepared for the Project conclude that moderate to strong shaking could occur at the site during a large earthquake event on one of the nearby faults. As stated above, the closest fault is the Great Valley 07 fault segment which is located approximately 15.5 miles southwest of the Project site (Geotech report) (Appendix A). The Project would be designed and constructed in compliance with the CBC, General Plan Update, PD Document, Zoning Ordinance, and other adopted regulations related to construction of new developments to withstand seismic events. The Project would be consistent with General Plan Update Implementation measure S-2a which requires the preparation of geotechnical reports and the incorporation of recommendations included in the reports into project plans to address seismic and geologic risk (City of Manteca 2021a). With the inclusion of applicable seismic design measures and conformance with adopted building codes, the Project would not result in impacts from strong seismic ground shaking and impacts would be less than significant.

iii) Seismic-related ground failure, including liquefaction?

Less Than Significant Impact. The City's General Plan Update EIR identifies that the potential for liquefaction in many parts of the City ranges from low to high. However, since the City's Planning Area is essentially flat, lateral spreading of soils has not been observed within the City's Planning Area (City of Manteca 2021b). The liquefaction analysis completed for the Geotech report indicated that there are several layers of potentially liquefiable soil between 13 and 42 feet below ground surface (bgs). The results indicated that many of the potential liquefiable layers are not continuous throughout the site which reduces the likelihood of large scale lateral spreading during a major earthquake but that there may be localized lateral spreading in portions of the site during a major seismic event. The Geotech report prepared for the Project found that the Project site has the potential for up to one inch of liquefaction-induced, free field settlement and relatively shallow liquefiable layers in some location throughout the site. The Geotech report includes recommendations on construction considerations and foundation designs for the Project to reduce the potential impacts related to seismic ground failure. Additionally, since the Geotech report prepared is based on preliminary field investigations, it recommends a final geotechnical report be prepared with supplemental field investigations prior to final design. As required by General Plan Update Implementation measure S-2a, the Project would be required to implement recommendations included in the Geotech report to reduce potential impacts (City of Manteca 2021a). The Project would also be required to comply with the CBC, would be consistent with General Plan Update policies and zoning ordinances (including Manteca Municipal Code Title 15 Buildings and Construction and Ordinance 02922-22) related to seismic related impacts, and any other applicable regulations adopted to address impacts associated with seismic activity. Therefore, the Project would not result in significant impacts related to seismic ground failure and impacts would be less than significant.



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iv) Landslides?

No Impact. The General Plan Update EIR identifies that the City has a low potential for landslides due to its flat surface conditions (City of Manteca 2021b). Given the relatively flat topography of the Project site and because the site is not classified as being in a landslide area, the potential for impacts related to landslides is very low. Therefore, there would be no impact related to seismically induced landslides from Project construction and operation.

b) Result in substantial soil erosion or the loss of topsoil?

Less Than Significant Impact. Construction activities associated with the Project would involve grading and excavation activities which could expose soils to sources of wind or water, resulting in the potential for erosion and sedimentation on and off the Project site. As discussed in the Hydrology and Water Quality section, the Project would disturb greater than one acre and would require coverage under the National Pollutant Discharge Elimination System (NPDES) General Construction Permit. The NPDES Permit is obtained through State Water Resources Control Board (SWRCB) and requires the preparation and implementation of a Stormwater Pollution Prevention Plan (SWPPP) which requires implementation of standard construction best management practices (BMPs) to minimize erosion and loss of topsoil. With implementation of BMPs required by the SWPPP under the NPDES Permit, the potential impacts related to soil erosion would be less than significant during construction. Additionally, the City's General Plan Update includes a range of policies and actions related to BMPs, NPDES requirements, and minimizing discharge of materials including eroded soils into the storm drain system. General Plan Update Policy RC-3.1 requires minimization of soil erosion and loss of topsoil from land development activities and Implementation measures RC-3a and RC-3b requires compliance with California Building Code Standards and inclusion of appropriate measures for drainage control and avoiding or reducing erosion (City of Manteca 2021a). In the event the General Plan Update is not adopted at the time of Project entitlements, the Project would incorporate such policies to be consistent with the General Plan Update.

Once constructed, the Project would be landscaped and/or covered in buildings or hardscape features; and not result in soil erosion or loss of topsoil. New pervious areas created as part of the Project would include detention and landscaped areas, and open spaces. There would be no impact related to erosion and topsoil loss from operation of the Project.

Therefore, with the implementation of applicable state and City requirements, the preparation of a SWPPP, and implementation of General Plan Update policies and actions, the Project would not result in substantial soil erosion or loss of topsoil and impacts would be less than significant.

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 offsite landslide, lateral spreading, subsidence, liquefaction, or collapse?

Less Than Significant Impact. As discussed earlier, the Project site is not located within an area with potential for landslides and the City's General Plan Update does not identify lateral spreading, subsidence, or collapsible soils as an issue within the City's Planning Area (City of Manteca 2021b).



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However, the Geotech report identifies the potential for liquefaction to occur at the site. The Geotech report includes recommendations for adequate foundation support and construction considerations to ensure potential impacts would be mitigated. Additionally, the Geotech report recommended a final geotechnical report be prepared based on a supplemental field investigation to develop final foundation design requirements. As required by General Plan Update Implementation measure S-2a, the Project would be required to implement the recommendations included in the Geotech report to address any potential geologic impact (City of Manteca 2021a). In addition, the Project would be required to comply with the adopted State and City codes and conform to the standards of the CBC. The Project would implement applicable General Plan Update implementation measures and actions to ensure that the Project addresses any potential geologic hazards. Therefore, the Project would not be located on a geologic unit or soil that is unstable or would become unstable as a result of the Project, and impacts would be less than significant.

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code, creating substantial direct or indirect risks to life or property?

Less Than Significant Impact. The Geotech report did not identify expansive soils at the Project site. The City's General Plan Update EIR identifies that the majority of the City's Planning Area has soils with a low potential for expansion. Figure 3.6-4 of the General Plan Update EIR identifies shrink-swell potential of soils within the Planning Area and the Project site is designated as having a low shrink-swell potential. The Project would be required to conform with the CBC, General Plan Update, zoning ordinances (including the City's Municipal Code Title 15 Buildings and Construction and Ordinance 02922-22), and other applicable regulations to ensure the Project would not result in significant impacts. As required by CBC (including Chapter 19 Soils and Foundations) and General Plan Update Implementation measure S-2a, a site-specific geotechnical investigation would identify potential for damage related to expansive soils and if a risk is identified, recommendations and mitigation would be identified in the report to minimize impacts (City of Manteca 2021a). Therefore, with compliance with applicable General Plan Update policies and measures, the CBC, and any other applicable regulations, impacts related to expansive soils would be less than significant.

e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

No Impact. The Project would connect to and be served by the City's existing sanitary sewer system and would not require the installation of septic tanks or alternative wastewater disposal systems. Therefore, no impacts would occur.

f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Less Than Significant Impact. The Project site is undeveloped and does not contain any known unique paleontological resource or unique geologic feature. According to the City's General Plan Update EIR, the generalized rock types in the Planning Area is Quaternary Alluvium which is younger alluvium that consists of marine and nonmarine sedimentary rocks from Pleistocene through Holocene Epochs (City of Manteca 2021b). Eighty fossils have been found and recorded within San Joaquin County and over half of them are dated to the tertiary period, with quaternary being the second most frequent period. The



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majority of fossils found within the Manteca area have been vertebrate in nature. Paleontologists consider all vertebrae fossils to be of significance (City of Manteca 2021b). Though no formations in the City's Planning Area are assigned a very high sensitivity, the City is in a region where fossils and paleontological resources have been identified.

It is possible that undiscovered paleontological resources could be encountered during ground-disturbing activities associated with construction of the Project and could result in a significant impact if the undiscovered paleontological resource is damaged. However, the City's General Plan Update includes policies and actions to ensure the protection of paleontological resources. General Plan Update Implementation measure RC-11a requires a records search for any proposed development projects to determine whether the site contains any known resources and/or determine the potential for discovery of unknown resources. General Plan Update Implementation measure RC-11b requires a paleontological survey in areas that are sensitive for paleontological resources. Additionally, General Plan Update Implementation measure RC-11j outlines procedures and requirements in the event of an inadvertent discovery of potential paleontological resources. Implementation of the General Plan Update actions would ensure steps would be taken to reduce impacts to paleontological resources in the event that they are discovered during construction. As such, the Project would not directly or indirectly destroy a unique paleontological resource or geologic feature, and impacts would be less than significant.



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3.8 GREENHOUSE GAS EMISSIONS

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Discussion of Impacts

- a) **Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?**

Potentially Significant Impact. The impacts associated with GHG emissions generated by the Project are related to the emissions from construction and operation. Off-road equipment, materials transport, and worker commutes during construction of the Project would generate GHG emissions. Building operation, energy use, and mobile sources from vehicle trips by residents during Project operations would also generate GHG emissions. The Project would have the potential to generate GHG emissions that could have a significant impact on the environment. An Air Quality, Greenhouse Gas, and Energy Study is being prepared for the Project. The study has not been completed at the time of writing this Initial Study and therefore, the results of the study would be analyzed in the EIR. Therefore, this impact is potentially significant, and GHG emissions from the Project would be further analyzed in the EIR.

- b) **Conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?**

Potentially Significant Impact. The Project's potential to conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs would be further analyzed in the EIR.



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3.9 HAZARDS AND HAZARDOUS MATERIALS

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely-hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to <i>Government Code Section 65962.5</i> and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion of Impacts

- a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?
- 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?

Less Than Significant Impact. The discussion below applies to Impact (a) and (b) as outlined above.



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The Project would involve the construction of 818 residential dwelling units which would include 672 multi-family apartments, 48 two-family units, and 98 single-family homes. Construction activities would include grading of the site and the construction of new buildings and associated infrastructure. During the construction phase, limited amounts of hazardous materials would be used, including standard construction materials such as concrete, paints, solvents and heavy construction equipment which would contain diesel fuels and oils and construction activities could potentially cause accidental spills or releases of hazardous materials. As part of the NPDES Construction General Permit, the Project would be required to prepare and implement an SWPPP that would include BMPs to prevent accidental spills of hazardous materials during construction. With adherence to applicable federal, state, and local regulations, and implementations of BMPs in the SWPPP, the impact to the public or environment from use or accidental release of hazardous materials during Project construction would be reduced. Impacts related to the routine transport, use, and disposal or accidental release of hazardous materials during Project construction would be less than significant.

During operation of the Project, the use of hazardous materials would be limited to those commonly found at residential facilities such as solvents, cleaners, paints; chlorine and other chemicals for pool maintenance; and pesticides for landscape maintenance activities. These common household hazardous materials would be used in limited quantities and would not create a substantial hazard to the public or the environment. Therefore, impacts related to the routine transport, use, and disposal or accidental release of hazardous materials during Project operation would be less than significant.

c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

No Impact. The closest school to the Project site is Walter Woodward Elementary School, which is located approximately 0.6 miles south of the site. As discussed under Impacts (a) and (b) above, Project construction would include handling of typical quantities of hazardous materials such as fuels, lubricants, and paints; however, this is not anticipated to pose a significant risk to students attending the school because the regulations and BMPs designed to protect construction workers handling such materials would protect any nearby students and sensitive receptors on adjacent sites. The quantity and type of hazardous materials used during construction of the Project would not result in significant impacts to students. Additionally, hazardous materials used during operation of the Project would be limited to commonly found household hazardous materials. Therefore, the Project would not emit hazardous emissions or handle hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school and there would be no impact.

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?

No Impact. According to the SWRCB GeoTracker website and the Department of Toxic Substances Control (DTSC) EnviroStor website, the Project site is not located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 (SWRCB 2022, DTSC 2022). Therefore, there would be no impact.



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- e) For a project located within an airport land use compatibility 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?**

No Impact. There are no private or public airports located within the City's Planning Area. The closest airport to the City is the Stockton Metropolitan Airport, located approximately 8.2 miles northwest of the Project site and New Jerusalem Airport, located approximately 8.6 miles southwest of the Project site. The Project site is not located within the airport influence area for the Stockton Metropolitan Airport identified in the Airport Land Use Compatibility Plan or the airport influence area for the New Jerusalem Airport. Therefore, the Project would not result in a safety hazard or excessive noise for people residing or working in the Project area and there would be no impact.

- f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?**

No Impact. The San Joaquin County Office of Emergency Services (OES) maintains an Emergency Operations Plan (EOP) that serves as the official Emergency Plan for San Joaquin County. The City does not have designated evacuation routes. The Project would comply with the provisions of the San Joaquin County EOP and would not impair implementation of or interfere with the plan.

The Project would not modify any existing roadways in such a way that would impede emergency access or evacuation. Project implementation would result in the provision of new or widened roads to provide access to the Project's residential and recreational uses. Primary site access to the new developments would be through the abandoned but existing Quintal Road, located off S. Main Street and two new commercial roads located off of E. Atherton Drive that would be constructed for the Project. The Project would include three other access points for fire access to the site. Access points to the Project site would meet the City's requirements for fire apparatus access as well as emergency ingress and egress from the Project site. EVA access to the Project site has been provided, consistent with the Fire Marshall's requirements. The Planning Commission and City engineer would review proposed residential street patterns to evaluate the accessibility for fire engines and emergency response to ensure that the Project has adequate ingress and egress, setbacks, clearances, turning radii, etc. and does not impede emergency access. Therefore, the Project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan and there would be no impacts.

- g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?**

No Impact. The Project site and the adjacent areas are not located within a State Responsibility Area (SRA) or within a Very High Fire Hazard Severity Zone (VHFHSZ) as designated by California Department of Forestry and Fire Protection (CAL FIRE) (CAL FIRE 2007). The U.S. Forest Service (USFS) Wildfire Hazard Potential Map identifies the Project site as non-burnable and very low wildfire hazard potential (USFS 2020). As identified in the General Plan Update EIR, the City's Planning Area is not located in or near any SRAs and there are no lands classified as VHFHSZ within or near the Planning Area. The Project would be required to implement California Fire Code requirements and City standards, such as the use of automatic sprinkler systems and fire hydrants, to reduce the potential for fires. Additionally, the City's General Plan Update Safety element includes policies such as General Plan



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Update Policy S-1.1 and Implementation measure S-1b that guide the City to regularly update the City's Emergency Plan and regularly review County and State emergency response providers that must be coordinated with City procedures (City of Manteca 2021a). The Project would be consistent with the City's emergency plans and procedures to ensure that the Project does not increase risks or expose people or structures to significant risks associated with wildland fires. In the event the General Plan Update is not adopted at the time of Project entitlements, the Project would incorporate such policies to be consistent with the General Plan Update. Due to the urbanized nature of the Project area and very low wildfire hazard potential within the Project site and the City, the Project would not expose people or structures to significant risk of loss, injury or death involving wildland fires and there would be no impact.



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3.10 HYDROLOGY AND WATER RESOURCES

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
i) Result in substantial erosion or siltation on- or offsite?;	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv) Impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion of Impacts

a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

Less Than Significant Impact. Construction activities associated with the Project would involve vegetation removal, grading, and excavation activities that could expose barren soils to sources of wind or water, resulting in the potential for erosion and sedimentation on and off the Project site resulting in degradation of water quality. Additionally, construction activities would have the potential to generate



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polluted runoff into the City's storm drain system. As required by the City for individual projects that disturb more than one acre, the Project would be required to obtain a NPDES Construction General Permit and prepare and implement a SWPPP that includes BMPs to control the discharge of pollutants in stormwater during construction, consistent with the City's Municipal Code Chapter 13.28 Storm Water Management and Discharges. The Applicant would be required to submit the SWPPP with a Notice of Intent (NOI) to the Central Valley RWQCB to obtain a General Permit for stormwater discharges during construction. Preparation and implementation of a SWPPP, consistent with the RWQCB's requirements, would ensure that Project construction would not violate any water quality standards or waste discharge requirements.

Development of the Project would result in increased stormwater and pollutant runoff from the site post-construction due to development of impervious surfaces at the site. This could result in water quality impacts to onsite and offsite drainage flows to area waterways. As required by the City, the Project would be required to prepare a detailed project specific drainage plan, Water Quality Management Plan, and a SWPPP that will control stormwater runoff from the site, both during and post-construction. Additionally, the Project would be required to comply with provisions under Chapter 13.28, Storm Water Management and Discharges, of the City's Municipal Code, which establishes minimum stormwater management requirements and controls to protect water quality. The Project proposes to utilize the existing 2.88-acre detention basin located in the southwest corner of the southern parcel to provide both stormwater detention and treatment onsite. Stormwater runoff from the Project site would be directed to flow towards the existing detention basin prior to being discharged into the City's stormwater system. The Project would also be required to implement applicable General Plan Update policies such as Implementation Measures RC-11 and RC-3b which are intended to protect water quality and mitigate stormwater impacts (City of Manteca 2021a). Adherence to City requirements and standards would ensure that Project operation would not violate any water quality standards or waste discharge requirements.

Therefore, with the preparation and implementation of a SWPPP, detailed project specific drainage plan, a Water Quality Management Plan, and adherence to applicable City requirements, standards, and General Plan Update policies and measures regarding water quality, the Project would not violate any water quality standards or waste discharge requirements and there would be a less than significant impact during construction and operation of the Project.

b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

Less Than Significant Impact. The City is located in the Eastern San Joaquin County Groundwater Basin (ESJCGB), which is a subbasin of the San Joaquin Valley Groundwater Basin (City of Manteca 2016a). The ESJCGB has been classified as a basin in a critical condition of overdraft by the Department of Water Resources (DWR). Groundwater pumping that occurs within the City include City-owned municipal wells and City-owned park irrigation wells, in addition to irrigation and domestic wells owned and operated by others (City of Manteca 2021b). Development of the Project would result in new impervious surfaces and could reduce potential groundwater infiltration and recharge at the site.

The Project would connect to the City's water supply system and would not include the construction of wells onsite that could decrease groundwater supplies or require substantial increases in pumping at City-



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owned wells. The Project would be required to comply with the Eastern San Joaquin Groundwater Subbasin Groundwater Sustainability Plan (ESJGS-GSP) which was prepared in November 2019 to meet the regulatory requirements of the Sustainable Groundwater Management Act (SGMA). The City's General Plan Update EIR identifies that projects located in urban areas would have less of an impact on groundwater than projects converting open lands and spaces and that given the size of the regional groundwater basin recharge area, the development of the Project would not appreciably add to the volume of impervious surfaces in the City and would have a less than significant impact. The Project would be required to implement General Plan Update policies and measures and actions identified to support water conservation including groundwater. General Plan Update Implementation measure RC-2h requires development projects to implement low impact development practices such as technique that increase surface filtration (City of Manteca 2021a). Therefore, with implementation of General Plan Update policies and measures and compliance with the ESJGS-GSP, the Project would not substantially decrease water supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management, and impacts would be less than significant.

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 offsite;

Less Than Significant Impact. Construction of the Project would include ground disturbing activities that could result in erosion related impacts. As discussed above in Impact (a), the Project would be required to prepare and implement a SWPPP in accordance with the NPDES General Construction Permit. The SWPPP would include BMPs that would be implemented during construction activities to reduce the potential for erosion and impacts would be less than significant.

Operation of the Project could result in changes in drainage patterns due to new development and impervious areas that result in increased runoff leading to increased erosion and siltation. The City requires stormwater to be detained, and in some cases treated, before being released into the City's stormwater drainage system. The Project proposes to utilize the existing 2.88-acre detention basin located in the southwest corner of the southern parcel to provide both stormwater detention and treatment onsite. Stormwater runoff from the Project site would be directed to flow towards the existing detention basin prior to being discharged into the City's stormwater system. In addition to compliance with requirements for onsite detention of stormwater, the Project would be consistent with General Plan Update policies and actions identified to reduce impacts associated with stormwater and drainage including General Plan Update Policy CF-8.2 which requires new developments to demonstrate how stormwater runoff will be detained or retained onsite and/or conveyed to the nearest drainage facility as part of the development review process (City of Manteca 2021a). In the event the General Plan Update is not adopted at the time of Project entitlements, the Project would incorporate such policies to be consistent with the General Plan Update.

With implementation of the SWPPP and compliance with post construction stormwater management measures and detention of stormwater, the Project would not result in substantial erosion or siltation and the impacts would be less than significant.



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- ii) **substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;**

Less Than Significant Impact. As required by the City, the Project would utilize the existing 2.88-acre detention basin located adjacent to the southwest corner of the Project site, which would store stormwater runoff from the site. Stormwater runoff from the site would be directed to flow towards the detention basin before being discharged into the City's stormwater system. As identified in the City's General Plan Update, development projects are required to prepare project specific floodplain and drainage studies that assess the drainage characteristics and flood risks so that an appropriate stormwater drainage plan can be prepared to control stormwater runoff, both during and after construction (City of Manteca 2021b). Though the rate and amount of surface runoff at the site would increase resulting from development of the Project, use of the detention basin adjacent to the site would control the volume of stormwater runoff and would reduce the potential for flooding. Therefore, the Project would not substantially increase the rate or amount of surface runoff in a manner which would result in flooding and impacts would be less than significant.

- 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**

Less Than Significant Impact. As described previously, construction activities would have the potential to generate polluted runoff, and therefore, the Project would be required to prepare and implement an SWPPP during construction to prevent, control and reduce polluted runoff from entering the City's storm drain system. Stormwater generated at the site would be directed to the onsite detention basin prior to entering the piped storm drain system. The storm drainage system at the site would be designed per NPDES Phase II Permit and City of Manteca Storm Drain Master Plan Standards to properly manage runoff from the site to ensure that the capacity of stormwater drainage systems is not exceeded. As stated above, development projects are required to prepare project specific floodplain and drainage studies that assess the drainage characteristics and flood risks so that an appropriate storm drainage plan can be prepared to control stormwater runoff, both during and after construction. Additionally, the Project would be required to comply with the regulations and standards of Chapter 13.28 of the City's Municipal Code which includes requirements to reduce and minimize polluted runoff. Therefore, the Project would not 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 and impacts would be less than significant.

- iv) **impede or redirect flood flows?**

No Impact. There are no waterways crossing the Project site or nearby that would be impacted from Project construction and operation. The proposed buildings and onsite hardscape would be drained by onsite storm drainage systems connecting to the City's existing 48 inch diameter stormwater drainage system, located along E. Atherton Drive. Before discharging to the City storm drain, runoff from the site would flow through detention and treatment measures as discussed above and would meet City requirements for stormwater drainage systems. As such, the Project would not impede or redirect flood flows and there would be a no impact.



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d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

Less Than Significant Impact. Figure 3.9-2 and 3.9-3 in the City's General Plan Update EIR identifies areas within the City that are located within a flood hazard area (City of Manteca 2021b). The Project site is identified as being within an area of minimal flood hazard. The Project site is classified as Zone X by the Federal Emergency Management Agency (FEMA) Flood Hazard Map (FEMA 2020). Zone X areas present a minimal flood hazard, and the Project would not pose a significant risk of project inundating resulting from flood hazards. The City is located approximately 67 miles from the Pacific Ocean and is not identified as being within a tsunami inundation or run-up zone (City of Manteca 2021b). Therefore, there would be no impacts related to project inundation resulting from tsunamis.

The General Plan Update EIR identifies that threat of large-scale damage from seiches comes from downstream flooding that would be caused by large volumes of water overtopping a dam or reservoir. The Project site is identified as being located within the dam inundation risk area for the New Melones Dam, as identified in the City's General Plan Update EIR Figure 3.9-4. (City of Manteca 2021b). 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. The DWR's Division of Safety of Dams (DSD) is responsible for inspecting and monitoring these dams. The General Plan Update EIR identifies that regular inspection by DSD and maintenance by dam owners ensure that the dams are kept in safe operating condition and as such, failure of dams is considered to have an extremely low probability of occurring and is not considered to be a reasonably foreseeable event.

The Project site is not located within a flood hazard or tsunami hazard area and would not be subject to substantial impacts from seiche events. Therefore, the Project would not risk the release of pollutants due to project inundations and impacts would be less than significant.

e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

No Impact. The RWQCB prepares and implements the Water Quality Control Plan for the Sacramento-San Joaquin River Basins (Basin Plan) to protect water quality in the Sacramento River and San Joaquin River basins. The Project would be required to comply with and implement the water quality objectives and standards for water described in the Basin Plan. Therefore, the Project would not conflict with or obstruct implementation of a water quality control plan. Additionally, the Project would be required to comply with the ESJGS-GSP. Therefore, the Project would not conflict with or obstruct a water quality control plan or sustainable groundwater management plan, and there would be no impact.



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3.11 LAND USE AND PLANNING

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Discussion of Impacts

a) Physically divide an established community?

No Impact. The Project site is located within an urbanized area of the City where communities are already established. The Project involves the development of 672 multi-family for-rent apartments, 48 for-sale two-family units, and 98 single-family for-sale homes on an approximately 59.19-acre undeveloped site. The Project also includes the development of an approximately 1.93-acre public open space. Central to the development, the public open space would provide open space designated for public use in the same way as a public park and central meeting location that offers green lawns and space for active and passive uses for all visitors. The public open space would include amenities such as a picnic area with shade canopy, active recreation court with cricket pitch, kids play area, multi-use pathways, strolling pathways and a flex court. The public open space would be accessible to all residents and visitors of the area. Additionally, the Project would construct improvements to adjacent streets, on and offsite utility infrastructure, parking, driveways, frontage improvements, and landscaping. Development of the Project would not introduce physical features that could create a barrier, divide, or separate adjacent uses; or impede circulation through the area. Therefore, the Project would not physically divide an established community and there would be no impact.

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?

Potentially Significant Impact. The Project site is designated by the City's 2003 General Plan as CMU and zoned CMU. The City is currently updating its General Plan which is anticipated to be adopted in 2022. The Project would be consistent with the anticipated General Plan Update if adopted before the Project entitlements. However, a Project specific General Plan amendment to the 2003 General Plan would be needed if the General Plan Update is not adopted before the Project entitlements. The Project proposes a rezoning to PD Overlay over the entirety of the Project Site while retaining the underlying base zoning of CMU north of E. Atherton Drive and rezoning to R-2 south of E. Atherton Drive. The Project would require these approvals in order to not conflict with City's plans, policies, and regulations. Since the tentative map for the Project and the timing of the adoption of the General Plan Update has not yet been finalized, there is a potential for the Project to conflict with the existing land use plan and determination of the Project's conformance cannot be determined. A detailed analysis of the Project's



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consistency with applicable policies of the City's 2003 General Plan will be provided in the EIR. Therefore, this impact is potentially significant and would be further analyzed in the EIR.



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3.12 MINERAL RESOURCES

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Result in the loss of availability of a known mineral resource classified MRZ-2 by the State Geologist that would be of value to the region and the residents of the State?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Discussion of Impacts

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?**

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?**

Less Than Significant Impact. The discussion below applies to Impact (a) and (b) as outlined above.

The City of Manteca has identified lands near the San Joaquin River as areas of significant mineral resources and Figure 5.6-1 of the General Plan Update EIR identifies areas within the City that are designated mineral resource zones (MRZ) by the California Geologic Survey (CGS). A portion of the Project site is located in an area identified as MRZ-3. MRZ-3 are areas containing mineral deposits the significance of which cannot be evaluated from available data. The General Plan Update EIR identifies that majority of the area designated as MRZ-3 within the City runs through the center of the City and is no longer available for mining. The Project site is located within an urbanized area of the City and is designated for high-density mixed-use developments. The General Plan Update EIR identifies that areas with mineral extraction potential and areas identified as designated locally important mineral resource recovery sites have already been mined and subsequently developed and therefore, no significant potential for extraction remains in the City and there are no other known mineral deposits or resources within the City that are of significant value to the region or the state (City of Manteca 2021b). Therefore, the Project would not result in a loss of availability of a known mineral resource that would be of value or result in the loss of availability of a locally important mineral resource recovery site, and impacts would be less than significant.



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3.13 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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Generation of excessive groundborne vibration or groundborne noise levels?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion of Impacts

c) 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?

Potentially Significant Impact. The Project site is adjacent to residential uses and construction could result in temporary increase in noise levels from equipment, workers, and vehicles on-site. Operation of the Project could result in increase in noise levels from existing conditions due to increased traffic along the roads and increased pedestrian traffic. As required by the City's General Plan Update Policy S-5.7, the Project would be required to submit a site-specific noise study to demonstrate that the Project would not exceed noise standards (City of Manteca 2021a). The study has not been prepared at the time of writing this Initial Study and therefore, the results of the study would be analyzed in the EIR. The Project's potential to generate temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of standards would be analyzed fully in the EIR.

d) Generation of excessive groundborne vibration or groundborne noise levels?

Potentially Significant Impact. The Project site is adjacent to residential uses and construction and could result in excessive groundborne vibration or groundborne noise levels. A site-specific vibration study is required to be prepared for the City to demonstrate that the Project would not exceed acceptable groundborne vibration and groundborne noise levels. At the time of preparation of this Initial Study, the vibration study has not been prepared yet and therefore, these impacts and the results of the study would be analyzed fully in the EIR.



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- e) **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?**

No Impact. There are no private or public airports located within the City's Planning Area. The closest airport to the City is the Stockton Metropolitan Airport, located approximately 8.2 miles northwest of the Project site and New Jerusalem Airport, located approximately 8.6 miles southwest of the Project site. The Project site is not located within the airport influence area for the Stockton Metropolitan Airport identified in the Airport Land Use Compatibility Plan or the airport influence area for the New Jerusalem Airport. Therefore, the Project would not result in excessive noise for people residing or working in the project area and there would be no impact.



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3.14 POPULATION AND HOUSING

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Induce substantial 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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion of Impacts

- 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)?

Less Than Significant Impact. The Project would directly induce population growth in the City through residential development. The Project involves the development of 672 multi-family for-rent apartments, 48 for-sale two-family units, and 98 single-family for-sale homes on an approximately 59.19-acre undeveloped site. The City's General Plan Update EIR identifies an average household size of 3.18 persons per household in 2020 (City of Manteca 2021b) for single-family and two-family housing typologies. The City of Manteca Parks and Recreation Master Plan identified an average household size of 2.2 persons per household (City of Manteca 2016b). Using an average household size of 3.18 persons per household for the single-family (98 units) and two-family (48 units) components, and 2.2 people per household for the multi-family component (672 units), the Project's development of 818 new housing units would result in an increase of 1,943 residents. The General Plan Update EIR identifies that the population of Manteca in 2020 was 84,800 residents and the Department of Finance (DOF) estimates that the current population of Manteca as of January 2022 to be 86,859 residents (City of Manteca 2021b, DOF 2022). The addition of 1,943 new residents from Project buildout would result in a 2.2 percent increase from the current 2022 population estimates. The City's population is anticipated to increase to 116,546 residents from buildout of the General Plan Update and the estimated Project residents would represent 1.7 percent of the anticipated City population at buildout of the General Plan Update. The new residents resulting from the Project would result in a minimal increase in the City's future growth forecasts and the projected increase in residents from the Project would be consistent with the City's population growth projections. Therefore, the Project would not induce substantial population growth in the area and would have a less than significant impact.



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b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

No Impact. The Project site is undeveloped and does contain any existing units used for residential purposes. Therefore, the Project would not displace existing people or housing. There would be no impact.



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3.15 PUBLIC SERVICES

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Discussion of Impacts

- a) **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?

Less Than Significant Impact. The Project involves the development of 672 multi-family for-rent apartments, 48 for-sale two-family units, and 98 single-family for-sale homes on an approximately 59.19-acre undeveloped site and would increase demand for Manteca Fire Department (MFD) fire protection services and facilities. As stated in the City's General Plan Update EIR, the MFD maintains a goal for an average response time of five minutes 90 percent of the time and the department is currently meeting its goal standard (City of Manteca 2021b). The City's General Plan Update EIR identifies an average household size of 3.18 persons per household in 2020 (City of Manteca 2021b) for single-family and two-family housing typologies. The City of Manteca Parks and Recreation Master Plan identified an average household size of 2.2 persons per household (City of Manteca 2016b). Using an average household size of 3.18 persons per household for the single-family (98 units) and two-family (48 units) components, and 2.2 people per household for the multi-family component (672 units), the Project's development of 818 new housing units would result in an increase of 1,943 residents. However, the Project site is located in an urbanized area of the City already served by the MFD and the Project would be constructed and operated in accordance with the California Fire Code requirements and City standards such as the use of



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automatic sprinkler systems and fire hydrants, to reduce the potential for fires and other emergencies. Incorporation of all California Fire Code and City standards pertaining to fire safety for new construction into the Project design would reduce the dependence on the MFD by reducing fire hazards. The Project would be required to pay development impact fees to fund public facilities, such as the Manteca Fire Department. Fees collected can be used to fund for fire protection services and facilities and would mitigate impacts from proposed developments. Additionally, the Project would be consistent with regulations, policies, and standards included in the General Plan Update specifically designed to reduce or avoid impacts to public facilities. Therefore, the Project would not result in the construction of new or expansion of existing fire protection facilities and the impacts would be less than significant.

Police protection?

Less Than Significant Impact. The Manteca Police Department (MPD) provides law enforcement and police protection services throughout the City. As stated above, the Project site is located in an urbanized area of the City and in an area that is currently already served by the MPD. The City's Municipal Code, Fee Schedule VI Development Fee includes development impacts fees to fund public facilities, including the San Joaquin County Facilities Fee to fund police services. The Project would be required to pay required fees and would be consistent with regulations, policies, and standards included in the General Plan Update specifically designed to reduce or avoid impacts to public facilities. Therefore, the Project would not result in the construction of new or expansion of existing police protection facilities and impacts would be less than significant.

Schools?

Less Than Significant Impact. The Project would be served by the Manteca Unified School District (MUSD) which provides schools services for grades K-12 within the communities of Manteca, Lathrop, Stockton, and French Camp (City of Manteca 2021b). Students generated from Project development would be within the boundaries of the Lincoln Elementary School which serves K-8th graders and Manteca High School which serves 9th -12th graders (MUSD 2022). According to MUSD, Lincoln Elementary School had a total enrollment of 581 students in the 2020-2021 school year with a capacity of 872 students and Manteca High School had a total enrollment of 1,742 students with a capacity of 1,892 students (MUSD 2021b, 2021c). The MUSD published the Student Projections 2020-2021 prepared by Davis Demographics which includes student yield factors separated by development type and school grades (MUSD 2021a). Using these student yield factors, the Project would result in an increase of 205 K-6th grade students, 61 7th -8th grade students, and 85 9th-12th grade students. In total, the Project would result in an increase of approximately 351 new students, as shown below in Table 3-3. The 351 new students would represent 0.15 percent of the combined 2020-2021 existing student population at the two schools. These figures suggest that MUSD currently has capacity to accommodate the estimated enrollment growth resulting from the Project.



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Table 3-1: Estimated Student Population from Project Development

Unit Type	Yield factor			Number of Units	Number of Students			Total Students
	K-6	7-8	9-12		K-6	7-8	9-12	
Single-Family	0.308	0.061	0.139	98	30	6	14	50
Multi-family	0.385	0.154	0.115	48	18	7	6	31
Apartment	0.234	0.072	0.097	672	157	48	65	270
Total	--	--	--	818	205	61	85	351

On August 2, 2022, MUSD provided a comment letter indicating the Project would impact MUSD central facilities if not adequately mitigated. The General Plan Update EIR identifies that under Senate Bill 50 (signed in 1998), school districts may collect fees to offset the costs associated with increasing school capacity as a result of residential development. Under the terms of this statute, payment of statutory fees by property owners or property developers is considered to mitigate in full, for the purposes of CEQA. Therefore, the Project would not result in the construction of new or expansion of existing school facilities and with the payment of fees, the impacts would be less than significant.

Parks?

Less Than Significant Impact. The City manages more than 483 acres of parks, facilities, trails and recreational lands, including 405 acres of community, neighborhood, and special use parks and the 101-acre Manteca Park Golf Course. According to the City's General Plan Update EIR, the City is currently meeting its goal for acres per resident for all park types (City of Manteca 2021b). The City's adopted standard for park space acreage is five acres per every 1,000 residents.

The Project would result in increased demand for new parks. The City requires new developments to fund its fair share of required parkland. Therefore, the Project would be required to pay a parks impact fee to mitigate potential impacts related to increased demand for park facilities. Additionally, the Project includes the development of an approximately 1.93-acre public open space that would be accessible to residents of the Project as well as the public, essentially functioning like a public park. Central to the development, the public open space would provide open space designated for public use in the same way as a public park and offer green lawns and space for active and passive uses for all visitors. The public open space would include amenities such as a picnic area with shade canopy, active recreation court with cricket pitch, kids play area, multi-use pathways, strolling pathways and a flex court. The public open space would be accessible to all residents and visitors of the area. The development of the open space within the proposed residential developments would decrease the demand for other park facilities located within the City and Project site vicinity. Therefore, with the payment of required fee and development of a new park, the Project would result in a less than significant impact.

Other public facilities?

Less Than Significant Impact. Other public facilities within the City include the library, Manteca Senior Center, and Manteca hospital and medical facilities. The Project is not anticipated to result in substantial increase in demand for other public facilities, such as libraries or other government services. The Project would be required to pay development impacts fees which can be used to fund for public facilities within



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the City. Therefore, with the payment of required fees, the Project would not result in the construction of new or expansion of existing public facilities and there would be a less than significant impact.



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3.16 RECREATION

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Discussion of Impacts

- 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?**

Less Than Significant Impact. The Project would result in increased use of existing parks and recreational facilities. As discussed in Section 3.15, Public Services, the Project would be required to pay a parks impact fee and would include the development of an approximately 1.93-acre public open space. Central to the development, the public open space would provide open space designated for public use in the same way as a public park and offer green lawns and space for active and passive uses for all visitors. The public open space would include amenities such as a picnic area with shade canopy, active recreation court with cricket pitch, kids play area, multi-use pathways, strolling pathways and a flex court which would be accessible to all residents and visitors of the area. The development of the onsite open space would help to reduce impacts on existing neighborhood and regional parks or other recreational facilities as the residents from the Project would likely use the community park located in their neighborhood rather than traveling to other parks. With the payment of required fees and development of public and private open space areas, the Project would not result in an increased use of existing parks or other recreational facilities such that substantial physical deterioration would occur. Therefore, impacts would be less than significant.

- 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?**

Less Than Significant Impact. The Project includes the development of a 1.93-acres public open space located within the proposed residential developments as well as other private open space areas. The Project would be required to pay a parks impact fee as required by the City. The Project would not require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment and there would be a less than significant impact.



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3.17 TRANSPORTATION

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Discussion of Impacts

a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

Potentially Significant Impact. The Project would have the potential to conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities, resulting in a potentially significant impact. Therefore, this impact would be fully analyzed in the EIR.

b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?

Potentially Significant Impact. CEQA Guidelines Section 15064.3, subdivision (b)(3) allows for a qualitative analysis of potential impacts related to vehicle miles traveled (VMT). A Project specific traffic impact assessment is being prepared. The assessment has not been completed at the time of writing this Initial Study and therefore, the results would be analyzed in the EIR. The assessment would analyze the Projects potential to increase VMT in the Project area above established thresholds. Therefore, for the purposes of this Initial Study, Project impacts are considered to be potentially significant and would be further analyzed in the EIR.

c) Substantially increase hazards to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Less Than Significant Impact. The Project design does not substantially increase hazards or results in an incompatible use. The proposed primary access points to the Project site would be through the existing Quintal Road and the two new commercial roads that would be located off of E. Atherton Drive that would be constructed for the Project. The Project would construct a new northbound lane of travel



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along S. Main Street between E. Atherton Drive and HWY 120 Right-of-Way. The Project would also restripe the same S. Main Street segment in accordance with the new improvements. Additionally, the Project would install a new curb that extends approximately 200 feet east from the S. Main Street and E. Atherton Drive intersection along the north edge of the westbound lane of travel on E. Atherton Drive. The Project would install a new traffic signal at the intersection of E. Atherton Drive and Buena Vista Drive, as it extends north across E. Atherton Drive. Finally, the Project would construct a new minor street stop-controlled intersection at Street D, as it crosses E. Atherton Drive from the northern portion of the Project area to the southern portion of Project area.

The Project also proposes to upgrade the traffic signals at the intersection of S. Main Street and E. Atherton Drive, and both signals at the north and south intersections of S. Main Street and HWY 120 off and on ramps with modern traffic signal controllers to appropriately synchronize the timing of the signals of all of the aforementioned signals. Access to/from the Project site would be right in and right out from S. Main Street at Quintal Road. No left turn in or out onto S. Main Street from Quintal Road would be allowed as a median on S. Main Street would block access. Additionally, the Project proposes to extend a Class I bicycle trail across the northern frontage of E. Atherton Drive which would be designed and constructed per the City's standards for a 24 foot Class I bicycle lane.

The Project's street improvements would be designed in accordance with the City's standards and would not introduce hazardous geometric design features, such sharp curves or dangerous intersections, to the vicinity of the Project site. The Project would not substantially increase hazards to a geometric design feature or incompatible uses and therefore, impacts would be less than significant.

d) Result in inadequate emergency access?

