

PROJECT REPORT

**TO: ENVIRONMENTAL EVALUATION
COMMITTEE**

AGENDA DATE: January 9, 2020

FROM: PLANNING & DEVELOPMENT SERVICES DEPT. AGENDA TIME: 1:30 PM/No. 2

PROJECT TYPE: IC Public Works Public Safety Facility IS19-0024 SUPERVISOR DIST #4

LOCATION: 8071 Luxor Ave Niland CA APN 021-111-008-000

PARCEL SIZE: 12,418.82 sq.ft.

GENERAL PLAN (existing) Urban GENERAL PLAN (proposed) N/A

ZONE (existing) Government/Special Public (G/S) ZONE (proposed) N/A

GENERAL PLAN FINDINGS CONSISTENT INCONSISTENT MAY BE/FINDINGS

PLANNING COMMISSION DECISION:

HEARING DATE: _____

APPROVED DENIED OTHER

PLANNING DIRECTORS DECISION:

HEARING DATE: _____

APPROVED DENIED OTHER

ENVIRONMENTAL EVALUATION COMMITTEE DECISION: HEARING DATE: 01/09/2020

INITIAL STUDY: #19-0024

NEGATIVE DECLARATION MITIGATED NEG. DECLARATION EIR

DEPARTMENTAL REPORTS / APPROVALS:

PUBLIC WORKS	<input checked="" type="checkbox"/>	NONE	<input type="checkbox"/>	ATTACHED
AG	<input checked="" type="checkbox"/>	NONE	<input type="checkbox"/>	ATTACHED
APCD	<input type="checkbox"/>	NONE	<input checked="" type="checkbox"/>	ATTACHED
E.H.S.	<input checked="" type="checkbox"/>	NONE	<input type="checkbox"/>	ATTACHED
FIRE / OES	<input checked="" type="checkbox"/>	NONE	<input type="checkbox"/>	ATTACHED
OTHER	<u>(See Attached) IID Letter dated December 4, 2019</u>			

REQUESTED ACTION:

Imperial County Planning & Development Services

(Jim Minnick, Director)

801 MAIN ST., EL CENTRO, CA., 92243 442-265-1736

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- NEGATIVE DECLARATION**
 MITIGATED NEGATIVE DECLARATION

*Initial Study & Environmental Analysis
For:*

IS #19-0024



Prepared By:

COUNTY OF IMPERIAL
Planning & Development Services Department
801 Main Street
El Centro, CA 92243
(442) 265-1736
www.icpds.com

January 2020

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SECTION 1 INTRODUCTION

A. PURPOSE

This document is a policy-level; project level Initial Study for evaluation of potential environmental impacts resulting with the proposed **Initial Study #19-0024** (Refer to Exhibit "A" & "B").

B. CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA) REQUIREMENTS AND THE IMPERIAL COUNTY'S GUIDELINES FOR IMPLEMENTING CEQA

As defined by Section 15063 of the State California Environmental Quality Act (CEQA) Guidelines and Section 7 of the County's "CEQA Regulations Guidelines for the Implementation of CEQA, as amended", an **Initial Study** is prepared primarily to provide the Lead Agency with information to use as the basis for determining whether an Environmental Impact Report (EIR), Negative Declaration, or Mitigated Negative Declaration would be appropriate for providing the necessary environmental documentation and clearance for any proposed project.

According to Section 15065, an **EIR** is deemed appropriate for a particular proposal if the following conditions occur:

- The proposal has the potential to substantially degrade quality of the environment.
- The proposal has the potential to achieve short-term environmental goals to the disadvantage of long-term environmental goals.
- The proposal has possible environmental effects that are individually limited but cumulatively considerable.
- The proposal could cause direct or indirect adverse effects on human beings.

According to Section 15070(a), a **Negative Declaration** is deemed appropriate if the proposal would not result in any significant effect on the environment.

According to Section 15070(b), a **Mitigated Negative Declaration** is deemed appropriate if it is determined that though a proposal could result in a significant effect, mitigation measures are available to reduce these significant effects to insignificant levels.

This Initial Study has determined that the proposed applications will not result in any potentially significant environmental impacts and therefore, a Negative Declaration is deemed as the appropriate document to provide necessary environmental evaluations and clearance as identified hereinafter.

This Initial Study and Negative Declaration are prepared in conformance with the California Environmental Quality Act of 1970, as amended (Public Resources Code, Section 21000 et. seq.); Section 15070 of the State & County of Imperial's Guidelines for Implementation of the California Environmental Quality Act of 1970, as amended (California Code of Regulations, Title 14, Chapter 3, Section 15000, et. seq.); applicable requirements of the County of Imperial; and the regulations, requirements, and procedures of any other responsible public agency or an agency with jurisdiction by law.

Pursuant to the County of Imperial Guidelines for Implementing CEQA, depending on the project scope,

the County of Imperial Board of Supervisors, Planning Commission and/or Planning Director is designated the Lead Agency, in accordance with Section 15050 of the CEQA Guidelines. The Lead Agency is the public agency which has the principal responsibility for approving the necessary environmental clearances and analyses for any project in the County.

C. INTENDED USES OF INITIAL STUDY AND NEGATIVE DECLARATION

This Initial Study and Negative Declaration are informational documents which are intended to inform County of Imperial decision makers, other responsible or interested agencies, and the general public of potential environmental effects of the proposed applications. The environmental review process has been established to enable public agencies to evaluate environmental consequences and to examine and implement methods of eliminating or reducing any potentially adverse impacts. While CEQA requires that consideration be given to avoiding environmental damage, the Lead Agency and other responsible public agencies must balance adverse environmental effects against other public objectives, including economic and social goals.