Less Than Significant Impact. The Project would not modify any existing roadways in such a way that would impede emergency access. Primary site access to the new developments would be through the abandoned but existing Quintal Road, located off S. Main Street and two new commercial roads located off of E. Atherton Drive that would be constructed for the Project. The Project would include three other access points for fire access to the site. Access points to the Project site would meet the City's requirements for fire apparatus access as well as emergency ingress and egress from the Project site. EVA access has been provided, consistent with the Fire Marshall's requirements. The Planning Commission and City engineer would review proposed residential street patterns to evaluate the accessibility for fire engines and emergency response to ensure that the Project has adequate ingress and egress, setbacks, clearances, turning radii, etc. and does not impede emergency access. Therefore, impacts would be less than significant.



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3.18 TRIBAL CULTURAL RESOURCES

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined by Public Resources Code section 21047 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
i. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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 Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Discussion of Impacts

- 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), or**
 - ii) **A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.**



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Less Than Significant Impact. As discussed in the Section 3.5, Cultural Resources, the City contains known archaeological sites and cultural resource sites understood to be associated with Native Americans. General Plan Update Implementation measure RC-11a requires a records search be conducted for any proposed development project to determine whether the site contains any known archaeological, historic, cultural, or paleontological resources and/or to determine the potential for discovery of additional resources (Appendix C). Additionally, General Plan Update Implementation measure RC-11b requires a cultural and archaeological survey be conducted prior to approval of any project which would require excavation in an area that is sensitive for resources (City of Manteca 2021a).

A Cultural Resources Study and associated site surveys was prepared for the Project. Identification efforts included a records search at the Central California Information Center of the California Historical Resources Information System in Turlock, California, and Sacred Lands files maintained by the Native American Heritage Commission. The records search included a review of records for the Project area and a surrounding radius of 0.50 mile. A pedestrian survey of the Project area was also completed. The records search, desktop review, Native American consultation and pedestrian survey did not identify any archaeological resources within the Project area.

Letter requesting information and consultation with local tribes listed by the Native American Heritage Commission were sent on October 31, 2022. The letters were sent as notification pursuant to AB-52 and SB-18. No responses have been received to date.

As such, implementation of General Plan Update Implementation measure RC-11b would be required and would ensure that impacts associated with damage to buried archaeological resources would remain less than significant.



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3.19 UTILITIES AND SERVICE SYSTEMS

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Require or result in the construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental impacts?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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 project's projected demand in addition to the provider's existing commitments?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Comply with federal, State, and local statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Discussion of Impacts

- a) **Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?**

Potentially Significant Impact. A Project specific Water Supply Assessment (WSA) is being prepared for the Project. The assessment analyzes the Project's water demand which would inform whether any existing utilities would require expansion or require the construction of new utility facilities. The WSA has not been completed at the time of writing this Initial Study. Therefore, the Project would have a potentially significant impact and this impact would be further analyzed in the EIR.

- b) **Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?**

Potentially Significant Impact. A Project specific WSA is being prepared. The assessment analyzes the Project's water demand and available water supply. The WSA has not been completed at the time of



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writing this Initial Study. Therefore, Project impact with regard to available water supplies is considered to be potentially significant and would be further analyzed in the EIR.

- 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 project's projected demand in addition to the provider's existing commitments?**

Potentially Significant Impact. Discussion of sewer service capacity will be based on capacity calculations and the WSA. Calculations and the WSA have not been completed at the time of writing this Initial Study and therefore, impacts related to wastewater treatment capacity is considered to be potentially significant and would be further analyzed in the EIR.

- 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?**

Less Than Significant Impact. The City of Manteca Solid Waste Division provides solid waste hauling services for the City. Solid waste from the City is primarily landfilled at the Forward Sanitary Landfill, located northeast of Manteca. Other landfills used include Foothill Sanitary Landfill and North County Landfill (City of Manteca 2021b). According to the California Department of Resources Recycling and Recovery's (CalRecycle) Solid Waste Information System (SWIS) database, Foothill Sanitary Landfill has a maximum permitted throughput of 1,500 tons per day and has a remaining capacity of 125,000,000 tons (CalRecycle 2022b). In 2021, the City was estimated to have an annual disposal amount of approximately 113,603 tons. In the same year, the City's residential population has a disposal rate of approximately 7.3 pounds per person per day (CalRecycle 2022a). With an estimated 1,943 new residents, the Project would generate 14,184 pounds of solid waste per day or 7.1 tons per day. The estimated 7.1 tons per day of solid waste generated by the Project would be less than one percent of the maximum permitted throughput received at the landfill. Additionally, the Foothill Sanitary Landfill website states that, "based on current permit, Foothill Landfill is projected to be in operation until 2082" (San Joaquin County 2022). Therefore, there would be sufficient landfill capacity available to accommodate solid waste disposal needs for the Project. The Project would implement and comply with all solid waste reduction measures adopted by the City and incorporate recycling collection areas into the Project. Therefore, the Project would not generate waste in excess of State or local standards, capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals and the impacts would be less than significant.

- e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?**

Less Than Significant Impact. The Project would comply with all federal, state, and local statutes and regulations related to solid waste. The Project would comply with the City's Municipal Code Chapter 13.02, Solid Waste Collection and Disposal, which sets forth diversion requirements for residential uses. Therefore, impacts would be less than significant.



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3.20 WILDFIRE

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion of Impacts

- a) Substantially impair an adopted emergency response plan or emergency evacuation plan?
- b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?
- 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?
- 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?

No Impact. The discussion below applies to Impact (a), (b), (c), and (d) as outlined above.

The Project site and the adjacent areas are not located within a SRA or within a VHFHSZ as designated by CAL FIRE (CAL FIRE 2007). The USFS Wildfire Hazard Potential Map identifies the Project site as non-burnable and very low wildfire hazard potential (USFS 2020). As identified in the General Plan



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Update EIR, the City's Planning Area is not located in or near any SRAs and there are no lands classified as VHFHSZ within or near the Planning Area.

The City's General Plan Safety Element includes policies such as General Plan Update Policy S-1.1 and Implementation measure S-1b that guide the City to regularly update the City's Emergency Plan and regularly review County and state emergency response providers that must be coordinated with City procedures (City of Manteca 2021a). The Project would be required to comply with the City's emergency plans and procedures to ensure that the Project does not increase risks or expose people or structures to significant risks associated with wildland fires. In the event the General Plan Update is not adopted at the time of Project entitlements, the Project would incorporate such policies to be consistent with the General Plan Update. The Project would not impair an adopted emergency response plan or evacuation plan pertaining to wildfires and due to the urban nature and flat topography of the Project site and surrounding areas, the Project would not exacerbate risks or expose Project occupants to pollutant concentrations from a wildfire or uncontrolled spread of a wildfire. The Project would not require the installation or maintenance of associated infrastructure that may exacerbate fire risk or that may result in temporary or ongoing impacts. The Project would not expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope stability, or drainage changes. No impacts from wildfires would occur.



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3.21 MANDATORY FINDINGS OF SIGNIFICANCE

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

As discussed in Section 3.4, Biological Resources, the Project would not significantly affect any habitats, plant or animal communities, or threatened or endangered species with implementation of mitigation measures. As discussed in Section 3.5, Cultural Resources, and Section 3.18, Tribal Cultural Resources, the Project would not result in significant impacts to archaeological resources, historic structures, or tribal cultural resources. No further analysis will be required in the EIR. The Project, however, could result in potentially significant impacts to agricultural and forestry resources, air quality, energy, greenhouse gas emissions, land use and planning, noise, transportation, and utilities and service systems. These impacts will be further discussed in the EIR.

The Project, in combination with reasonably foreseeable projects as described in Section 3.0, would not result in cumulative impacts to aesthetics, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, mineral resources, population and housing, public services, recreation, tribal cultural resources, and wildfire.

The Project in combination with foreseeable projects could result in cumulative impacts to nesting birds (biological resources); these impacts can be reduced to less than significant levels with implementation of mitigation measures. In addition, the Project in combination with foreseeable projects could result in cumulative impacts to agricultural and forestry resources, air quality, energy, greenhouse gas emissions, land use and planning, noise, transportation, and utilities and service systems, which will be further analyzed in the EIR. These topics will be evaluated in the EIR.



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Appendix A

Biological Resources Summary Memorandum

To: Anna Radonich
Stantec Consulting Inc

From: Susannah Kiteck
Cardno, now Stantec

Project: 144-490 Quintal Road Project

Date: November 22, 2022

Reference: 144-490 Quintal Road Project Biological Resources Assessment

PROJECT DESCRIPTION

The 144-490 Quintal Road Project (Project) is located at the juncture of Quintal Road, S. Main Street, and E. Atherton in the City of Manteca, in San Joaquin County, California. The approximately 59.19 acre site is surrounded by urban development on all sides. The site is located off of Highway 120 that travels through Manteca, east to Benton, California and connects to the west at Interstate 5.

The Project involves the development of 818 residential dwelling units including: 672 multifamily for-rent apartments, 48 for-sale duplexes, and 98 single-family for-sale homes on an undeveloped site. The Project would also include an approximately 1.93-acre public open space and associated parking located adjacent to the residential developments as well as other amenities such as a dog park, game lawn, and club house. Additionally, the Project would construct improvements to adjacent streets, on- and off-site utility infrastructure, parking, driveways, frontage improvements, and landscaping.

With the development of a total of 818 housing units, the Project is anticipated to have approximately 2,000 new residents. In addition, it is anticipated that up to 11 staff would work at the apartment component. The 11 staff members are anticipated to be a part of the local labor force and would support the two apartment complexes.

ENVIRONMENTAL SETTING

LOCAL SETTING AND EXISTING LAND USES

The Project site is a rectangular-shaped parcel that is currently undeveloped. The Project site is surrounded in all four directions by urban development, including the following land uses:

- **North:** Highway 120 and commercial uses
- **East:** Single-family and multi-family residential uses
- **South:** Single-family residential uses and a Chevron gas station.
- **West:** Vacant land and commercial uses

PHYSICAL CONDITIONS

The topography of the Project area is nearly level, at an elevation of approximately 30 feet above mean sea level. The Project is within a Mediterranean climate zone characterized by hot, dry summers and moderate winters, with average temperatures ranging seasonally from 49.3 to 76.5 degrees Fahrenheit



(°F). Average annual rainfall is 13.45 inches and occurs primarily from December through February¹. Historical data used to describe the climate was collected at the Stockton AP, California National Oceanic and Atmospheric Administration Station, approximately 8.50 miles north of the Project area¹.

HABITAT

The Project area is located within sandy scrub habitat dominated by Telegraph weed (*Heterotheca grandiflora*). A line of trees is located within the median of E Atherton Dr within the Project area, and a small grove of deciduous trees is located directly outside of the Project area to the north. The surrounding landcover type is urban/developed and agriculture.

METHODS

The analysis presented in this Biological Resources Assessment includes a desktop review of existing information about sensitive biological resources known to occur near the proposed Project and a pre-construction site visit. In addition, the desktop review analysis utilized aerial imagery/KMZ files, topo maps, USFWS wetland inventory maps, California Natural Diversity Database (CNDDB), California Native Plant Society (CNPS) rare plant database and USFWS species lists and critical habitat designations. This memo was prepared to determine whether biological resources are absent, present, and/or are likely to be present.

DEFINITIONS

Special-Status Species and Sensitive Communities

For the purpose of this evaluation, special-status plant species include plants that are: 1) listed as threatened or endangered under the California Endangered Species Act (CESA) or Federal Endangered Species Act (ESA); 2) proposed for federal listing as threatened or endangered; 3) state or federal candidate species; 4) designated as rare by the California Department of Fish and Wildlife (CDFW); or 5) California Rare Plant Rank (CRPR) 1A, 1B, 2A or 2B species.

Special-status animal species include species that are: 1) listed as threatened or endangered under the CESA or ESA; 2) proposed for federal listing as threatened or endangered; 3) state or federal candidate species; or 4) identified by CDFW as Species of Special Concern (SSC) or Fully Protected (FP) species.

Sensitive natural communities are those communities that are highly limited in distribution, and may or may not contain rare, threatened, or endangered species. CNDDB ranks natural communities according to their rarity and endangerment in California. Habitats are considered “sensitive” if they are identified on the CDFW List of Vegetation Alliances and Associations as being highly imperiled or classified by CDFW in the CNDDB as natural communities of special concern – Ranks S1 to S3.

Potential to Occur

The potential for special-status species to occur within the 59-acre Project area were classified under one of five categories as described below. Only the special-status species with an occurrence potential of “Moderate” or greater are evaluated in detail.

- **Present:** The species is known to be present or has been recently observed in the Project area.

¹ National Centers for Environmental Information, National Oceanic and Atmospheric Administration (NOAA). 2022. *U.S. Climate Normals Quick Access*. Retrieved from <https://www.ncei.noaa.gov/access/us-climate-normals/>.



- **High:** The species has been observed and documented within 3 miles of the Project area within the last five years and suitable habitat for the species is present.
- **Moderate:** The proposed Project is located within the range of the species, there are documented occurrences within 3 miles of the Project area, and/or potential habitat for the species exists in the Project area.
- **Low:** The proposed Project is located within the range of the species and low-quality (e.g., disturbed, agricultural) habitat is present.
- **Absent:** The proposed Project site is located outside of the species range and/or potential habitat to support the species is not present in the Project area.

BIOLOGICAL RECONNAISSANCE SURVEY SUMMARY

Cardno now Stantec (Cardno) completed a biological reconnaissance survey of the Project area to identify sensitive biological resources (wildlife species, plant species, and their habitats). Two biologists, Natalie Greer and Susannah Kiteck, conducted the survey on Friday, October 7th, 2022. The biologists arrived on site at 08:30 am and proceeded to walk transects within the Project site. The biologists recorded the dominant plant species within the Project area which included the following: Telegraph weed (*Heterotheca grandiflora*), prickly Russian thistle (*Salsola tragus* L.), and colocynth (*Citrullus colocynthis*). The biologists observed a seasonal drainage at the far east side of the Project area, approximately 50 feet south of E Atherton Dr. The seasonal drainage was identified based on a change in the vegetation community. The dominant plant species included giant reed (*Arundo donax*) and various non-native grass species. This seasonal drainage may be a result of underground water as indicated by a well directly adjacent to the drainage or the run-off from the sprinkler system at the adjacent house. The seasonal drainage is approximately 150 feet in length and 20 feet wide. No presence of special status species or potential habitat for them was observed within the Project area.

LITERATURE AND DATABASE REVIEW

In addition to a biological reconnaissance survey, Cardno completed a desktop analysis to identify sensitive biological resources (wildlife species, plant species, and their habitats) that may occur within the proposed Project site and region, as defined by CDFW, the U.S. Fish and Wildlife Service (USFWS), and California Native Plant Society (CNPS). The following resources were used to identify those potentially occurring biological resources:

- CDFW CNDDDB records search of special-status species and habitat observations within a five-mile radius² (see Attachments A and B)
- CNPS online Inventory of Rare and Endangered Plants of California for Manteca, Avena, Peters, Lathrop, Stockton West, Stockton East, Salida, Vernalis and Ripon USGS 7.5-minute Quads³ (see Attachment C)

² California Department of Fish and Wildlife. 2022. Rarefind 5. California Natural Diversity Database (CNDDDB). California Natural Communities List. Biogeographic Data Branch, California Department of Fish and Wildlife. Retrieved from <https://www.wildlife.ca.gov/Data/CNDDDB/Maps-and-Dat>. Accessed October 2022.

³ California Native Plant Society. 2022. Inventory of Rare and Endangered Plants (Online Edition, v9-01 1.5). Retrieved from: <http://www.rareplants.cnps.org>. Accessed October 2022.



- USFWS list of endangered, threatened, and candidate species that may occur within the proposed Project site⁴ (see Attachment D)
- USFWS Designated Critical Habitat data for federally threatened and endangered species⁵ (see Attachment B)

Based on this background research, a list of special-status species that have the potential to occur or are known to occur in the Project area and vicinity was developed (Tables 1 and 2).

RESULTS

HABITATS AND NATURAL COMMUNITIES OF CONCERN

Based the National Wetlands Inventory (NWI), riverines pass through the Project area. However, during the reconnaissance survey, these riverines were not observed. The biologists did observe one seasonal drainage located in the far east side of the Project area approximately 50 feet south of E Atherton Dr. The seasonal drainage is approximately 150 feet in length and 20 feet wide based on the vegetation community change. Due to the size of the seasonal drainage, disturbed nature of the adjacent Project area and adjacent urban landcover, the seasonal drainage does not provide quality habitat for any special status species.

A wetland delineation was conducted on October 24th and 26th, 2022. Results of this delineation are included in 144-490 Quintal Road Project Wetland Delineation Report.

Critical Habitat

There are no USFWS-designated critical habitats in the Project area or in the immediate vicinity.

Special-Status Plant Species

The Project area is disturbed and consists of sandy scrubland dominated by Telegraph weed. Based on the lack of suitable habitat and the disturbed nature of the Project area, the Project area does not provide moderate, or high potential habitat for special-status plants to occur. One species, lesser saltscare (*Atriplex minuscula*), has a low potential to occur within the Project area. While the Project occurs within the range for this species, the disturbed nature of the Project area provides low quality habitat for this species. Due to the low-quality habitat, this species is not expected to occur. No effects to special-status plants are anticipated, as summarized in Table 1, below.

⁴ U.S. Fish and Wildlife Service. 2022. Trust Resources Report. Information for Planning and Consultation (IPaC). Retrieved from <https://ecos.fws.gov/ipac/>. Accessed October 2022.

⁵ U.S. Fish and Wildlife Service. 2022. USFWS Critical Habitat for Threatened and Endangered Species. Online Critical Habitat Mapper. Retrieved from <https://fws.maps.arcgis.com/home/webmap/viewer.html?webmap=9d8de5e265ad4fe09893cf75b8dbfb77>. Accessed October 2022.



Table 1. Special-Status Plant Species Evaluated for the Potential to Occur in the Project Area

Scientific Name	Common Name	Listing Status ¹ (Fed/State/CRPR)	Elevation Range (feet)	Known Habitat	Bloom Period	Potential for Occurrence
<i>Astragalus tener</i> var. <i>tener</i>	Alkali milk-vetch	-/-/1B.2	5-195	Playas, valley and foothill grassland (adobe clay), and vernal pools	Mar-Jun	Absent. Suitable habitat is not present in the Project area for this species.
<i>Lasthenia chrysantha</i>	Alkali-sink goldfields	-/-/1B.1	0-655	Vernal pools; alkaline	Feb-Apr	Absent. Suitable habitat is not present in the Project area for this species.
<i>Blepharizonia plumosa</i>	Big tarplant	-/-/1B.1	100-1655	Valley and foothill grassland; clay (usually)	Jul-Oct	Absent. Suitable habitat is not present in the Project area for this species.
<i>Puccinellia simplex</i>	California alkali grass	-/-/1B.2	5-3050	Chenopod scrub, meadows and seeps, valley and foothill grassland, vernal pools; alkaline, flats, lake margins, vernal mesic	Mar-May	Absent. Suitable habitat is not present in the Project area for this species.
<i>Tropidocarpum capparideum</i>	Caper-fruited tropidocarpum	-/-/1B.1	5-1495	Valley and foothill grassland	Mar-Apr	Absent. Suitable habitat is not present in the Project area



Table 1. Special-Status Plant Species Evaluated for the Potential to Occur in the Project Area

Scientific Name	Common Name	Listing Status ¹ (Fed/State/CRPR)	Elevation Range (feet)	Known Habitat	Bloom Period	Potential for Occurrence
						for this species.
<i>Eryngium racemosum</i>	Delta button-celery	-/SE/1B.1	10-100	Riparian scrub	Jun-Oct	Absent. Suitable habitat is not present in the Project area for this species.
<i>Lathyrus jepsonii</i> var. <i>jepsonii</i>	Delta tule pea	-/-/1B.2	0-15	Brackish and freshwater marshes, slough edges; known to take root and climb up to neighboring areas and riparian areas	May-July	Absent. Suitable habitat is not present in the Project area for this species.
<i>Tuctoria greenei</i>	Greene's tentoria	FE/SR/1B.1	100-3510	Vernal pools	May-Jul	Absent. Suitable habitat is not present in the Project area for this species.
<i>Atriplex cordulata</i> var. <i>cordulata</i>	Heartscale	-/-/1B.2	0-1835	Chenopod scrub, meadows and seeps, valley and foothill grassland; alkaline (sometimes)	Apr-Oct	Absent. Suitable habitat is not present in the Project area for this species.



Table 1. Special-Status Plant Species Evaluated for the Potential to Occur in the Project Area

Scientific Name	Common Name	Listing Status¹ (Fed/State/CRPR)	Elevation Range (feet)	Known Habitat	Bloom Period	Potential for Occurrence
<i>Atriplex minuscule</i>	Lesser saltscall	-/-/1B.1	50-655	Chenopod scrub, playas, valley and foothill grassland; alkaline, sandy	May-Oct	Low. There is suitable habitat within the Project area, however, due to the disturbed nature of the Project area, this is low quality habitat for this species.
<i>Chloropyron palmatum</i>	Palmate-bracted bird's-beak	FE/SE/1B.1	15-510	Chenopod scrub, valley and foothill grassland; alkaline	May-Oct	Absent. Suitable habitat is not present in the Project area for this species.
<i>Delphinium recurvatum</i>	Recurved larkspur	-/-/1B.2	10-2590	Chenopod scrub, cismontane woodland, valley and foothill grassland; alkaline	Mar-Jun	Absent. Suitable habitat is not present in the Project area for this species.
<i>Trifolium hydrophilum</i>	Saline clover	-/-/1B.2	0 - 985	Marshes and swamps, valley and foothill grassland (mesic, alkaline), vernal pools	Apr-Jun	Absent. Suitable habitat is not present in the Project area for this species.



Table 1. Special-Status Plant Species Evaluated for the Potential to Occur in the Project Area

Scientific Name	Common Name	Listing Status¹ (Fed/State/CRPR)	Elevation Range (feet)	Known Habitat	Bloom Period	Potential for Occurrence
<i>Extriplex joaquinana</i>	San Joaquin spearscale	-/-1B.2	5-2740	Chenopod scrub, meadows and seeps, playas, valley and foothill grassland	Apr-Oct	Absent. Suitable habitat is not present in the Project area for this species.
<i>Sagittaria sanfordii</i>	Sanford's arrowhead	-/-1B.2	0-2135	Marshes and swamps	May-Oct	Absent. Suitable habitat is not present in the Project area for this species.
<i>Cirsium crassicaule</i>	Slough thistle	-/-1B.1	10-330	Chenopod scrub, marshes and swamps, riparian scrub	May-Aug	Absent. Suitable habitat is not present in the Project area for this species.
<i>Symphyotrichum lentum</i>	Suisun Marsh aster	-/-1B.2	0-10	Marshes and swamps (brackish, freshwater)	Apr-Nov	Absent. Suitable habitat is not present in the Project area for this species.
<i>Brasenia schreberi</i>	Watershield	-/-2B.3	0-7220	Marshes and swamps	Jun-Sep	Absent. Suitable habitat is not present in the Project area for this species.



Table 1. Special-Status Plant Species Evaluated for the Potential to Occur in the Project Area

Scientific Name	Common Name	Listing Status ¹ (Fed/State/CRPR)	Elevation Range (feet)	Known Habitat	Bloom Period	Potential for Occurrence
<i>Hibiscus lasiocarpus</i> var. <i>occidentalis</i>	Woolly rose-mallow	-/-1B.2	0-395	Marshes and swamps	Jun-Sep	Absent. Suitable habitat is not present in the Project area for this species.
<i>Trichocoronis wrightii</i> var. <i>wrightii</i>	Wright's trichocoronis	-/-2B.1	15-1425	Marshes and swamps, meadows and seeps, riparian forest, vernal pools; alkaline	May-Sep	Absent. Suitable habitat is not present in the Project area for this species.

¹ **Federal and State Status Codes:** E = Endangered; T = Threatened; R = Rare

CNPS CRPR Codes:

List 1A – Plants presumed extirpated in California and either rare or extinct elsewhere

List 1B – Plants rare, threatened, or endangered in California and elsewhere

List 2B – Plants Rare, threatened, or endangered in California, but more common elsewhere

Extensions: x.1 - Seriously threatened in California; x.2 – Moderately threatened in California; x.3 -Not very threatened in California.

Special-Status Animal Species

The Project area is disturbed and consists of sandy scrub habitat with a line of trees located along the median of E Atherton Dr, and a small grove of deciduous trees growing just outside the northern side of the Project area. Two species, loggerhead shrike (*Lanius ludovicianus*) and Swainson's hawk (*Buteo swainsoni*), have moderate potential to occur within the Project area. There are two CNDDDB occurrences from 2011 and 2012 within 3 miles of the Project area for Swainson's hawk. These CNDDDB occurrences record observations of nesting in fallow fields habitat surrounded by freeway, commercial, and residential land use. There is one CNDDDB occurrence from 2016 mapped approximately 4 miles west of the Project Area for loggerhead shrike. This CNDDDB occurrence records an observation of a family group perched on and around a chain link fence and in nearby trees adjacent to an empty parcel with spread gravel and sparse vegetation. The habitat described in both species' CNDDDB occurrence records has similarities to the habitat and surrounding land use at the Project area. The small grove of deciduous trees located just outside the Project area to the north provide suitable nesting habitat for Swainson's hawk, and the small grove of trees and line of trees within the median of E Atherton Dr provide suitable nesting habitat for loggerhead shrike. Marginal foraging habitat occurs within the Project area. One species, burrowing owl (*Athene cunicularia*), has low potential to occur in the Project area. No ground squirrels or ground squirrel burrows were observed during the reconnaissance survey to provide habitat for burrowing owl.



The species identified as having low potential to occur is not expected to occur due to the poor-quality habitat within the Project area. The Project area does provide suitable nesting habitat for migratory birds, as discussed in detail below. The mitigation measure BIO-1 Avoidance of Nesting Birds listed below is sufficient in minimizing impacts to Swainson's hawk and loggerhead shrike. No additional avoidance or minimization measures are recommended for special status animal species.

Migratory Nesting Birds

There is a small grove of deciduous trees located just outside the Project area to the north, and a line of trees within the median of E Atherton Dr that provide suitable nesting habitat for non-listed birds. The presence of trees on-site and in the vicinity of the Project area could provide suitable nesting and foraging habitat for various bird species that are protected by the Migratory Bird Treaty Act or California Fish and Game Code. Therefore, construction activities could have the potential to affect nesting birds if construction activities were to occur during the breeding season (i.e., February 1 through August 31).

To avoid any potential affects to nesting birds that may be present, mitigation measure BIO-1 is recommended.

- **BIO-1: Avoid Disturbance of Nesting Birds.** Vegetation removal and construction activities shall be initiated during the non-nesting season for migratory birds from September 1 to January 31. If work cannot be initiated during this period, a nesting bird survey shall be performed by a qualified biologist for species protected by the Migratory Bird Treaty Act and California Fish and Game Code within a 250-foot radius of proposed construction activities for passerines, and .25 miles for raptors, no more than two weeks prior to the start of construction activities. If active nests are found, a no-disturbance buffer shall be placed around the nest until young have fledged or the nest is determined to be no longer active by the biologist. The size of the buffer shall be determined by the biologist based on species and proximity to activities and may be reduced at the discretion of the biologist. Active nests shall be monitored to determine time of fledging.



Table 2. Special-Status Animal Species Evaluated for the Potential to Occur in the Project Area.

Scientific Name	Common Name	Listing Status ¹ (Fed/State)	Known Habitat Requirements	Potential for Occurrence
Invertebrates				
<i>Danaus plexippus</i>	Monarch butterfly	FC/-	Overwintering sites typically situated on south, southwest, or west-facing slopes or in shallow canyons or gullies; sites provide dappled sunlight, high humidity, fresh water, are absent of freezing temperatures or high winds; monarchs most commonly roost in non-native blue gum eucalyptus and native Monterey pine and Monterey cypress; occasionally, non-native red gum eucalyptus and native western sycamore, coast redwood, coast live oak, and others.	Absent. No suitable habitat occurs within the Project area.
<i>Branchinecta lynchi</i>	Vernal pool fairy shrimp	FT/-	Vernal pools or similar habitats, including artificial pools created by ditches.	Absent. No suitable habitat occurs within the Project area.
<i>Lepidurus packardii</i>	Vernal pool tadpole shrimp	FE/-	Ephemeral freshwater habitats, including alkaline pools, clay flats, vernal lakes, vernal pools, vernal swales, and other seasonal wetlands	Absent. No suitable habitat occurs within the Project area.
<i>Desmocerus californicus dimorphus</i>	Valley elderberry longhorn beetle	FT/-	Always found on or near elderberry shrubs and trees (<i>Sambucus</i> spp); elderberry can be found in moist or riparian areas along streams, edges of meadows, canyons, and forest openings	Absent. No suitable habitat occurs within the Project area.
Fish				
<i>Hypomesus transpacificus</i>	Delta smelt	FT/SE	Endemic to the San Francisco Estuary; tolerant of a wide salinity range. Spawning occurs in fresh water and tidally influenced sloughs and channel edges.	Absent. No aquatic habitat occurs within the Project area.
<i>Acipenser medirostris</i>	Green sturgeon - southern DPS	FT/-	Spawns primarily in the mainstem Sacramento River; away from spawning areas, found in San Francisco Bay Delta, bays, estuaries and open ocean.	Absent. No aquatic habitat occurs within the Project area.
<i>Spirinchus thaleichthys</i>	Longfin smelt	FC/ST	Coastal lagoons, bays, estuaries, sloughs, tidal	Absent. No aquatic habitat occurs within the Project area.



Table 2. Special-Status Animal Species Evaluated for the Potential to Occur in the Project Area.

Scientific Name	Common Name	Listing Status ¹ (Fed/State)	Known Habitat Requirements	Potential for Occurrence
			freshwater streams, and offshore.	
<i>Oncorhynchus mykiss</i>	Steelhead – Central Valley DPS	FT/-	Clean, cold water over gravel beds with water temperatures between 6 and 16 degrees Celsius for spawning in the Sacramento and San Joaquin rivers and their tributaries.	Absent. No aquatic habitat occurs within the Project area.
Herpetofauna				
<i>Ambystoma californiense</i>	California tiger salamander - central California DPS	FT/ST	Small mammal burrows and burrow complexes in grasslands and open oak woodlands, traveling up to 1 mile to seasonal pools and fish/crayfish-free intermittent creek pools during the breeding season. Aestivates only during the hottest part of the summer, otherwise moving about and feeding in and around the burrows during the rest of the year.	Absent. No suitable habitat occurs within the Project area.
Birds				
<i>Athene cunicularia</i>	Burrowing owl	-/SSC	Open treeless areas such as grasslands, coastal dunes, agricultural or disturbed areas; found in a larger variety of habitats in winter and during migration.	Low.. No ground squirrels or ground squirrel burrows were observed within the Project area; therefore, there is no suitable habitat for this species.
<i>Lanius ludovicianus</i>	Loggerhead shrike	-/SSC	Open habitats such as agricultural areas, shrublands, open woodlands and grasslands. Requires some shrubs and trees for nesting.	Moderate. The small grove of deciduous trees located just outside the Project area to the north, and a line of trees within the median of E Atherton Dr that provide suitable nesting habitat. There is marginal foraging habitat within the Project area due to frequent disturbance and the lack of prey species observed during the reconnaissance survey. small grove of trees



Table 2. Special-Status Animal Species Evaluated for the Potential to Occur in the Project Area.

Scientific Name	Common Name	Listing Status ¹ (Fed/State)	Known Habitat Requirements	Potential for Occurrence
<i>Buteo swainsoni</i>	Swainson's hawk	-/ST	Nests in grasslands and agricultural areas with scattered groves of trees; nest sites are usually in trees or large shrubs adjacent to open habitats used for foraging. Nests may be placed in windbreaks and disturbed areas.	Moderate. There are two documented CNDDDB occurrences from 2011 and 2012 within three miles of the Project area. There is a small grove of trees just outside the Project area to the north that provides suitable nesting habitat. There is a line of trees along the median of E Atherton Dr within the Project area, however, these trees are not large enough to support Swainson's hawk nests. There is marginal foraging habitat within the Project area due to frequent disturbance and the lack of prey species observed during the reconnaissance survey.
<i>Agelaius tricolor</i>	Tricolored blackbird	-/ST	Breeds in a variety of both freshwater wetlands and upland areas. Suitable wetland sites have emergent vegetation (i.e. cattails or bulrushes) or willows. Upland habitats include undeveloped areas and agricultural fields, including areas dominated by triticale, Himalayan blackberry, thistle and other spinous plants.	Absent. There is no suitable breeding or nesting habitat, and no suitable foraging habitat within the Project area.
<i>Xanthocephalus xanthocephalus</i>	Yellow-headed blackbird	-/SSC	Freshwater marshes with tall emergent vegetation; nests are constructed over water.	Absent. No suitable habitat occurs within the Project area.

¹ **Federal and State Status Codes:** E = Endangered; T = Threatened; SC= State Candidate for Listing; FP = Fully Protected; SSC= Species of Special Concern

CONCLUSION

The Project site is disturbed in nature consisting of sandy scrub habitat and surrounded by urban landcover and agricultural land. Based on its biological review of the Project site, Cardno has concluded that with the implementation of minimization measures, the Project would not impact any special status species or



sensitive habitat types. The NWI database indicates that riverines pass through the Project area. During the reconnaissance survey, the biologists did not observe the riverines, however, they did observe a seasonal drainage located on the eastern side of the Project approximately 50 feet south of E Atherton Dr. The seasonal drainage does not provide suitable habitat for any special-status species due to its size and the surrounding urban and disturbed landcover but may be considered a jurisdictional feature as waters of the State. Mitigation measure BIO-1 should be implemented to minimize impacts to any water features or a wetland delineation should be conducted to determine if this feature or any waters meet the definition for a water of the State, covered under the jurisdiction of the RWQCB.

Based on the lack of suitable habitat, the Project area does not have a moderate or high potential for special-status plants to occur, and no impacts to special-status plants are anticipated. However, two special-status animal species, loggerhead shrike (*Lanius ludovicianus*) and Swainson's hawk (*Buteo swainsoni*), have moderate potential to occur as there is suitable nesting habitat within the Project area and within the vicinity of the Project area for these species. Additionally, Project area does provide suitable nesting and foraging habitat for various non-listed bird species that are protected by the Migratory Bird Treaty Act. Construction activities could have the potential to affect nesting birds if construction activities were to occur during the breeding season (i.e., February 1 through August 31). Therefore, mitigation measure BIO-1 is recommended to avoid potential impacts to migratory bird species, loggerhead shrike (*Lanius ludovicianus*) and Swainson's hawk (*Buteo swainsoni*). No additional minimization or mitigation measures are required or recommended.



ATTACHMENT

A

CNDDDB SPECIES LIST*B SPECIES LIST*

*Table modified for readability

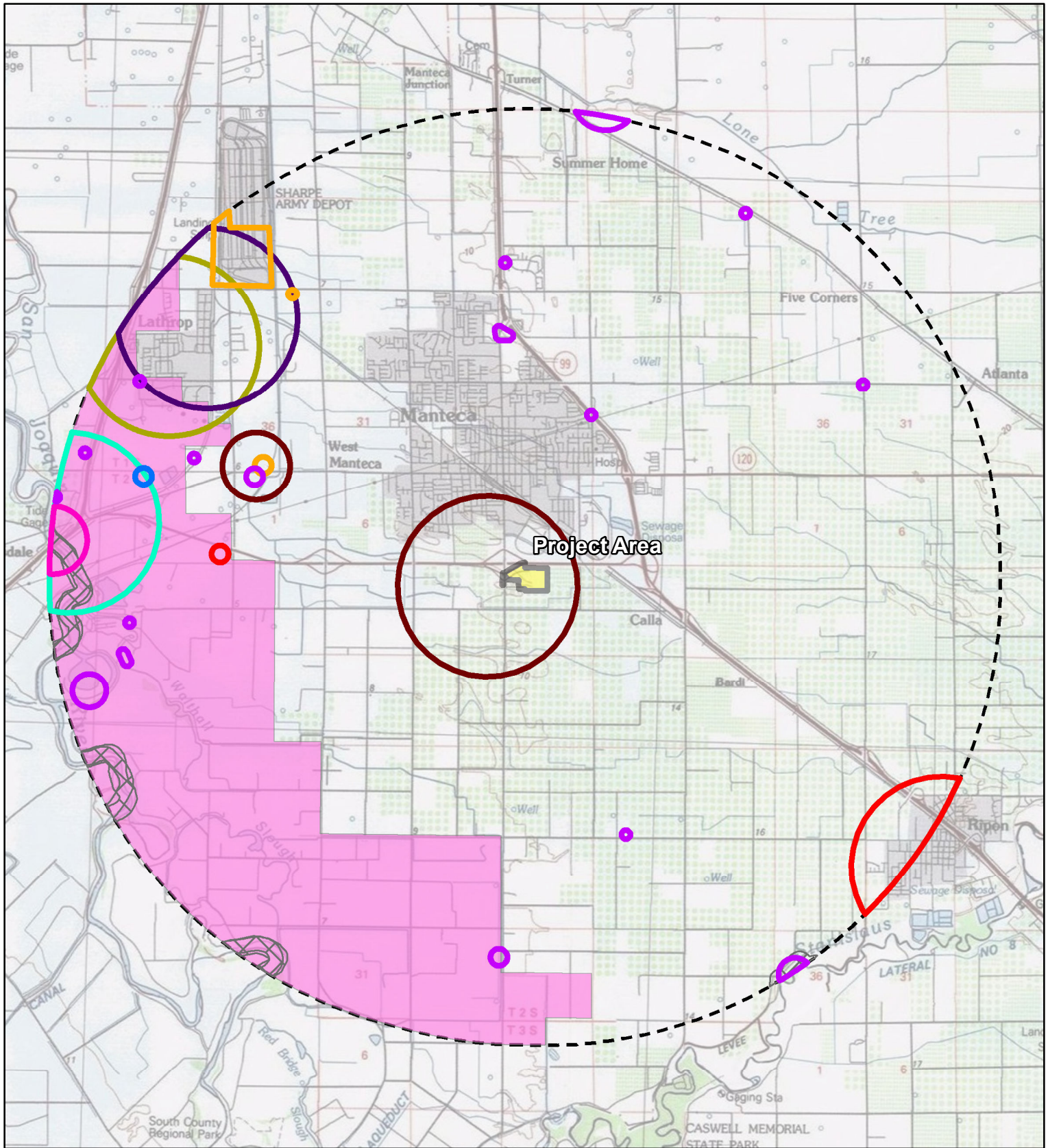
SCIENTIFIC NAME	COMMON NAME	FEDLIST	CALLIST	CDFW	OTHRSTATUS	TAXONGROUP	SITEDATE	ELMDATE
Athene cunicularia	burrowing owl	None	None	SSC	BLM_S; IUCN_LC; USFWS_BCC	Birds	20160719	20160719
Athene cunicularia	burrowing owl	None	None	SSC	BLM_S; IUCN_LC; USFWS_BCC	Birds	20000121	20000121
Athene cunicularia	burrowing owl	None	None	SSC	BLM_S; IUCN_LC; USFWS_BCC	Birds	19970314	19970314
Ambystoma californiense pop. 1	California tiger salamander - central California DPS	Threatened	Threatened	WL	IUCN_VU	Amphibians	19120406	19120406
Ambystoma californiense pop. 1	California tiger salamander - central California DPS	Threatened	Threatened	WL	IUCN_VU	Amphibians	19960411	19960411
Tropidocarpum capparideum	caper-fruited tropidocarpum	None	None		SB_CaIBG/RSABG; USFS_S	Dicots	18810423	18810423
Eryngium racemosum	Delta button-celery	None	Endangered			Dicots	19840828	19130605
Acipenser medirostris pop. 1	green sturgeon - southern DPS	Threatened	None		AFS_VU; IUCN_EN	Fish	20200411	20200411
Acipenser medirostris pop. 1	green sturgeon - southern DPS	Threatened	None		AFS_VU; IUCN_EN	Fish	20171009	20171009
Lanius ludovicianus	loggerhead shrike	None	None	SSC	IUCN_NT	Birds	20160421	20160421
Oncorhynchus mykiss irideus pop. 1	steelhead - Central Valley DPS	Threatened	None		AFS_TH	Fish	2013XXXX	2013XXXX
Oncorhynchus mykiss irideus pop. 1	steelhead - Central Valley DPS	Threatened	None		AFS_TH	Fish	20140120	20140120
Buteo swainsoni	Swainson's hawk	None	Threatened		BLM_S; IUCN_LC	Birds	1991XXXX	1991XXXX
Buteo swainsoni	Swainson's hawk	None	Threatened		BLM_S; IUCN_LC	Birds	19930420	19930420
Buteo swainsoni	Swainson's hawk	None	Threatened		BLM_S; IUCN_LC	Birds	1992XXXX	1992XXXX
Buteo swainsoni	Swainson's hawk	None	Threatened		BLM_S; IUCN_LC	Birds	19970508	19970508
Buteo swainsoni	Swainson's hawk	None	Threatened		BLM_S; IUCN_LC	Birds	19980414	19980414
Buteo swainsoni	Swainson's hawk	None	Threatened		BLM_S; IUCN_LC	Birds	20120406	20120406
Buteo swainsoni	Swainson's hawk	None	Threatened		BLM_S; IUCN_LC	Birds	20030501	20030501
Buteo swainsoni	Swainson's hawk	None	Threatened		BLM_S; IUCN_LC	Birds	20090713	20090713
Buteo swainsoni	Swainson's hawk	None	Threatened		BLM_S; IUCN_LC	Birds	20090404	20090404
Buteo swainsoni	Swainson's hawk	None	Threatened		BLM_S; IUCN_LC	Birds	20090703	20090703
Buteo swainsoni	Swainson's hawk	None	Threatened		BLM_S; IUCN_LC	Birds	20030613	20030613
Buteo swainsoni	Swainson's hawk	None	Threatened		BLM_S; IUCN_LC	Birds	20090716	20090716
Buteo swainsoni	Swainson's hawk	None	Threatened		BLM_S; IUCN_LC	Birds	20090428	20090428
Buteo swainsoni	Swainson's hawk	None	Threatened		BLM_S; IUCN_LC	Birds	20090619	20090619
Buteo swainsoni	Swainson's hawk	None	Threatened		BLM_S; IUCN_LC	Birds	20090630	20090630
Buteo swainsoni	Swainson's hawk	None	Threatened		BLM_S; IUCN_LC	Birds	20110727	20110727
Buteo swainsoni	Swainson's hawk	None	Threatened		BLM_S; IUCN_LC	Birds	20110727	20110727
Agelaius tricolor	tricolored blackbird	None	Threatened	SSC	BLM_S; IUCN_EN; NABCI_RWL; USFWS_BCC	Birds	19360603	19360603
Agelaius tricolor	tricolored blackbird	None	Threatened	SSC	BLM_S; IUCN_EN; NABCI_RWL; USFWS_BCC	Birds	19740605	19740605
Trichocoronis wrightii var. wrightii	Wright's trichocoronis	None	None			Dicots	19140928	19140928
Xanthocephalus xanthocephalus	yellow-headed blackbird	None	None	SSC	IUCN_LC	Birds	18940510	18940510

144-490 Quintal Road Project

ATTACHMENT

B

CNDDDB AND USFWS CRITICAL HABITAT
SPECIES MAPB SPECIES MAP



Legend

	Project Site		5 Mile Buffer
	USFWS Critical Habitat		CNDDB
	Delta Smelt		Burrowing owl
	Delta button-celery		California tiger salamander - central California DPS
	Green sturgeon - southern DPS		Swainson's hawk
	Loggerhead shrike		Tricolored blackbird
	Steelhead - Central Valley DPS		Wright's trichocoronis
	Yellow-headed blackbird		



Attachment B
144-490 Quintal Road Project
CNDDB Observations
USFWS Critical Habitat



Projection: UTM Zone 10 N Datum: NAD 83
Date: 10/11/2022

0 0.25 0.5 1 1.5 2 Miles

ATTACHMENT

C

CNPS SPECIES LIST*|ST*

*Table modified for readability

Scientific Name	Common Name	CRPR	GRank	SRank	OtherStatus	CESA	FESA	DateAdded	LastUpdate
<i>Astragalus tener</i> var. <i>tener</i>	alkali milk-vetch	1B.2	G2T1	S1		None	None	1/1/1994 0:00	8/25/2021 0:00
<i>Lasthenia chrysantha</i>	alkali-sink goldfields	1B.1	G2	S2		None	None	9/30/2019 0:00	4/5/2022 0:00
<i>Blepharizonia plumosa</i>	big tarplant	1B.1	G1G2	S1S2	SB_CalBG/RSABG	None	None	1/1/1994 0:00	8/25/2021 0:00
<i>Puccinellia simplex</i>	California alkali grass	1B.2	G2	S2	BLM_S	None	None	10/15/2015 0:00	8/2/2022 0:00
<i>Tropidocarpum capparideum</i>	caper-fruited tropidocarpum	1B.1	G1	S1	SB_CalBG/RSABG; USFS_S	None	None	1/1/1974 0:00	5/26/2021 0:00
<i>Eryngium racemosum</i>	Delta button-celery	1B.1	G1	S1		CE	None	1/1/1974 0:00	6/3/2021 0:00
<i>Lathyrus jepsonii</i> var. <i>jepsonii</i>	Delta tule pea	1B.2	G5T2	S2	SB_BerrySB; SB_CalBG/RSABG	None	None	1/1/1974 0:00	1/5/2022 0:00
<i>Tuctoria greenei</i>	Greene's tuctoria	1B.1	G1	S1		CR	FE	1/1/1974 0:00	5/26/2021 0:00
<i>Atriplex cordulata</i> var. <i>cordulata</i>	heartscale	1B.2	G3T2	S2	BLM_S	None	None	1/1/1988 0:00	8/25/2021 0:00
<i>Atriplex minuscule</i>	lesser saltscale	1B.1	G2	S2		None	None	1/1/1994 0:00	8/25/2021 0:00
<i>Chloropyron palmatum</i>	palmate-bracted bird's-beak	1B.1	G1	S1	SB_CalBG/RSABG	CE	FE	1/1/1974 0:00	10/4/2021 0:00
<i>Delphinium recurvatum</i>	recurved larkspur	1B.2	G2?	S2?	BLM_S; SB_SBBG	None	None	1/1/1988 0:00	6/3/2021 0:00
<i>Trifolium hydrophilum</i>	saline clover	1B.2	G2	S2		None	None	1/1/2001 0:00	5/26/2021 0:00
<i>Extriplex joaquinana</i>	San Joaquin spearscale	1B.2	G2	S2	BLM_S; SB_CalBG/RSABG	None	None	1/1/1988 0:00	1/5/2022 0:00
<i>Sagittaria sanfordii</i>	Sanford's arrowhead	1B.2	G3	S3	BLM_S	None	None	1/1/1984 0:00	5/26/2021 0:00
<i>Cirsium crassicaule</i>	slough thistle	1B.1	G1	S1		None	None	1/1/1974 0:00	5/26/2021 0:00
<i>Symphyotrichum lentum</i>	Suisun Marsh aster	1B.2	G2	S2	SB_CalBG/RSABG; SB_USDA	None	None	1/1/1974 0:00	5/26/2021 0:00
<i>Brasenia schreberi</i>	watershield	2B.3	G5	S3	IUCN_LC	None	None	10/27/2010 0:00	7/14/2021 0:00
<i>Hibiscus lasiocarpus</i> var. <i>occidentalis</i>	woolly rose-mallow	1B.2	G5T3	S3	SB_CalBG/RSABG; SB_UCBG	None	None	1/1/1974 0:00	1/5/2022 0:00
<i>Trichocoronis wrightii</i> var. <i>wrightii</i>	Wright's trichocoronis	2B.1	G4T3	S1		None	None	1/1/1988 0:00	6/8/2022 0:00

144-490 Quintal Road Project

ATTACHMENT

D

IPaC Species Listt

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.

Location

Sacramento Fish And Wildlife Office

 (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 species¹ 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 Fisheries²).

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](#).

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1. Species listed under the [Endangered Species Act](#) are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the [listing status page](#) for more information. IPaC only shows species that are regulated by USFWS (see FAQ).

2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

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

Amphibians

NAME	STATUS
California Tiger Salamander <i>Ambystoma californiense</i> There is final critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/2076	Threatened

Fishes

NAME	STATUS
Delta Smelt <i>Hypomesus transpacificus</i> Wherever found There is final critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/321	Threatened

Insects

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9743	Candidate
Valley Elderberry Longhorn Beetle <i>Desmocerus californicus dimorphus</i> Wherever found There is final critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/7850	Threatened

Crustaceans

NAME	STATUS
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Vernal Pool Fairy Shrimp *Branchinecta lynchi*

Threatened

Wherever found

There is **final** critical habitat for this species. Your location does not overlap the critical habitat.

<https://ecos.fws.gov/ecp/species/498>

Vernal Pool Tadpole Shrimp *Lepidurus packardii*

Endangered

Wherever found

There is **final** critical habitat for this species. Your location does not overlap the critical habitat.

<https://ecos.fws.gov/ecp/species/2246>

Critical habitats

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

There are no critical habitats at this location.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act¹ and the Bald and Golden Eagle Protection Act².

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

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

Additional information can be found using the following links:

- Birds of Conservation Concern <https://www.fws.gov/program/migratory-birds/species>
- Measures for avoiding and minimizing impacts to birds
<https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds>
- Nationwide conservation measures for birds
<https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf>

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

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

NAME	BREEDING SEASON
Belding's Savannah Sparrow <i>Passerculus sandwichensis beldingi</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/8	Breeds Apr 1 to Aug 15
Bullock's Oriole <i>Icterus bullockii</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds Mar 21 to Jul 25
Common Yellowthroat <i>Geothlypis trichas sinuosa</i> 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
Nuttall's Woodpecker <i>Picoides nuttallii</i> 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 <i>Baeolophus inornatus</i> 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

Tricolored Blackbird *Agelaius tricolor*

Breeds Mar 15 to Aug 10

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/3910>

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.

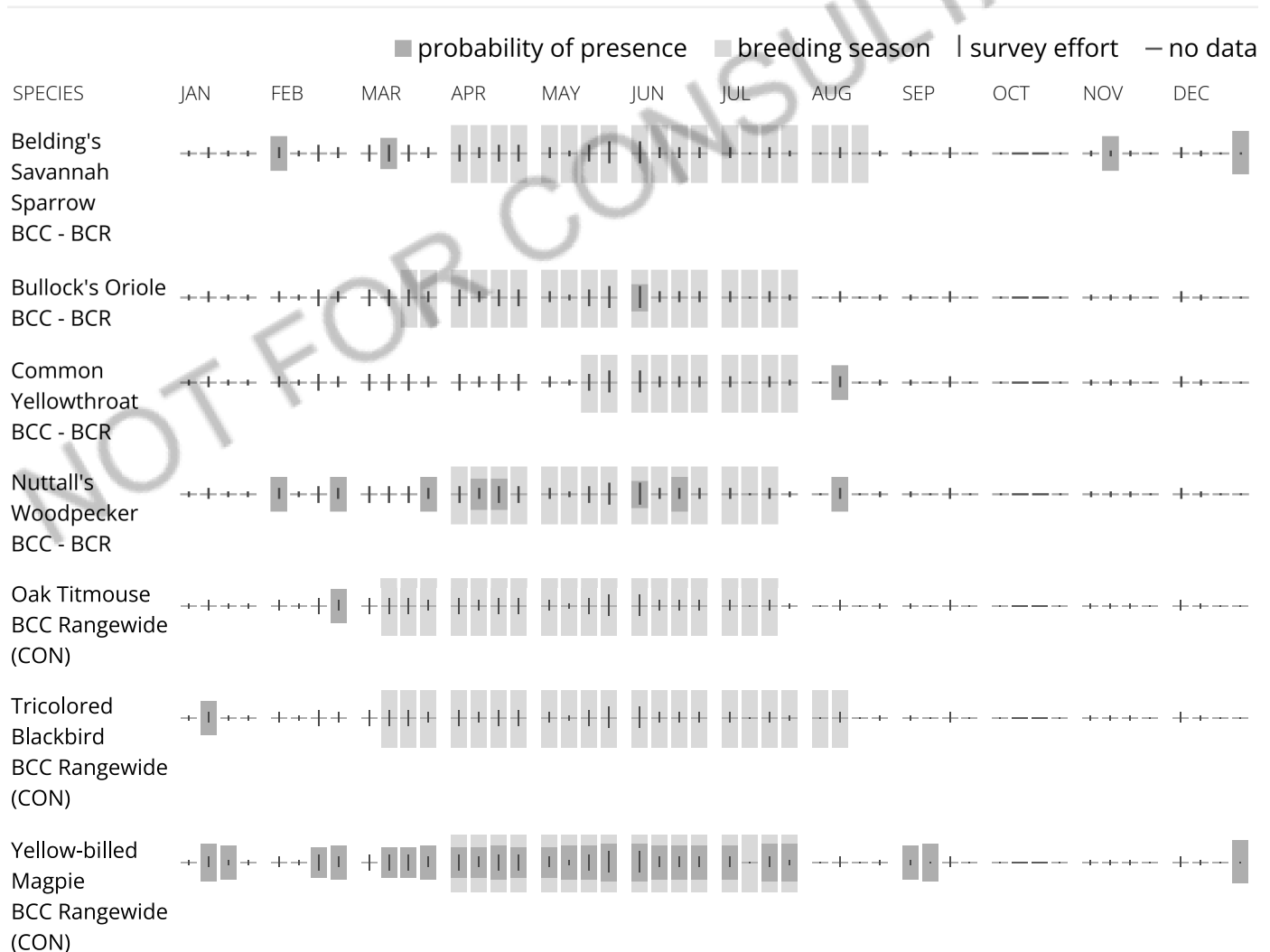
To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

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.

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.

A week is marked as having no data if there were no survey events for that week.

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.



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

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?

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

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

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

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

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

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

How do I know if a bird is breeding, wintering or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the RAIL Tool and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

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

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

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

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be 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.

Coastal Barrier Resources System

Projects within the John H. Chafee Coastal Barrier Resources System (CBRS) may be subject to the restrictions on federal expenditures and financial assistance and the consultation requirements of the Coastal Barrier Resources Act (CBRA) (16 U.S.C. 3501 et seq.). For more information, please contact the local Ecological Services Field Office or visit the CBRA Consultations website. The CBRA website provides tools such as a flow chart to help determine whether consultation is required and a template to facilitate the consultation process.

There are no known coastal barriers at this location.

Data limitations

The CBRS boundaries used in IPaC are representations of the controlling boundaries, which are depicted on the official CBRS maps. The boundaries depicted in this layer are not to be considered authoritative for in/out determinations close to a CBRS boundary (i.e., within the "CBRS Buffer Zone" that appears as a hatched area on either side of the boundary). For projects that are very close to a CBRS boundary but do not clearly intersect a unit, you may contact the Service for an official determination by following the instructions here: <https://www.fws.gov/service/coastal-barrier-resources-system-property-documentation>

Data exclusions

CBRS units extend seaward out to either the 20- or 30-foot bathymetric contour (depending on the location of the unit). The true seaward extent of the units is not shown in the CBRS data, therefore projects in the offshore areas of units (e.g., dredging, breakwaters, offshore wind energy or oil and gas projects) may be subject to CBRA even if they do not intersect the CBRS data. For additional information, please contact CBRA@fws.gov.

Facilities

National Wildlife Refuge lands

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

There are no refuge lands at this location.

Fish hatcheries

There are no fish hatcheries at this location.

Wetlands in the National Wetlands Inventory (NWI)

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

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

Wetland information is not available at this time

This can happen when the National Wetlands Inventory (NWI) map service is unavailable, or for very large projects that intersect many wetland areas. Try again, or visit the NWI map to view wetlands at this location.

Data limitations

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

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

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

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tubercid 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.

NOT FOR CONSULTATION

Appendix B

Wetland Delineation Report

144-490 Quintal Road Project Wetland Delineation Report

To: Anna Radonich
Stantec Consulting Inc

From: Susannah Kiteck
Cardno, now Stantec

Project: 144-490 Quintal Road Project

Date: November 22, 2022

Reference: 144-490 Quintal Road Project Wetland Delineation Report

INTRODUCTION

Cardno, now Stantec (Cardno) conducted a wetland delineation for the 144-490 Quintal Road Project (Project). The Project primarily consists of four parcels identified as Assessor's Parcel Numbers (APNs): 224-040-520-000 (114 Quintal Road), 224-040-070-000 (292 Quintal Road), 224-040-060-000 (301 Quintal Road), and 224-070-110-000 (490 Quintal Road) in Manteca, Placer County, California (Project area). The Project's center is located at approximately 37.780476° and -121.210639°, and on the United States Geological Survey (USGS) 7.5-minute topographic quadrangle map for Manteca, California, in Section 8 and 9, Township 02 south, Range 07 east, Mount Diablo Baseline & Meridian. Wetland delineations occurred at identified sampling points within the Project area based on National Wetlands Inventory (NWI) data and observations from an on-site biological reconnaissance survey previously conducted on October 7th, 2022 (Biological Resource Assessment). See Attachment A for the Project area and the water features within the Project Area.

This report presents the results of the field evaluation and provides a preliminary discussion regarding current wetlands and other Waters of the United States as defined by the Clean Water Act (CWA) within the Project area.

This delineation of Waters of the United States contains the following:

- A narrative describing the methodology used to delineate the wetlands and Waters of the United States in the Project area.
- A narrative description of existing field conditions, hydrology, soils descriptions, and plant communities present in the sampling points.
- Attachments and figures including the Project area and water features, a soils map, representative photographs, and aerial imagery showing the Project area and sampling points.



REGULATORY FRAMEWORK

FEDERAL JURISDICTION OF WETLANDS AND OTHER WATERS OF THE UNITED STATES

Section 404 of the Clean Water Act

Under Section 404 of the CWA, the US Environmental Protection Agency (EPA) and the US Army Corp of Engineers (USACE) have regulatory and permitting authority regarding discharge of dredged or fill material into “navigable Waters of the United States”. The scope of the USACE jurisdiction was further refined in *Rapanos v. US* and *Carabell v. US* Guidance¹. The USACE asserts jurisdiction over the following waters:

- Traditional navigable waters;
- Wetlands adjacent to traditional navigable waters;
- Non-navigable tributaries of traditional navigable waters that are relatively permanent where the tributaries typically flow year-round or have continuous flow at least seasonally (e.g., typically three months); and,
- Wetlands that directly abut such tributaries.

The USACE determines jurisdiction over the following waters based on a fact-specific analysis to determine whether they have a significant nexus with a traditional navigable water:

- Non-navigable tributaries that are not relatively permanent;
- Wetlands adjacent to non-navigable tributaries that are not relatively permanent; and,
- Wetlands adjacent to but that does not directly abut a relatively permanent non-navigable tributary.

A significant nexus exists when it is demonstrated that the tributary and/or wetland along with any other, similarly situated wetlands, has “more than a speculative or insubstantial effect on the chemical, physical and biological integrity of a traditional navigable water.”

The USACE generally will not assert jurisdiction over the following features:

- Swales or erosional features (e.g., gullies, small washes characterized by low volume, infrequent, or short duration flow); or
- Ditches (including roadside ditches) excavated wholly in and draining only uplands and that do not carry a relatively permanent flow of water.

STATE JURISDICTION OF WETLANDS AND OTHER WATERS

Regional Water Quality Control Board

The State Water Resources Control Board (SWRCB) and nine Regional Water Quality Control Boards (RWQCB) regulate activities in Waters of the State, under the Dickey Water Pollution Act of 1949 and the Porter-Cologne Act of 1969. Waters of the State include Waters of the United States and are defined by the Porter-Cologne Act as “any surface water or groundwater, including saline waters, within the boundaries of the state.” Additionally, the RWQCB regulates discharges of fill and dredged material under Section 401 of the CWA and the Porter-Cologne Act through the State Water Quality Certification Program. The State Water

¹ *Rapanos v. US* and *Carabell v. US* Guidance, https://www.epa.gov/sites/default/files/2016-02/documents/cwa_jurisdiction_following_rapanos120208.pdf



Quality Certification Program regulates proposed federally permitted activity which may result in a discharge to water bodies including discharges of dredged or fill material permitted by the USACE under section 404 of the CWA (e.g., navigational dredging; flood control channelization; levee construction; channel clearing; and fill of wetlands or other water bodies for land development), and ensures consistency with the Federal CWA, California Environmental Quality Act (CEQA), California Endangered Species Act (ESA), and the Porter-Cologne Act.

The Central Valley RWQCB has jurisdiction over the Project area. Because Waters of the State are defined more broadly than Waters of the United States, projects that do not require a federal permit may still result in dredge or fill in Waters of the State. Such projects may be regulated by the RWQCB under Waste Discharge Requirements or Certifications of Waste Discharge Requirements.



METHODOLOGY

The sampling points for this delineation encompass areas identified to be potential wetlands determined via the NWI database and an on-site biological reconnaissance survey. On October 24 and 26, 2022 Cardno biologists, Susannah Kiteck and Ashley Payne, collected field data and delineated potential USACE and RWQCB jurisdictional boundaries within the Project area. Sampling points were recorded, and the geographic coordinates (longitude and latitude) were collected. Plants were identified to species. Representative photographs of the Project area and sampling points are in Attachment B.

WATERS OF THE UNITED STATES

Wetlands

The team followed the routine determination method given in the Corps of Engineers Wetlands Delineation Manual (Environmental Laboratory 1987) and the revised procedures in the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)². This methodology examines specific sample points in both wetlands and uplands (i.e., paired points) to determine the boundaries of wetland features. Sample points are examined for hydrophytic vegetation, hydric soils, and wetland hydrology. In most cases, by the federal definition, all three parameters must be present for an area to be considered a wetland. Problematic situations, in which only two parameters are met, do occur in the Arid West (outlined in the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region) (USACE 2008a), especially in areas that have been altered by human activity. Problematic situations in which only two parameters are met do occur in the Arid West (outlined in the Arid West Regional Supplement), however none of these situations occurred in the study area. The standard USACE Wetland Determination Data Form for the Arid West was used to document each sample point.

Vegetation

The USACE National Wetland Plant List³ was used to determine the wetland indicator status of plants identified in the sampling points. A visual assessment was made of all plant species located in the Project area and sampling points. Plant species were then analyzed to determine the presence or absence of hydrophytic vegetation. The procedure for determining the presence of hydrophytic vegetation followed that identified in the Regional Supplement. Specifically, it involves the following assessment for each sampling point:

1. Apply Indicator 1 (Dominance Test). If the plant community passes the dominance test, then the vegetation is hydrophytic and no further vegetation analysis is required.
 - a. If the plant community fails the dominance test and indicators of hydric soil and/or wetland hydrology are absent, then hydrophytic vegetation is absent unless the site meets the requirements for a problematic wetland vegetation.
 - b. If the plant community fails the dominance test, but indicators of hydric soil and wetland hydrology are both present, proceed to Step 2.
2. Apply Indicator 2 (Prevalence Index). This and the following step assume that at least one indicator of hydric soil and one primary or two secondary indicators of wetland hydrology are present.

² U.S. Army Corps of Engineers (USACE). 2008a. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0). Available: <https://usace.contentdm.oclc.org/utis/getfile/collection/p266001coll1/id/7627>. Accessed May 2019.

³ U.S. Army Corps of Engineers 2020. National Wetland Plant List, version 3.5. Available from <http://wetland-plants.usace.army.mil/>. U.S. Army Corps of Engineer Engineer Research and Development Center Cold Regions Research and Engineering Laboratory, Hanover, NH.



- a. If the plant community satisfies the prevalence index, then the vegetation is hydrophytic. No further vegetation analysis is required.
 - b. If the plant community fails the prevalence index, proceed to Step 3.
3. Apply Indicator 3 (Morphological Adaptations).
 - a. If the indicator is satisfied, then the vegetation is hydrophytic.
 - b. If none of the indicators are satisfied, then hydrophytic vegetation is absent unless indicators of hydric soil and wetland hydrology are present and the site meets the requirements for a problematic wetland situation.
 - c. Wetland indicator species include those listed as Obligate (OBL), Facultative Wetland (FACW), or Facultative (FAC) in the National List of Plant Species that Occur in Wetlands: California (Region 0). Vegetation was described in terms of both species and percent coverage per strata. Sample plots that had vegetation that met the above criteria were identified as hydrophytic. A list of plant species observed within the sampling points and the wetland indicator status is available in Tables 2 and 4 below, and Attachment C.

Soils

The SoilWeb⁴ online website and Web Soil Survey for San Joaquin County⁵ was used to preliminarily identify soil types in the Project area and sampling points. The Web Soil Survey of San Joaquin County was used to identify potential soils (map units) present in the vicinity of the Project area and sampling points (Figure 1). Soils were examined by digging a test pit to a depth of 20 inches, where feasible, to determine if soils exhibited hydric characteristics. In some cases, loose soil or rocks within the soil prohibited the digging of 20 inch test pits, and pits were dug to a depth sufficient to identify hydric indicators. The determination of hydric soils was based on soil texture, matrix color, and/or the presence of other hydric soil indicators such as mottles.

Soil samples were collected and described according to the methodology provided in the Regional Supplement. Soil chroma and values were determined by using the Munsell Soil Color Book⁶. Hydric soils were determined to be present if any of the soil samples met one or more of the hydric soil indicators as indicated in the 2022 Pocket Guide to Hydric Soil Field Indicators⁷.

Hydrology

The USACE jurisdictional wetland hydrology criterion is satisfied if an area is inundated or saturated for a period of time sufficient to create anoxic soil conditions during the growing season (a minimum of 14 consecutive days in the Arid West Region). Evidence of wetland hydrology can include primary indicators, such as visible inundation or saturation, drift deposits, oxidized root channels, and salt crusts, or secondary indicators such as the FAC-neutral test, or the presence of a shallow aquitard. The Regional Supplement contains 18 primary hydrology indicators and nine secondary hydrology indicators.

⁴ California Soil Resource Lab at UC Davis and UC-ANR & USDA Natural Resources Conservation Service. SoilWeb. Available from <https://casoilresource.lawr.ucdavis.edu/gmap/>. Accessed October 2022.

⁵ United States Department of Agriculture National Resources Conservation Service. Web Soil Survey. Available from <https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx>. Accessed October 2022.

⁶ Munsell. 2000. Soil Color Charts. Gretag Macbeth. New Windsor, New York.

⁷ Wetland Training Institute, Inc. 2022. 2022 Pocket Guide to Hydric Soil Field Indicators Based on Field Indicators of Hydric Soils in the United State v.8.2. 2022.



The presence of these primary or secondary indicators was used to determine whether each sample point met the wetland hydrology criteria. A minimum of one primary indicator or two secondary indicators are required to meet the wetland hydrology criterion.

Drainages and Other Waters

The Project area was evaluated for the presence of “other waters,” including lakes, rivers, and perennial or intermittent streams. Potential “other waters” may be identified by the presence of a defined river or streambed, a bank, or evidence of flow, or the absence of emergent vegetation in ponds and lakes. The extent of other waters was mapped to the OHWM as defined by the USACE Regulatory Guidance Letter No. 05-05 Ordinary High Water Mark Identification⁸.

CWA regulations define the OHWM at 33 CFR 328.3(e) as the following:

The term ordinary high water mark means that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.

The following geomorphic OHWM indicators, as described in the USACE publication *A Field Guide to the Identification of the OHWM in the Arid West Region of the Western United States* (USACE 2008), were used to delineate the OHWM of other Waters of the United States:

1. **Benches:** Formed by the removal of previously aggraded sediment and located near the below/at ordinary high water (OHW) boundary and potentially near the at/above boundary.
2. **Drift:** Organic debris larger than twigs. Tends to be oriented in the direction of flow, and often collects behind/in obstructions or is simply deposited by receding flow.
3. **Exposed Root Hairs Below Intact Soil Layer:** Exposed by erosion of sediment. Tend to be located along the above/at OHW boundary or where benches have formed.
4. **Change in Particle Size Distribution:** Transition from coarser to finer sediment common, and likely to occur near the at/below OHW boundary.
5. **Upper Limit of Sand-Sized Particles:** Deposited due to reduced flow competence and tends to be concentrated near the at/below OHW boundary but may extend to the above OHW boundary.
6. **Valley Flat:** Formed by the deposition of fine-grained sediment during over-bank flow, and located adjacent to low-flow feature(s) and extends to the break in slope (when present) near the at/above OHW boundary.

WATERS OF THE STATE

Biologists assessed all mapped features for potential RWQCB jurisdiction following the Porter-Cologne Water Quality Control Act regulations and guidance which states that all waters defined as “wetlands” under the USACE three-parameter requirement, including isolated features, would likely be considered RWQCB jurisdictional. Therefore, all wetlands that meet the three-parameter wetland criteria (or two in the case of problematic situations) are considered potentially jurisdictional.

The RWQCB takes jurisdiction over waters defined as “drainages” based upon the presence of OHWM and/or bed-and-bank; connectivity is not a consideration. In addition, isolated open waters or impoundments are

⁸ United State Army Corps of Engineers. 2005. Regulatory Guidance Letter Ordinary High Water Mark Identification No. 05-05. <https://www.nap.usace.army.mil/Portals/39/docs/regulatory/rgls/rgl05-05.pdf>



generally considered under the jurisdiction of the RWQCB. Therefore, all drainages or other non-wetland waters on-site are considered potentially jurisdictional under the RWQCB.

Shrubby and forested wetlands fall under CDFW's jurisdiction when they are adjacent to or associated with a drainage feature or "stream." Features that exhibited a dominance of hydrophytic vegetation and were associated with a drainage feature, regardless of regime, were considered potentially jurisdictional.

CDFW generally takes jurisdiction over all waters with defined bed-and-bank up to TOB measurements; connectivity is not considered. In addition, isolated open waters or impoundments and associated persistent wetlands are generally considered under CDFW's jurisdiction. Therefore, all drainages or other non-wetland waters on-site are considered potentially jurisdictional.

PROJECT AREA

The Project area is approximately 59.15 acres and is surrounded by urban development on all sides. The site is located off Highway 120 that travels through Manteca, east to Benton, California and connects to the west at Interstate 5. The topography of the Project area is nearly level, at an elevation of approximately 30 feet above mean sea level. The majority of the Project area is located within sandy scrub habitat dominated by Telegraph weed (*Heterotheca grandiflora*). The Project area is significantly disturbed from agricultural activities and a majority of the Project area appeared to have been tilled resulting in upturned soil and uprooted, dead vegetation. During an on-site biological reconnaissance survey, biologists Natalie Greer and Susannah Kiteck observed an unnamed seasonal drainage on the far east side of the Project area, approximately 50 feet south of E Atherton Dr. The drainage was observed due to a change in vegetation community. The drainage is approximately 150 feet in length and 20 feet wide.

SAMPLING POINTS

Sampling points were identified via NWI and an on-site reconnaissance survey to determine if potential features were considered wetlands or other waters. The NWI identifies two NWI classified "riverine" features crossing through the Project area. These features are not visible on the surface; therefore, two sampling points were selected along the southern-most feature, one directly along the NWI mapped riverine location and one outside of the NWI mapped riverine location where there was sufficient vegetation cover (>5% cover). The sampling points along the NWI mapped riverine will be referred to below as sampling points A and B. Four sampling points were selected within the seasonal drainage. The seasonal drainage sampling points will be referred to below as sampling points 1, 2, 3 and 4.

VEGETATION

Project area vegetation communities

A majority of the Project area is sandy scrub habitat. Predominant species observed within the Project area include Telegraph weed (*Heterotheca grandiflora*), Russian thistle (*Salsola tragus*), Palmer amaranth (*Amaranthus palmeri*), common sunflower (*Helianthus annuus*), mat amaranth (*Amaranthus blitoides*) and colocynth (*Citrullus colocynthis*). Other species observed include a species of oat (*Avena* spp.), species of radish (*Rhaphanus* spp.), and hedge bindweed (*Calystegia sepium*). There is a change of vegetation within the Project area where there is a seasonal drainage on the eastern side of the Project area. Species observed within the seasonal drainage include giant reed (*Arundo donax*), rough cocklebur (*Xanthium strumarium*), Palmer amaranth (*Amaranthus palmeri*), brome fescue (*Festuca bromoides*), hairy crab grass (*Digitaria sanguinalis*), California melic (*Melica imperfecta*), Bermuda grass (*Cynodon dactylon*), and tall manna grass (*Glyceria elata*). Telegraph weed and Russian thistle were also present within the seasonal drainage.



SOILS

The soil map units are identified in the Web Soil Survey for San Joaquin County. Soil map units that occur in the Project area are shown in Figure 1 and include Delhi fine sand, 0 to 5 percent slopes, Delhi loamy sand, 0 to 2 percent slopes, Delhi-Urban land complex, 0 to 2 percent slopes, and Tinnin loamy coarse sand, 0 to 2 percent slopes. Sampling points were taken within the soil map units Delhi loamy sand and Tinnin loamy coarse sand. Table 1 provides the soil map unit descriptions for each unit.

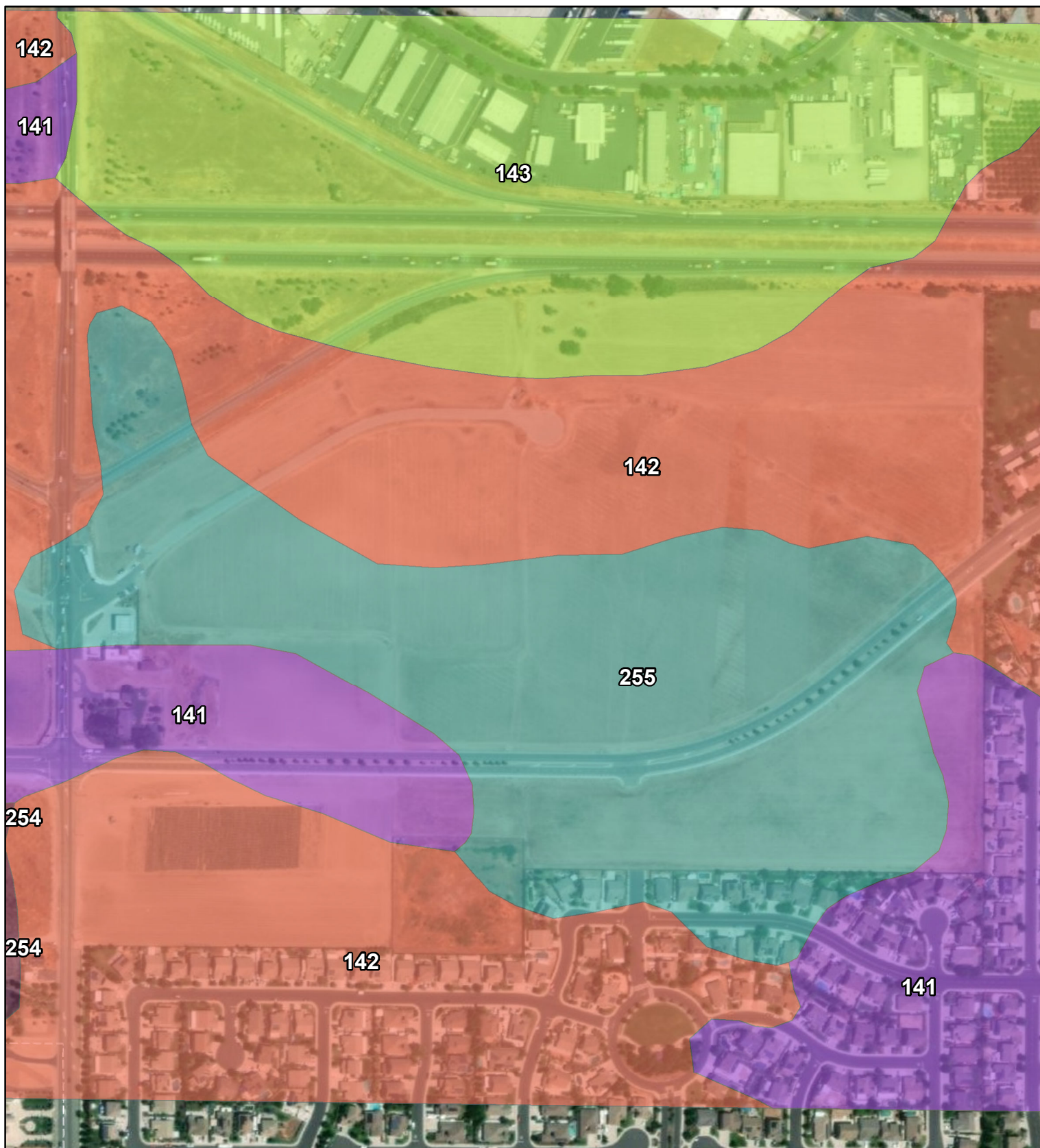
Table 1 Soil Map Unit Description in the Project area

Map Unit Name	National Map Unit symbol	Drainage Class	Depth to Restrictive Layer	Hydric Soils Included
Delhi fine sand, 0 to 5 percent slopes	hhs9	Somewhat excessively drained	>80 inches	No
Delhi loamy sand, 0 to 2 percent slopes	2ss9g	Somewhat excessively drained	>80 inches	No
Delhi-Urban land complex, 0 to 2 percent slopes	hhsc	Somewhat excessively drained	>80 inches	No
Tinnin loamy coarse sand, 0 to 2 percent slopes	hhwz	Well drained	>80 inches	No

HYDROLOGY

The Project area has been significantly disturbed by agricultural activities. A majority of the site has little to no hydrological connection to downstream wetlands or other waters. Any precipitation the site receives likely infiltrates rapidly through the loose soils and no hydrological or hydric indicators were present during the delineation survey. The unnamed seasonal drainage potentially collects artificial runoff from the adjacent house's sprinkler system and naturally from precipitation. The NWI map identifies two riverine systems which pass through the Project area. The northern-most NWI mapped riverine has a series of wells located along it, indicating that it may be a fed through a ground water source. Based on Google Earth historical imagery, the wells appear to have been used to irrigate the agricultural fields within the Project area. No other hydrological indicators were present during the delineation survey and the wells are significantly disturbed. At the southern-most NWI mapped riverine, no hydrological indicators, wetland vegetation or hydric indicators were observed.





Legend

Soil Survey

Symbol Description

	Delhi fine sand, 0 to 5 percent slopes		Delhi-Urban land complex, 0 to 2 percent slopes
	Delhi loamy sand, 0 to 2 percent slopes, MLRA 17		Tinnin loamy coarse sand, 0 to 2 percent slopes
			Timor loamy sand, 0 to 2 percent slopes



Figure 1
144-490 Quintal Road Project
Soil Survey



Projection: UTM Zone 10 N Datum: NAD 83

Date: 11/1/2022

0 70 140 280 420 560
Feet

RESULTS AND DISCUSSION

Cardno biologists Ashley Payne and Susannah Kiteck delineated wetlands and other waters in the Project area on October 26th, 2022. Other waters investigated in the Project area include two NWI mapped riverines and an unnamed seasonal drainage (Attachment A). The banks of the drainages were inspected for OHWM indicators using the methods described in the *A Field Guide to the Identification of the OHWM in the Arid West Region of the Western United States*. Representative photographs of the Project area and sampling points are located in Attachment B.

SEASONAL DRAINAGE

An unnamed seasonal drainage is present along the eastern edge of the Project area approximately 50 feet south of E Atherton Dr. The seasonal drainage begins at a well and continues to a length of approximately 150 feet based on vegetation community changes. The drainage is approximately 20 feet wide. Four soil sample points were selected within this area (Attachment A). No hydrological or hydric indicators were recorded within these sampling points. Sampling point 3 did have hydrophytic vegetation present. Tables 2 and 3 below show the vegetation cover, indicator status, and soil profiles recorded at each sampling point. See Attachment C for the wetland determination data forms for all data recorded at sampling points 1-4. The seasonal drainage may be hydrologically connected to the northern NWI mapped riverine, but it is not hydrologically connected to any other waters as described below. The seasonal drainage drains into uplands. The site was historically used for agriculture and is significantly disturbed. Based on a visual assessment of the drainage, no OHWM is visible within the drainage channel and there were no other indicators including mud cracks, drift and/or debris, presence of bed and bank, benches, etc., within the drainage that could indicate the presence of non-wetland waters.

Table 2: Vegetation at Sampling Points 1-4

Sampling Point	Vegetation	Absolute % cover	Indicator Status
1	Xanthium strumarium	15	FAC
	Amaranthus palmeri	8	FACU
	Salsola tragus	1	FACU
	Digitaria sanguinalis	5	FACU
	Glyceria elata	12	OBL
	Cynodon dactylon	50	FACU
2	Amaranthus palmeri	12	FACU
	Heterotheca grandiflora	3	UPL



	Salsola tragus	5	FACU
	Festuca bromoides	17	UPL
3	Xanthium strumarium	13	FAC
	Amaranthus palmeri	7	FACU
	Heterotheca grandiflora	1	UPL
	Digitaria sanguinalis	20	FACU
	Glyceria elata	60	OBL
	Cynodon dactylon	80	FACU
4	Digitaria sanguinalis	75	FACU
	Xanthium strumarium	2	FAC
	Amaranthus palmeri	5	FACU
	Melica imperfecta	3	UPL

Table 3: Soil Profile at Sampling Points 1-4

Sampling Point	Depth	Matrix color (%)	Redox Features	Texture
1	0-15"	2.5Y 3/3 (100%)	None	Loamy sand
2	0-12"	2.5Y 3/3 (100%)	None	Loamy sand
3	0-15"	2.5Y 3/2 (100%)	None	Loamy sand
4	0-14"	2.5Y 3/3 (100%)	None	Loamy sand



NWI RIVERINES

Two NWI unnamed riverines are mapped within the Project area. Sampling points A and B were chosen along the southern-most NWI mapped riverine (Attachment A). No hydrophytic vegetation, hydric soils or hydrological indicators were recorded. Sampling points along the northern-most riverine were not taken due to a lack of hydrological indicators and hydrophytic vegetation. Attachment B includes images of the wells located along the northern NWI mapped riverine. Both sampling points are significantly disturbed by agricultural activities. At sampling points A and B, it was noted that the vegetation is significantly disturbed which resulted from what appeared to be tilled soil. The ground was littered with uprooted and dead vegetation. Tables 4 and 5 below show the vegetation cover, indicator status, and soil profiles recorded at each sampling point. See Attachment C for the wetland determination data forms for all data recorded at sampling points A and B. Based on a visual assessment of the site, there are no OHWM indicators where the two NWI riverines are recorded. There were no other indicators including mud cracks, drift and/or debris, presence of bed and bank, benches, etc., that may indicate the presence of non-wetland waters. Based on NWI, while the riverines continue upstream and downstream, it only connects to other underground waters and are not connected to any other navigable waters or adjacent wetlands.