The Initial Study and Negative Declaration, prepared for the project will be circulated for a period of 20 days (30-days if submitted to the State Clearinghouse for a project of area-wide significance) for public and agency review and comments. At the conclusion, if comments are received, the County Planning & Development Services Department will prepare a document entitled "Responses to Comments" which will be forwarded to any commenting entity and be made part of the record within 10-days of any project consideration.

D. CONTENTS OF INITIAL STUDY & NEGATIVE DECLARATION

This Initial Study is organized to facilitate a basic understanding of the existing setting and environmental implications of the proposed applications.

SECTION 1

I. INTRODUCTION presents an introduction to the entire report. This section discusses the environmental process, scope of environmental review, and incorporation by reference documents.

SECTION 2

II. ENVIRONMENTAL CHECKLIST FORM contains the County's Environmental Checklist Form. The checklist form presents results of the environmental evaluation for the proposed applications and those issue areas that would have either a significant impact, potentially significant impact, or no impact.

PROJECT SUMMARY, LOCATION AND ENVIRONMENTAL SETTINGS describes the proposed project entitlements and required applications. A description of discretionary approvals and permits required for project implementation is also included. It also identifies the location of the project and a general description of the surrounding environmental settings.

ENVIRONMENTAL ANALYSIS evaluates each response provided in the environmental checklist form. Each response checked in the checklist form is discussed and supported with sufficient data and analysis as necessary. As appropriate, each response discussion describes and identifies specific impacts anticipated with project implementation.

SECTION 3

III. MANDATORY FINDINGS presents Mandatory Findings of Significance in accordance with Section

15065 of the CEQA Guidelines.

IV. PERSONS AND ORGANIZATIONS CONSULTED identifies those persons consulted and involved in preparation of this Initial Study and Negative Declaration.

V. REFERENCES lists bibliographical materials used in preparation of this document.

VI. NEGATIVE DECLARATION – COUNTY OF IMPERIAL

VII. FINDINGS

SECTION 4

VIII. RESPONSE TO COMMENTS (IF ANY)

IX. MITIGATION MONITORING & REPORTING PROGRAM (MMRP) (IF ANY)

E. SCOPE OF ENVIRONMENTAL ANALYSIS

For evaluation of environmental impacts, each question from the Environmental Checklist Form is summarized and responses are provided according to the analysis undertaken as part of the Initial Study. Impacts and effects will be evaluated and quantified, when appropriate. To each question, there are four possible responses, including:

1. **No Impact:** A “No Impact” response is adequately supported if the impact simply does not apply to the proposed applications.
2. **Less Than Significant Impact:** The proposed applications will have the potential to impact the environment. These impacts, however, will be less than significant; no additional analysis is required.
3. **Less Than Significant With Mitigation Incorporated:** This applies where incorporation of mitigation measures has reduced an effect from “Potentially Significant Impact” to a “Less Than Significant Impact”.
4. **Potentially Significant Impact:** The proposed applications could have impacts that are considered significant. Additional analyses and possibly an EIR could be required to identify mitigation measures that could reduce these impacts to less than significant levels.

F. POLICY-LEVEL or PROJECT LEVEL ENVIRONMENTAL ANALYSIS

This Initial Study and Negative Declaration will be conducted under a policy-level, project level analysis. Regarding mitigation measures, it is not the intent of this document to “overlap” or restate conditions of approval that are commonly established for future known projects or the proposed applications. Additionally, those other standard requirements and regulations that any development must comply with, that are outside the County’s jurisdiction, are also not considered mitigation measures and therefore, will not be identified in this document.

G. TIERED DOCUMENTS AND INCORPORATION BY REFERENCE

Information, findings, and conclusions contained in this document are based on incorporation by reference of tiered documentation, which are discussed in the following section.

1. Tiered Documents

As permitted in Section 15152(a) of the CEQA Guidelines, information and discussions from other documents can be included into this document. Tiering is defined as follows:

"Tiering refers to using the analysis of general matters contained in a broader EIR (such as the one prepared for a general plan or policy statement) with later EIRs and negative declarations on narrower projects; incorporating by reference the general discussions from the broader EIR; and concentrating the later EIR or negative declaration solely on the issues specific to the later project."

Tiering also allows this document to comply with Section 15152(b) of the CEQA Guidelines, which discourages redundant analyses, as follows:

"Agencies are encouraged to tier the environmental analyses which they prepare for separate but related projects including the general plans, zoning changes, and development projects. This approach can eliminate repetitive discussion of the same issues and focus the later EIR or negative declaration on the actual issues ripe for decision at each level of environmental review. Tiering is appropriate when the sequence of analysis is from an EIR prepared for a general plan, policy or program to an EIR or negative declaration for another plan, policy, or program of lesser scope, or to a site-specific EIR or negative declaration."

Further, Section 15152(d) of the CEQA Guidelines states:

"Where an EIR has been prepared and certified for a program, plan, policy, or ordinance consistent with the requirements of this section, any lead agency for a later project pursuant to or consistent with the program, plan, policy, or ordinance should limit the EIR or negative declaration on the later project to effects which:

- (1) Were not examined as significant effects on the environment in the prior EIR; or
- (2) Are susceptible to substantial reduction or avoidance by the choice of specific revisions in the project, by the imposition of conditions, or other means."

2. Incorporation By Reference

Incorporation by reference is a procedure for reducing the size of EIRs/MND and is most appropriate for including long, descriptive, or technical materials that provide general background information, but do not contribute directly to the specific analysis of the project itself. This procedure is particularly useful when an EIR or Negative Declaration relies on a broadly-drafted EIR for its evaluation of cumulative impacts of related projects (*Las Virgenes Homeowners Federation v. County of Los Angeles* [1986, 177 Ca.3d 300]). If an EIR or Negative Declaration relies on information from a supporting study that is available to the public, the EIR or Negative Declaration cannot be deemed unsupported by evidence or analysis (*San Francisco Ecology Center v. City and County of San Francisco* [1975, 48 Ca.3d 584, 595]). This document incorporates by reference appropriate information from the "Final Environmental Impact Report and Environmental Assessment for the "County of Imperial General Plan EIR" prepared by Brian F. Mooney Associates in 1993 and updates.

When an EIR or Negative Declaration incorporates a document by reference, the incorporation must comply with Section 15150 of the CEQA Guidelines as follows:

- The incorporated document must be available to the public or be a matter of public record (CEQA Guidelines Section 15150[a]). The General Plan EIR and updates are available, along with this

document, at the County of Imperial Planning & Development Services Department, 801 Main Street, El Centro, CA 92243 Ph. (442) 265-1736.

- This document must be available for inspection by the public at an office of the lead agency (CEQA Guidelines Section 15150[b]). These documents are available at the County of Imperial Planning & Development Services Department, 801 Main Street, El Centro, CA 92243 Ph. (442) 265-1736.
- These documents must summarize the portion of the document being incorporated by reference or briefly describe information that cannot be summarized. Furthermore, these documents must describe the relationship between the incorporated information and the analysis in the tiered documents (CEQA Guidelines Section 15150[c]). As discussed above, the tiered EIRs address the entire project site and provide background and inventory information and data which apply to the project site. Incorporated information and/or data will be cited in the appropriate sections.
- These documents must include the State identification number of the incorporated documents (CEQA Guidelines Section 15150[d]). The State Clearinghouse Number for the County of Imperial General Plan EIR is SCH #93011023.
- The material to be incorporated in this document will include general background information (CEQA Guidelines Section 15150[f]). This has been previously discussed in this document.

II. *Environmental Checklist*

1. **Project Title:** Niland Public Safety Facility
2. **Lead Agency:** Imperial County Planning & Development Services Department
3. **Contact person and phone number:** Patricia Valenzuela, Planner IV, (442)265-1736, ext. 1749.
Address: 801 Main Street, El Centro CA, 92243
5. **E-mail:** patriciavalenzuela@co.imperial.ca.us
6. **Project location:** 8071 Luxor Ave., Niland, CA 92257
7. **Project sponsor's name and address:** Imperial County Public Works, 155 South 11th Street, El Centro, CA 92243
8. **General Plan designation:** Urban
9. **Zoning:** Government/Special Public (G/S)
10. **Description of project:** Construction of a shared facility that will co-locate the Fire Department and the Sheriff's Office, along with a community room to serve as a cooling center and emergency shelter.
11. **Surrounding land uses and setting:** The site is bordered by 3rd Street on the north and Luxor Avenue on the East. The area to the north across 3rd street consists of vacant lots with overgrown vegetation. Vacant structures and overhead telephone lines are located directly east across Luxor Avenue. Homes borders the site to the south.
12. **Other public agencies whose approval is required** (e.g., permits, financing approval, or participation agreement.):
13. **Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code section 21080.3.1? If so, is there a plan for consultation that includes, for example, the determination of significance of impacts to tribal cultural resources, procedures regarding confidentiality, etc.?**

Note: Conducting consultation early in the CEQA process allows tribal governments, lead agencies, and project proponents to discuss the level of environmental review, identify and address potential adverse impacts to tribal cultural resources, and reduce the potential for delay and conflict in the environmental review process. (See Public Resources Code, Section 21080.3.2). Information may also be available from the California Native American Heritage Commission's Sacred Lands File per Public Resources Code, Section 5097.96 and the California Historical Resources Information System administered by the California Office of Historic Preservation. Please also note that Public Resources Code, Section 21082.3 (c) contains provisions specific to confidentiality.

Native American Tribes and members of the Native American Heritage Commission (NAHC) have been invited to participate in the "Request for Review and Comment" as part of the Initial Study review process. In addition, letters requesting consultation pursuant to AB 52 were also sent at the beginning of the preparation of this Initial Study, along with a request to NAHC for Sacred Files Search. The consultation period for AB 52 will end on December 22, 2019.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially 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"/> Agriculture and Forestry Resources	<input type="checkbox"/> Air Quality
<input type="checkbox"/> Biological Resources	<input type="checkbox"/> Cultural Resources	<input type="checkbox"/> Energy
<input type="checkbox"/> Geology /Soils	<input type="checkbox"/> Greenhouse Gas Emissions	<input type="checkbox"/> Hazards & Hazardous Materials
<input type="checkbox"/> Hydrology / Water Quality	<input type="checkbox"/> Land Use / Planning	<input type="checkbox"/> Mineral Resources
<input type="checkbox"/> Noise	<input type="checkbox"/> Population / Housing	<input type="checkbox"/> Public Services
<input type="checkbox"/> Recreation	<input type="checkbox"/> Transportation	<input type="checkbox"/> Tribal Cultural Resources
<input type="checkbox"/> Utilities/Service Systems	<input type="checkbox"/> Wildfire	<input type="checkbox"/> Mandatory Findings of Significance

ENVIRONMENTAL EVALUATION COMMITTEE (EEC) DETERMINATION

After Review of the Initial Study, the Environmental Evaluation Committee has:

Found that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

Found 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.

Found that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

Found 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.