Table 4: Vegetation at Sampling Points A and B

Sampling Point	Vegetation	Absolute % cover	Indicator Status
A	<i>Amaranthus palmeri</i>	10	FACU
	<i>Salsola tragus</i>	2	FACU
B	<i>Heterotheca grandiflora</i>	25	UPL

Table 5: Soil Profile at Sampling Points A and B

Sampling Point	Depth	Matrix color (%)	Redox Features	Texture
A	0-16"	2.5Y 3/3 (100%)	None	Loamy sand
B	0-14"	2.5Y 4/4 (100%)	None	Loamy sand



CONCLUSION

Based on the findings in this delineation report, the Project area contains no wetlands or other waters that are potentially subject to the USACE jurisdiction pursuant to the Clean Water Act. No portion of the Project area meets the three criteria for federal wetlands (dominance of hydrophytic vegetation, evidence of wetland hydrology, and hydric soils) and no surface water was present during the survey event. In addition, no other waters were identified based on the lack of an OHWM and connectivity to a downstream Traditional Navigable Water.

These features are also not considered potential waters of the State because they lack an OHWM and connectivity to downstream waters and did not contain hydrophytic vegetation, evidence of wetland hydrology, and hydric soils.

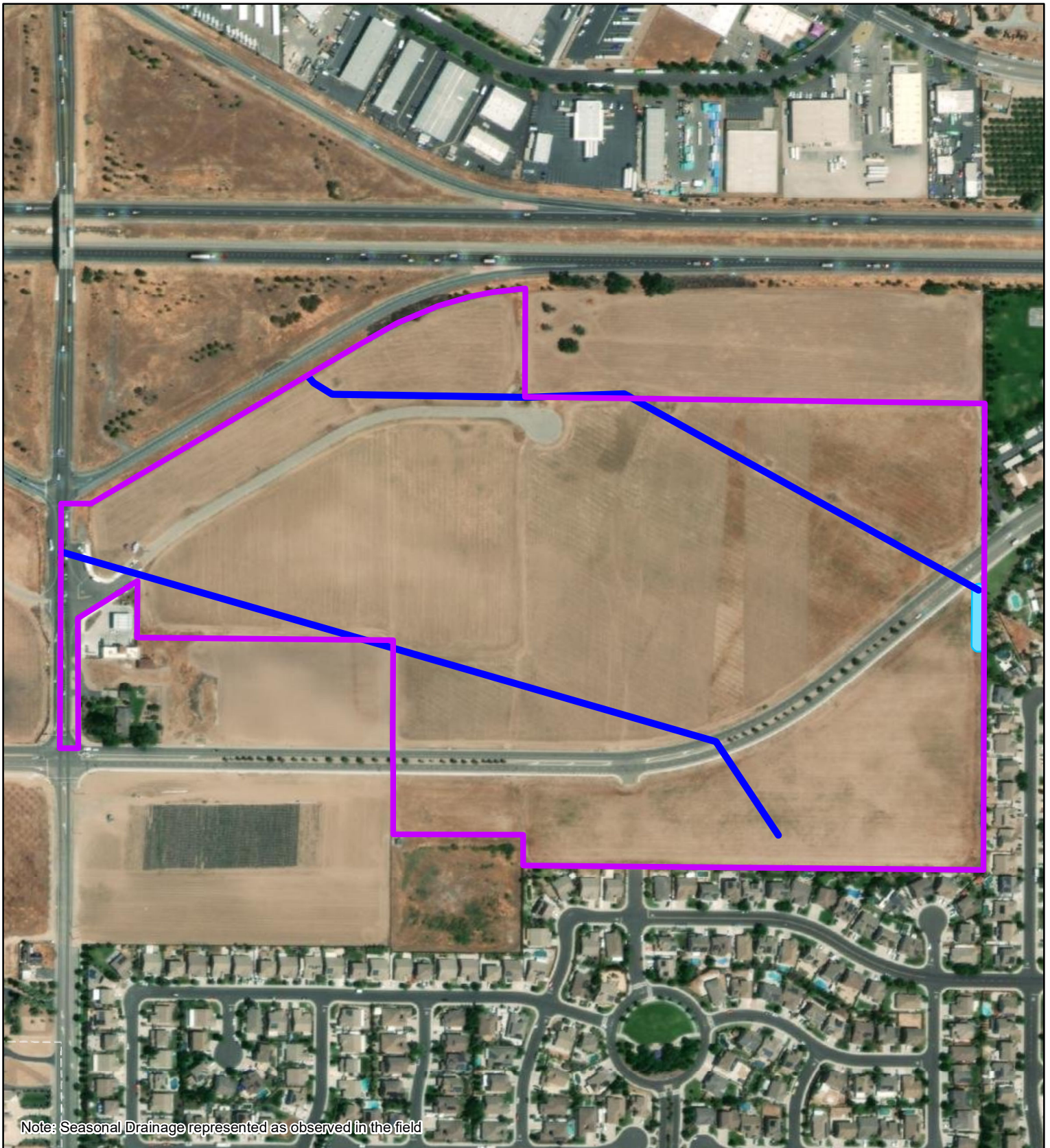
The conclusions presented above represent Cardno's professional opinion based on our knowledge and experience with the applicable regulatory agencies, including their technical guidance documents and manuals. Based off the site plan presented in of the Initial Study Document (Figure 5), no construction is planned within at least 25 feet of the seasonal drainage; therefore, no impacts are expected to this feature and no mitigation or minimization measures are required. If site plans change and impacts are anticipated to this feature, it may be necessary to coordinate with the USACE and/or RQQCB to get final authority in determining the status and presence of jurisdictional wetlands/waters and the extent of their boundaries. The USACE and RWQCB have final authority in determining the status and presence of jurisdictional wetlands/waters and the extent of their boundaries.



ATTACHMENT

A

PROJECT AREA AND SAMPLING POINTS



Legend

- Project Area
- NWI Riverine
- Seasonal Drainage

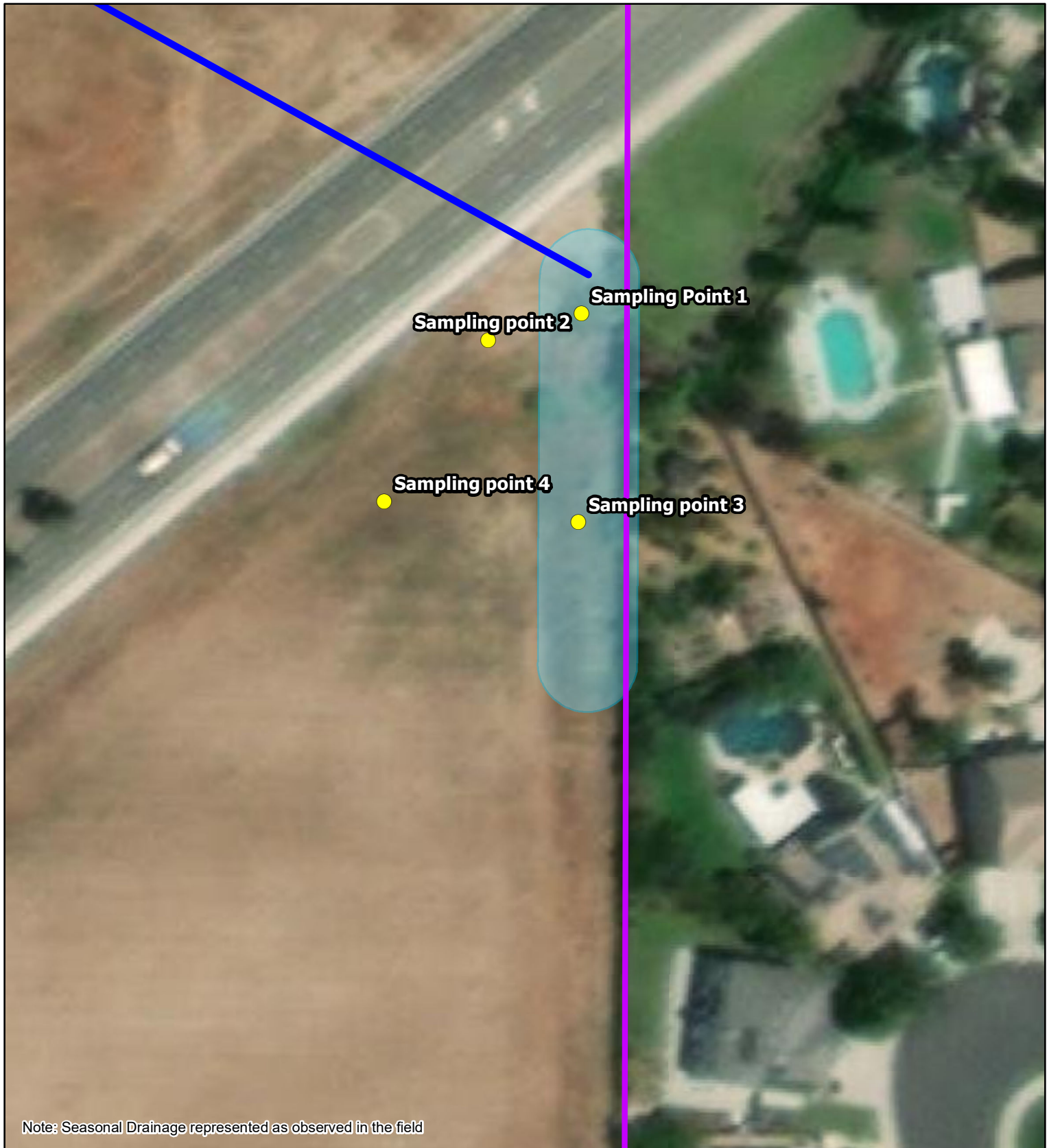


Attachment A
144-490 Quintal Road Project
Project Area
Water Features



Projection: UTM Zone 10 N Datum: NAD 83
Date: 10/31/2022

0 0.0125 0.025 0.05 0.075 0.1
Miles



Legend

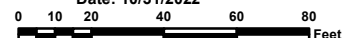
- Sampling Point
- Project Area
- NWI Riverine
- Seasonal Drainage

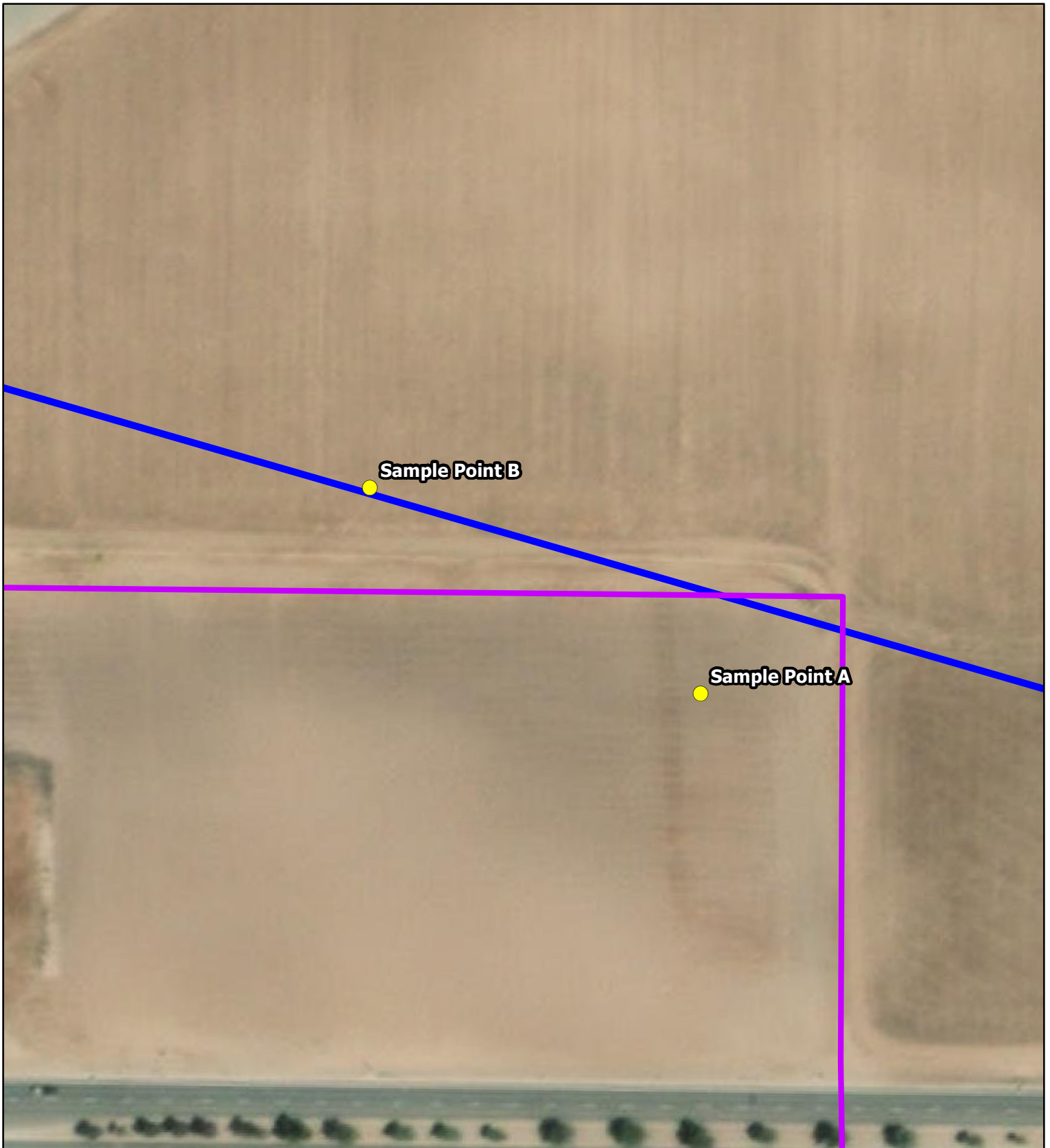


Attachment A
144-490 Quintal Road Project
Sampling Points 1-4






Projection: UTM Zone 10 N Datum: NAD 83
 Date: 10/31/2022





Legend

-  Sampling Point
-  Project Area
-  NWI Riverine



Attachment A
144-490 Quintal Road Project
Sampling Points A-B



Projection: UTM Zone 10 N Datum: NAD 83
Date: 10/31/2022

0 15 30 60 90 120
Feet

ATTACHMENT

B

REPRESENTATIVE PHOTOGRAPHS

Attachment B

Representative Photographs of Sampling Points and Vegetation Community within the Project Area



Photo 1: Sampling point 1 located at the base of the seasonal drainage at 37.780609, -121.206799. No wetland indicators were met, and this area is not considered a wetland.



Attachment B



Photo 2: Sampling point 2 located outside of the seasonal drainage at 37.780609, -121.206799. No wetland indicators were met, and this area is not considered a wetland.



Attachment B



Photo 3: Sampling point 3 located within the seasonal drainage at 37.780380, -121.206800. While hydrophytic vegetation was present, no hydrology or hydric indicators were present. This area is not considered a wetland.



Attachment B

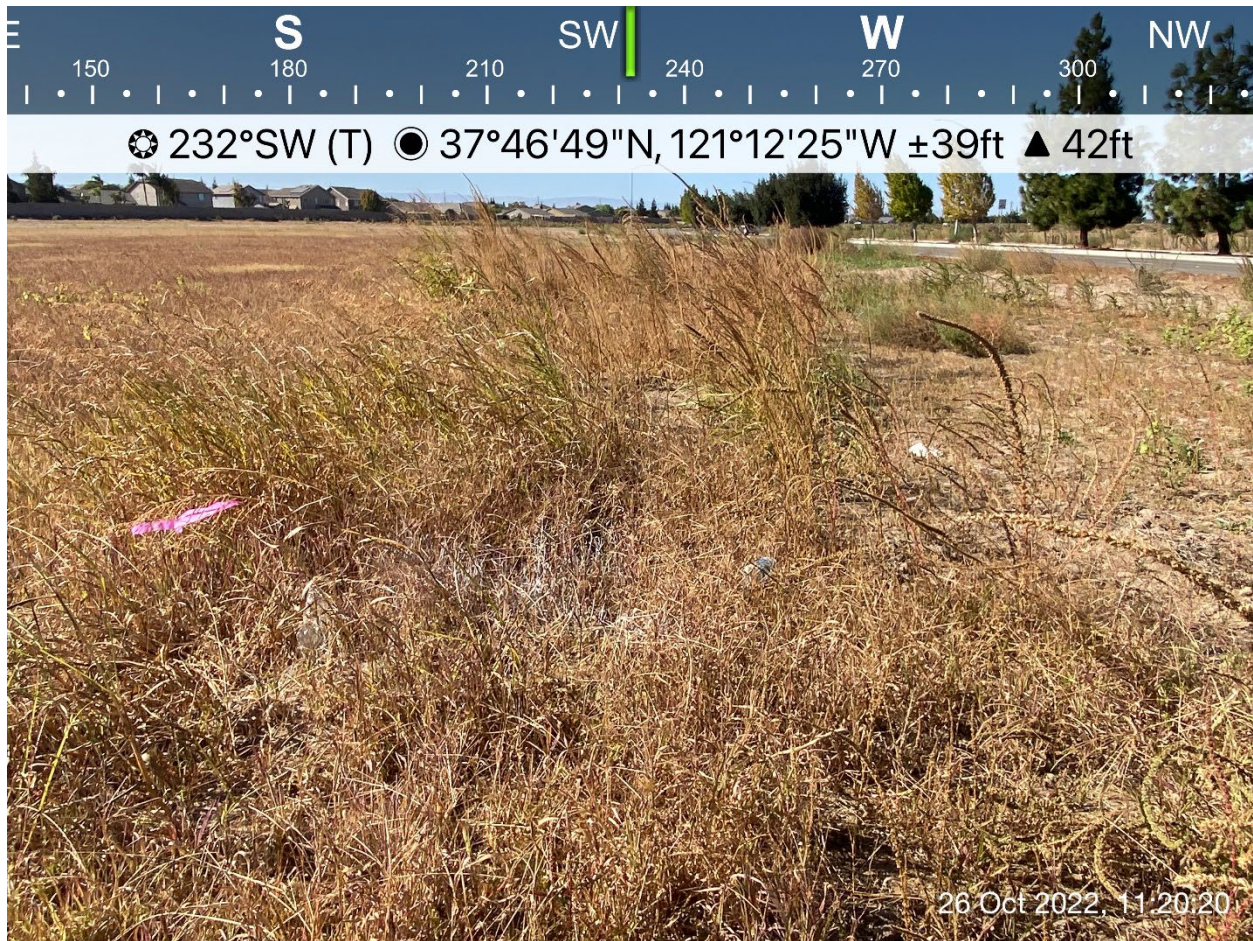


Photo 4: Sampling point 4 located outside of the seasonal drainage at 37.780400, -121.207070. No wetland indicators were met, and this area is not considered a wetland.



Attachment B



Photo 5: Sampling point A located outside of the NWI riverine (south) at 37.780030, -121.212870. The ground was littered with dead/uprooted vegetation due to what appeared to be tilled soil. No wetland indicators were met, and this area is not considered a wetland.



Attachment B

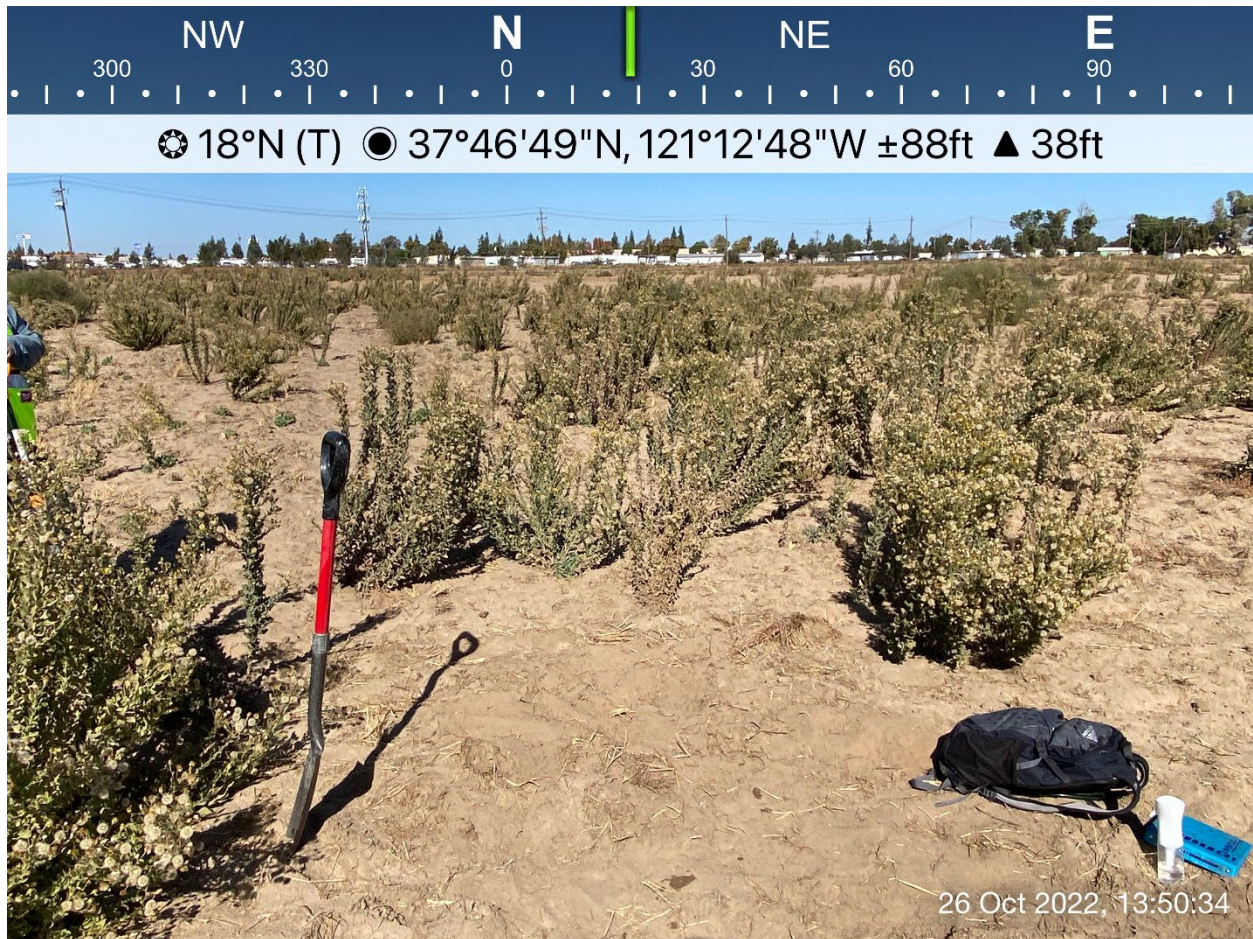


Photo 6: Sampling point B located on the NWI riverine at 37.780380, -121.213600. The ground was littered with dead/uprooted vegetation due to what appeared to be tilled soil. No wetland indicators were met, and this area is not considered a wetland.



Attachment B



Photo 7: Well located along the northern NWI riverine. The area is significantly disturbed. No hydrological indicators or wetland vegetation were present.



Attachment B



Photo 8: Well located along the northern NWI riverine. The area is significantly disturbed. No hydrological indicators or wetland vegetation were present.



Attachment B



Photo 9: Sandy scrub habitat dominated by Telegraph weed (*Heterotheca grandiflora*) within the Project area.



Attachment B



Photo 10: Sandy scrub habitat within the Project area.



Attachment B



Photo 11: Well at the northern-end of the seasonal drainage. This well may be connected to the northern NWI riverine. Based on the NWI database, the riverine is hydrologically connected to other underground waters, but not to any navigable waters.



Attachment B



Photo 12: Vegetation community along the seasonal drainage.



ATTACHMENT

C

DATA FORMS

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: 144-490 Quintal Road Project City/County: Manteca/San Joaquin Sampling Date: 10/26/2022
 Applicant/Owner: Quarterra Multifamily State: CA Sampling Point: 1
 Investigator(s): Susannah Kiteck, Ashley Payne Section, Township, Range: Sec 9 T 02S R 07E
 Landform (hillslope, terrace, etc.): Bottom of drainage Local relief (concave, convex, none): Concave Slope (%): 0-2
 Subregion (LRR): LRR C Lat: 37.780609 Long: -121.206799 Datum: _____
 Soil Map Unit Name: Delhi loamy sand NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	
Remarks:	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>20 ft*</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
1. <u>None</u>				
2. _____				
3. _____				
4. _____				
				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>12</u> x 1 = <u>12</u> FACW species _____ x 2 = _____ FAC species <u>15</u> x 3 = <u>45</u> FACU species <u>64</u> x 4 = <u>256</u> UPL species _____ x 5 = _____ Column Totals: <u>91</u> (A) <u>313</u> (B) Prevalence Index = B/A = <u>3.4</u>
= Total Cover				
Sapling/Shrub Stratum (Plot size: <u>15 ft</u>)				
1. <u>None</u>				
2. _____				
3. _____				Hydrophytic Vegetation Indicators: ___ Dominance Test is >50% ___ Prevalence Index is ≤3.0 ¹ ___ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4. _____				
5. _____				
= Total Cover				
Herb Stratum (Plot size: <u>5 ft</u>)				
1. <u>Xanthium strumarium</u>	<u>15</u>	<u>No</u>	<u>FAC</u>	
2. <u>Amaranthus palmeri</u>	<u>8</u>	<u>No</u>	<u>FACU</u>	
3. <u>Salsola tragus</u>	<u>1</u>	<u>No</u>	<u>FACU</u>	
4. <u>Digitaria sanguinalis</u>	<u>5</u>	<u>No</u>	<u>FACU</u>	
5. <u>Glyceria elata</u>	<u>12</u>	<u>No</u>	<u>OBL</u>	
6. <u>Cynodon dactylon</u>	<u>50</u>	<u>Yes</u>	<u>FACU</u>	
7. _____				Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>
8. _____				
= Total Cover				
Woody Vine Stratum (Plot size: <u>15 ft</u>)				
1. <u>None</u>				
2. _____				
= Total Cover				
% Bare Ground in Herb Stratum <u>2</u> % Cover of Biotic Crust _____				

Remarks:

Due to a fence within the plot, a 20 ft radius was chosen and used hereafter for all sampling points.

SOILSampling Point: 1**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-15	2.5Y 3/3	100	None				Loamy sand	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

☐ Histosol (A1)
☐ Histic Epipedon (A2)
☐ Black Histic (A3)
☐ Hydrogen Sulfide (A4)
☐ Stratified Layers (A5) (**LRR C**)
☐ 1 cm Muck (A9) (**LRR D**)
☐ Depleted Below Dark Surface (A11)
☐ Thick Dark Surface (A12)
☐ Sandy Mucky Mineral (S1)
☐ Sandy Gleyed Matrix (S4)

☐ Sandy Redox (S5)
☐ Stripped Matrix (S6)
☐ Loamy Mucky Mineral (F1)
☐ Loamy Gleyed Matrix (F2)
☐ Depleted Matrix (F3)
☐ Redox Dark Surface (F6)
☐ Depleted Dark Surface (F7)
☐ Redox Depressions (F8)
☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils³:

☐ 1 cm Muck (A9) (**LRR C**)
☐ 2 cm Muck (A10) (**LRR B**)
☐ Reduced Vertic (F18)
☐ Red Parent Material (TF2)
☐ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ☒

Remarks:

Difficult to dig deeper due to sandy soil and rocky areas within the soil.

HYDROLOGY**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

☐ Surface Water (A1)
☐ High Water Table (A2)
☐ Saturation (A3)
☐ Water Marks (B1) (**Nonriverine**)
☐ Sediment Deposits (B2) (**Nonriverine**)
☐ Drift Deposits (B3) (**Nonriverine**)
☐ Surface Soil Cracks (B6)
☐ Inundation Visible on Aerial Imagery (B7)
☐ Water-Stained Leaves (B9)

☐ Salt Crust (B11)
☐ Biotic Crust (B12)
☐ Aquatic Invertebrates (B13)
☐ Hydrogen Sulfide Odor (C1)
☐ Oxidized Rhizospheres along Living Roots (C3)
☐ Presence of Reduced Iron (C4)
☐ Recent Iron Reduction in Tilled Soils (C6)
☐ Thin Muck Surface (C7)
☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

☐ Water Marks (B1) (**Riverine**)
☐ Sediment Deposits (B2) (**Riverine**)
☐ Drift Deposits (B3) (**Riverine**)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Shallow Aquitard (D3)
☐ FAC-Neutral Test (D5)

Field Observations:Surface Water Present? Yes _____ No ☒ Depth (inches): _____Water Table Present? Yes _____ No ☒ Depth (inches): _____Saturation Present? Yes _____ No ☒ Depth (inches): _____
(includes capillary fringe)**Wetland Hydrology Present?** Yes _____ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No hydrology indicators were present.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: 144-490 Quintal Road Project City/County: Manteca/San Joaquin Sampling Date: 10/26/2022
 Applicant/Owner: Quarterra Multifamily State: CA Sampling Point: 2
 Investigator(s): Susannah Kiteck, Ashley Payne Section, Township, Range: Sec 9 T 02S R 07E
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): None Slope (%): 0-2
 Subregion (LRR): LRR C Lat: 37.780609 Long: -121.206799 Datum: _____
 Soil Map Unit Name: Delhi loamy sand NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No _____ (If no, explain in Remarks.)
 Are Vegetation ☒, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	
Remarks:	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>20 ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
1. <u>None</u>				
2. _____				
3. _____				
4. _____				
				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species <u>17</u> x 4 = <u>68</u> UPL species <u>20</u> x 5 = <u>100</u> Column Totals: <u>37</u> (A) <u>168</u> (B) Prevalence Index = B/A = <u>4.5</u>
= Total Cover				
Sapling/Shrub Stratum (Plot size: <u>15 ft</u>)				
1. <u>None</u>				
2. _____				
3. _____				
4. _____				
5. _____				
= Total Cover				Hydrophytic Vegetation Indicators: ___ Dominance Test is >50% ___ Prevalence Index is ≤3.0 ¹ ___ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain)
Herb Stratum (Plot size: <u>5 ft</u>)				
1. <u>Amaranthus palmeri</u>	<u>12</u>	<u>Yes</u>	<u>FACU</u>	
2. <u>Heterotheca grandiflora</u>	<u>3</u>	<u>No</u>	<u>UPL</u>	
3. <u>Salsola tragus</u>	<u>5</u>	<u>No</u>	<u>FACU</u>	
4. <u>Festuca bromoides</u>	<u>17</u>	<u>Yes</u>	<u>UPL</u>	
5. _____				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
6. _____				
7. _____				
8. _____				
= Total Cover				
Woody Vine Stratum (Plot size: <u>15 ft</u>)				Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>
1. <u>None</u>				
2. _____				
= Total Cover				
% Bare Ground in Herb Stratum <u>20</u> % Cover of Biotic Crust _____				
Remarks:				
Area was disturbed, appeared as though a truck drove through the area. Top portion of the soil disturbed, but still able to adequately sample.				

SOIL

Sampling Point: 2

[illegible]

HYDROLOGY

Wetland Hydrology Indicators:		
Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Water Marks (B1) (Riverine)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Drift Deposits (B3) (Riverine)
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)		Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		
No hydrology indicators were present.		

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: 144-490 Quintal Road Project City/County: Manteca/San Joaquin Sampling Date: 10/26/2022
 Applicant/Owner: Quarterra Multifamily State: CA Sampling Point: 3
 Investigator(s): Susannah Kiteck, Ashley Payne Section, Township, Range: Sec 9 T 02S R 07E
 Landform (hillslope, terrace, etc.): Base of hillslope Local relief (concave, convex, none): None Slope (%): 0-2
 Subregion (LRR): LRR C Lat: 37.780380 Long: -121.206800 Datum: _____
 Soil Map Unit Name: Delhi loamy sand NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland?	Yes _____ No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes _____ No <input checked="" type="checkbox"/>		
Wetland Hydrology Present?	Yes _____ No <input checked="" type="checkbox"/>		
Remarks:			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>20 ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50%</u> (A/B)
1. <u>None</u>				
2. _____				
3. _____				
4. _____				
				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>60</u> x 1 = <u>60</u> FACW species _____ x 2 = _____ FAC species <u>13</u> x 3 = <u>39</u> FACU species <u>107</u> x 4 = <u>428</u> UPL species <u>1</u> x 5 = <u>5</u> Column Totals: <u>181</u> (A) <u>532</u> (B) Prevalence Index = B/A = <u>2.9</u>
= Total Cover				
Sapling/Shrub Stratum (Plot size: <u>15 ft</u>)				
1. <u>None</u>				
2. _____				
3. _____				
4. _____				
5. _____				
= Total Cover				Hydrophytic Vegetation Indicators: ___ Dominance Test is >50% <input checked="" type="checkbox"/> Prevalence Index is ≤3.0 ¹ ___ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain)
Herb Stratum (Plot size: <u>5 ft</u>)				
1. <u>Xanthium strumarium</u>	<u>13</u>	<u>No</u>	<u>FAC</u>	
2. <u>Amaranthus palmeri</u>	<u>7</u>	<u>No</u>	<u>FACU</u>	
3. <u>Heterotheca grandiflora</u>	<u>1</u>	<u>No</u>	<u>UPL</u>	
4. <u>Digitaria sanguinalis</u>	<u>20</u>	<u>No</u>	<u>FACU</u>	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5. <u>Glyceria elata</u>	<u>60</u>	<u>Yes</u>	<u>OBL</u>	
6. <u>Cynodon dactylon</u>	<u>80</u>	<u>Yes</u>	<u>FACU</u>	
7. _____				
8. _____				
= Total Cover				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____
Woody Vine Stratum (Plot size: <u>15 ft</u>)				
1. <u>None</u>				
2. _____				
= Total Cover				
% Bare Ground in Herb Stratum <u>3</u> % Cover of Biotic Crust _____				
Remarks:				

SOIL

Sampling Point: 3

[illegible]

HYDROLOGY

Wetland Hydrology Indicators:		
Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Water Marks (B1) (Riverine)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Drift Deposits (B3) (Riverine)
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Other (Explain in Remarks)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)		Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: <div style="text-align: center;">No other hydrology indicators were present.</div>		

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: 144-490 Quintal Road Project City/County: Manteca/San Joaquin Sampling Date: 10/26/2022
 Applicant/Owner: Quarterra Multifamily State: CA Sampling Point: 4
 Investigator(s): Susannah Kiteck, Ashley Payne Section, Township, Range: Sec 9 T 02S R 07E
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): None Slope (%): 0-2
 Subregion (LRR): LRR C Lat: 37.780400 Long: -121.207070 Datum: _____
 Soil Map Unit Name: Delhi loamy sand NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No _____ (If no, explain in Remarks.)
 Are Vegetation ☒, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	
Remarks:	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>20 ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
1. <u>None</u>				
2. _____				
3. _____				
4. _____				
				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = <u>60</u> FACW species _____ x 2 = _____ FAC species <u>2</u> x 3 = <u>6</u> FACU species <u>80</u> x 4 = <u>320</u> UPL species <u>3</u> x 5 = <u>15</u> Column Totals: <u>85</u> (A) <u>401</u> (B) Prevalence Index = B/A = <u>4.7</u>
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>15 ft</u>)				
1. <u>None</u>				
2. _____				
3. _____				
4. _____				
5. _____				
_____ = Total Cover				
Herb Stratum (Plot size: <u>5 ft</u>)				
1. <u>Digitaria sanguinalis</u>	<u>75</u>	<u>Yes</u>	<u>FACU</u>	
2. <u>Xanthium strumarium</u>	<u>2</u>	<u>No</u>	<u>FAC</u>	
3. <u>Amaranthus palmeri</u>	<u>5</u>	<u>No</u>	<u>FACU</u>	
4. <u>Melica imperfecta</u>	<u>3</u>	<u>No</u>	<u>UPL</u>	
5. _____				
6. _____				
7. _____				
8. _____				
_____ = Total Cover				
Woody Vine Stratum (Plot size: <u>15 ft</u>)				
1. <u>None</u>				
2. _____				
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>25</u> % Cover of Biotic Crust _____				

Hydrophytic Vegetation Indicators:
 ___ Dominance Test is >50%
 ___ Prevalence Index is ≤3.0¹
 ___ Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 ___ Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ☒

Remarks:

Soil appears to be tilled in sampling point area. Vegetation was disturbed.

SOIL

Sampling Point: 4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-14	2.5Y 3/3	100	None				Loamy sand	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)

- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils³:

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ☒

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)

- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☒ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ☒ Depth (inches): _____

Water Table Present? Yes _____ No ☒ Depth (inches): _____

Saturation Present? Yes _____ No ☒ Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes _____ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No hydrology indicators were present.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: 144-490 Quintal Road Project City/County: Manteca/San Joaquin Sampling Date: 10/26/2022
 Applicant/Owner: Quarterra Multifamily State: CA Sampling Point: A
 Investigator(s): Susannah Kiteck, Ashley Payne Section, Township, Range: Sec 9 T 02S R 07E
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): None Slope (%): 0-2
 Subregion (LRR): LRR C Lat: 37.780030 Long: -121.212870 Datum: _____
 Soil Map Unit Name: Tinnin loamy coarse sand NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No _____ (If no, explain in Remarks.)
 Are Vegetation ☒, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	
Remarks: Though the area is disturbed, there is no indication that the sampled area is a wetland.	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>20</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
1. <u>None</u>				
2. _____				
3. _____				
4. _____				
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species <u>12</u> x 4 = <u>48</u> UPL species _____ x 5 = _____ Column Totals: <u>12</u> (A) <u>48</u> (B) Prevalence Index = B/A = <u>4</u>
<u>Sapling/Shrub Stratum</u> (Plot size: <u>15</u>)				
1. <u>None</u>				
2. _____				
3. _____				
4. _____				
5. _____				
_____ = Total Cover				Hydrophytic Vegetation Indicators: ___ Dominance Test is >50% ___ Prevalence Index is ≤3.0 ¹ ___ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>
<u>Herb Stratum</u> (Plot size: <u>5</u>)				
1. <u>Amaranthus palmeri</u>	<u>10</u>	<u>Yes</u>	<u>FACU</u>	
2. <u>Salsola tragus</u>	<u>2</u>	<u>No</u>	<u>FACU</u>	
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
_____ = Total Cover				
<u>Woody Vine Stratum</u> (Plot size: <u>15</u>)				
1. _____				
2. _____				
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>80</u> % Cover of Biotic Crust _____				

Remarks:
Areas of vegetation appear to have been run over. The soil appears to have been tilled resulting in dead debris on the ground.

SOIL

Sampling Point: A

[illegible]

HYDROLOGY

Wetland Hydrology Indicators:		
Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Water Marks (B1) (Riverine)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Drift Deposits (B3) (Riverine)
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)		Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		
No hydrology indicators were present.		

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: 144-490 Quintal Road Project City/County: Manteca/San Joaquin Sampling Date: 10/26/2022
 Applicant/Owner: Quarterra Multifamily State: CA Sampling Point: B
 Investigator(s): Susannah Kiteck, Ashley Payne Section, Township, Range: Sec 9 T 02S R 07E
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): None Slope (%): 0-2
 Subregion (LRR): LRR C Lat: 37.780380 Long: -121.213600 Datum: _____
 Soil Map Unit Name: Tinnin loamy coarse sand NWI classification: Riverine

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No _____ (If no, explain in Remarks.)
 Are Vegetation ☒, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	
Remarks: Though the area is disturbed, there is no indication that the sampled area is a wetland. There are normal circumstances for the landcover being agricultural.	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>20 ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
1. <u>None</u>				
2. _____				
3. _____				
4. _____				
<u> </u> = Total Cover				Prevalence Index worksheet: <u> </u> Total % Cover of: <u> </u> Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species <u>25</u> x 5 = <u>125</u> Column Totals: <u>25</u> (A) <u>125</u> (B) Prevalence Index = B/A = <u>5</u>
Sapling/Shrub Stratum (Plot size: <u>15 ft</u>) 1. <u>None</u> 2. _____ 3. _____ 4. _____ 5. _____ <u> </u> = Total Cover				
Herb Stratum (Plot size: <u>5 ft</u>) 1. <u>Heterotheca grandiflora</u> <u>25</u> <u>Yes</u> <u>UPL</u> 2. _____ 3. _____ 4. _____ 5. _____ 6. _____ 7. _____ 8. _____ <u>25</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>15 ft</u>) 1. <u>None</u> 2. _____ <u> </u> = Total Cover				
% Bare Ground in Herb Stratum <u>80</u> % Cover of Biotic Crust _____				

Hydrophytic Vegetation Indicators:
 ___ Dominance Test is >50%
 ___ Prevalence Index is ≤3.0¹
 ___ Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 ___ Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ☒

Remarks:

Soil appears to be tilled, and there is dead/uprooted vegetation on the ground.