Found that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE DE MINIMIS IMPACT FINDING: Yes No

<u>EEC VOTES</u>	<u>YES</u>	<u>NO</u>	<u>ABSENT</u>
PUBLIC WORKS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ENVIRONMENTAL HEALTH SVCS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
OFFICE EMERGENCY SERVICES	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
APCD	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
AG	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SHERIFF DEPARTMENT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ICPDS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Jim Minnick, Director of Planning/EEC Chairman

Date:

PROJECT SUMMARY

- A. **Project Location:** 8071 Luxor Ave., Niland, CA
- B. **Project Summary:** Construction of a shared facility that will co-locate the Fire Department and the Sheriff's Office, along with a community room to serve as a cooling center and emergency shelter.
- C. **Environmental Setting:** The project site is in a residential neighborhood. Surrounded by 3rd Street to the north, Luxor Ave to the east, 4th Avenue to the south.
- D. **General Plan Consistency:** The Project is located within the unincorporated area of Imperial County. The existing General Plan Land Use designation is "Urban" and the existing zoning is G/S (Government Special Public). The proposed project is allowed with the existing General Plan Designation and the existing zoning.

Exhibit "A"
Vicinity Map

PROJECT LOCATION MAP



**IMPERIAL COUNTY PUBLIC WORKS (ICPWD)
NILAND PUBLIC SAFETY FACILITY PROJECT
INITIAL STUDY #19-0024
APN #021-111-008-000**




-  Project Parcel
-  Centerline
-  Parcels



Exhibit "B"
Site Plan/Tract Map/etc.

EVALUATION OF ENVIRONMENTAL IMPACTS:

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

Potentially Significant Impact (PSI)	Potentially Significant Unless Mitigation Incorporated (PSUMI)	Less Than Significant Impact (LTSI)	No Impact (NI)
--------------------------------------	--	-------------------------------------	----------------

I. **AESTHETICS**

Except as provided in Public Resources Code Section 21099, would the project:

- | | | | | |
|--|--------------------------|--------------------------|-------------------------------------|-------------------------------------|
| a) Have a substantial adverse effect on a scenic vista or scenic highway?
a) The project site is surrounded by residential uses. There are no designated scenic vistas or viewpoints on or near the project site. Therefore, no adverse impact is expected. | <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?
b) There are no state scenic highways nearby the proposed project. Additionally, the existing structure (non-historic) will be demolished and a new structure will be built. The Project site does not contain scenic resources, including but not limited to trees, rock outcroppings, and historic buildings. Therefore, no impacts are expected. | <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 surrounding? (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?
c) The project includes demolishing the existing Niland IC Fire Substation 7 and rebuilding a Fire and Sheriff substation. The project is in an urbanized area; however, the project will not conflict with applicable zoning and other regulations. Therefore, any impacts are considered less than significant. | <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?
d) Both the IC Fire and IC Sheriff operate 24 hours a day. However, since this is a replacement structure the lighting will remain similar. Additionally, it is a County regulation that lighting must be shielded downward. Therefore, any source of light or glare should have a less than significant impact. | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

II. **AGRICULTURE AND FOREST RESOURCES**

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. --Would the project:

- | | | | | |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| 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?
a) According to the 2016 Farmland Map prepared by the California Department of Conservation, the project site is designated as "Urban and Built-Up Land". The proposed project is not located within an area designated as Prime, Unique or Farmland of Statewide Importance. Therefore, the project would not adversely impact Prime, Unique or Farmland of Statewide Importance. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Conflict with existing zoning for agricultural use, or a Williamson Act Contract?
b) The project site is not covered under a Williamson Act contract; therefore, no impact is expected. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?
c) Neither the project site nor surrounding areas are used for timber production or are defined as forest lands. The proposed project would not conflict with any zoning designations designed to preserve timber or agricultural resources. Therefore, no impacts are expected. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

	Potentially Significant Impact (PSI)	Potentially Significant Unless Mitigation Incorporated (PSUMI)	Less Than Significant Impact (LTSI)	No Impact (NI)
d) Result in the loss of forest land or conversion of forest land to non-forest use? d) There are no existing forestlands either on-site or in the immediate vicinity of the project site. The project would not result in the loss of forestland or conversion of forestland to non-forest use. Therefore, no impact is expected.	<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 forest land to non-forest use? e) The project does not include changes in the existing environment, which due to their location or nature, would result in the conversion of neighboring farmland to non-agricultural use. Residences and vacant lots surround the project site. The project would not result in the conversion of farmlands off-site to non-agricultural uses. Therefore, no impact is expected.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

iii. **AIR QUALITY**

Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to the following determinations. Would the Project:

- | | | | | |
|---|--------------------------|-------------------------------------|-------------------------------------|--------------------------|
| a) Conflict with or obstruct implementation of the applicable air quality plan?
a) The project construction will be temporary. The maximum number of employees at the proposed Niland Public Safety facility will be nine (9) once constructed. This number should not result in substantial vehicle trip emissions. Therefore, any impacts should be less than significant. | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" 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?
b) Imperial County is in non-attainment area for both ozone and PM 10 standards. Construction of the new facility could result in temporary increase in PM 10 in conjunction with demolition, clearing and grading and excavation. Therefore, the following mitigation measures will be implemented to reduce the impact to less than significant. | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| AQ-1. Mitigation Measure – During clearing, grading, earth moving, or excavation operations, excessive fugitive dust emissions will be controlled by the following techniques: | | | | |
| <ol style="list-style-type: none"> 1. Prepare a high wind dust control plan, implement plan elements, and terminate soil disturbance when winds exceed 25 mph. 2. Limit the simultaneous disturbance area to as small an area as practical when winds exceed 25 mph. 3. Stabilize previously disturbed areas if subsequent construction is delayed. 4. Water exposed surfaces 3 times per day. 5. Cover all stockpiles with tarps. 6. Replace ground cover in disturbed area quickly. 7. Reduce speeds on unpaved roads to less than 15 mph. | | | | |
| c) Expose sensitive receptors to substantial pollutants concentrations?
c) The nearest sensitive receptor is approximately ten (10) feet. As stated in (b) above there will be a temporary increase in PM 10' s during construction and therefore, the Permittee shall comply with the mitigation measures stated in (b) above to reduce impacts to less than significant. | <input type="checkbox"/> | <input checked="" 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)?
d) The nearest sensitive receptor is approximately ten (10) feet. As stated in (b) above there will be a temporary increase in PM 10' s during construction and therefore, the Permittee shall comply with the mitigation measures stated in (b) above to reduce impacts to less than significant. | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Potentially Significant Impact (PSI)	Potentially Significant Unless Mitigation Incorporated (PSUMI)	Less Than Significant Impact (LTSI)	No Impact (NI)
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IV. **BIOLOGICAL RESOURCES** *Would the project:*

- 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 Wildlife or U.S. Fish and Wildlife Service?
- | | | | |
|--------------------------|--------------------------|--------------------------|-------------------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|--------------------------|--------------------------|--------------------------|-------------------------------------|

a) The project is the demolition, clearing and grading and construction of a public safety facility and does not appear to have a substantial adverse effect, on any species identified as a candidate, sensitive or special status species in local or regional plans, policies or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Services. Therefore, no impact is expected.

- b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?
- | | | | |
|--------------------------|--------------------------|--------------------------|-------------------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|--------------------------|--------------------------|--------------------------|-------------------------------------|

b) The project is the demolition, clearing and grading and construction of a public safety facility and does not appear to have a substantial adverse effect, on any species identified as a candidate, sensitive or special status species in local or regional plans, policies or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Services. Therefore, no impact is expected.

- 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?
- | | | | |
|--------------------------|--------------------------|--------------------------|-------------------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|--------------------------|--------------------------|--------------------------|-------------------------------------|

c) The project is the demolition, clearing and grading and construction of a public safety facility and is not located within any protected wetlands as defined by Section 404. Therefore, no impacts are expected.

- d) Interfere substantially with the movement of any 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 checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|--------------------------|-------------------------------------|--------------------------|--------------------------|

d) The proposed project is the demolition, clearing and grading and construction of a public safety facility. The project site has minimal potential habitat for wildlife based on past disturbance and the presence of the existing modular unit used to house ICFD staff. The project is not likely to affect Federally listed or proposed threatened and endangered species as none were identified on the site. However, the following mitigation measures BIO-1, Bio-2 and Bio-3 would avoid any impacts to birds or any other wildlife, if present. Therefore, with the implementation of the mitigation measures the impact may be reduced to less than significant.

BIO-1 Mitigation Measure

A pre-construction survey shall be conducted by a Biologist to identify and sensitive biological resources in the areas affected by construction.

BIO-2 Mitigation Measure

If warranted by the results of the pre-construction survey, a Biological Monitor shall be present during construction to ensure that resources are avoided and protected.

BIO-3 Mitigation Measure

A third-party compliance monitor shall be present during pre-construction activities/final design and construction to ensure that activities remain within designated boundaries and that no biological resources are unduly disturbed or harmed.

- e) Conflict with any local policies or ordinance protecting biological resource, such as a tree preservation policy or ordinance?
- | | | | |
|--------------------------|--------------------------|--------------------------|-------------------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|--------------------------|--------------------------|--------------------------|-------------------------------------|

e) The project is the demolition, clearing and grading and construction of a public safety facility. The proposed site is located on disturbed land and no impacts are expected.

- 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 type="checkbox"/> | <input checked="" type="checkbox"/> |
|--------------------------|--------------------------|--------------------------|-------------------------------------|

Potentially Significant Impact (PSI)	Potentially Significant Unless Mitigation Incorporated (PSUMI)	Less Than Significant Impact (LTSI)	No Impact (NI)
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f) The project is located within disturbed land and does not lie within a Sensitive Area as shown on the Conservation and Open Space Element of the Imperial County General Plan; therefore, no impacts are expected.

V. **CULTURAL RESOURCES** *Would the project:*

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

a) **The project is the demolition, clearing and grading and construction of a public safety facility that will be utilized by IC Sheriff and IC Fire. During these activities a substantial adverse change in the significance of a historical resource could occur. Therefore, the following mitigation measure will be implemented to reduce the impact to less than significance.**

CR-I (a) & (b) Mitigation Measure

Should (a) artifacts or (b) items of potential paleontological significance be discovered during the project construction activities, all work in that area shall be halted and a qualified paleontologist shall be summoned to the site to evaluate the find. If the resources is determined to be significant, a recovery and catalog program shall be implemented.

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

b) **The project is the demolition, clearing and grading and construction of a public safety facility that will be utilized by IC Sheriff and IC Fire. During these activities a substantial adverse change in the significance of an archaeological resource could occur. Therefore, mitigation measure CR-1 (b) will be implemented to reduce the impact to less than significance**

- c) Disturb any human remains, including those interred outside of dedicated cemeteries?

c) **The existing public safety facility will be demolished and new footings will be constructed. During construction, human remains may be uncovered. Therefore, the following mitigation measure will be implemented to reduce the impact to less than significant:**

CR-II (c) Mitigation Measure:

If human remains are uncovered during project construction, state Health and safety code Section 7050.5 states that no further disturbance shall occur in the immediate area until the County Coroner has made the necessary finding as to origin and disposition pursuant to Public Resources Code Section 5097.98. If the coroner recognizes the human remains to be those of a Native American, he or she shall contact, by telephone within 24 hours, the State Native American Heritage Commission who will then contact the appropriate tribal representative.