SOIL

Sampling Point: B

[illegible]

HYDROLOGY

Wetland Hydrology Indicators:		
Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Water Marks (B1) (Riverine)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Drift Deposits (B3) (Riverine)
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)		Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		
No hydrology indicators were present.		

Appendix C

Cultural Resources Technical Report



144-490 Quintal Road Project

Manteca, CA

CEQA Cultural Resources Evaluation
Report

October 14, 2022

Prepared for:

Quarterra Multifamily

Prepared by:

Stantec Consulting Services Inc.
Petaluma, CA

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APPENDICES

Appendix A: Records Search Results

Executive Summary

Stantec Consulting Services Inc. (Stantec) conducted this CEQA Evaluation Report (cultural resources assessment) on behalf of Quarterra Multifamily for the 144-490 Quintal Road Project (Project).

The purpose of this report is to analyze whether or not the proposed Project would impact historical and archaeological resources as defined by the California Environmental Quality Act (CEQA). In accordance with relevant state guidelines, this report identifies and documents potential historic properties within the project's area of potential impacts (API), evaluates the resources for inclusion in the California Register of Historic Places, and assesses the project's potential to result in adverse impacts on historic properties.

Identification efforts included a records search at the Central California Information Center of the California Historical Resources Information System in Turlock, California, and Sacred Lands files maintained by the Native American Heritage Commission. The records search included a review of records for the API and a surrounding radius of 0.50 mile. A pedestrian survey of the Project area was also completed.

The records search, desktop review, Native American consultation and pedestrian survey did not identify any archaeological resources within the API. Therefore, based on the studies conducted, this report concludes with a finding of *No Historic Properties*.

Preparer Qualifications

This report was prepared by Stantec personnel who meet the Secretary of the Interior's Standards and Guidelines for Professional Qualifications in archaeology.

Stantec Archaeologist Jenna Santy, M.A., completed this report. Ms. Santy has a Master of Arts degree in Anthropology-Archaeology from University of California, Santa Barbara. She has more than 10 years of experience in cultural resource management and meets the Secretary of the Interior's Standards and Guidelines for Professional Qualifications for Archaeology (as defined in 36 Code of Federal Regulations Part 61).

Stantec Architectural Historian Rebecca Riggs, M.A. contributed to this report. Rebecca has over 6 years of experience in architectural history and cultural resource management, including in-depth research knowledge and evaluation of historical buildings, structures, and landscapes and regulatory compliance relating to the built environment. She meets the Secretary of Interior Standards for History and Architectural History and has served as architectural historian on several documentation projects, including Section 106 and 110 of the National Historic Preservation Act (NHPA), National Environmental Policy Act (NEPA), and CEQA.

Acronyms and Abbreviations

A.D.	anno Domini (i.e., "This is year 2022 AD")
API	area of potential impact
Applicant	LMC, LLC
BP	years before present
CEQA	California Environmental Quality Act
CHRIS	California Historical Resources Information System
CRHR	California Register of Historical Resources
CCaIC	Central California Information Center
Project	Quintal Road Development, Manteca
Stantec	Stantec Consulting Services Inc.

1 Project Location and Description

The Project site is located at the juncture of Quintal Road, S. Main Street, and E. Atherton, consisting of Assessor's Parcel Numbers [APNs] 224-040-110-000; 224-040-070-000; 224-040-060-000; and 224-040-520-000. The project site is bordered by CA-120 to the north, East Atherton Drive to the south, South Main Street to the west, and a housing development to the east.

As depicted on the Project site plans and presented in the Preliminary Staff Review Application provided by Quarterra Multifamily the Project would involve the construction and operation of 652 multifamily for-rent apartments, 48 for-sale two-family units and 98 single family for-sale homes. The Project site is approximately 59.19 acres and currently undeveloped. Entrance to the site would be via two entry points: the primary entry point will be at the intersection of the new Buena Vista Road segment and E. Atherton Road. The second access point is via the currently abandoned Quintal Road entry off S. Main Street and just to the south of the on and off ramps of Highway (HWY) CA-120.

2 Regulatory Context

2.1 CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)

Historical and archaeological resources are afforded consideration and protection by CEQA (14 CCR Section 21083.2, 14 CCR Section 15064). CEQA Guidelines define significant cultural resources under two regulatory designations: historical resources and unique archaeological resources.

A historical resource is a "resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the California Register of Historical Resources (CRHR);" or "a resource listed in a local register of historical resources or identified as significant in a historical resource survey meeting the requirements of Section 5024.1(g) of the Public Resources Code;" or "any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California, provided the agency's determination is supported by substantial evidence in light of the whole record" (14 CCR Section 15064.5[a][3]).

Historical resources automatically listed in the CRHR include California cultural resources listed in or formally determined to be eligible for the National Register and California Historical Landmarks list from No. 770 onward (Public Resources Code [PRC] 5024.1[d]). Locally listed resources are entitled to a presumption of significance unless a preponderance of evidence in the record indicates otherwise.

Under CEQA, a resource is considered historically significant if it meets the criteria for listing in the CRHR.

2.1.1 DEFINITIONS

QUINTAL ROAD DEVELOPMENT PROJECT, MANTECA, CEQA CULTURAL RESOURCES EVALUATION

Project Location and Regulatory Context

The State CEQA Guidelines set the standard for determining whether a proposed project will result in a “substantial adverse change” in the significance of historical resources in Title 14 CCR Section 15064.5(b), which states:

A project with an effect that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment.

Title 14 CCR Section 15064.5(b)(1) further clarifies “substantial adverse change” as follows:

Substantial adverse change in the significance of an historical resource means physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired.

Title 14 CCR Section 15064.5(b)(2) in turn explains that a historical resource is “materially impaired” when a project:

Demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its eligibility for inclusion in the California Register of Historical Resources as determined by a lead agency for purposes of CEQA.

As such, the test for determining whether or not a proposed project will have a significant impact on an identified historical resource is whether or not the project will alter in an adverse manner the physical integrity of the historical resource such that it would no longer be eligible for listing in the NRHP or CRHR or other local landmark programs.

This analysis considers direct and indirect impacts to historical resources using the following definitions of each:

- Direct or primary impacts are caused by the project and occur at the same time and place (14 CCR Section 15358 [a][1]).
- Indirect impacts, or secondary effects, are reasonably foreseeable and caused by a project but occur at a different time or place (14 CCR Section 15358 [a][2]).

2.2 Assembly Bill 52 and Tribal Cultural Resources

Assembly Bill 52 establishes a formal role for California Native American tribes in the CEQA process. If consultation is requested, CEQA lead agencies are required to consult with tribes about potential Tribal Cultural Resources (TCR) in the Project Area, the potential significance of project impacts, the development of project alternatives, and the type of environmental document that should be prepared.

2.2.1 DEFINITION

Project Location and Regulatory Context

The definition of Native American tribe is a "Native American tribe located in California that is on the contact list maintained Native American Heritage Commission" (NAHC). This definition does not distinguish between federally recognized and non-federally recognized tribal groups and is, therefore, more inclusive than the federal definition of "Indian tribe" (PRC § 21073).

2.2.2 QUALIFICATION

To qualify as a TCR, it must be: 1) listed on or eligible for listing on the CRHR or a local historic register, or 2) a resource that the lead agency, at its discretion and supported by substantial evidence, determines should be treated as a TCR (PRC § 21074). TCRs include "non-unique archaeological resources" that, instead of being important for "scientific" value as a resource, can also be significant because of the sacred and/or cultural tribal value of the resource. Tribal representatives are considered experts appropriate for providing substantial evidence regarding the locations, types, and significance of TCRs within their traditionally and cultural affiliated geographic area (PRC § 21080.3.1(a)).

2.2.3 IMPACTS TO TRIBAL CULTURAL RESOURCES

A project that may cause a substantial adverse change in the significance of a TCR may be considered to have a significant effect on the environment (PRC § 21084.2). TCRs are defined under PRC 21074 as:

(1) Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following:

(A) Included or determined to be eligible for inclusion in the California Register of Historical Resources.

(B) Included in a local register of historical resources as defined in subdivision (k) of Section 5020.1.

(2) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Section 5024.1. In applying the criteria set forth in subdivision (c) of Section 5024.1 for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American tribe.

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

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

3 Cultural Context

3.1 Prehistoric Context

The archaeological record for much of the Central Valley is fragmented and sparse. Many surface sites have been destroyed by human activities relating to agriculture and development, and many subsurface sites have been “obliterated or [deeply] buried” by ongoing alluvial processes, like flooding (Rosenthal et al. 2007: 149). Many of the surface sites, in particular, that have been destroyed were mound sites proximal to waterways; these would have been important settlement sites. Nevertheless, a century of archaeological research has yielded sufficient information to create a rough chronological framework.

The archaeological record of the Central Valley, and the San Joaquin Valley in particular, is divided into three time periods, with many periods themselves being subdivided. These include the Paleo-Indian (13500-10500 BP [years before present]), the Archaic (10500-850 BP, divided into Lower, Middle, and Upper), and the Emergent Period (850-180 BP). 180 BP generally represents the date of historic “contact” with Euroamerican settlers. For a complete discussion of the characteristic features of the Central Valley, see Rosenthal et al. 2007, from which this summary is drawn.

THE PALEO-INDIAN PERIOD (13500 TO 10500 BP)

This period represents the transition from the Pleistocene to the Holocene geologic epoch, and many Pleistocene landforms are long eroded, and sites lost. However, a distinctive projectile point type, basally thinned with a central flute, is well dated to this time period. These concave-base points have been found in several locations within the San Joaquin Valley (Rosenthal et al. 2007:151).

THE ARCHAIC PERIOD (10500 TO 850 BP)

THE LOWER ARCHAIC PERIOD (10500 TO 7500 BP): During the middle Holocene, a period of climate change resulted in a cycle of “widespread fan and floodplain deposition”, presumably deeply burying and destroying many archaeological sites that would date to this time period (Rosenthal et al. 2007: 152). However, the limited evidence that does exist suggests that regional trade networks had been established by this point, as shell beads from California are found in the western and central Great Basin.

THE MIDDLE ARCHAIC PERIOD (7500 TO 2500 BP): The subsistence base of prehistoric groups begins to expand and diversify during the Middle Archaic period with a developing acorn economy, as evidenced by the advent of the mortar and pestle, and the growing importance of fishing, as evidence by novel technology like gorge hooks, composite bone hooks and spears.

During this period, the Windmill Pattern (4500--850 BP) emerges in the Central Valley and Delta regions, and perhaps even originated in the San Joaquin Valley. The Windmill Pattern is defined by its distinctive funerary styles and elaborate material culture (stone net sinks, daggers, shell and bone ornaments, twine imprints in clay, items of unknown function or purpose), many of which were used as

Cultural Context

funerary offerings. Trade networks were well established and widespread, with obsidian coming from the eastern Sierra Nevada and shell beads moving both east and west toward the coast. Extended residential settlement at Windmill sites, often on mounds, is suggested by refined and specialized tool assemblages, trade objects, and plant and animal foods sourced throughout the year (Rosenthal et al. 2007: 154).

UPPER ARCHAIC PERIOD (2500 TO 850 BP): In the San Joaquin Valley, the Windmill Pattern continued into the Upper Archaic. Additionally, a proliferation of specialized tool technologies developed, including bone whistles and other ornaments. An increasing abundance of mortars and pestles indicate the arrival of acorn-centric economies.

EMERGENT PERIOD (850 BP TO 180 BP)

The Emergent period is thought to be associated with a new level of sedentism, status ascription, and regional trade as indicated by the presence of finished artifacts and food remains that could not be obtained locally. This set of characteristics at the beginning of the Emergent period is referred to as the Augustine Pattern (Milliken et al. 2007:116).

The Augustine Pattern has several distinctive characteristics. An increase in status ascription is associated with novel funerary practices and material culture, with certain burials containing vast numbers of grave goods, like shell beads and ornaments. New levels of sedentism and population growth are suggested by an increase in settlement density, especially along waterways, and a dramatic increase in food remains. Specifically, large quantities of fish bone indicate that more people on the landscape were eating more fish. The increasing diversity of plant foods shows that acorns had been supplemented, if not supplanted, by plant foods like small seeds from grasses (Wohlgemuth 2004). The florescence of shell bead types and the decentralized nature of manufacture are potentially signs of a monetized economy with shell bead currencies, which has been documented elsewhere in California at this time (Arnold 2001).

3.2 Ethnography

The Manteca area has traditionally been home to speakers of Northern Valley Yokuts¹. Population estimates for the Central Valley, prior to European arrival in the Americas, hover in the 100,000 range (Rosenthal et al. 2007), with anywhere from 11,000 to 30,000 of these being Northern Valley Yokuts speakers (Wallace 1978).

The Northern Valley Yokuts language belongs to the Penutian language stock (Golla 2007). A branch of Penutian, called Yok-Utian has two sub-branches, consisting of Miwok-Ojibwa (spoken by groups in the Bay Area, and parts of the northern Sierra Nevada) and Yokuts (Northern and Southern) (Golla 2007:76). Linguistic differences between these and other California groups suggest that Yokuts-speakers have

¹ Most specifically, Manteca was occupied by Far Northern Valley Yokuts, also known as Delta Yokuts, speakers, which is somewhat distinct from other Yokuts dialects (Golla 2011).

Cultural Context

resided in the Central Valley for between 4000-5000 years, perhaps coeval with the Windmill Pattern observed in the region archaeologically (see above).

Ethnographically, Yokuts groups are known for dense settlements and complex sociopolitical organization, even compared with other Indigenous Californian groups (Bettinger 2015). In terms of subsistence, the San Joaquin River and its many tributaries were the lifeblood of Yokuts survival. Salmon were among the most important fish, as were white sturgeon and river perch. Waterfowl, such as geese and ducks, were also a key resource (Wallace 1978). Wild plant foods like acorn were of “prime significance” (Wallace 1978:464), as were tule roots and a variety of seeds. Notably, tule reed boats were used along the lazy waterways of the San Joaquin Valley, both for fishing and transportation. Tribes, or villages, could have as many as 300 people, with each tribe having a headman. Settlements were often “perched on top of low mounds, on or near the banks of large watercourses” (Wallace 1978:466). Many Yokuts groups practiced a “fission-fusion” settlement pattern, as did many native Californian groups. This pattern is characterized by tribal members gathering communally in the winter, at their principal villages, and then dispersing, in small family groups, into the surrounding landscape in spring to forage among new growth.

With the advent of the Mission period in 1776, the lifeways of Indigenous Californians were rapidly and massively disrupted. Starting in the 1800s, Northern Valley Yokuts speakers were recruited, both voluntarily and not, to labor at Missions San Jose and Santa Clara (Arkush 2011). Diseases such as smallpox and influenza decimated native populations. Many who had avoided or escaped the Mission system fell victim to an epidemic of malaria in 1833, wiping out entire villages (Wallace 1978). When the secularization of the Mission system was instituted in 1834, many Yokuts-speakers returned to their homelands. However, the Gold Rush in 1849 and its aftermath, including the Homestead Act of 1862, dealt another blow to native Californians. Many native Californians, including Yokuts, were driven out of their traditional homelands by Euroamerican settlers seeking fertile farmland. In 1850, the reservation system was established. As of 2022, at least eight California tribal nations represent Yokuts-speakers (nahc.ca.gov).

Today, many Yokuts groups are working to revitalize their traditional cultural practices and pursue self-determination. Notably, these practices include prescribed burns for landscape management (Hagemann 2020) as with the Amah Mutsun (a tribal band comprising Ohlone and Yokuts speakers). Tribal gaming has been an important source of economic sovereignty for Northern Yokuts groups. The Picayune Rancheria of Chukchansi Yokuts has been active in pursuing and supporting language and cultural revitalization movements (Schock 2012).

3.3 Historic Overview

After the luster of the Gold Rush began to fade in the late 1850s, former miners and new settlers in California began to disperse out from the Sierra Nevada Mountains and find areas in the Central Valley to settle and stake claims to land. Joshua Cowell arrived in Central Valley in 1861 and settled on the land that became the town of Manteca. He filed a land claim for 1,000 acres and called his settlement Cowell Station (Manteca Chamber of Commerce). He raised cattle and grew grain and watermelons and was soon joined on his land by ranch hands and their families and slowly formed a small town. After the

QUINTAL ROAD DEVELOPMENT PROJECT, MANTECA, CEQA CULTURAL RESOURCES EVALUATION

Cultural Context

construction of the Central Pacific Railroad through the town in 1873, the local agricultural industry continued to grow, with the addition of crops like alfalfa, almonds, grapes, and walnuts (Manteca Historical Society and Museum). With the construction of the railroad, it was decided to change the name of the town to Manteca, which loosely translates as “lard” or “butter” in Spanish. There was already a Cowell Station on the rail line, so the name of the town had to be changed and Manteca was chosen because of the prevalence of dairy farms in the area. Ranching and farming continued as the primary pillars of the local economy, with pumpkins and the dairy industry as the most prevalent, and the town continued to grow into the 20th century (Escalante 2019). By the 1910s, the population of the town was 100 and the downtown boasted a general store, barber, and a post office. To continue supporting the successful agriculture in the area, the South San Joaquin Irrigation District was authorized and formed in 1909 and bonds were issued in 1913 to divert water from the Stanislaus River (Manteca Chamber of Commerce).

The town was incorporated in 1918 and Joshua Cowell was elected as Manteca’s first mayor. Agriculture continued to dominate the local economy, but by the mid-20th century industry came to town with the construction of the Manteca Canning Company, Spreckels Sugar Company, and the Kraft Company cheese factory. With the construction of these factories, the population of Manteca boomed, several subdivisions were constructed, and industry and agriculture sustained the town through the 20th century. By the 2000s, most of the factories and plants were shut down, however, new technology industries were developing in the area. Manteca has remained a largely agricultural area and much of the community is still focused on local agriculture (Manteca Chamber of Commerce).

4 Area of Potential Impacts

The project site is bordered by CA-120 to the north, East Atherton Drive to the south, South Main Street to the west, and a housing development to the east (Figure 1). Following a definition provided for federal guidance (per 36 CFR Section 800.16, after which state guidance is modeled), the area of potential impacts (API) can be described as:

geographic area or areas within which an undertaking may directly or indirectly cause changes in the character or use of historic properties, if any such properties exist. The area of potential [impacts] is influenced by the scale and nature of an undertaking and may be different for different kinds of effects caused by the undertaking.

Area of Potential Impacts



5 Methods and Results

Cultural resources investigations for the project included a records search conducted at Central California Information Center (CCaIC) of the California Historical Resources Information System (CHRIS), a desktop literature review, Native American outreach, and pedestrian survey.

5.1 California Historical Resources Information System Records Search and Desktop Review

At the request of Stantec Consulting Services Inc. (Stantec), CCaIC staff performed a search of the CHRIS cultural resources database on September 26, 2022, for resources located in and within 0.50 mile of the project API. The following lists and databases were also reviewed:

- California Inventory of Historic Resources (Office of Historic Preservation 1976)
- California Historical Landmarks (California Office of Historic Preservation 1996)
- Points of Historical Interest (California Office of Historic Preservation 1992)
- Directory of Properties in the Historic Property Data File (California Office of Historic Preservation 2012) (Note, the directory includes listings of the NRHP, California Register of Historical Resources, California Historic Landmarks, and California Points of Historical Interest)

5.1.1 PREVIOUS STUDIES

Two previous studies were identified as covering portions of the API (Table 1). Eleven (11) additional previous studies were identified within 0.50 mile of the API (Table 2).

Table 1: Previous Studies Within or Adjacent to the Project API (n=2)

Study Number	Author	Date	Title
SJ-01900	Napton, L. K.	1993	A Preliminary Cultural Resources Investigation of the South Manteca Area Plan, 7800 acres in San Joaquin County, California.
SJ-04768	Windmiller, Rick and Donald Napoli	2002	City of Manteca- General Plan Update, Background Reports: Archaeological Resources, Historical Resources, Records Search Results

QUINTAL ROAD DEVELOPMENT PROJECT, MANTECA, CEQA CULTURAL RESOURCES EVALUATION

Methods and Results

Table 2: Previous Studies Within 0.50-mile (n=11)

Study Number	Author	Date	Title
SJ-02262	Napton, L. K.	1994	Cultural Resources Investigation of the Proposed Tidewater Bikeway Project, City of Manteca, San Joaquin County, California
SJ-03362	City of Manteca	1994	Historic Property Survey Report - Proposed Tidewater Bikeway Project in the City of Manteca, California
SJ-03810	Roper, C. K.	1999	Attachment C: Cultural/Historical Resources, Pacific Bell Mobile Services SA-238-03, VERTEX Project No. 1391
SJ-03995	Nelson, W. J.	2000	Cultural Resource Survey for the Level (3) Communications Long Haul Fiber Optics Project; Segment WS04: Sacramento to Bakersfield
SJ-04682	Kobrine, K.	2001	Request for Section 106 Findings/Determination, Verizon Site: 120/S. Main, County of San Joaquin (1153 Vanderbilt Circle, Manteca, California).
SJ-05309	Baloian, M, R. Baloian, W. Nettles	2004	Cultural Resources Investigations for the South San Joaquin Irrigation District in San Joaquin County, California.
SJ-05808	Losee, C.	2005	Collocation ("CO") Submission Packet, FCC Form 621, Cingular Wireless Cal-Concrete/T-Mobile, FS 031-C1.
SJ-06345	SWCA Environmental Consultants	2006	Cultural Resources Final Report of Monitoring and Findings for the QWest Network Construction Project, State of California. SWCA Project No. 10715-180.
SJ-06625	ASI Archaeology and Cultural Resource Management	1998	Cultural Resources Survey, South County Surface Water Project, San Joaquin County, California, South San Joaquin Irrigation District
SJ-09092	ESA Inc.	2019	Cultural Resources and Tribal Cultural Resources City of Manteca TCP Mitigation Project.
SJ-09247	Falke, M. and K. Vallaire	2017	Supplemental Archaeological Survey Report, State Route 120 at Union Road Interchange Project, Manteca, San Joaquin County, California; 10-SJ-120, P.M. 3.4/5.2, EA 10-0P200, ID 10-0000-0182

5.1.2 PREVIOUSLY RECORDED CULTURAL RESOURCES

The records search conducted at the CCalC identified no resources located within the project API. Two resources were located within 0.50 miles of the API (Table 3, below).

Table 3. Previously Recorded Cultural Resources within 0.5-mile of API (n=2)

P-Number	Trinomial	Description	Previous NRHP/CRHR Recommendations
P-39-000015	CA-SJO-000256/H	A portion of the Tidewater Southern/Union Pacific Railway. In Manteca, the grade is now a bike path.	6Y (Ineligible)
P-39-004400	N/A	Single-family, Ranch-style residence with garage.	7 (Unevaluated)

Methods and Results

No impacts to the listed resources are anticipated.

5.2 Native American Consultation

On September 2, 2022, Stantec sent an email with a map depicting the project API to the Native American Heritage Commission, requesting a review of their sacred lands files for any Native American cultural resources that might be affected by the project.

As of this document, no response has been received.

5.3 Pedestrian Survey

On October 6, 2022, Stantec archaeologist, Sarah Mace M.A., conducted an intensive pedestrian survey for the Manteca Quintal Project. Sarah Mace meets the Secretary of Interior's Professional Qualification Standards for archaeology. Stantec documented field conditions and overview photographs were taken.

Stantec conducted intensive pedestrian survey of the project area. The survey was conducted by walking parallel transects spaced at ten to fifteen meters across the entire Project area. All exposed soils, such as at vehicle tracks and rodent burrows, were closely examined for evidence of buried cultural deposits. Stantec documented the survey with digital photographs and written notes.

The Project area is located south of CA-120 and is bisected by a road. Ground surface visibility was good (70 to 80 percent), on average at the time of survey; the northern third of the project area had visibility closer to 20% (Figure 2), but the southern two-thirds closer to 100% (Figure 3). Sparse vegetation consisted of short brushes, grasses, and watermelon plants. Exposed soils consisted of grey sand and grey-brown sandy loam. Modern refuse was scattered across the northern section of the project area. Digital photographs were taken of the survey area, a selection of which are included as Figures 2–5 below.

No evidence of cultural resources, neither prehistoric nor historic, were observed during the survey.

QUINTAL ROAD DEVELOPMENT PROJECT, MANTECA, CEQA CULTURAL RESOURCES EVALUATION

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Figure 2. Photograph of northern portion of project area, showing poor ground visibility. View facing southwest (S. Mace)



Figure 3. Project overview, facing west. Photograph shows excellent ground visibility (S. Mace)

QUINTAL ROAD DEVELOPMENT PROJECT, MANTECA, CEQA CULTURAL RESOURCES EVALUATION

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Figure 4. Transect overview, facing southwest (S. Mace)



Figure 5. End of day transect overview, facing west (S. Mace)

Conclusion

6 Conclusion

Stantec conducted a cultural resources inventory and evaluation for the project that included background research, a records search at CCalC, and intensive pedestrian survey. No resources were identified in the API, and work will be confined to the project parcel. As such, no additional cultural resource work is recommended for the proposed project.

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QUINTAL ROAD DEVELOPMENT PROJECT, MANTECA, CEQA CULTURAL RESOURCES EVALUATION

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Appendix A Records Search Results



CENTRAL CALIFORNIA INFORMATION CENTER

California Historical Resources Information System
Department of Anthropology – California State University, Stanislaus
One University Circle, Turlock, California 95382
(209) 667-3307

Alpine, Calaveras, Mariposa, Merced, San Joaquin, Stanislaus & Tuolumne Counties

Date: 9/6/2022

Records Search File No.: 12295L

Access Agreement: #20

Project: Manteca Quintal Road

Sarah Mace

Stantec Consulting, Inc.

1340 Treat Boulevard, Suite 300

Walnut Creek, CA 94597

925-448-7654

sarah.mace@stantec.com

Invoice address: Stantec

3875 Atherton Road

Rocklin, CA 95765-3716

Dear Ms. Mace:

The Central California Information Center received your Priority Response record search request for the project area referenced above, located on the Manteca 7.5' quadrangle in San Joaquin County. The following reflects the results of the records search for the project study area and radius:

As per data currently available at the CCalIC, the locations of resources/reports are provided in the following format: ☐ custom GIS maps ☒ GIS Data/shape files ☐ hand-drawn maps

Summary Data:

Resources within the project area:	None formally reported to the Information Center.
Resources within the 1/2-mile radius:	2: P-39-000015, 4400
Reports within the project area:	2: SJ-01900, 4786
Reports within the 1/2-mile radius:	11: SJ-02262, 3362, 3810, 3995, 4682, 5309, 5808, 6345, 6625, 9092, 9247

Resource Database Printout (list):

Resource Database Printout (details):

Resource Digital Database Records:

Report Database Printout (list):

Report Database Printout (details):

Report Digital Database Records:

Resource Record Copies:

Report Copies:

OHP Historic Properties Directory: New Excel File: Built Environment Resource Directory (BERD)

☐ enclosed ☒ not requested ☐ nothing listed
☒ enclosed ☐ not requested ☐ nothing listed
☐ enclosed ☒ not requested ☐ nothing listed
☐ enclosed ☒ not requested ☐ nothing listed
☒ enclosed ☐ not requested ☐ nothing listed
☐ enclosed ☒ not requested ☐ nothing listed
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☒ enclosed ☐ not requested ☐ nothing listed

QUINTAL ROAD DEVELOPMENT PROJECT, MANTECA, CEQA CULTURAL RESOURCES EVALUATION

Appendix A

Dated 11/17/2021

Not all resources listed in the BERD are mapped in GIS, nor do we have records on file for; if you identify additional resources in the BERD that you need copies of, contact the IC.

<u>Archaeological Determinations of Eligibility:</u>	<input type="checkbox"/> enclosed	<input type="checkbox"/> not requested	<input checked="" type="checkbox"/> nothing listed
<u>CA Inventory of Historic Resources (1976):</u>	<input type="checkbox"/> enclosed	<input type="checkbox"/> not requested	<input checked="" type="checkbox"/> nothing listed
<u>Caltrans Bridge Survey:</u>	<input type="checkbox"/> enclosed	<input checked="" type="checkbox"/> not requested	<input type="checkbox"/> nothing listed
<u>Ethnographic Information:</u>	<input type="checkbox"/> enclosed	<input checked="" type="checkbox"/> not requested	<input type="checkbox"/> nothing listed
<u>Historical Literature:</u>	<input type="checkbox"/> enclosed	<input checked="" type="checkbox"/> not requested	<input type="checkbox"/> nothing listed
<u>Historical Maps:</u>	<input type="checkbox"/> enclosed	<input checked="" type="checkbox"/> not requested	<input type="checkbox"/> nothing listed
<u>Local Inventories:</u>	<input type="checkbox"/> enclosed	<input checked="" type="checkbox"/> not requested	<input type="checkbox"/> nothing listed
<u>GLO and/or Rancho Plat Maps:</u>	<input type="checkbox"/> enclosed	<input checked="" type="checkbox"/> not requested	<input type="checkbox"/> nothing listed
<u>Shipwreck Inventory:</u>	<input checked="" type="checkbox"/> not available at CCIC; please go to http://shipwrecks.slc.ca.gov/ShipwrecksDatabase/Shipwrecks_Database.asp		
<u>Soil Survey Maps:</u>	<input checked="" type="checkbox"/> not available at CCIC; please go to http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx		

Please forward a copy of any resulting reports from this project to the office as soon as possible. Due to the sensitive nature of archaeological site location data, we ask that you do not include resource location maps and resource location descriptions in your report if the report is for public distribution. If you have any questions regarding the results presented herein, please contact the office at the phone number listed above.

The provision of CHRIS Data via this records search response does not in any way constitute public disclosure of records otherwise exempt from disclosure under the California Public Records Act or any other law, including, but not limited to, records related to archeological site information maintained by or on behalf of, or in the possession of, the State of California, Department of Parks and Recreation, State Historic Preservation Officer, Office of Historic Preservation, or the State Historical Resources Commission.

Due to processing delays and other factors, not all of the historical resource reports and resource records that have been submitted to the Office of Historic Preservation are available via this records search. Additional information may be available through the federal, state, and local agencies that produced or paid for historical resource management work in the search area. Additionally, Native American tribes have historical resource information not in the CHRIS Inventory, and you should contact the California Native American Heritage Commission for information on local/regional tribal contacts.

Should you require any additional information for the above referenced project, reference the record search number listed above when making inquiries. Requests made after initial invoicing will result in the preparation of a separate invoice.

Thank you for using the California Historical Resources Information System (CHRIS).

Note: Billing will be transmitted separately via email by our Financial Services office *(\$537.52),

QUINTAL ROAD DEVELOPMENT PROJECT, MANTECA, CEQA CULTURAL RESOURCES EVALUATION

Appendix A

payable within 60 days of receipt of the invoice.

If you wish to include payment by Credit Card, you must wait to receive the official invoice from Financial Services so that you can reference the CMP # (Invoice Number), and then contact the link below:

<https://commerce.cashnet.com/ANTHROPOLOGY>

Sincerely,



E. A. Greathouse, Coordinator
Central California Information Center
California Historical Resources Information System

* Invoice Request sent to: ARBilling@csustan.edu, CSU Stanislaus Financial Services

Appendix D

Preliminary Geotechnical Investigation

Prepared for **Lennar Multifamily Communities**

**PRELIMINARY GEOTECHNICAL INVESTIGATION
TO SUPPORT DUE DILIGENCE EVALUATION
EMBLEM MANTECA
144-490 QUINTAL ROAD
MANTECA, CALIFORNIA**

***UNAUTHORIZED USE OR COPYING OF THIS DOCUMENT IS STRICTLY
PROHIBITED BY ANYONE OTHER THAN THE CLIENT FOR THE SPECIFIC
PROJECT***

November 11, 2021
Project No. 21-2059

November 11, 2021
Project No. 21-2059

Mr. Tyler Wood
Vice President, Development
Lennar Multifamily Communities
492 9th Street, Suite 300
Oakland, California 94607

Subject: Preliminary Geotechnical Investigation Report
to Support Due Diligence Evaluation
Proposed Emblem Manteca Residential Development
144-490 Quintal Road
Manteca, California

Dear Mr. Wood:

We are pleased to present the results of our preliminary geotechnical investigation in support of the due diligence evaluation of the property located at 144 through 490 Quintal Road in Manteca, California. We understand the proposed development will be a joint venture between Lennar Multifamily Communities and Lennar Homes. Our preliminary investigation was performed in accordance with our proposal dated June 25, 2021.

The project site, referred to in this report as Emblem Manteca, consists of four parcels encompassing a total area of approximately 60 acres. There is a non-contiguous parcel south of East Atherton Road that is included in the overall site development. The site is bounded by a single-family residential development to the east and south, South Main Street to the west, and Highway 120 to the north. The subject property is currently vacant with vegetated, tilled ground covering most of the site.

The proposed development being considered for the site consists of constructing two phases of three-story, at grade, Type-V apartment buildings (Lennar Multifamily Community scope), as well as single-family homes (Lennar Homes scope). The proposed development will also include new internal streets and parking lots.

Based on the results of our preliminary geotechnical investigation, we conclude there are no major geotechnical issues that would preclude development of the site as proposed. The primary geotechnical issues affecting the proposed development include: 1) providing adequate foundation support for the proposed structures; and 2) the potential for up to one inch of liquefaction-induced, free-field settlement and relatively shallow liquefiable layers in some locations at the site.

Mr. Tyler Wood
Lennar Multifamily Communities
November 11, 2021
Page 2

On the basis of our experience, we judge the anticipated settlements due to post-liquefaction reconsolidation exceed the typical tolerance of a conventional spread footing foundation system. We preliminarily conclude P-T slabs or stiffened mats would be the most appropriate foundation system for the proposed buildings, provided the estimated settlements are acceptable from a structural standpoint.

Our preliminary geotechnical investigation consisted of a limited subsurface exploration program. Prior to final design, a final geotechnical investigation should be performed to fill in data gaps of subsurface conditions and provide final conclusions and recommendations regarding the geotechnical aspects of the project.

We appreciate the opportunity to provide our services to you on this project. If you have any questions, please call.

Sincerely yours,
ROCKRIDGE GEOTECHNICAL, INC.

Darcie Maffioli, P.E., G.E.
Senior Project Engineer

Logan D. Medeiros P.E., G.E.
Associate Engineer

Enclosure

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**PRELIMINARY GEOTECHNICAL INVESTIGATION
TO SUPPORT DUE DILIGENCE EVALUATION
EMBLEM MANTECA
144-490 QUINTAL ROAD
Manteca, California**

1.0 INTRODUCTION

This report presents the results of the preliminary geotechnical investigation performed by Rockridge Geotechnical, Inc. (Rockridge) for the due diligence evaluation of the properties at 144 through 490 Quintal Road in Manteca, California. We understand that the proposed development will be a joint venture between Lennar Multifamily Communities and Lennar Homes. The project site is located on the eastern side of South Main Street, approximately 300 feet south of its intersection with Highway 120, as shown on the Site Location Map, Figure 1.

The project site, referred to in this report as Emblem Manteca, consists of four parcels encompassing a total area of approximately 60 acres. There is a non-contiguous parcel south of East Atherton Road that is included in the overall site development. The site is bounded by a single-family residential development to the east and south, South Main Street to the west, and Highway 120 to the north. The subject property is currently vacant with vegetated, tilled ground covering most of the site.

The proposed development being considered for the site consists of constructing two phases of three-story, at grade, Type-V apartment buildings (Lennar Multifamily Community scope), as well as single-family homes (Lennar Homes scope), as shown on the Site Plan, Figure 2. The proposed development will also include new internal streets and parking lots.

2.0 SCOPE OF SERVICES

Our preliminary geotechnical investigation was performed in accordance with our Consultant Due Diligence Agreement with Lennar Multifamily Communities dated September 21, 2021. Our scope of work consisted of exploring subsurface conditions at the site by performing fifteen cone penetration tests (CPTs), advancing eight hand auger borings, performing laboratory

testing, and performing engineering analyses to develop conclusions and recommendations regarding:

- the most appropriate foundation type(s) for the proposed buildings
- preliminary design criteria for the recommended foundation type(s), including vertical and lateral capacities
- estimates of foundation settlement
- site seismicity and seismic hazards, including the potential for liquefaction and liquefaction-induced ground failure
- 2019 California Building Code (CBC) site class and mapped design spectral response acceleration parameters
- construction considerations.

3.0 FIELD INVESTIGATION

Subsurface conditions were explored by performing fifteen CPTs, hand augering eight shallow test borings, and performing laboratory testing on select soil samples. Prior to performing our field investigation, we obtained a drilling permit from the San Joaquin County Environmental Health Department (SJCEHD) and contacted Underground Service Alert (USA) to notify them of our work, as required by law. We also retained Precision Locating LLC, a private utility locator, to check that the CPT locations were clear of buried utilities. Details of the field investigation and laboratory testing are described in this section.

3.1 Cone Penetration Tests

Fifteen CPTs, designated CPT-1 through CPT-15, were performed to obtain in-situ soil data at the approximate locations shown on Figure 2. The CPTs were advanced by ConeTec, Inc. of San Leandro, California on October 4 and 5, 2021. All CPTs were advanced to target depth ranging between 30 and 50 feet below ground surface (bgs).

The CPTs were advanced by hydraulically pushing a 1.7-inch-diameter cone-tipped probe with a projected area of 2.3 square inches (15 square centimeters) into the ground. The cone-tipped probe measured tip resistance and the friction sleeve behind the cone tip measured frictional resistance. Electrical strain gauges within the cone measured soil parameters at a recording

interval of approximately one inch for the entire depth advanced. Soil data, including tip resistance, frictional resistance, and pore water pressure, were recorded by a computer while the test was conducted. Accumulated data were processed by a computer to provide engineering information such as the soil behavior types (Robertson, 2010) and approximate strength characteristics of the soil encountered. The CPT logs showing tip resistance, friction ratio, and pore pressure, as well as correlated soil behavior type, are presented in Appendix A on Figures A-1 through A-15.

Upon completion, the CPT was backfilled with neat cement grout in accordance with SJCEHD grouting guidelines.

3.2 Hand Auger Borings

We advanced eight hand auger borings, designated as HA-1 through HA-8, adjacent to select CPTs to obtain near-surface soil samples for visual classification and limited laboratory testing. Hand auger borings were advanced to depths between 5 and 10 feet bgs using a three-inch-diameter hand auger. The subsurface conditions encountered in the borings are presented on Figures A-16 through A-23 in Appendix A. The soil encountered in the borings was classified in accordance with the classification chart shown on Figure A-24. Upon completion, the borehole were backfilled with the soil cuttings.

3.3 Laboratory Testing

We re-examined each soil sample obtained from our hand auger borings to confirm the field classifications and select representative samples for laboratory testing. Soil samples were tested by B. Hillebrandt Soils Testing, Inc. of Alamo, California to measure moisture content and particle size distribution. The results of the laboratory tests are presented on the hand auger boring logs and in Appendix B.

4.0 SUBSURFACE CONDITIONS

The regional geology map prepared by Wagner, Bortugno, and McJunkin (1991), a portion of which is presented on Figure 3, indicates the site is mapped in a zone of Holocene-age Dune sand (Qs).

The results of our CPTs and hand auger borings indicate the site is generally underlain by medium dense to dense sand with varying fines content in the upper 12 to 20 feet bgs. Below the surficial sand with silt and silty sand, subsurface soils become interbedded with discontinuous layers of very stiff to hard clay and silty clay with dense to very dense sand and silty sand to the maximum depth explored of 50 feet bgs.

4.1 Groundwater

The groundwater level was indirectly measured in CPT-2, CPT-4, CPT-7, CPT-10, CPT-11, CPT-12, and CPT-13 by performing pore-pressure dissipation tests (PPDs) at or near the termination depths of the CPTs. The PPDs indicated the depth to groundwater at the time of the investigation was about 19.6 to 24.2 feet bgs. Groundwater was not measured at other CPT locations. Groundwater was not encountered in hand auger borings.

To further estimate the highest potential groundwater level that may occur at the site, we reviewed information on the State of California Water Resources Control Board GeoTracker website (<https://geotracker.waterboards.ca.gov/>). From the GeoTracker website, we obtained information from monitoring wells installed for the City of Manteca located at 210 Wetmore Street, about 4,000 feet north of the site. This site is relatively far away from the proposed development, however, both sites are located in the same geologic region. Summary of groundwater level measurements presented from the GeoTracker website indicate the groundwater level was measured between January 2002 and March 2008 and high groundwater level measurements ranged from about 13 to 15 feet bgs. The groundwater fluctuation between the high and low groundwater levels was approximately 10 feet during the monitoring period.

In addition, we reviewed historic boring and CPT logs from Caltrans for the design and construction of the South Main Street overcrossing of Highway 120. The groundwater level measured in the CPT was at a depth of 13 feet bgs in January 1974 (Caltrans, 1974).

Based on the groundwater level data measured at the site, as well as review of historic groundwater data from other sites in the near vicinity, we conclude a preliminary design high groundwater level of about 13 feet below existing grades should be used for planning purposes. The groundwater level at the site is expected to fluctuate several feet seasonally and annually, depending on the amount of rainfall.