VI. **ENERGY** *Would the project:*

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

a) **During construction, energy usage will primarily be diesel engines and during operations, energy use will not change significantly from current consumption levels. No wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation would occur. Therefore, the impact is considered less than significant.**

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

b) **Approval of the project will allow IC Fire and IC Sheriff to share a more efficient facility. The project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency and no impacts would occur.**

VII. **GEOLOGY AND SOILS** *Would the project:*

- a) Directly or indirectly cause potential substantial adverse effects, including risk of loss, injury, or death involving:

a) **The project does not appear to conflict with the geology and soils of adjacent properties and does not appear to directly or indirectly cause potential substantial adverse effects, including risk of loss, injury, or death. Compliance with local and regional regulations would bring any impact to less than significant.**

	Potentially Significant Impact (PSI)	Potentially Significant Unless Mitigation Incorporated (PSUMI)	Less Than Significant Impact (LTSI)	No Impact (NI)
<p>1) 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?</p> <p>1) No known active faults are located in the project area and no Alquist-Priolo Earthquake Fault Zoning has been established by the State for the area. The project would be constructed in accordance with the California State Building Code (Title 24 of the California Administrative Code), which contains specifications to minimize adverse effects due to ground shaking from earthquakes and liquefaction. No mitigation measures are required with implementation of standard building code standards as required by Imperial County. Less than significant impacts are expected.</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<p>2) Strong Seismic ground shaking?</p> <p>2) As stated above on item 1), the project may be affected by the occurrence of seismic ground shaking, therefore the project will require to comply with the California Building Code seismic coefficients, said measures would assure that the impacts of the projects would be less than significant.</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<p>3) Seismic-related ground failure, including liquefaction and seiche/tsunami?</p> <p>3) The site is not located near any large bodies of water; therefore, the threat of tsunami, seiches or other seismically-induced flooding is unlikely. Any impact will be less than significant.</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<p>4) Landslides?</p> <p>4) The hazard of land sliding is unlikely. No ancient landslides are shown on geologic maps of the regions and no indication of landslides were observed during site inspection. Therefore, the impact from liquefaction and seiche/tsunami is less than significant</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<p>b) Result in substantial soil erosion or the loss of topsoil?</p> <p>b) The project is not located within an area of substantial soil erosion according to Imperial County Seismic and Public Safety Element, Figure 3 (Erosion Activity). Less than significant impacts are expected.</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<p>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 landslides, lateral spreading, subsidence, liquefaction or collapse?</p> <p>c) The project site is not located on a geological unit that would become unstable or collapse as a result of the project; compliance with California Building Code (CBC) for any future construction would make any impact less than significant.</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<p>d) Be located on expansive soil, as defined in the latest Uniform Building Code, creating substantial direct or indirect risk to life or property?</p> <p>d) The project soil site is not considered highly expansive. Additionally, construction shall be in compliance with the California Building Code (CBC); compliance would assure that the impacts of the project would be less than significant.</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<p>e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?</p> <p>e) The ICSO and ICFD shared facility will be connected to the Niland Sanitation District and will not need a septic tank or alternative wastewater disposal system. No impacts are expected.</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<p>f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?</p> <p>f) The project is the demolition, clearing and grading and construction of a public safety facility on a disturbed parcel. Therefore, less than significant impacts are expected to directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Potentially Significant Impact (PSI)	Potentially Significant Unless Mitigation Incorporated (PSUMI)	Less Than Significant Impact (LTSI)	No Impact (NI)
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VIII. **GREENHOUSE GAS EMISSION** *Would the project:*

- | | | | | |
|--|--------------------------|--------------------------|-------------------------------------|--------------------------|
| a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?
a) The project may temporarily involve greenhouse gas-related impacts; however, compliance with the Air Pollution Control District regulations, that the applicant must adhere to, would reduce the greenhouse gas impact to less than significant. | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b) Conflict with an applicable plan or policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?
b) As stated in the above item (a), the proposed activity may temporarily involve greenhouse gas related impacts; however, compliance with the Air Pollution Control District regulations, that the applicant must adhere to, would reduce the threshold of this impact to a less than significant. | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

IX. **HAZARDS AND HAZARDOUS MATERIALS** *Would the project:*

- | | | | | |
|---|--------------------------|-------------------------------------|--------------------------|-------------------------------------|
| a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?
a) The project is the joint use of a safety facility by ICFD and ICSD as well as a cooling center and emergency shelter. It is not expected that the proposed project will create a significant hazard to the public or the environment through the routine transport, use or disposal of hazardous materials. Therefore, no impact is expected. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Create a significant hazard to the public or the environment through reasonable foreseeable upset and accident conditions involving the release of hazardous materials into the environment?
b) The project will include temporary construction of a joint safety facility for ICFD and ICSD. Based on a search of the Government Code Section 65962.5, the Niland Public Safety Facility if not near any superfund or cleanup sites. Therefore, no impacts are expected. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" 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?
c) The project would not emit hazardous emissions; handle hazardous or acutely hazardous material, substances, or waste within one-quarter mile of an existing or proposed school. Therefore, no impact is expected. | <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 Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?
d) As stated in (b) above the site is not listed as a hazardous material site. No impacts are expected. | <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?
e) The project is not located within two miles of a public airport or public use airport. However, there would be an increase in noise levels during construction due to material deliveries, demolition and workers. Noise associated with these activities would be temporary (approximately 8 months) and would be subject to the following mitigation measures: | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

NOI-1 Mitigation Measure

During construction, the project shall be subject to noise control via implementation of the County of Imperial Noise Ordinance.

NOI -2 Mitigation Measure

Construction equipment operation shall be limited to the hours of 7:00 a.m. to 7:00 p.m., Monday through Friday, and 9:00 a.m. to 5:00 p. m. Saturday. No commercial construction operation are permitted on Sunday or holidays.

	Potentially Significant Impact (PSI)	Potentially Significant Unless Mitigation Incorporated (PSUMI)	Less Than Significant Impact (LTSI)	No Impact (NI)
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NOI-3 Mitigation Measure

No construction equipment, or combination of equipment regardless of age or date of acquisition, shall be operated so as to cause noise at a level in excess of seventy-five (75) decibels for more than eight (8) hours during a twenty-four (24) hour period when measured at or within the property lines of any property which is developed and used either in part or in whole for residential purposes

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

f) The project operations would be similar to the existing operations and no feature of the proposed project would impair implementation of or physical interfere with an adopted emergency plan. Therefore, no impact is expected.

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

g) The project site is located in the unincorporated area of Imperial County. According to the Seismic and Public Safety Element of the General Plan, the potential for a major fire in the unincorporated areas of the County generally low. Therefore, the impact is considered less than significant.

X. HYDROLOGY AND WATER QUALITY *Would the project:*

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

a) The proposed Project is the demolition, clearing and grading, and construction of the Niland Public Safety Facility that will be utilized by Imperial County Sheriff's Department and Imperial County Fire Department as well as used as a cooling station and emergency facility. The water will be provided by the Golden State Water Company, which is potable water. The wastewater discharge connection will be the Niland Sanitation District. Therefore, it is not expected this project will degrade surface or ground water quality and any impacts will be less than significant.

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

b) Potable water is being supplied by the Golden State Water Company currently to the modular office used by ICFD. Once the Public Safety Facility is built, Golden State Water Company will provide the potable water. Therefore, the proposed Project will not decrease groundwater supplies or interfere with groundwater recharge such that the project may impeded sustainable groundwater management. Therefore, any 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:

c) The project is the demolition, clearing and grading and construction of a public safety facility on a disturbed parcel and it is not likely that it will substantially alter the existing drainage pattern of the site or area. Less than significant impacts are expected.

- (i) result in substantial erosion or siltation on- or off-site;

The proposed Project must comply with Public Works storm water drainage regulations which would not result in substantial alteration of existing drainage patters, nor will it result in the alteration of a of a stream or river, which would result in substantial erosion or siltation on or off-site. Therefore, any impacts would be less than significant

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

The project site is within Zone X per Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map #06025C0725C, which is defined as an area of minimal flood hazard. Therefore, any impacts from flooding are less than significant.

- (iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage

Potentially Significant Impact (PSI)	Potentially Significant Unless Mitigation Incorporated (PSUMI)	Less Than Significant Impact (LTSI)	No Impact (NI)
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systems or provide substantial additional sources of polluted runoff; or;

As stated above in (c 1) the project must comply with ICPW storm water drainage regulations, which would prevent the Project from contributing storm water to the stormwater drainage systems. Therefore, any impacts would be considered less than significant

(iv) impede or redirect flood flows?

The grading of the site and Best Management Practices should prevent the impediment or redirect of flood flows. Therefore, any impacts should be less than significant.

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

d) The project site is not located within a flood hazard, tsunami, or seiche zone. No impacts are identified for this issue area and there should be no impacts.

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

e) The project will combine two existing facilities and also serve as a cooling center/emergency shelter. The Project is not anticipated to have a substantial impact on the capacity of the wastewater treatment plan or the groundwater management plan. Therefore, any impact is considered less than significant.

XI. LAND USE AND PLANNING *Would the project:*

a) Physically divide an established community?

a) The project represents demolishing, clearing & grading, and construction of the Niland Public Facility, which would not divide and established community. Therefore, no impact is expected.

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?

b) The project will not conflict with any land use plan, policy or regulation adopted for the purpose of avoiding or mitigating an environmental effect. Therefore, no impact is expected.

XII. MINERAL RESOURCES *Would the project:*

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?

a) According to the Existing Mineral Resources Map (Figure 8) in the conservation and open Space Element of the County of Imperial General Plan, no known mineral resources occur within the project vicinity nor are there any mapped mineral resources within the boundary of the project site. Therefore, no impacts related t the loss of minerals.

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?

b) As stated above in XII (a) there will be no impacts to mineral resources.

XIII. NOISE *Would the project result in:*

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?

a) The proposed Project could generate substantial temporary and permanent increase in ambient noise levels in the vicinity.

Therefore, the Project will comply with the following Mitigation Measures:

NOI-1 Mitigation Measure

During construction, the project shall be subject to noise control via implementation of the County of Imperial Noise Ordinance.

NOI-2 Mitigation Measure

Construction equipment operation shall be limited to the hours of 7:00 a.m. to 7:00 p.m., Monday through Friday, and 9:00 a.m. to 5:00 p. m. Saturday. No commercial construction operation are permitted on Sunday or holidays.

NOI-3 Mitigation Measure

No construction equipment, or combination of equipment regardless of age or date of acquisition, shall be operated so as to cause noise at a level in excess of seventy-five (75) decibels for more than eight (8) hours during a twenty-four (24) hour period when measured at or within the property lines of any property which is developed and used either in part or in whole for residential purposes when measured at or within the property lines of any property which is developed and used either in part or in whole for residential purposes

- | | | | | |
|--|--------------------------|-------------------------------------|-------------------------------------|--------------------------|
| b) Generation of excessive groundborne vibration or groundborne noise levels? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b) As stated in (b) above the mitigation measures listed above will reduce any impacts from excessive groundborne vibration or groundborne noise levels to less than significant. | | | | |
| 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 checked="" type="checkbox"/> | <input type="checkbox"/> |
| c) The project is not located within the vicinity of a private airstrip or airport land use plan or within two miles of public airport. Therefore, any impacts from residing or working in the project area should be less than significant. | | | | |