5.0 SEISMIC CONSIDERATIONS

The project site is within the central portion of the Great Valley geomorphic province of California, which is also referred to as the Central Valley. The Great Valley is a large, asymmetrical northwesterly trending valley between the Coast ranges to the west and the Sierra Nevada to the east. The seismicity of this region of California is moderately low. The results of our evaluation of site seismicity and seismically related geologic hazards for the project site are presented in the following sections.

5.1 Regional Seismicity and Faulting

The site is in the Great Valley geomorphic province of California that is an alluvial plain about 50 miles wide and 400 miles long in the central part of California. The Great Valley is bordered to the north by the Cascade and Klamath ranges, to the west by the Coast Ranges, to the east by the Sierra Nevada Mountains, and to the south by the Transverse ranges.

The major active faults in the area are the Great Valley faults. These and select other faults in the region are shown on Figure 4. Active faults within a 50-kilometer radius of the site that are included in the Building Seismic Safety Council 2014 Event Catalog are summarized in Table 1. This table includes the distance and direction from the site, and characteristic moment

magnitude¹ [Petersen et al. (2014) & Thompson et al. (2016)]. These references are based on the Third Uniform California Earthquake Rupture Forecast (UCERF3), prepared by Field et al. (2013).

TABLE 1
Regional Faults and Seismicity

Fault Segment	Approximate Distance from Site (km)	Direction from Site	Maximum Magnitude
Great Valley 07 (Orestimba)	25	Southwest	6.82
Great Valley 06 (Midland alt2)	39	West	7.12
Great Valley 06 (Midland alt1)	39	West	7.27
Greenville (North)	40	West	6.86
Greenville (South)	42	Southwest	6.64
Las Positas	43	West	6.50

Earthquakes that have occurred in the Central Valley since the 1800s have only moderate effects in the Great Valley. Historic earthquakes occurring on the San Andreas and Hayward faults had moderate to strong shaking. The San Francisco Earthquake of 1906 caused the most significant damage in the history of the Bay Area in terms of loss of lives and property damage. This earthquake created a surface rupture along the San Andreas Fault from Shelter Cove to San Juan Bautista approximately 470 kilometers in length. It had a maximum intensity of XI (MM), an Mw of about 7.9, and was felt 560 kilometers away in Oregon, Nevada, and Los Angeles. At the project site, the estimated MM was about V, which corresponds to strong shaking (Boatwright and Bundock, 2005). The most recent earthquake to affect the Bay Area was the Loma Prieta Earthquake of October 17, 1989 with an Mw of 6.9. This earthquake occurred in the Santa Cruz

¹ Moment magnitude is an energy-based scale and provides a physically meaningful measure of the size of a faulting event. Moment magnitude is directly related to average slip and fault rupture area. Characteristic moment magnitudes are from the Building Seismic Safety Council 2014 Event Catalog.

Mountains about 102 kilometers southwest of the site. The MM of the 1989 Loma Prieta earthquake was between V and VI (moderate to strong) at the project site.

5.2 Geologic Hazards

During a major earthquake on a segment of one of the nearby faults, strong to very strong shaking is expected to occur at the project site. Strong shaking during an earthquake can result in ground failure such as that associated with soil liquefaction,² lateral spreading,³ and cyclic densification⁴. We used the results of our field investigation to evaluate the potential of these phenomena occurring at the project site. The results of our analyses and evaluation are presented in the following sections.

5.2.1 Ground Shaking

The seismicity of the site is governed by the activity of the Great Valley fault, although ground shaking from future earthquakes on other faults will also be felt at the site. The intensity of earthquake ground motion at the site will depend upon the characteristics of the generating fault, distance to the earthquake epicenter, and magnitude and duration of the earthquake. We judge that moderate to strong shaking could occur at the site during a large earthquake on one of the nearby faults.

5.2.2 Ground Surface Rupture

Historically, ground surface displacements closely follow the trace of geologically young faults. The site is not within an Earthquake Fault Zone, as defined by the Alquist-Priolo Earthquake Fault Zoning Act, and no known active or potentially active faults exist on the site. We therefore conclude the risk of fault offset at the site from a known active fault is very low. In a seismically

² Liquefaction is a phenomenon where loose, saturated, cohesionless soil experiences temporary reduction in strength during cyclic loading such as that produced by earthquakes.

³ Lateral spreading is a phenomenon in which surficial soil displaces along a shear zone that has formed within an underlying liquefied layer. Upon reaching mobilization, the surficial blocks are transported downslope or in the direction of a free face by earthquake and gravitational forces.

⁴ Cyclic densification is a phenomenon in which non-saturated, cohesionless soil is compacted by earthquake vibrations, causing ground-surface settlement.

active area, the remote possibility exists for future faulting in areas where no faults previously existed; however, we conclude the risk of surface faulting and consequent secondary ground failure from previously unknown faults is also very low.

5.2.3 Liquefaction and Associated Hazards

When a saturated, cohesionless soil liquefies, it experiences a temporary loss of shear strength created by a transient rise in excess pore pressure generated by strong ground motion. Soil susceptible to liquefaction includes loose to medium dense sand and gravel, low-plasticity silt, and some low-plasticity clay deposits. Flow failure, lateral spreading, differential settlement, loss of bearing strength, ground fissures and sand boils are evidence of excess pore pressure generation and liquefaction.

We evaluated the liquefaction potential of soil encountered below groundwater at the site using data collected in our CPTs. Liquefaction susceptibility was assessed using the software CLiq v3.3 (GeoLogismiki, 2021). CLiq uses measured CPT data and assesses liquefaction susceptibility and post-earthquake vertical settlement, given a user-defined earthquake magnitude and peak ground acceleration (PGA). Our liquefaction analyses were performed using the methodology proposed by Boulanger & Idriss (2014) for sand-like soils. Post-earthquake settlements were evaluated using the relationship proposed by Zhang, Robertson, and Brachman (2002) to estimate post-liquefaction volumetric strains and corresponding ground surface settlement; a relationship that is an extension of the work by Ishihara and Yoshimine (1992). Volumetric strains were modified using the methodology proposed by Çetin et al. (2009) to account for the depth of the liquefiable layers.

Our liquefaction analyses were performed assuming a high groundwater depth of 13 feet bgs as the “during earthquake” groundwater level. In accordance with the 2019 California Building Code (CBC), we used a peak ground acceleration of 0.42 times gravity (g) in our liquefaction evaluation; this peak ground acceleration is consistent with the Maximum Considered Earthquake Geometric Mean (MCE_G) peak ground acceleration adjusted for site effects (PGA_M) for a Site Class D. We conservatively used a moment magnitude 7.27 earthquake, which is

consistent with the characteristic moment magnitude for the Great Valley (06) fault, as presented in Table 1.

Our liquefaction analyses indicate that there are several layers of potentially liquefiable soil between 13 and 42 feet bgs. Layers of potentially liquefiable soil are generally less than two feet, however there are some zones that are between three feet (CPT-7) and six feet thick (CPT-13). We estimate total liquefaction-induced ground settlement of at the site following a Maximum Considered Earthquake (MCE) event with PGA_M of 0.42g will be between 1/4 and 1 inch. We estimate less than 1/2 inch of liquefaction-induced differential settlement may occur over a 30-foot horizontal distance within the free field following a major earthquake.

The potential for liquefaction-induced ground failure depends on the thickness of the liquefiable soil layers relative to the thickness of the overlying non-liquefiable material. Ishihara (1985) presented an empirical relationship that provides criteria used to evaluate whether liquefaction-induced ground failure, such as sand boils, would be expected to occur under a given level of shaking for a liquefiable layer of given thickness overlain by a resistant, or protective, surficial layer. The potentially liquefiable soil layers in CPT-7 and CPT-13 are relatively thick compared to the overlying thickness of non-liquefiable soil, we preliminarily conclude that there is a potential for surface manifestation from liquefaction, such as sand boils and loss of bearing capacity, in these areas. In other areas of the site, the potential for liquefaction-induced ground failure is negligible. The potential for surface manifestations of liquefaction should be further evaluated during the final geotechnical investigation once groundwater levels are better characterized, samples of the liquefiable materials have been tested in the laboratory, and once the final grading plan and building layout have been established.

The results of our CPTs indicate that many of the potentially liquefiable layers are not continuous from one CPT location to another, which reduces the likelihood of large-scale lateral spreading during a major earthquake. However, we preliminarily conclude that there may be localized lateral ground deformations in portions of the site during a major seismic event. The CPTs performed as part of our preliminary investigation are widely spaced and, therefore, the geometry of the liquefiable layers is currently poorly constrained. In addition, a site topographic

survey is not currently available. Additional borings and CPTs should be performed during the final geotechnical study and a topographic survey should be performed to further characterize these layers and refine the lateral spreading analyses.

5.2.4 Cyclic Densification

Cyclic densification (also referred to as differential compaction) of non-saturated sand (sand above groundwater table) can occur during an earthquake, resulting in settlement of the ground surface and overlying improvements. The site is underlain by medium dense to dense sand above the groundwater table. We evaluated the cyclic densification potential of soil encountered at the site using data collected in CPTs using the methodology by Yee, Stewart and Duku (2012).

Using the earthquake parameters discussed above, we estimate that settlements associated with cyclic densification will be negligible at the site as a result of strong shaking during an MCE event on a nearby fault.

6.0 PRELIMINARY CONCLUSIONS AND RECOMMENDATIONS

Based on the results of our preliminary geotechnical investigation, we conclude there are no major geotechnical issues that would preclude development of the site as proposed. The primary geotechnical issues affecting the proposed development include:

- providing adequate foundation support for the proposed structures; and
- the potential for up to 1 inch of liquefaction-induced, free-field settlement and relatively shallow liquefiable layers in some locations

Our preliminary conclusions and recommendations regarding these issues are presented in the following sections.

6.1 Foundations and Settlement

As discussed in Section 4.0, the site is underlain by Dune sand which primarily consists of medium dense to very dense sand, which is generally capable of supporting the proposed lightweight structures on conventional shallow foundations under static load conditions. We estimate the magnitude of long-term static settlement for the proposed structures will be less than 1/2 inch. However, as discussed in Section 5.2.3, there is the potential for 1/4 to 1 inch of liquefaction-induced ground settlement at the site, as well as a low to moderate potential for surface manifestation of shallow liquefiable layers in isolated locations. Shallow liquefiable layers pose a threat of potential reduction in bearing capacity and/or excessive differential settlement for isolated spread footings under seismic loading. On the basis of our experience, we judge the anticipated settlements due to post-liquefaction reconsolidation exceed the typical tolerance of a conventional spread footing foundation system.

We understand that the project team is primarily interested in post-tensioned slabs-on-grade (P-T slabs) for support of the proposed buildings. We preliminarily conclude P-T slabs or stiffened mats would be the most appropriate foundation system for the proposed buildings, provided the estimated settlements are acceptable from a structural standpoint. More accurate estimates of the total and differential settlement will be provided once the structural loading has been determined, the foundation type has been selected, and after we complete the final subsurface exploration and

laboratory testing program for the project site. Preliminary recommendations for P-T slabs and mat foundations are presented below.

6.1.1 P-T Slabs

The edges of the P-T slabs should be thickened such that the foundation edge is bottomed at least nine inches below the adjacent exterior grade. The maximum bearing pressure beneath P-T slabs should not exceed 4,000 psf under dead-plus-live load conditions and 5,300 psf under total load conditions, although we anticipate the average contact pressure will be significantly lower. For design of P-T slabs, we recommend using the parameters presented below in Table 2.

TABLE 2
P-T Slab Design Parameters

Parameter	Value
Thornwaite Moisture Index	-40
Edge moisture variation distance (e_m)	
edge lift	5.2 feet
center lift	9.0 feet
Percentage fines (assumed)	15%
Percentage of fine clay	5%
Liquid limit	30%
Plasticity Index	4%
Suction Variance at Ground	4.17 pF
Soil differential movement (y_m)	
edge lift	0.7 inches
center lift	0.1 inches

Because the primary mechanism of foundation settlement at this site (liquefaction) is not expansive soil movement, the parameters provided above in accordance with the PTI methodology may not be adequate for determining the appropriate slab thickness and reinforcing. Therefore, in addition to checking the P-T slab design using the parameters provided

in Table 2, we recommend the design also be checked by the structural engineer using the subgrade modulus approach described in Section 6.1.2 for conventional mat foundations.

Lateral loads can be resisted by a combination of passive pressure on the vertical faces of the P-T slabs and friction along the bottom of the slab. Lateral resistance may be computed using an equivalent fluid weight (triangular distribution) of 270 pcf. Passive resistance in the upper one foot of soil should be ignored unless it is confined by slabs or pavement. Frictional resistance should be computed using a base friction coefficient of 0.35 where the P-T slab is in contact with soil. Where a vapor retarder is placed beneath the P-T slab, a base friction coefficient of 0.20 should be used. These values include a factor of safety of at least 1.5 and may be used in combination without reduction.

The P-T slab subgrades should be free of standing water, debris, and disturbed materials prior to placing concrete. The subgrade should be wetted following excavation and maintained in a moist condition until it is covered. We should check the foundation subgrade prior to placement of the vapor retarder.

6.1.2 Mat Foundations

For mat design, we preliminarily recommend using a modulus of subgrade reaction of 20 pounds per cubic inch (pci) for dead-plus-live loads. This value has already been scaled to consider the approximate plan dimensions of the foundation (therefore, this is not k_{v1} for 1-foot-square plate).

We expect the average bearing stress under the mat to be low; however, concentrated stresses will occur at wall/column locations and at the edges of the mat. The mat should be designed to impose a maximum dead-plus-live bearing pressure of 4,000 pounds per square foot (psf) on the foundation subgrade soil. This pressure may be increased by one-third for total load conditions.

Assuming the mat is underlain by a vapor retarder, a friction factor of 0.20 may be used to compute base friction. Where the mat foundation is supported directly on soil, a friction factor of 0.35 may be used. To compute lateral resistance from passive pressure against the sides of the mat, we recommend using an equivalent fluid weight of 270 pounds per cubic foot (pcf); the

upper foot of soil should be ignored unless confined by a slab or pavement. The values for friction coefficient and passive pressure include a factor of safety of 1.5.

6.2 Construction Considerations

The soil to be excavated consists primarily of sand with varying silt content, which can be excavated with conventional earth-moving equipment such as loaders and backhoes. The majority of the site is currently fallow farmland. It is unknown if any other improvements were constructed previously at the site. Site clearing should include the removal of all existing vegetation, former improvements (if any), and underground utilities. If concrete debris or former foundation elements are encountered during grading, removal will require equipment capable of breaking concrete, such as a hoe-ram.

Undocumented fills or loose material associated with past tilling are likely present in portions of the site. Therefore, we recommend, at a minimum, the upper 18 inches of existing soil beneath the proposed structural improvements be moisture-conditioned and recompacted prior to construction of new roadways, concrete flatwork, building foundations, or placement of new fill (if applicable).

Excavations that will be entered by workers should be sloped or shored in accordance with CAL-OSHA standards (29 CFR Part 1926). The contractor should be responsible for the construction and safety of temporary slopes. We judge temporary slopes above the groundwater table with a maximum inclination of 1.5:1 (horizontal to vertical) should be stable, provided the slope is not surcharged by adjacent structures, construction equipment, or stockpiled soil.

6.3 Seismic Design

The latitude and longitude of the site are 37.7807° and -121.2100° , respectively. For design in accordance with 2019 CBC, we recommend the following:

- Site Class D
- $S_s = 0.786g$, $S_1 = 0.298g$

The 2019 CBC is based on the guidelines contained within ASCE 7-16 which stipulates that where S_1 is greater than 0.2 times gravity (g) for Site Class D, a ground motion hazard analysis is needed unless the seismic response coefficient (C_s) value will be calculated as outlined in Section 11.4.8, Exception 2. Assuming the C_s value will be calculated as outlined in Section 11.4.8, Exception 2, we recommend the following seismic design parameters:

- $F_a = 1.19$, $F_v = 2.0$
- $S_{MS} = 0.932g$, $S_{M1} = 0.596g$
- $S_{DS} = 0.621g$, $S_{D1} = 0.397g$
- Seismic Design Category D for Risk Factors I, II, and III

7.0 FUTURE GEOTECHNICAL STUDY AND LIMITATIONS

The preliminary conclusions and recommendations presented within the report are based on a preliminary field investigation and not intended for final design. Prior to final design, we should be retained to provide a final geotechnical report based on a supplemental field investigation. Borings will be required to further evaluate the subsurface conditions beneath the site and develop final foundation design recommendations. Once our final report has been completed, the design team has selected a foundation system, and prior to construction, we should review the project plans and specifications to check their conformance with the intent of our final recommendations. During construction, we should observe site preparation, foundation installation, and the placement and compaction of fill. These observations will allow us to compare the actual with the anticipated soil conditions and to check if the contractor's work conforms with the geotechnical aspects of the plans and specifications.

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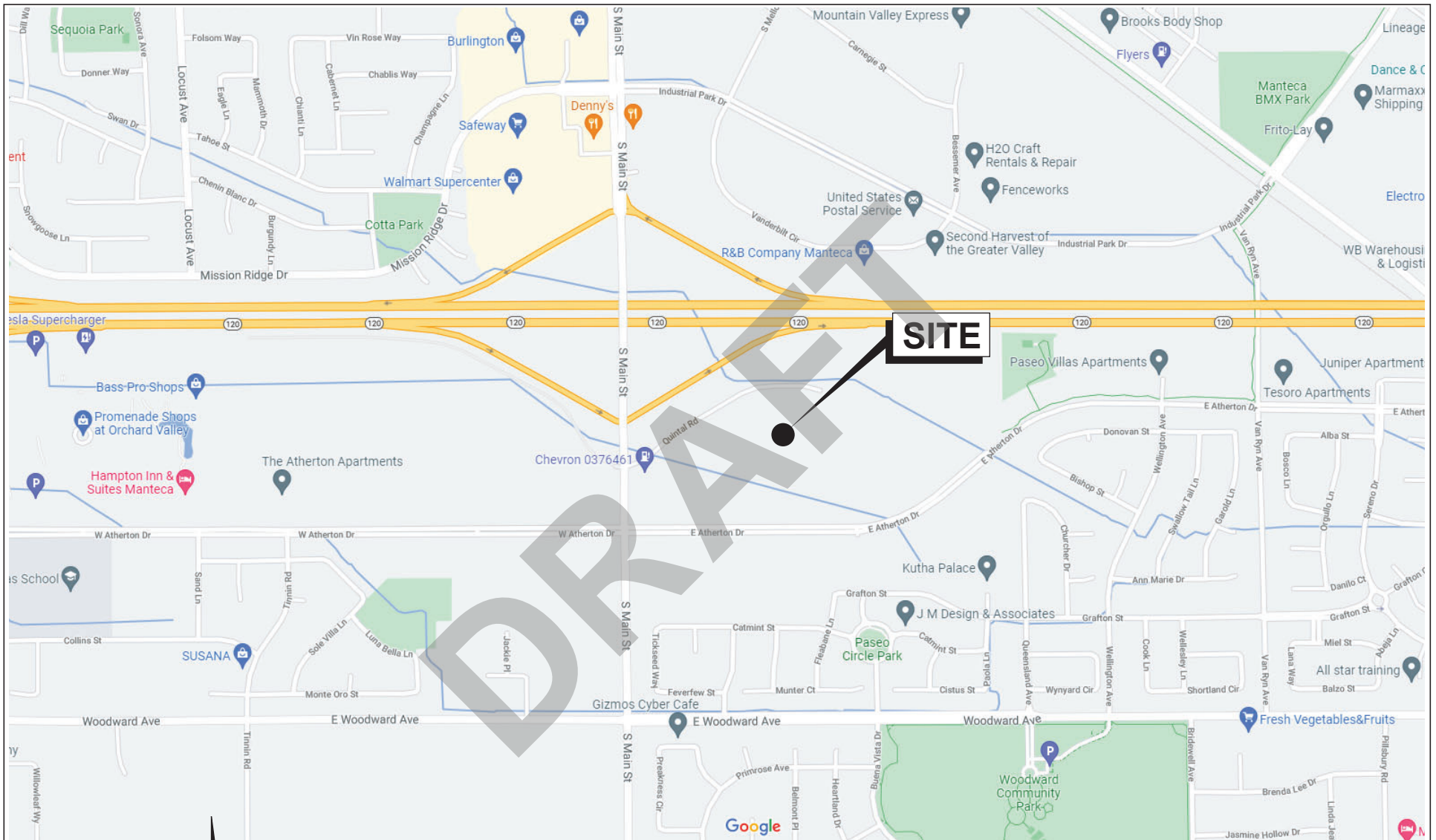
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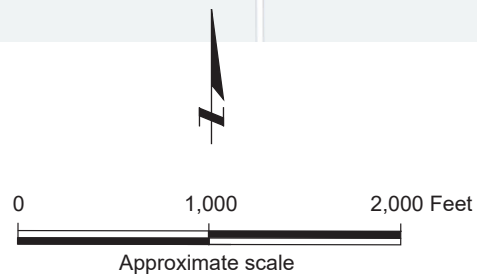
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FIGURES

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Base map: Google Maps, 2021



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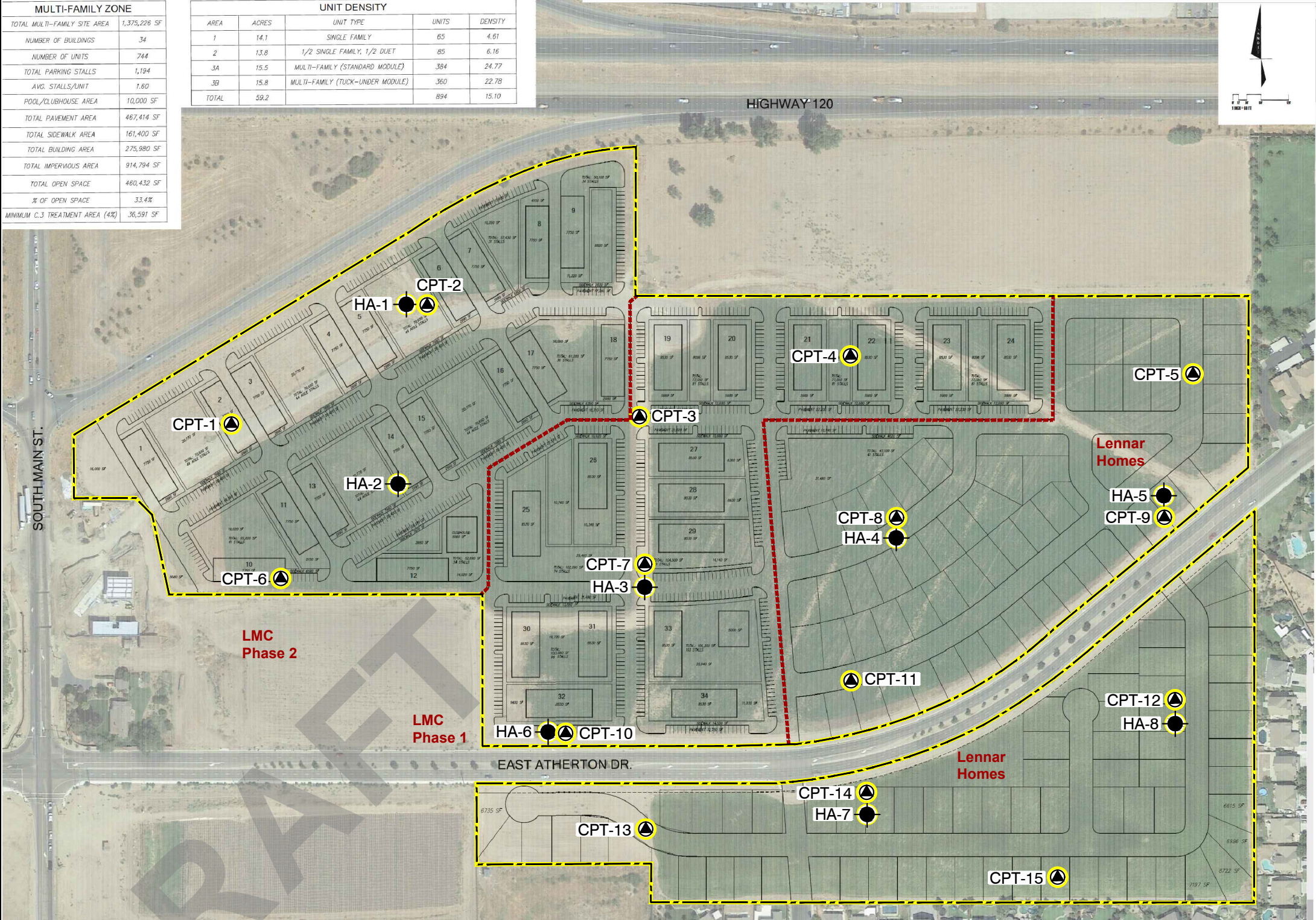
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SITE LOCATION MAP

Date 10/18/21	Project No. 21-2059	Figure 1
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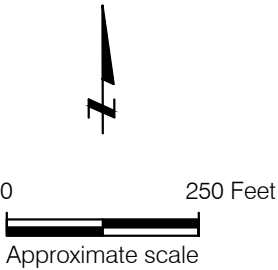
MULTI-FAMILY ZONE	
TOTAL MULTI-FAMILY SITE AREA	1,375,226 SF
NUMBER OF BUILDINGS	34
NUMBER OF UNITS	744
TOTAL PARKING STALLS	1,194
AVG. STALLS/UNIT	1.60
POOL/CLUBHOUSE AREA	10,000 SF
TOTAL PAVEMENT AREA	467,414 SF
TOTAL SIDEWALK AREA	161,400 SF
TOTAL BUILDING AREA	275,980 SF
TOTAL IMPERVIOUS AREA	914,794 SF
TOTAL OPEN SPACE	460,432 SF
% OF OPEN SPACE	33.4%
MINIMUM C-3 TREATMENT AREA (4%)	36,591 SF

UNIT DENSITY				
AREA	ACRES	UNIT TYPE	UNITS	DENSITY
1	14.1	SINGLE FAMILY	65	4.61
2	13.8	1/2 SINGLE FAMILY, 1/2 DUET	85	6.16
3A	15.5	MULTI-FAMILY (STANDARD MODULE)	384	24.77
3B	15.8	MULTI-FAMILY (TUCK-UNDER MODULE)	360	22.78
TOTAL	59.2		894	15.10



EXPLANATION

- CPT-1 Approximate location of cone penetration test by Rockridge Geotechnical, Inc., October 4-5, 2021
- HA-1 Approximate location of hand-auger boring by Rockridge Geotechnical, Inc., October 4-5, 2021
- Proposed development phase boundaries
- Approximate project limits



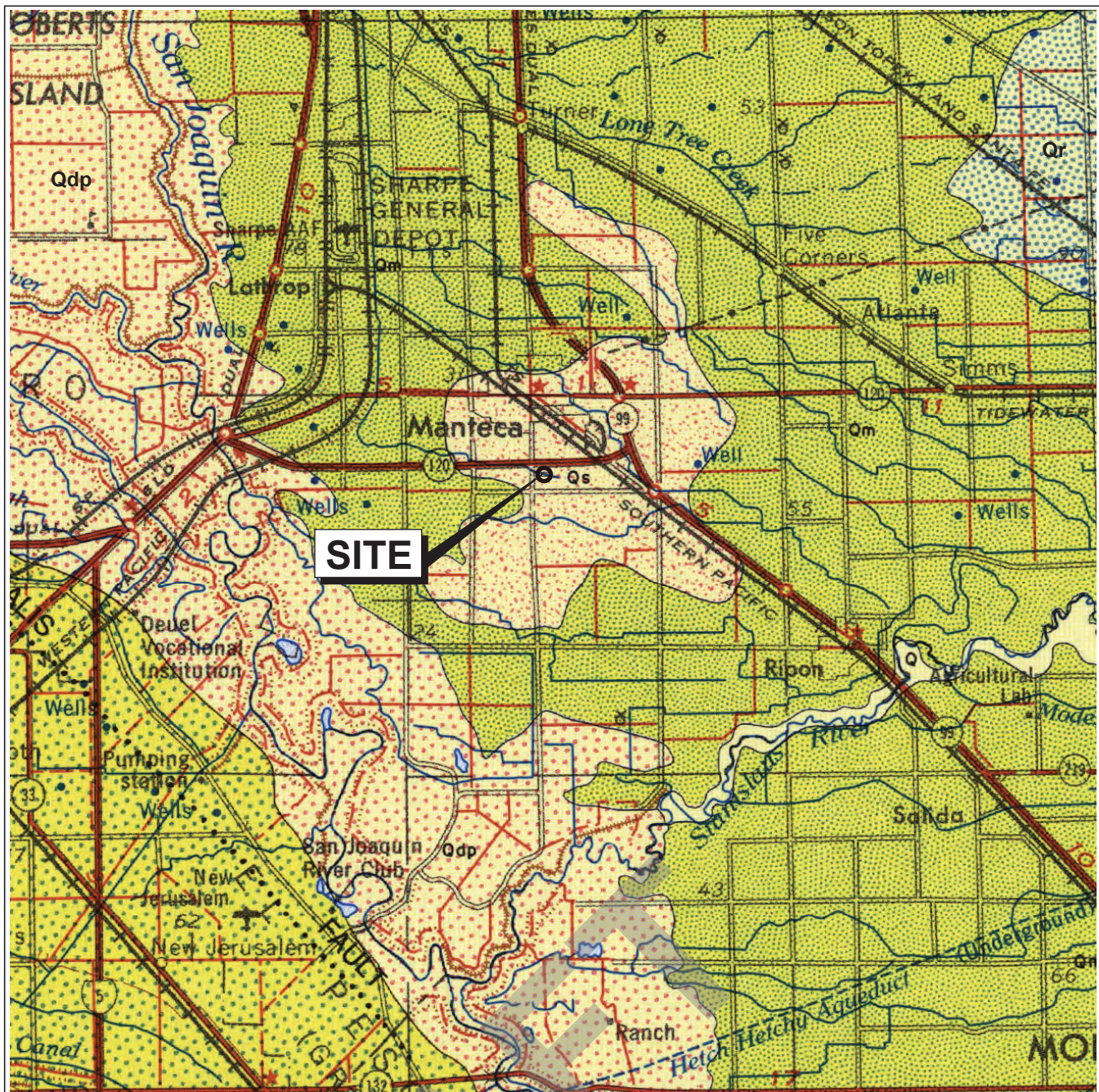
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SITE PLAN

Date 10/18/21 | Project No. 21-2059 | Figure 2

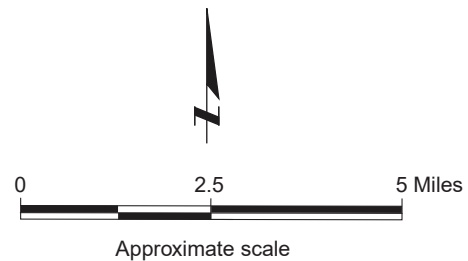


Reference: Proposed Development Plan by LMC and Sandis, undated.



- Qdp Dos Palos Alluvium
- Qf Alluvial fan deposits
- Qm Modesto Formation
- Qr Riverbank Formation
- Qs Dune sand

Wagner, D.L., Bortugno, E.J., and McJunkin, R.D. (1991).
Geologic map of the San Francisco-San Jose quadrangle, California, 1:250,000
California Division of Mines and Geology.



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REGIONAL GEOLOGIC MAP

Date 10/18/21

Project No. 21-2059

Figure 3



Base Map: U.S. Geological Survey (USGS), National Seismic Hazards Maps - Fault Sources, 2014.

EXPLANATION

- Strike slip
- Thrust (Reverse)
- Normal



0 10 20 Miles
Approximate scale

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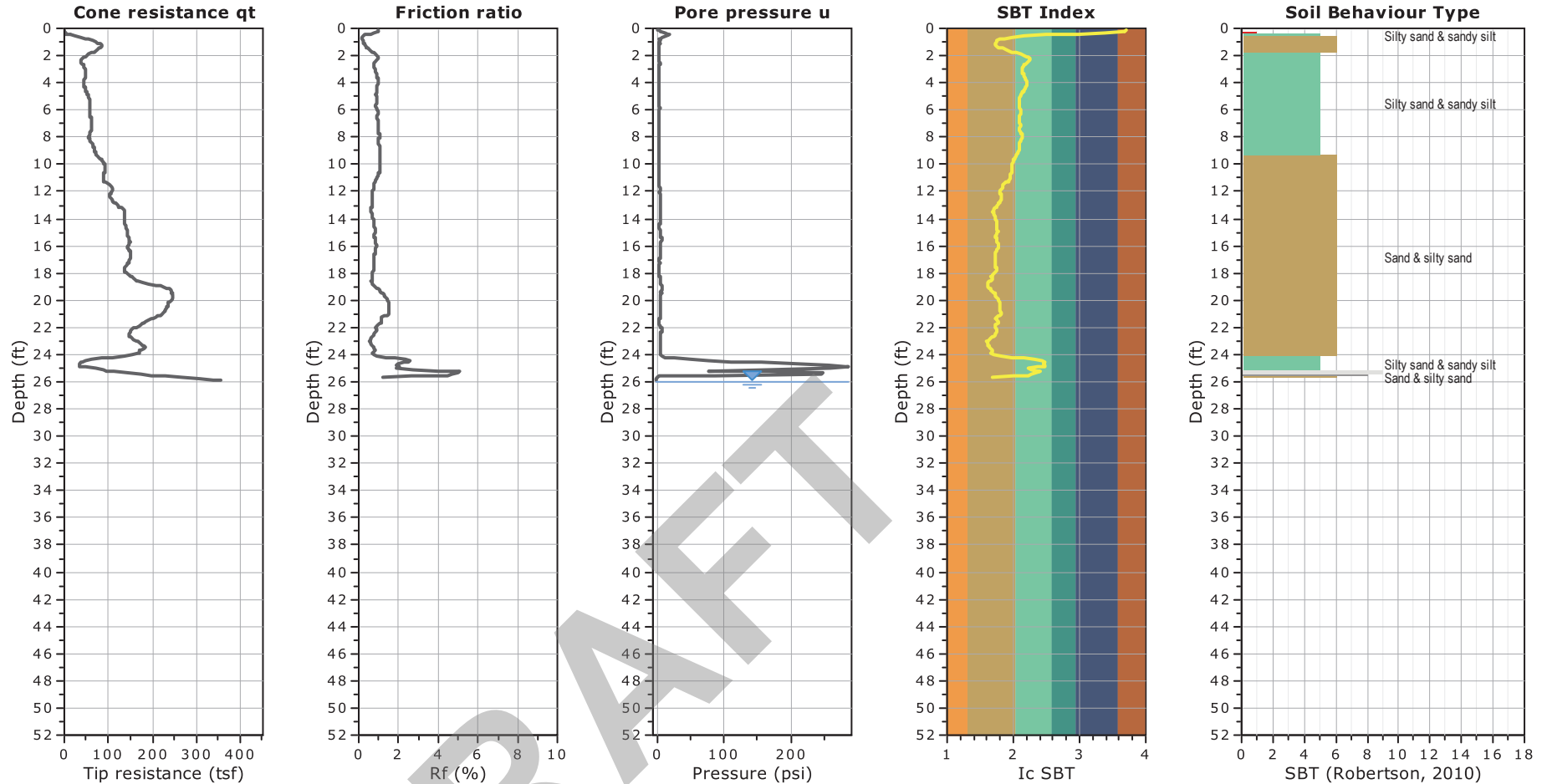
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REGIONAL FAULT MAP

Date 10/18/21	Project No. 21-2059	Figure 4
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APPENDIX A
Cone Penetration Test Results and Hand Auger Boring Logs


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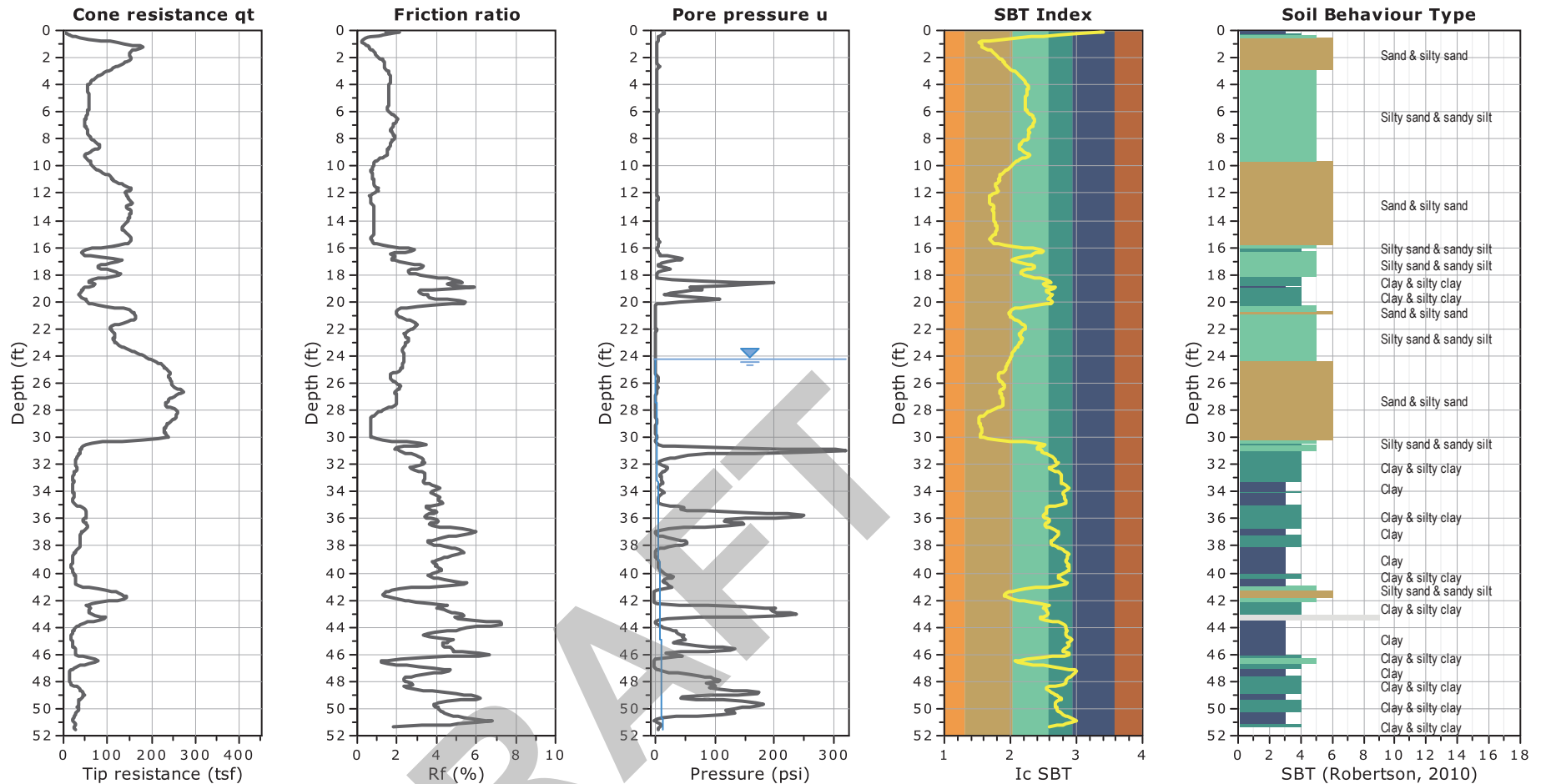


Total depth: 25.92 ft, Date: October 5, 2021
 Depth to Groundwater: >26 feet (pore pressure dissipation test at a depth of 25.5 feet indicated no groundwater present)
 Cone Operator: ConeTec, Inc.

SBT legend

- | | | |
|---------------------------|------------------------------|-----------------------------------|
| 1. Sensitive fine grained | 4. Clayey silt to silty clay | 7. Gravelly sand to sand |
| 2. Organic material | 5. Silty sand to sandy silt | 8. Very stiff sand to clayey sand |
| 3. Clay to silty clay | 6. Clean sand to silty sand | 9. Very stiff fine grained |

EMBLEM MANTECA 144-490 QUINTAL ROAD Manteca, California  ROCKRIDGE GEOTECHNICAL	CONE PENETRATION TEST RESULTS CPT-1		
	Date 10/18/21	Project No. 21-2059	Figure A-1



Total depth: 51.6 ft, Date: October 5, 2021
 Depth to Groundwater: 24.2 feet (measured using a pore pressure dissipation test at a depth of 51.5 feet)
 Cone Operator: ConeTec, Inc.

SBT legend

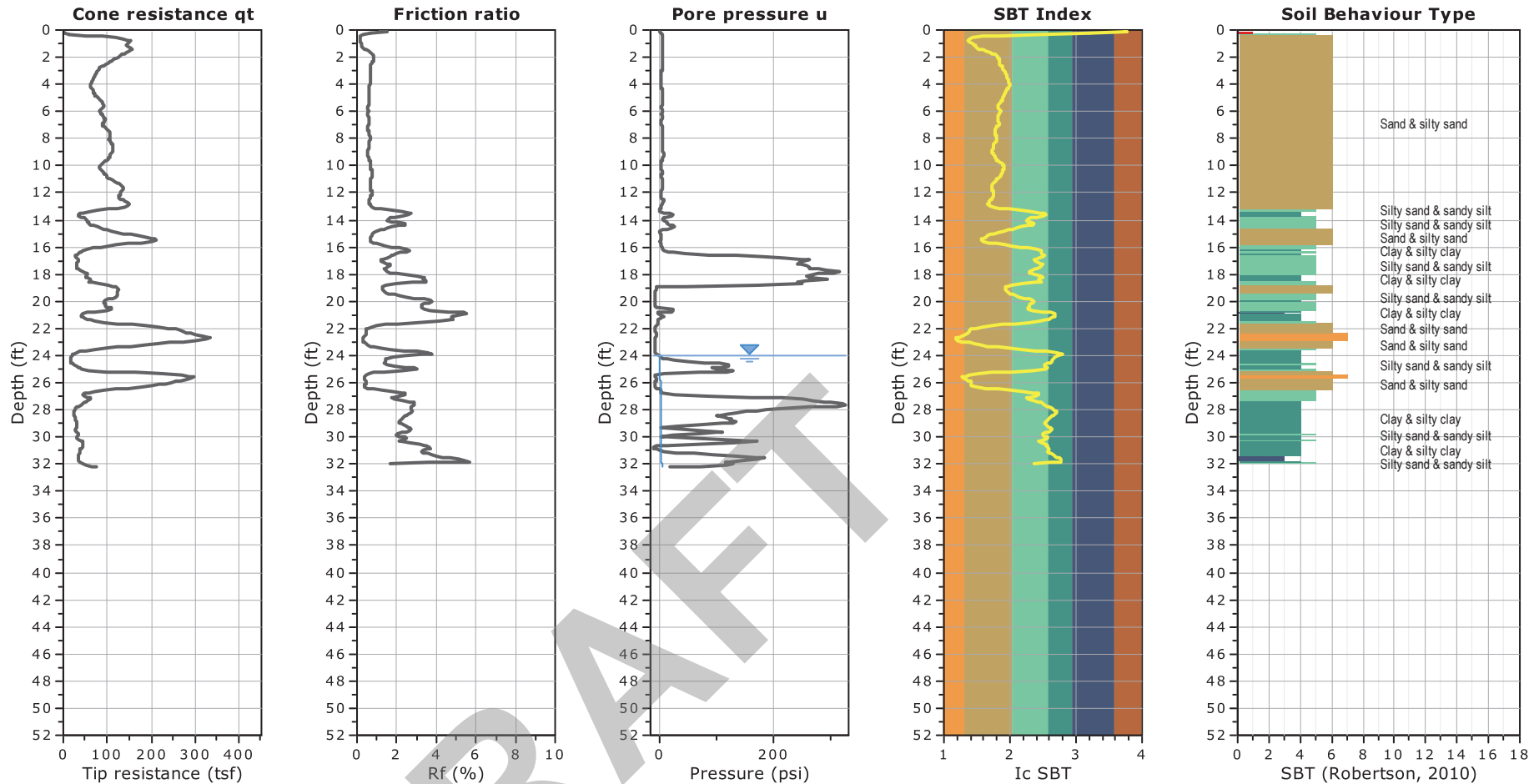
- | | | |
|---------------------------|------------------------------|-----------------------------------|
| 1. Sensitive fine grained | 4. Clayey silt to silty clay | 7. Gravely sand to sand |
| 2. Organic material | 5. Silty sand to sandy silt | 8. Very stiff sand to clayey sand |
| 3. Clay to silty clay | 6. Clean sand to silty sand | 9. Very stiff fine grained |

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CONE PENETRATION TEST RESULTS CPT-2

Date 10/18/21	Project No. 21-2059	Figure A-2
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Total depth: 32.2 ft, Date: October 5, 2021
 Assumed Depth to Groundwater: 24 feet
 Cone Operator: ConeTec, Inc.

SBT legend

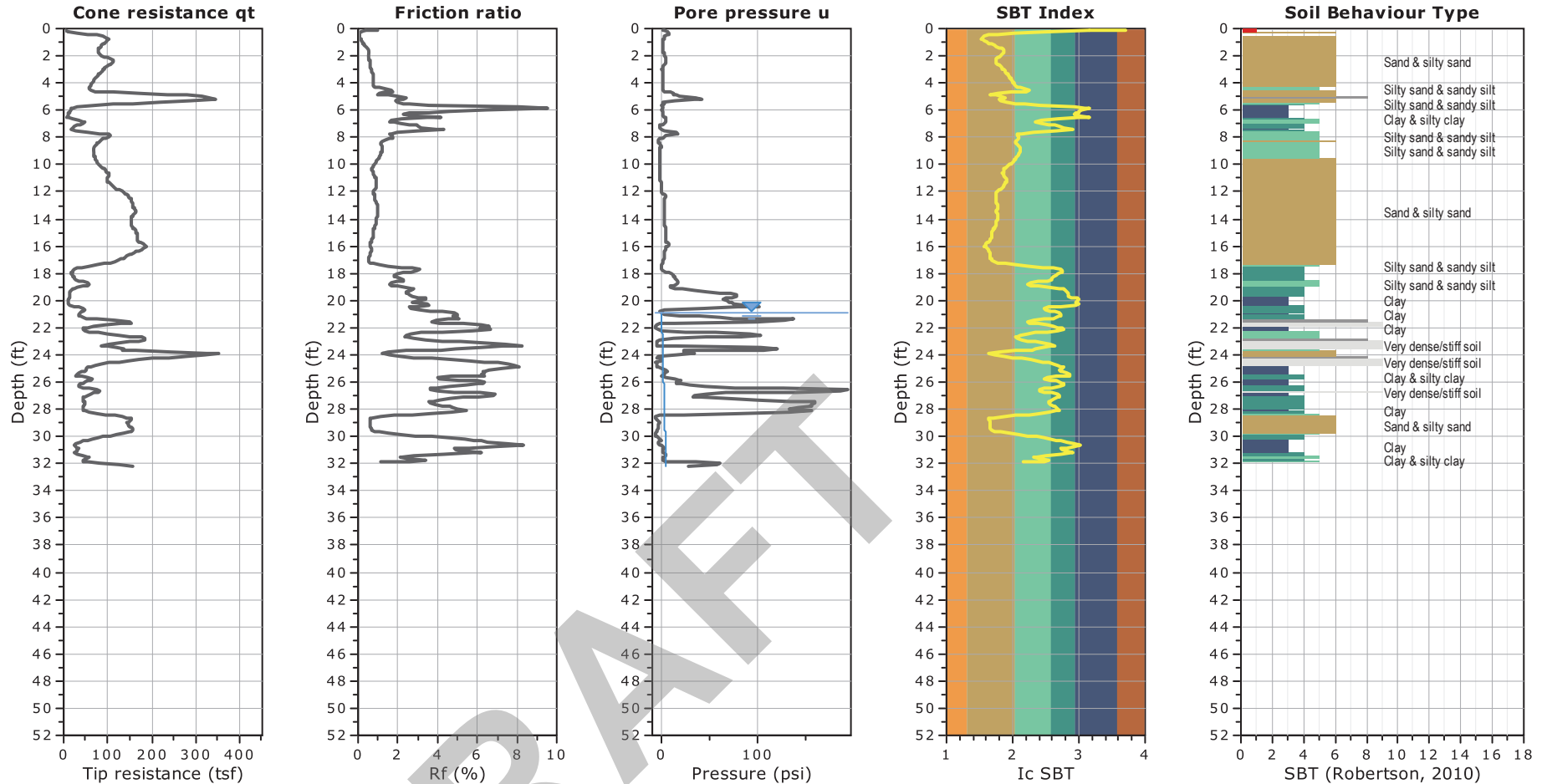
- | | | |
|---------------------------|------------------------------|-----------------------------------|
| 1. Sensitive fine grained | 4. Clayey silt to silty clay | 7. Gravely sand to sand |
| 2. Organic material | 5. Silty sand to sandy silt | 8. Very stiff sand to clayey sand |
| 3. Clay to silty clay | 6. Clean sand to silty sand | 9. Very stiff fine grained |

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CONE PENETRATION TEST RESULTS CPT-3

Date 10/18/21	Project No. 21-2059	Figure A-3
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Total depth: 32.2 ft, Date: October 5, 2021
 Depth to Groundwater: 20.5 feet (measured using a pore pressure dissipation test at a depth of 32 feet)
 Cone Operator: ConeTec, Inc.

SBT legend

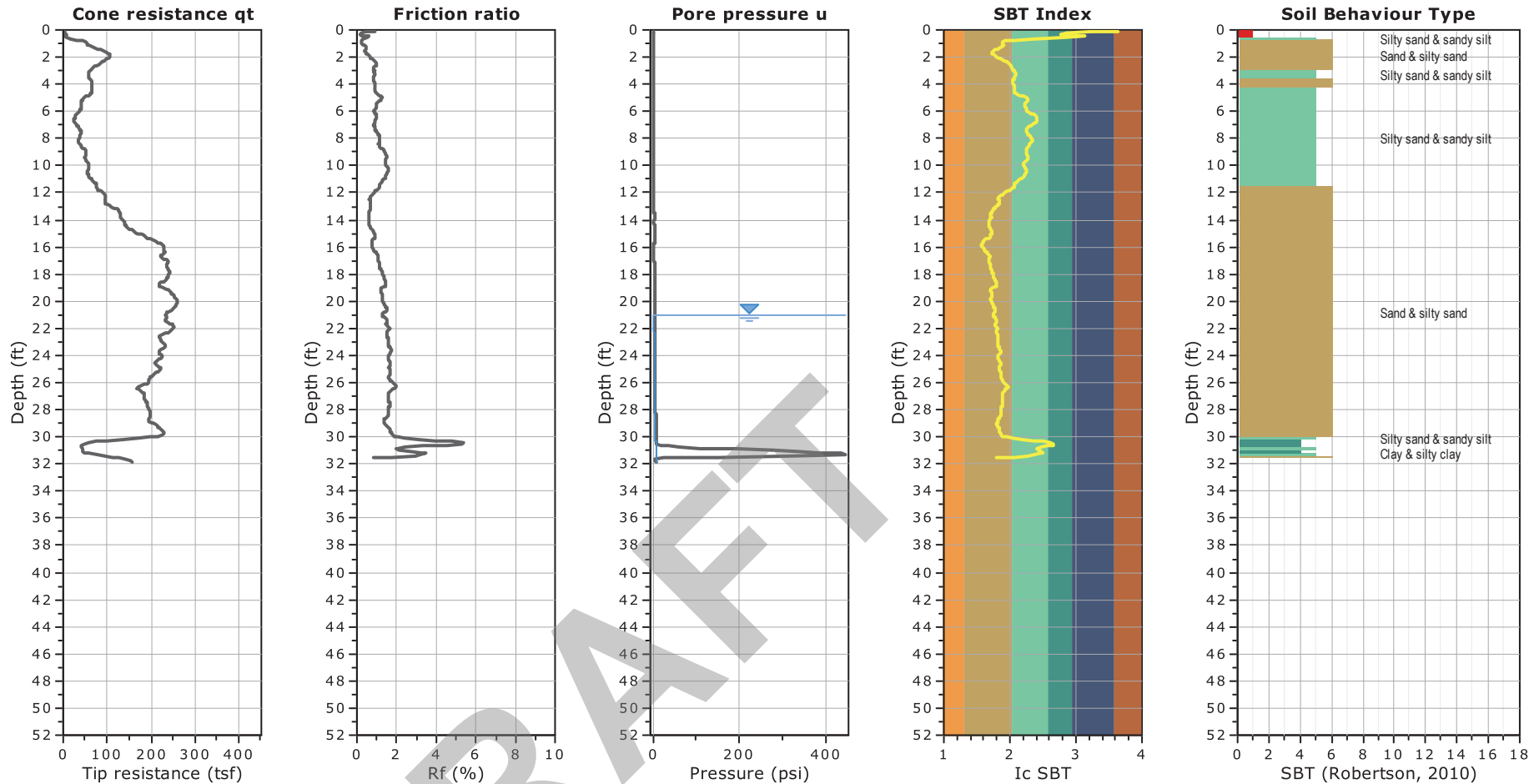
- | | | |
|---------------------------|------------------------------|-----------------------------------|
| 1. Sensitive fine grained | 4. Clayey silt to silty clay | 7. Gravely sand to sand |
| 2. Organic material | 5. Silty sand to sandy silt | 8. Very stiff sand to clayey sand |
| 3. Clay to silty clay | 6. Clean sand to silty sand | 9. Very stiff fine grained |

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CONE PENETRATION TEST RESULTS
CPT-4

Date 10/18/21	Project No. 21-2059	Figure A-4
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Total depth: 31.8 ft, Date: October 4, 2021
 Assumed Depth to Groundwater: 21 feet
 at a depth of 25.5 feet indicated no groundwater present)
 Cone Operator: ConeTec, Inc.

SBT legend

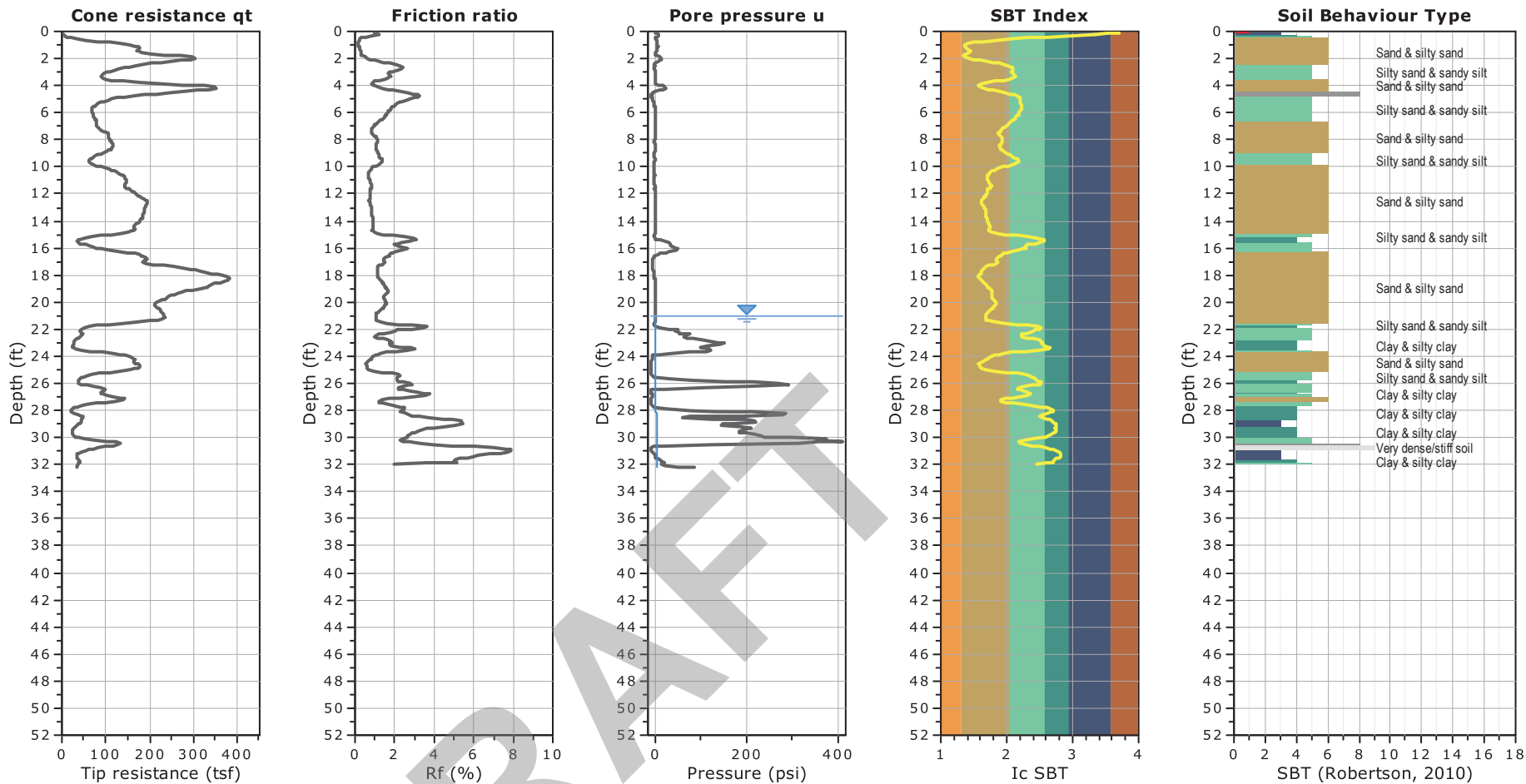
- | | | |
|---------------------------|------------------------------|-----------------------------------|
| 1. Sensitive fine grained | 4. Clayey silt to silty clay | 7. Gravely sand to sand |
| 2. Organic material | 5. Silty sand to sandy silt | 8. Very stiff sand to clayey sand |
| 3. Clay to silty clay | 6. Clean sand to silty sand | 9. Very stiff fine grained |

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CONE PENETRATION TEST RESULTS CPT-5

Date 10/18/21	Project No. 21-2059	Figure A-5
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Total depth: 32.2 ft, Date: October 4, 2021
 Assumed Depth to Groundwater: 21 feet
 Cone Operator: ConeTec, Inc.

SBT legend

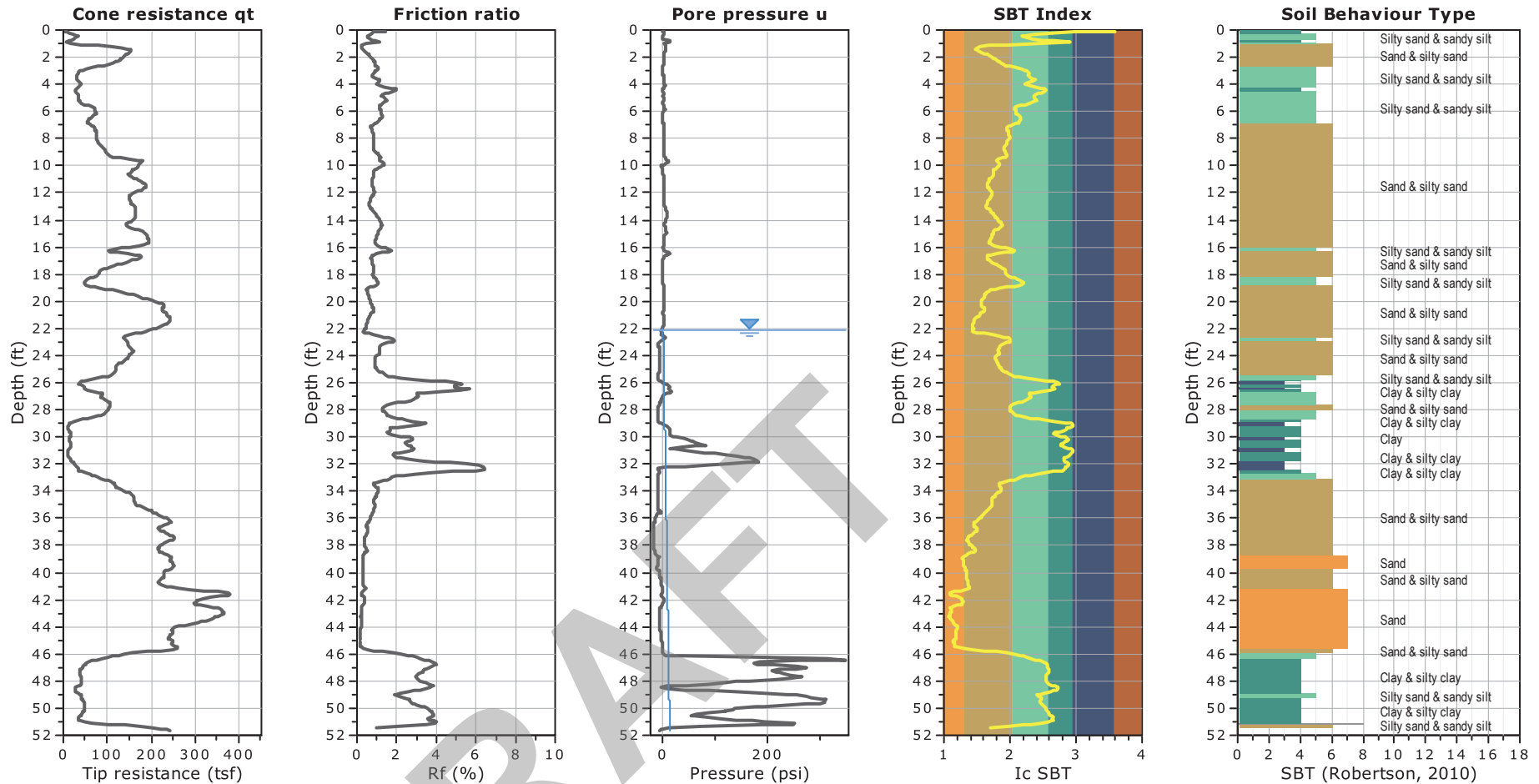
- | | | |
|---------------------------|------------------------------|-----------------------------------|
| 1. Sensitive fine grained | 4. Clayey silt to silty clay | 7. Gravely sand to sand |
| 2. Organic material | 5. Silty sand to sandy silt | 8. Very stiff sand to clayey sand |
| 3. Clay to silty clay | 6. Clean sand to silty sand | 9. Very stiff fine grained |

EMBLEM MANTECA
 144-490 QUINTAL ROAD
 Manteca, California

ROCKRIDGE
 GEOTECHNICAL

CONE PENETRATION TEST RESULTS
CPT-6

Date 10/18/21	Project No. 21-2059	Figure A-6
---------------	---------------------	------------



Total depth: 51.7 ft, Date: October 5, 2021
 Depth to Groundwater: 22.1 feet (measured using a
 pore pressure dissipation test at a depth of 51.6 feet)
 Cone Operator: ConeTec, Inc.

SBT legend

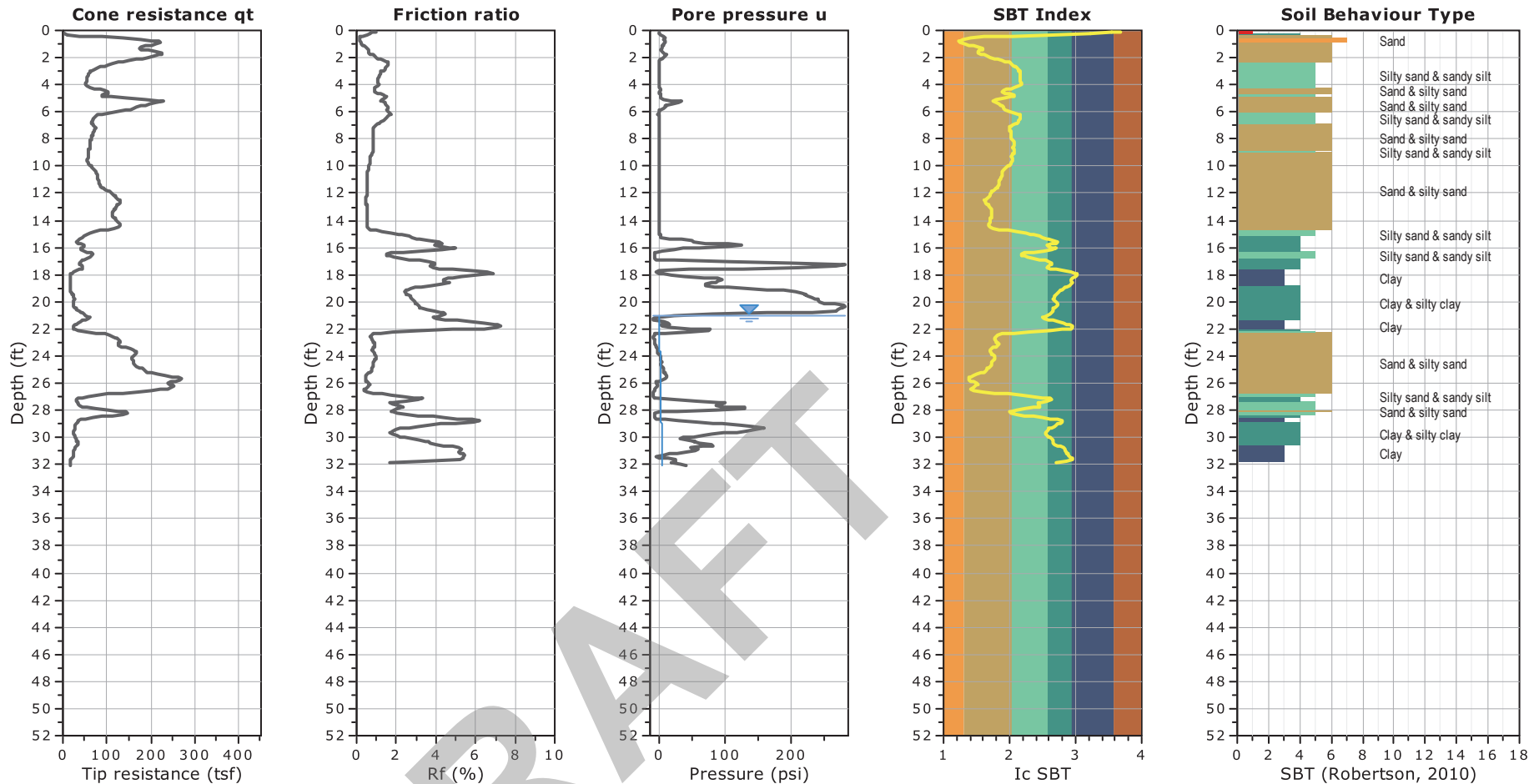
- | | | |
|---------------------------|------------------------------|-----------------------------------|
| 1. Sensitive fine grained | 4. Clayey silt to silty clay | 7. Gravely sand to sand |
| 2. Organic material | 5. Silty sand to sandy silt | 8. Very stiff sand to clayey sand |
| 3. Clay to silty clay | 6. Clean sand to silty sand | 9. Very stiff fine grained |

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CONE PENETRATION TEST RESULTS CPT-7

Date 10/18/21	Project No. 21-2059	Figure A-7
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Total depth: 32.1 ft, Date: October 4, 2021
 Assumed Depth to Groundwater: 21 feet
 Cone Operator: ConeTec, Inc.

SBT legend

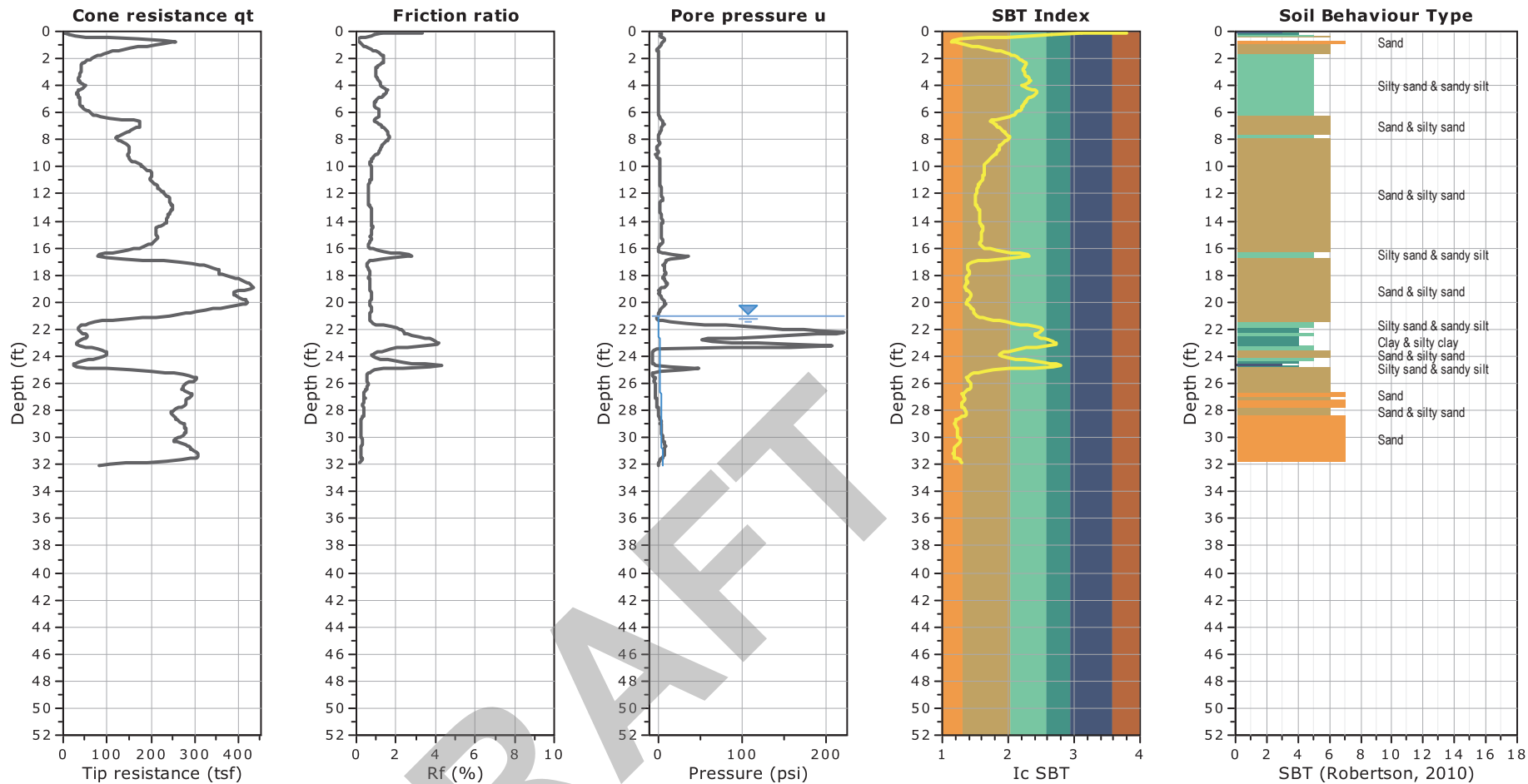
- | | | |
|---------------------------|------------------------------|-----------------------------------|
| 1. Sensitive fine grained | 4. Clayey silt to silty clay | 7. Gravely sand to sand |
| 2. Organic material | 5. Silty sand to sandy silt | 8. Very stiff sand to clayey sand |
| 3. Clay to silty clay | 6. Clean sand to silty sand | 9. Very stiff fine grained |

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CONE PENETRATION TEST RESULTS CPT-8

Date 10/18/21	Project No. 21-2059	Figure A-8
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Total depth: 32.1 ft, Date: October 4, 2021
 Assumed Depth to Groundwater: 21 feet
 Cone Operator: ConeTec, Inc.

SBT legend

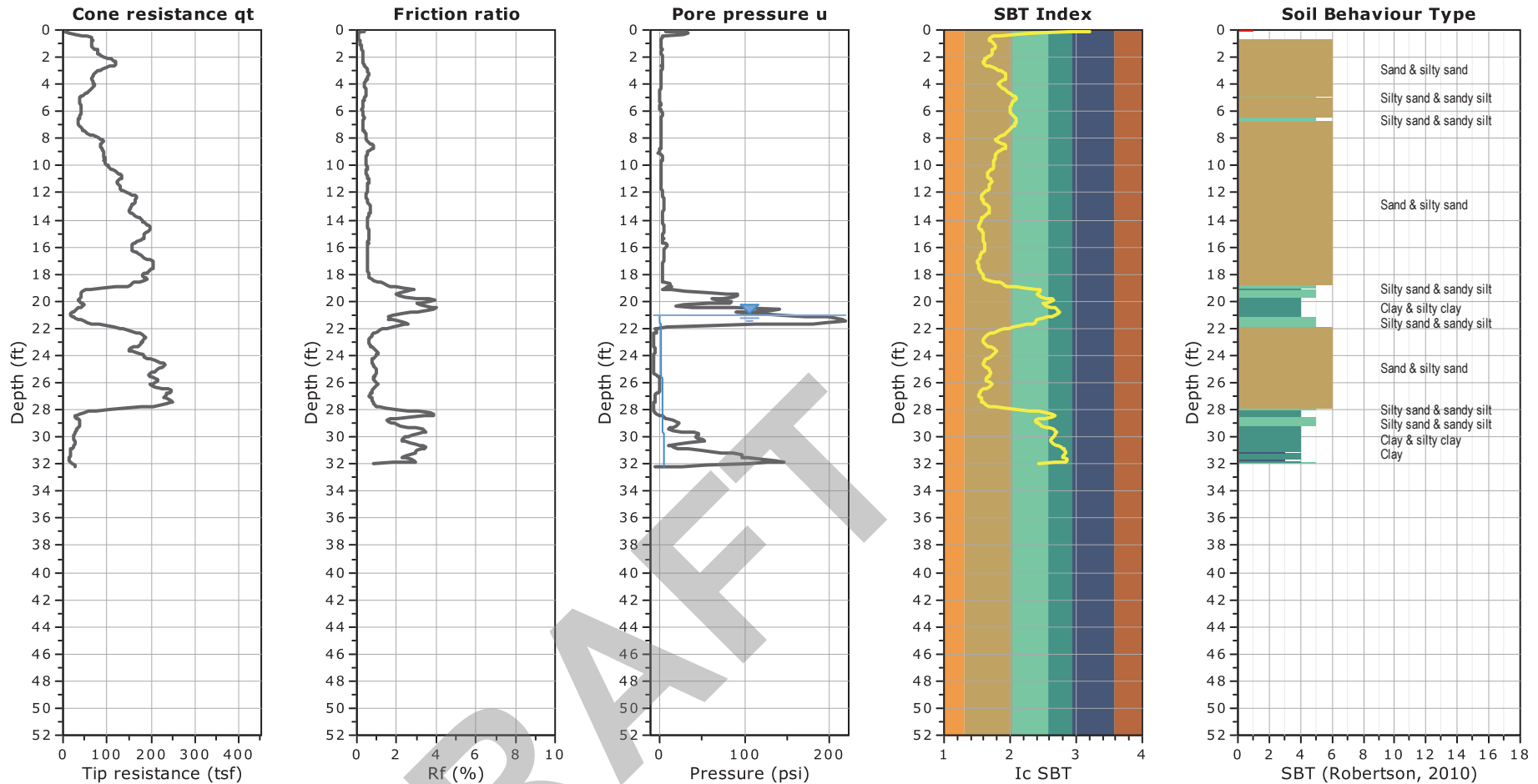
- | | | |
|---------------------------|------------------------------|-----------------------------------|
| 1. Sensitive fine grained | 4. Clayey silt to silty clay | 7. Gravely sand to sand |
| 2. Organic material | 5. Silty sand to sandy silt | 8. Very stiff sand to clayey sand |
| 3. Clay to silty clay | 6. Clean sand to silty sand | 9. Very stiff fine grained |

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CONE PENETRATION TEST RESULTS
CPT-9

Date 10/18/21	Project No. 21-2059	Figure A-9
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Total depth: 32.2 ft, Date: October 4, 2021
 Depth to Groundwater: 21 feet (measured using a
 pore pressure dissipation test at a depth of 32.2 feet)
 Cone Operator: ConeTec, Inc.

SBT legend

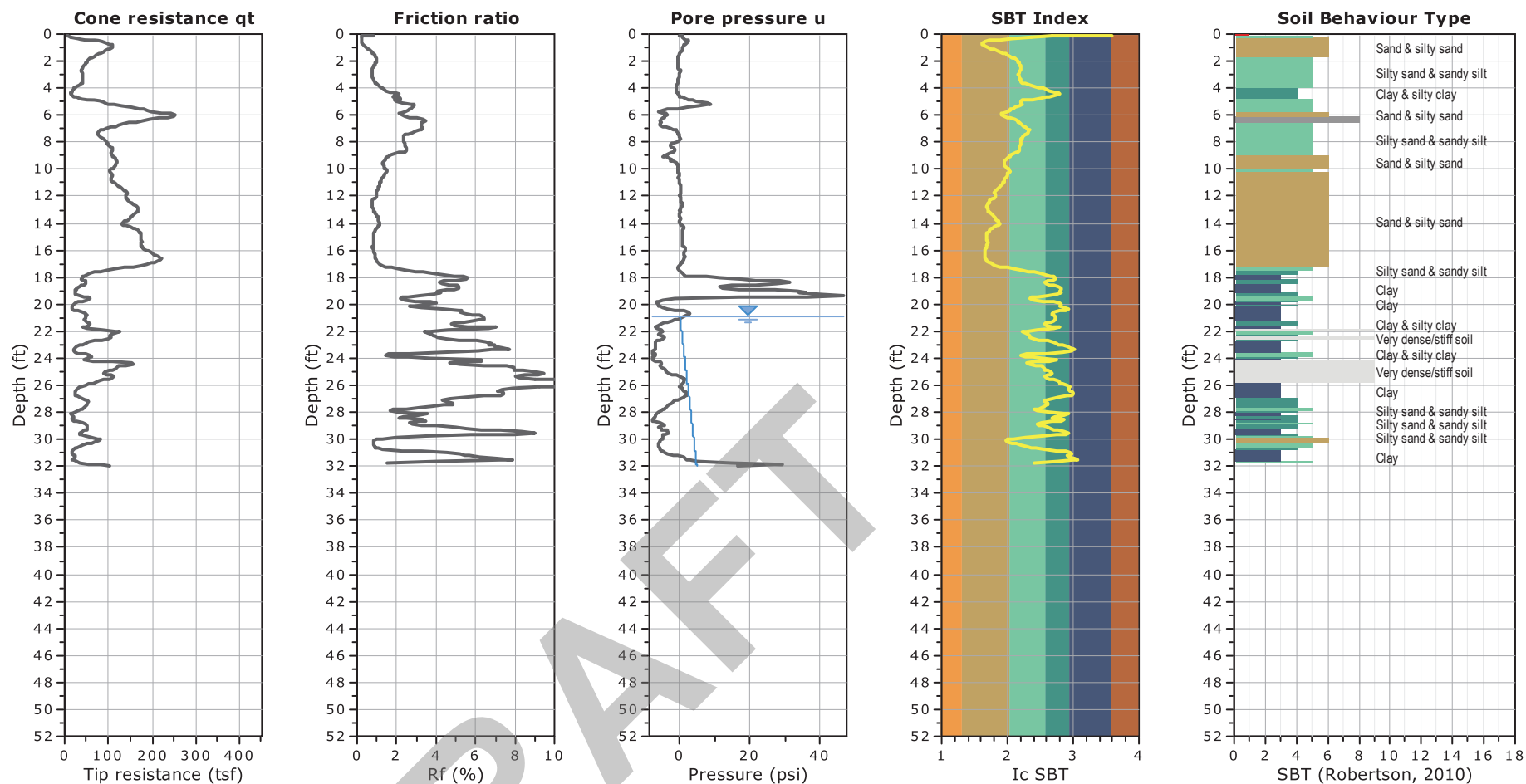
- | | | |
|---------------------------|------------------------------|-----------------------------------|
| 1. Sensitive fine grained | 4. Clayey silt to silty clay | 7. Gravely sand to sand |
| 2. Organic material | 5. Silty sand to sandy silt | 8. Very stiff sand to clayey sand |
| 3. Clay to silty clay | 6. Clean sand to silty sand | 9. Very stiff fine grained |

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CONE PENETRATION TEST RESULTS CPT-10

Date 10/18/21	Project No. 21-2059	Figure A-10
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Total depth: 32.0 ft, Date: October 4, 2021
 Depth to Groundwater: 20.9 feet (measured using a
 pore pressure dissipation test at a depth of 32 feet)
 Cone Operator: ConeTec, Inc.

SBT legend

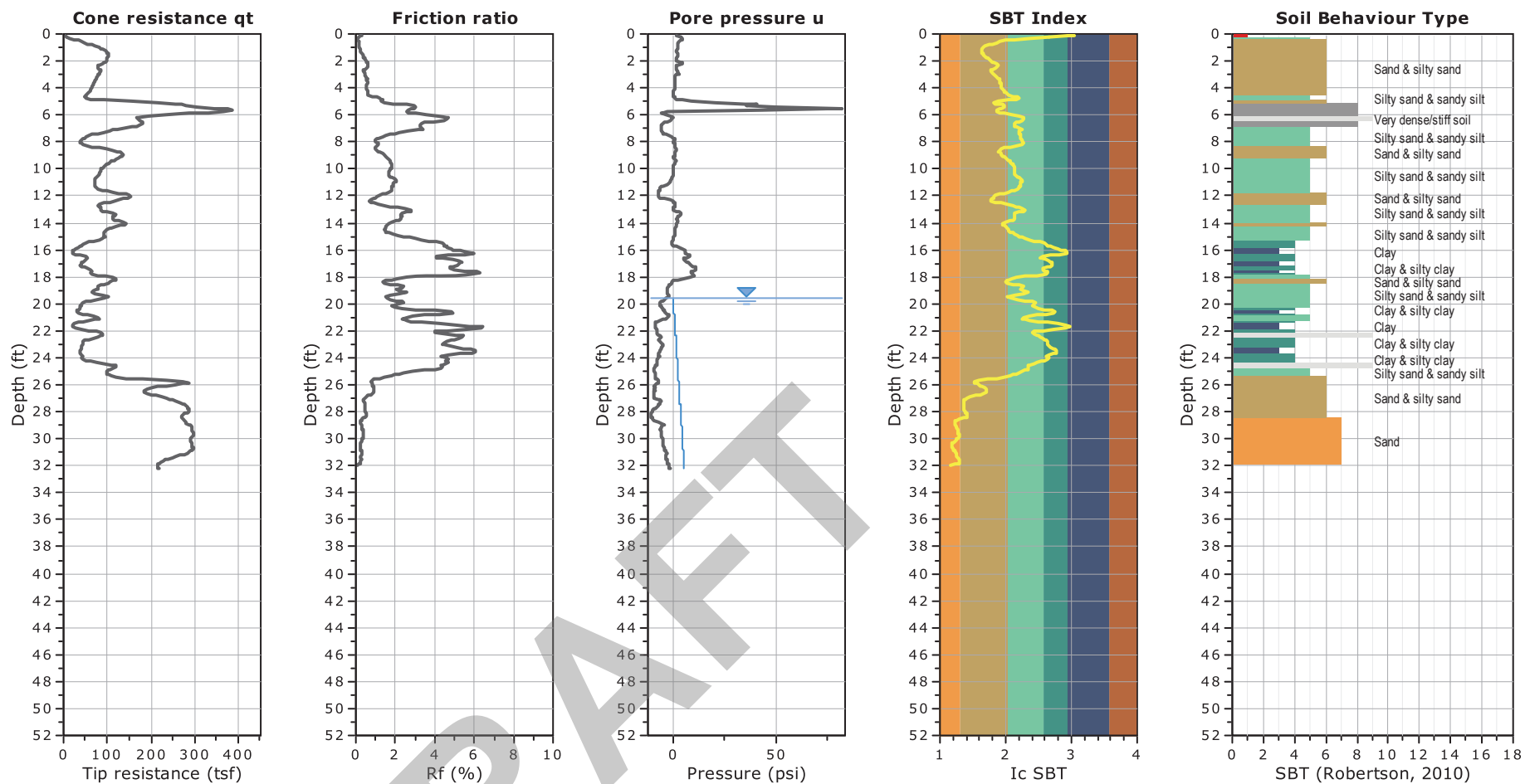
- | | | |
|---------------------------|------------------------------|-----------------------------------|
| 1. Sensitive fine grained | 4. Clayey silt to silty clay | 7. Gravely sand to sand |
| 2. Organic material | 5. Silty sand to sandy silt | 8. Very stiff sand to clayey sand |
| 3. Clay to silty clay | 6. Clean sand to silty sand | 9. Very stiff fine grained |

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CONE PENETRATION TEST RESULTS
CPT-11

Date 10/18/21	Project No. 21-2059	Figure A-11
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Total depth: 32.2 ft, Date: October 5, 2021
 Depth to Groundwater: 19.6 feet (measured using a
 pore pressure dissipation test at a depth of 27 feet)
 Cone Operator: ConeTec, Inc.

SBT legend

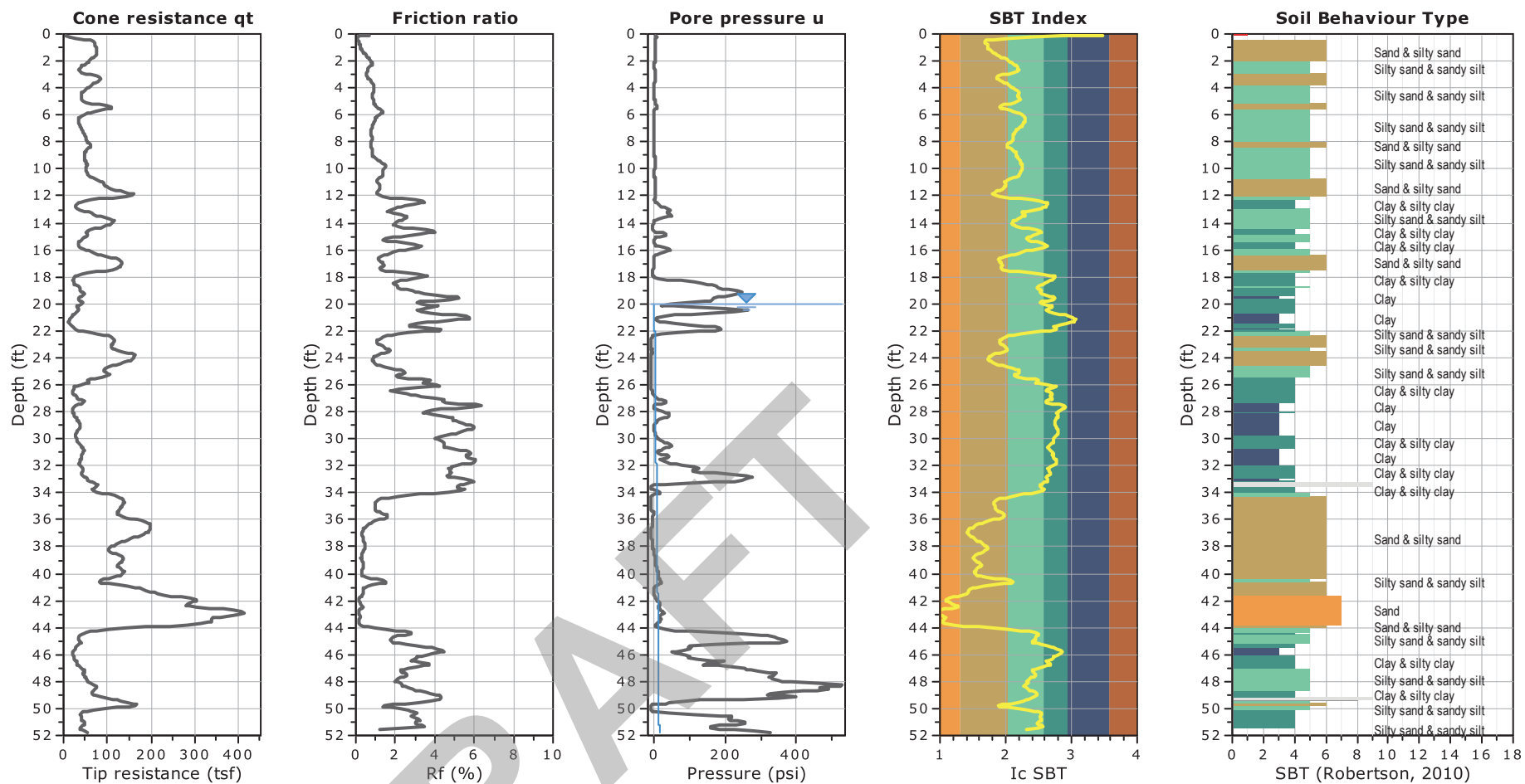
- | | | |
|---------------------------|------------------------------|-----------------------------------|
| 1. Sensitive fine grained | 4. Clayey silt to silty clay | 7. Gravely sand to sand |
| 2. Organic material | 5. Silty sand to sandy silt | 8. Very stiff sand to clayey sand |
| 3. Clay to silty clay | 6. Clean sand to silty sand | 9. Very stiff fine grained |

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CONE PENETRATION TEST RESULTS CPT-12

Date 10/18/21	Project No. 21-2059	Figure A-12
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Total depth: 51.8 ft, Date: October 5, 2021
 Depth to Groundwater: 20 feet (measured using a
 pore pressure dissipation test at a depth of 35 feet)
 Cone Operator: ConeTec, Inc.

SBT legend

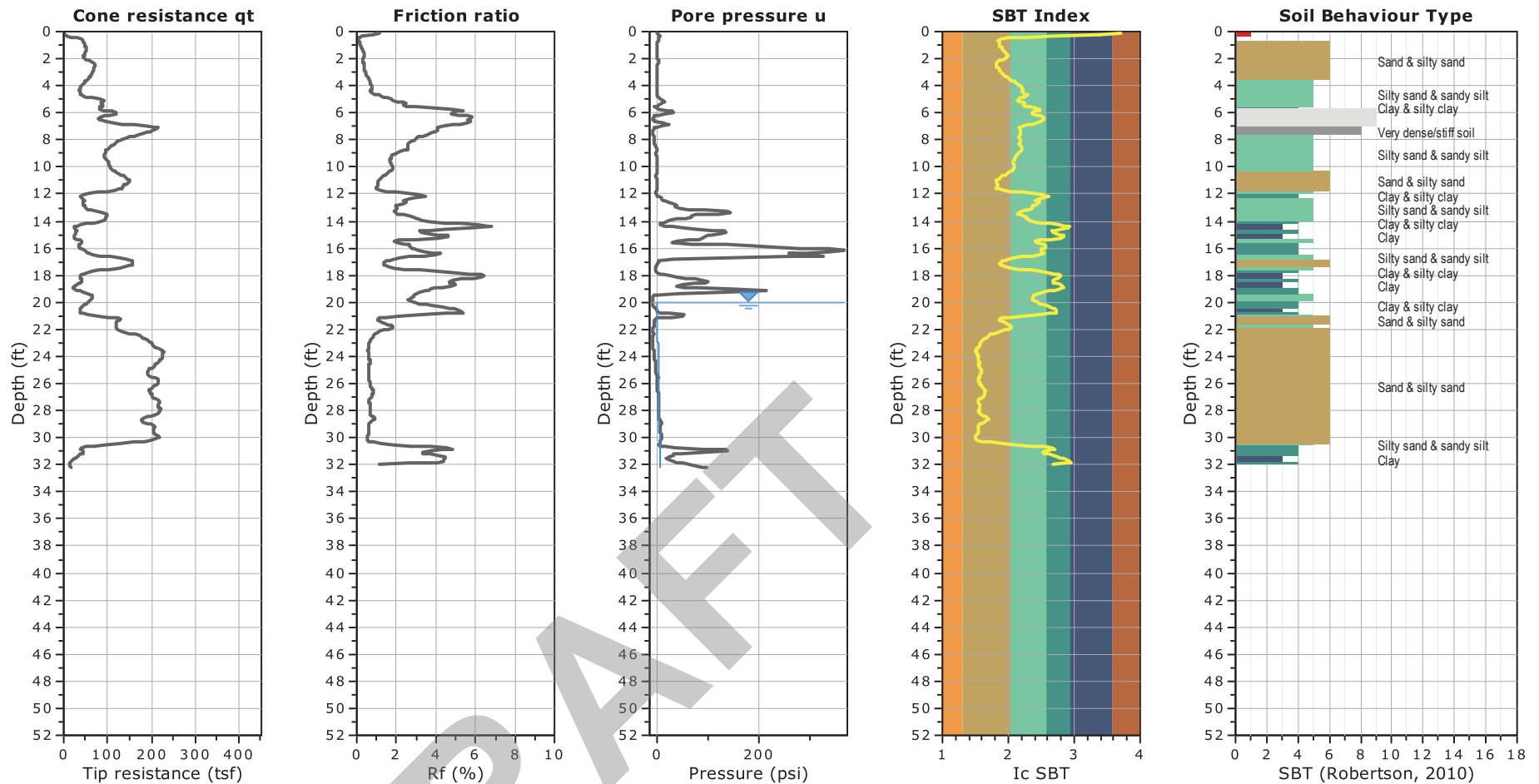
- | | | |
|---------------------------|------------------------------|-----------------------------------|
| 1. Sensitive fine grained | 4. Clayey silt to silty clay | 7. Gravely sand to sand |
| 2. Organic material | 5. Silty sand to sandy silt | 8. Very stiff sand to clayey sand |
| 3. Clay to silty clay | 6. Clean sand to silty sand | 9. Very stiff fine grained |

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CONE PENETRATION TEST RESULTS CPT-13

Date 10/18/21	Project No. 21-2059	Figure A-13
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Total depth: 32.2 ft, Date: October 5, 2021
 Assumed Depth to Groundwater: 20 feet
 Cone Operator: ConeTec, Inc.

SBT legend

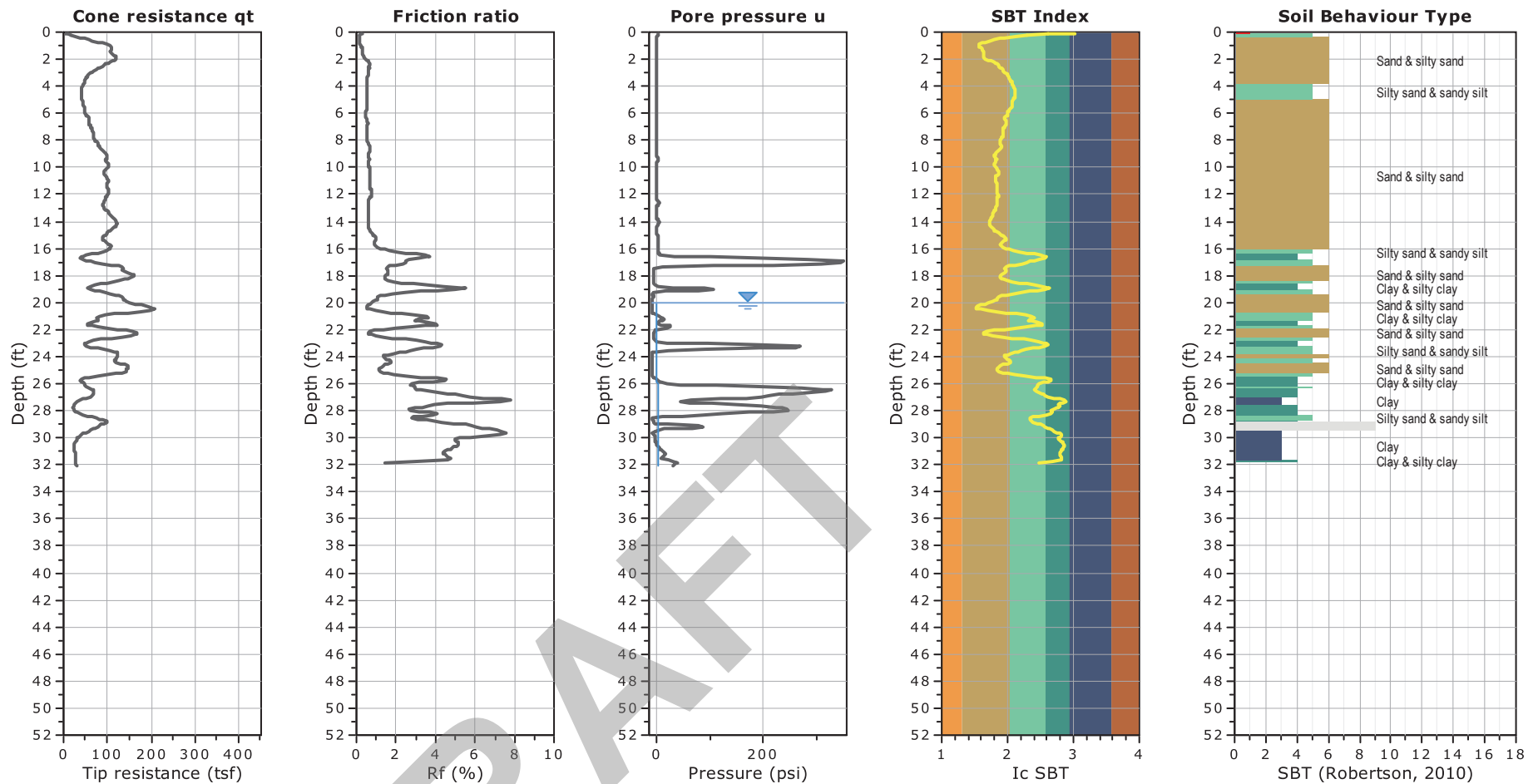
- | | | |
|---------------------------|------------------------------|-----------------------------------|
| 1. Sensitive fine grained | 4. Clayey silt to silty clay | 7. Gravely sand to sand |
| 2. Organic material | 5. Silty sand to sandy silt | 8. Very stiff sand to clayey sand |
| 3. Clay to silty clay | 6. Clean sand to silty sand | 9. Very stiff fine grained |

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CONE PENETRATION TEST RESULTS CPT-14

Date 10/18/21	Project No. 21-2059	Figure A-14
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Total depth: 32.1 ft, Date: October 5, 2021
 Assumed Depth to Groundwater: 20 feet
 Cone Operator: ConeTec, Inc.

SBT legend


- | | | |
|---------------------------|------------------------------|-----------------------------------|
| 1. Sensitive fine grained | 4. Clayey silt to silty clay | 7. Gravely sand to sand |
| 2. Organic material | 5. Silty sand to sandy silt | 8. Very stiff sand to clayey sand |
| 3. Clay to silty clay | 6. Clean sand to silty sand | 9. Very stiff fine grained |

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CONE PENETRATION TEST RESULTS CPT-15

Date 10/18/21	Project No. 21-2059	Figure A-15
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PROJECT:		EMBLEM MANTECA 144-490 QUINTAL ROAD Manteca, California				Log of Boring HA-1 PAGE 1 OF 1					
Boring location: See Site Plan, Figure 2						Logged by: J. Pisenti					
Date started: 10/04/2021			Date finished: 10/04/2021								
Drilling method: Hand Auger											
Hammer weight/drop: N/A				Hammer type: N/A		LABORATORY TEST DATA					
Sampler: Grab											
DEPTH (feet)	SAMPLES			LITHOLOGY	MATERIAL DESCRIPTION	Type of Strength Test	Confining Pressure Lbs/Sq Ft	Shear Strength Lbs/Sq Ft	Fines %	Natural Moisture Content, %	Dry Density Lbs/Cu Ft
	Sampler Type	Sample	Blows/ 6"								
1	GRAB	<input checked="" type="checkbox"/>		SP- SM	SAND with SILT (SP-SM) light brown to brown, dry, fine sand, trace organics						
2											
3	GRAB	<input checked="" type="checkbox"/>			yellow-brown to brown, moist, no organics						
4	GRAB	<input checked="" type="checkbox"/>									
5	GRAB	<input checked="" type="checkbox"/>		SM	SILTY SAND (SM) yellow-brown, moist, fine sand						
6											
7											
8											
9											
10											
11											
12											
Boring terminated at a depth of 5 feet below ground surface. Boring backfilled with soil cuttings. Groundwater not encountered during hand augering.						<div>  ROCKRIDGE GEOTECHNICAL </div>					
Project No.: 21-2059						Figure: A-16					

PROJECT:		EMBLEM MANTECA 144-490 QUINTAL ROAD Manteca, California				Log of Boring HA-2 PAGE 1 OF 1					
Boring location: See Site Plan, Figure 2						Logged by: J. Pisenti					
Date started: 10/04/2021			Date finished: 10/04/2021								
Drilling method: Hand Auger											
Hammer weight/drop: N/A			Hammer type: N/A			LABORATORY TEST DATA					
Sampler: Grab											
DEPTH (feet)	SAMPLES			LITHOLOGY	MATERIAL DESCRIPTION	Type of Strength Test	Confining Pressure Lbs/Sq Ft	Shear Strength Lbs/Sq Ft	Fines %	Natural Moisture Content, %	Dry Density Lbs/Cu Ft
	Sampler Type	Sample	Blows/ 6"								
1	GRAB			SP-SM	SAND with SILT (SP-SM) light brown, dry, fine sand						
2	GRAB				light brown to brown, moist						
3	GRAB				Particle Size Distribution; see Appendix B				9	3.6	
4	GRAB				yellow-brown						
5	GRAB										
6	GRAB										
7	GRAB				yellow-brown to brown Particle Size Distribution; see Appendix B				11	5.3	
8	GRAB			SM	SILTY SAND (SM) yellow-brown, moist, fine sand						
9	GRAB										
10	GRAB										
11											
12											

Boring terminated at a depth of 10 feet below ground surface.

Boring backfilled with soil cuttings.

Groundwater not encountered during hand augering.

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Project No.: 21-2059	Figure: A-17
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PROJECT:		EMBLEM MANTECA 144-490 QUINTAL ROAD Manteca, California				Log of Boring HA-3 PAGE 1 OF 1					
Boring location: See Site Plan, Figure 2						Logged by: J. Pisenti					
Date started: 10/04/2021			Date finished: 10/04/2021								
Drilling method: Hand Auger											
Hammer weight/drop: N/A			Hammer type: N/A			LABORATORY TEST DATA					
Sampler: Grab											
DEPTH (feet)	SAMPLES			LITHOLOGY	MATERIAL DESCRIPTION	Type of Strength Test	Confining Pressure Lbs/Sq Ft	Shear Strength Lbs/Sq Ft	Fines %	Natural Moisture Content, %	Dry Density Lbs/Cu Ft
	Sampler Type	Sample	Blows/ 6"								
1	GRAB	<input checked="" type="checkbox"/>		SP- SM	SAND with SILT (SP-SM) light brown, dry to moist, fine sand						
2	GRAB	<input checked="" type="checkbox"/>			SM	SILTY SAND (SM) brown, moist, fine sand					
3	GRAB	<input checked="" type="checkbox"/>									
4	GRAB	<input checked="" type="checkbox"/>				Particle Size Distribution; see Appendix B				12	6.3
5	GRAB	<input checked="" type="checkbox"/>									
6											
7											
8											
9											
10											
11											
12											

Boring terminated at a depth of 5 feet below ground surface.

Boring backfilled with soil cuttings.

Groundwater not encountered during hand augering.


**ROCKRIDGE
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Project No.: **21-2059** Figure: **A-18**


PROJECT:		EMBLEM MANTECA 144-490 QUINTAL ROAD Manteca, California				Log of Boring HA-4 PAGE 1 OF 1					
Boring location: See Site Plan, Figure 2						Logged by: J. Pisenti					
Date started: 10/04/2021			Date finished: 10/04/2021								
Drilling method: Hand Auger											
Hammer weight/drop: N/A			Hammer type: N/A			LABORATORY TEST DATA					
Sampler: Grab											
DEPTH (feet)	SAMPLES			LITHOLOGY	MATERIAL DESCRIPTION	Type of Strength Test	Confining Pressure Lbs/Sq Ft	Shear Strength Lbs/Sq Ft	Fines %	Natural Moisture Content, %	Dry Density Lbs/Cu Ft
	Sampler Type	Sample	Blows/ 6"								
1	GRAB			SM	SILTY SAND (SM) light brown, dry, fine sand						
2	GRAB				dry to moist light brown to brown, moist						
3	GRAB				yellow-brown to brown						
4	GRAB				light olive-brown						
5	GRAB				light gray to light olive with red-yellow oxidation, fine to medium sand						
6											
7											
8											
9											
10											
11											
12											
Boring terminated at a depth of 5 feet below ground surface. Boring backfilled with soil cuttings. Groundwater not encountered during hand augering.						<div> ROCKRIDGE GEOTECHNICAL </div>					
Project No.: 21-2059						Figure: A-19					

PROJECT:		EMBLEM MANTECA 144-490 QUINTAL ROAD Manteca, California				Log of Boring HA-5 PAGE 1 OF 1					
Boring location: See Site Plan, Figure 2						Logged by: J. Pisenti					
Date started: 10/05/2021			Date finished: 10/05/2021								
Drilling method: Hand Auger											
Hammer weight/drop: N/A			Hammer type: N/A			LABORATORY TEST DATA					
Sampler: Grab											
DEPTH (feet)	SAMPLES			LITHOLOGY	MATERIAL DESCRIPTION	Type of Strength Test	Confining Pressure Lbs/Sq Ft	Shear Strength Lbs/Sq Ft	Fines %	Natural Moisture Content, %	Dry Density Lbs/Cu Ft
	Sampler Type	Sample	Blows/ 6"								
1	GRAB	<input checked="" type="checkbox"/>		SM	SILTY SAND (SM) light brown, dry, fine sand, trace organics dry to moist						
2	GRAB	<input checked="" type="checkbox"/>			light brown to yellow-brown, moist						
3	GRAB	<input checked="" type="checkbox"/>			light brown to light olive, no organics						
4	GRAB	<input checked="" type="checkbox"/>			light gray to light brown, moist						
5	GRAB	<input checked="" type="checkbox"/>			light brown to light yellow-brown Particle Size Distribution; see Appendix B				24	5.9	
6											
7											
8											
9											
10											
11											
12											

Boring terminated at a depth of 5 feet below ground surface.

Boring backfilled with soil cuttings.

Groundwater not encountered during hand augering.


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Project No.: 21-2059	Figure: A-20
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PROJECT:		EMBLEM MANTECA 144-490 QUINTAL ROAD Manteca, California				Log of Boring HA-6 PAGE 1 OF 1						
Boring location: See Site Plan, Figure 2						Logged by: J. Pisenti						
Date started: 10/05/2021			Date finished: 10/05/2021									
Drilling method: Hand Auger												
Hammer weight/drop: N/A			Hammer type: N/A			LABORATORY TEST DATA						
Sampler: Grab												
DEPTH (feet)	SAMPLES				LITHOLOGY	MATERIAL DESCRIPTION	Type of Strength Test	Confining Pressure Lbs/Sq Ft	Shear Strength Lbs/Sq Ft	Fines %	Natural Moisture Content, %	Dry Density Lbs/Cu Ft
	Sampler Type	Sample	Blows/ 6"	SPT N-Value ¹								
1	GRAB				SP-SM	SAND with SILT (SP-SM) light brown, dry, fine sand, trace organics						
2	GRAB					brown, moist, no organics						
3	GRAB				SM	SILTY SAND (SM) yellow-brown, moist, fine sand						
4	GRAB											
5	GRAB				SP-SM	SAND with SILT (SP-SM) yellow-brown to brown, moist, fine to medium sand						
	GRAB				SM	SILTY SAND (SM) olive to olive-brown, moist, fine to medium sand, some gravel Particle Size Distribution: see Appendix B				31	16.0	
6												
7												
8												
9												
10												
11												
12												
Boring terminated at a depth of 5 feet below ground surface. Boring backfilled with soil cuttings. Groundwater not encountered during hand augering.							ROCKRIDGE GEOTECHNICAL					
Project No.: 21-2059							Figure: A-21					

PROJECT:		EMBLEM MANTECA 144-490 QUINTAL ROAD Manteca, California				Log of Boring HA-7 PAGE 1 OF 1					
Boring location: See Site Plan, Figure 2						Logged by: J. Pisenti					
Date started: 10/05/2021			Date finished: 10/05/2021								
Drilling method: Hand Auger											
Hammer weight/drop: N/A			Hammer type: N/A			LABORATORY TEST DATA					
Sampler: Grab											
DEPTH (feet)	SAMPLES			LITHOLOGY	MATERIAL DESCRIPTION	Type of Strength Test	Confining Pressure Lbs/Sq Ft	Shear Strength Lbs/Sq Ft	Fines %	Natural Moisture Content, %	Dry Density Lbs/Cu Ft
	Sampler Type	Sample	Blows/ 6"								
1	GRAB	<input checked="" type="checkbox"/>		SP- SM	SAND with SILT (SP-SM) light brown, dry, fine sand, trace organics						
2	GRAB	<input checked="" type="checkbox"/>			SILTY SAND (SM) yellow-brown to brown, moist, fine sand						
3	GRAB	<input checked="" type="checkbox"/>		SM	brown						
4	GRAB	<input checked="" type="checkbox"/>			dark brown						
5	GRAB	<input checked="" type="checkbox"/>									
6	GRAB	<input checked="" type="checkbox"/>			brown to gray-brown						
7	GRAB	<input checked="" type="checkbox"/>			olive to olive-brown						
8	GRAB	<input checked="" type="checkbox"/>			olive to olive-brown						
9	GRAB	<input checked="" type="checkbox"/>			light olive to light gray, decreased silt content Particle Size Distribution; see Appendix B				13	7.3	
10	GRAB	<input checked="" type="checkbox"/>									
11											
12											

Boring terminated at a depth of 10 feet below ground surface.

Boring backfilled with soil cuttings.

Groundwater not encountered during hand augering.


**ROCKRIDGE
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Project No.: 21-2059 Figure: A-22

PROJECT:		EMBLEM MANTECA 144-490 QUINTAL ROAD Manteca, California				Log of Boring HA-8 PAGE 1 OF 1						
Boring location: See Site Plan, Figure 2						Logged by: J. Pisenti						
Date started: 10/05/2021			Date finished: 10/05/2021									
Drilling method: Hand Auger												
Hammer weight/drop: N/A				Hammer type: N/A		LABORATORY TEST DATA						
Sampler: Grab												
DEPTH (feet)	SAMPLES			SPT N-Value ¹	LITHOLOGY	MATERIAL DESCRIPTION	Type of Strength Test	Confining Pressure Lbs/Sq Ft	Shear Strength Lbs/Sq Ft	Fines %	Natural Moisture Content, %	Dry Density Lbs/Cu Ft
	Sampler Type	Sample	Blows/ 6"									
1	GRAB	<input checked="" type="checkbox"/>			SM	SILTY SAND (SM) light brown, dry, fine sand, trace organics						
2	GRAB	<input checked="" type="checkbox"/>				light brown to brown, dry to moist						
3	GRAB	<input checked="" type="checkbox"/>				brown, no organics						
4	GRAB	<input checked="" type="checkbox"/>				yellow-brown						
5	GRAB	<input checked="" type="checkbox"/>										
6												
7												
8												
9												
10												
11												
12												

DRAFT

Boring terminated at a depth of 5 feet below ground surface.

Boring backfilled with soil cuttings.

Groundwater not encountered during hand augering.

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Project No.: 21-2059

Figure: A-23

UNIFIED SOIL CLASSIFICATION SYSTEM			
Major Divisions		Symbols	Typical Names
Coarse-Grained Soils (more than half of soil > no. 200 sieve size)	Gravels (More than half of coarse fraction > no. 4 sieve size)	GW	Well-graded gravels or gravel-sand mixtures, little or no fines
		GP	Poorly-graded gravels or gravel-sand mixtures, little or no fines
		GM	Silty gravels, gravel-sand-silt mixtures
		GC	Clayey gravels, gravel-sand-clay mixtures
	Sands (More than half of coarse fraction < no. 4 sieve size)	SW	Well-graded sands or gravelly sands, little or no fines
		SP	Poorly-graded sands or gravelly sands, little or no fines
		SM	Silty sands, sand-silt mixtures
		SC	Clayey sands, sand-clay mixtures
Fine -Grained Soils (more than half of soil < no. 200 sieve size)	Silts and Clays LL = < 50	ML	Inorganic silts and clayey silts of low plasticity, sandy silts, gravelly silts
		CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, lean clays
		OL	Organic silts and organic silt-clays of low plasticity
	Silts and Clays LL = > 50	MH	Inorganic silts of high plasticity
		CH	Inorganic clays of high plasticity, fat clays
		OH	Organic silts and clays of high plasticity
Highly Organic Soils		PT	Peat and other highly organic soils

GRAIN SIZE CHART

Classification	Range of Grain Sizes	
	U.S. Standard Sieve Size	Grain Size in Millimeters
Boulders	Above 12"	Above 305
Cobbles	12" to 3"	305 to 76.2
Gravel coarse fine	3" to No. 4	76.2 to 4.76
	3" to 3/4"	76.2 to 19.1
	3/4" to No. 4	19.1 to 4.76
Sand coarse medium fine	No. 4 to No. 200	4.76 to 0.075
	No. 4 to No. 10	4.76 to 2.00
	No. 10 to No. 40	2.00 to 0.420
	No. 40 to No. 200	0.420 to 0.075
Silt and Clay	Below No. 200	Below 0.075

Unstabilized groundwater level

Stabilized groundwater level

Sample taken with California or Modified California split-barrel sampler. Darkened area indicates soil recovered

Classification sample taken with Standard Penetration Test sampler

Undisturbed sample taken with thin-walled tube

Disturbed sample

Sampling attempted with no recovery

Core sample

Analytical laboratory sample

Sample taken with Direct Push sampler

Sonic

SAMPLER TYPE

C	Core barrel	PT	Pitcher tube sampler using 3.0-inch outside diameter, thin-walled Shelby tube
CA	California split-barrel sampler with 2.5-inch outside diameter and a 1.93-inch inside diameter	MC	Modified California sampler with a 3.0-inch outside diameter and a 2.43-inch inside diameter
D&M	Dames & Moore piston sampler using 2.5-inch outside diameter, thin-walled tube	SPT	Standard Penetration Test (SPT) split-barrel sampler with a 2.0-inch outside diameter and a 1.5-inch inside diameter
O	Osterberg piston sampler using 3.0-inch outside diameter, thin-walled Shelby tube	ST	Shelby Tube (3.0-inch outside diameter, thin-walled tube) advanced with hydraulic pressure

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CLASSIFICATION CHART

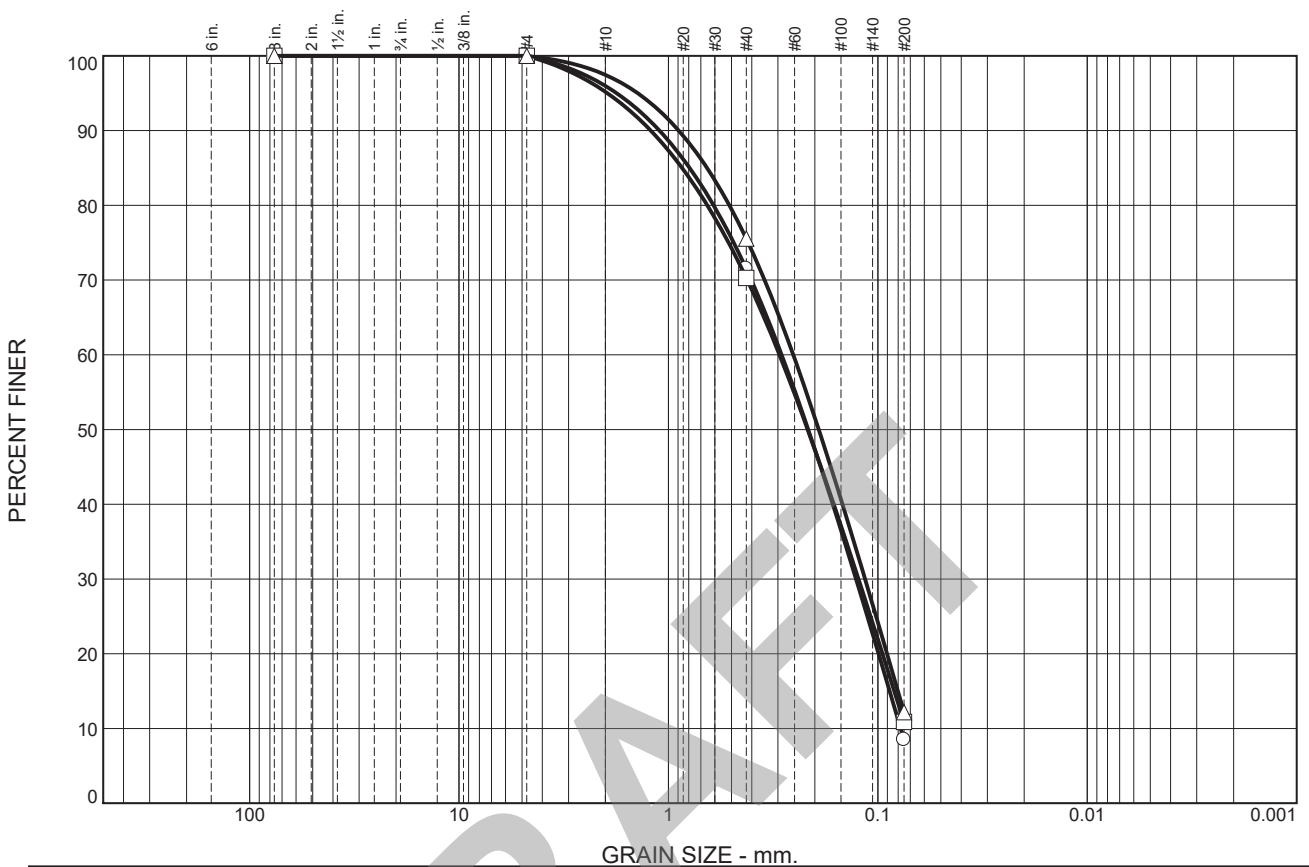
Date 10/18/21

Project No. 21-2059

Figure A-24

APPENDIX B
Laboratory Test Results

DRAFT



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	0.0	4.0	24.5	63.0	8.5	
□	0.0	0.0	0.0	4.8	24.9	59.4	10.9	
△	0.0	0.0	0.0	2.6	21.9	63.3	12.2	

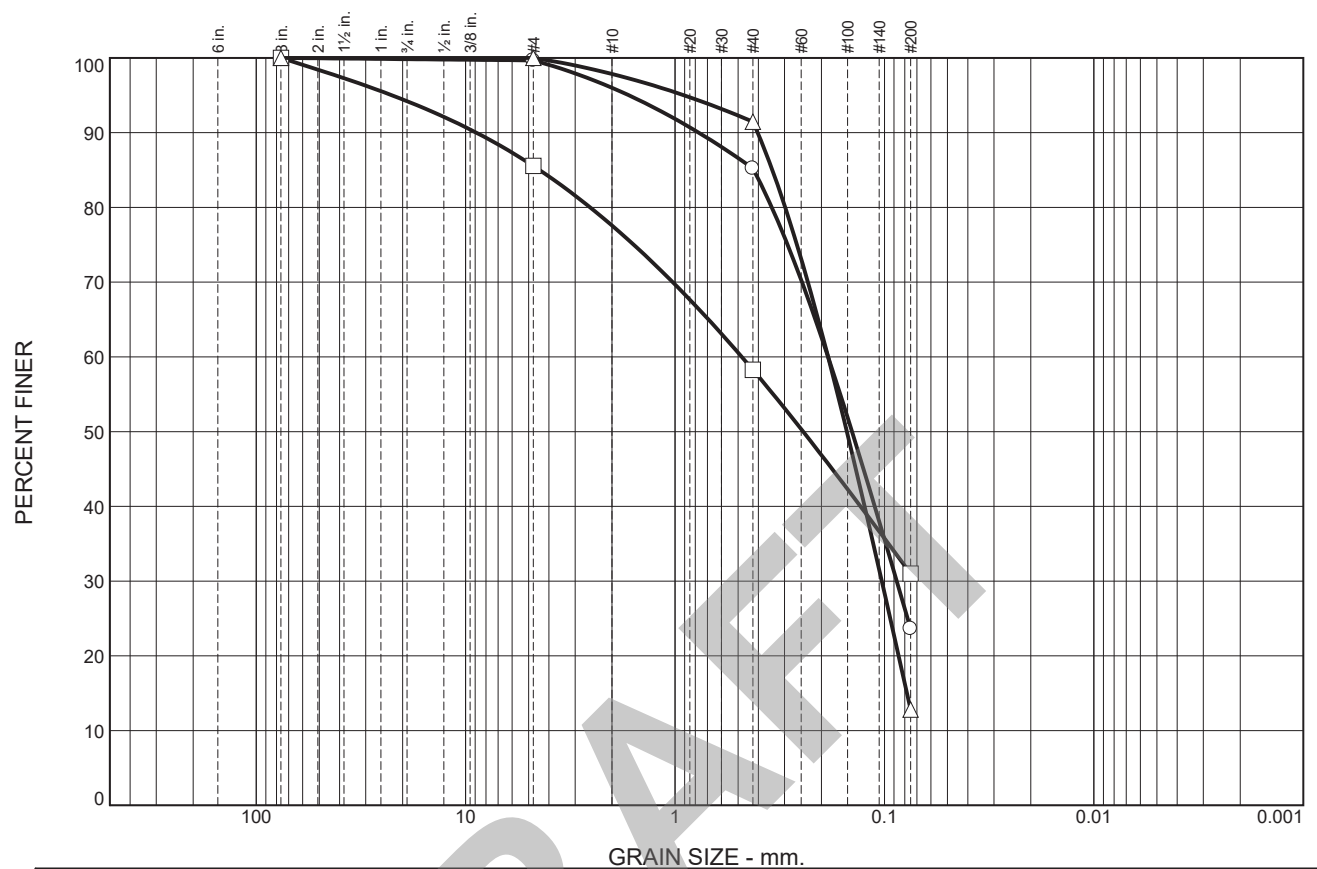
SOIL DATA				
SYMBOL	SOURCE	DEPTH (ft.)	Material Description	USCS
○	HA-2	2.5'	SAND with SILT, light brown to brown	SP-SM
□	HA-2	6.5'	SAND with SILT, yellow-brown to brown	SP-SM
△	HA-3	3.5'	SILTY SAND, brown	SM

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 Manteca, California

ROCKRIDGE
GEOTECHNICAL

PARTICLE SIZE DISTRIBUTION REPORT

Date 10/18/21 Project No. 21-2059 Figure B-1a



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.2	0.1	3.7	10.8	61.6	23.6	
□	0.0	5.8	8.7	7.9	19.3	27.3	31.0	
△	0.0	0.0	0.0	2.1	6.4	78.7	12.8	

SOIL DATA				
SYMBOL	SOURCE	DEPTH (ft.)	Material Description	USCS
○	HA-5	4.5'	SILTY SAND, light brown to light yellow-brown	SM
□	HA-6	4.5'	SILTY SAND, olive to olive-brown	SM
△	HA-7	8.5'	SILTY SAND, light olive to light gray	SM

EMBLEM MANTECA
144-490 QUINTAL ROAD
 Manteca, California

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