XIV. POPULATION AND HOUSING *Would the project:*

- | | | | | |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|
| a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and business) or indirectly (for example, through extension of roads or other infrastructure)? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| a) The project is the demolition, clearing and grading and construction of the Niland Public Safety Facility. The structure will replace the previous structure occupied by ICFD and the structure located at 218 East 1st Street in Niland approximately .20 miles from Fire Substation 7. No new roads are proposed. The shared facility is not expected to increase unplanned population growth in the area, therefore, any impacts should be less than significant. | | | | |
| b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b) The current staff will be used to support the Niland Public Safety Facility. There are no plans to relocate staff to manage the new facility. Therefore, construction of replacement housing is not needed and any impacts to this issue is less than significant. | | | | |

XV. PUBLIC SERVICES

- | | | | | |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|
| a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services: | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| a) The project is not expected to result in substantial adverse physical impacts associated with potential impacts foreseen on public services. However, any impact would be less than significant. | | | | |

	Potentially Significant Impact (PSI)	Potentially Significant Unless Mitigation Incorporated (PSUMI)	Less Than Significant Impact (LTSI)	No Impact (NI)
1) Fire Protection? 1) The project will provide a new facility that will allow both ICFD and ICISO to function more efficiently. There would not be an increase in demand for emergency medical services and no impact would occur to this service. Therefore, any impacts would be less than significant.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2) Police Protection? 2) As stated above in Fire Protection this new facility will not increase the need for new governmental facilities, therefore, any impacts are less than significant.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3) Schools? 3) As stated in (1) above, this new facility will not increase the need for new governmental facilities, therefore, any impact would be less than significant.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4) Parks? 4) The new facility includes an indoor gym facility, which will provide opportunities for staff to work out. The project would not require construction of a new or expansion of existing parks, or recreational facilities. Therefore, any impact would be less than significant.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
5) Other Public Facilities? 5) The Project would not result in a substantial increase in population; it does not require additional public facilities beyond that which already exists. Therefore, no impact is expected.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

XVI. RECREATION

- | | | | | |
|---|--------------------------|--------------------------|-------------------------------------|-------------------------------------|
| a) Would the project increase the use of the existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?
a) A Public Safety Facility does not generate users of park or other recreational facilities except a small number of employees who may utilize the facility during off-duty hours. However, since the project includes an indoor gym, it is not likely this project will generate users of the existing parks, creating the need for a new park or remodel. Therefore, any impact is less than significant. | <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 effect on the environment?
b) As stated above, the project includes an indoor gym, which will provide staff opportunities to work out. Therefore, no recreational facilities or remodels are required. Therefore, no impact is expected. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

XVII. TRANSPORTATION *Would the project:*

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|---|--------------------------|--------------------------|-------------------------------------|-------------------------------------|
| a) Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?
a) The proposed Project would generate a slight increase traffic associated with demolition, clearing & grading and construction of the Public Safety Facility. Since this is a replacement facility Imperial County Public Works would follow the County's transit, roadway. Bicycle and pedestrian plans. Therefore, any impacts would be less than significant. | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b) Would the project conflict or be inconsistent with the CEQA Guidelines section 15064.3, subdivision (b)?
b) The project does not propose to modify roadways; therefore, the proposed Project will not result in increased hazards due to design features or incompatible uses. No impact is expected. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Substantially increases 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 type="checkbox"/> | <input checked="" type="checkbox"/> |

Potentially Significant Impact (PSI)	Potentially Significant Unless Mitigation Incorporated (PSUMI)	Less Than Significant Impact (LTSI)	No Impact (NI)
--------------------------------------	--	-------------------------------------	----------------

c) As stated above, no changes are proposed to roadways, therefore, no impact is expected.

- d) Result in inadequate emergency access?
- d) The Project would not block any major thoroughfares and would not result in inadequate emergency access to the Facility. Therefore, no impact is expected.**

XVIII. TRIBAL CULTURAL RESOURCES

- 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:

The proposed project is on a disturbed land and it is to replace two existing water wells with two new water wells. Additionally, the Quechan Indian Tribe was consulted under Assembly Bill 52. Consultation expired on December 22, 2019. No comments were received at this time. Therefore, less than significant impacts are expected.

- (i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as define in Public Resources Code Section 5020.1(k), or
- (i) As required by AB 52, the Imperial County Planning & Development Services sent consultation notice to the Quechan Indian Tribe and the Torres Martinez Indian Tribe, on November 21, 2019. No response was received. No Historical Resources are listed. Less than significant impacts are expected.**

- (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.
- (ii) As stated above no response was received from the Quechan Indian Tribe or the Torres-Martinez Tribe. No resource were determined. As of this date no Tribes have requested consultation. Less than significant impacts are expected.**

XIX. UTILITIES AND SERVICE SYSTEMS Would the project:

- a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction of which could cause significant environmental effects?
- a) The project would connect to the existing Niland County Sanitation District. Both existing ICFD and ICSSO are currently connected to the Sanitation District. The project will have the same accommodations that currently exist. Therefore, there should not be a need for construction of new or expanded services. Therefore, no impact is expected.**

- b) Have sufficient water supplies available to serve the project from existing and reasonably foreseeable future development during normal, dry and multiple dry years?
- b) The Golden State Water Company currently provides water to both the existing ICFD and ICSSO. The project will combine both facilities and Golden State Water Company will continue to provide water for the foreseeable future. Therefore, any impacts are considered less than significant.**

	Potentially Significant Impact (PSI)	Potentially Significant Unless Mitigation Incorporated (PSUMI)	Less Than Significant Impact (LTSI)	No Impact (NI)
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? c) The Niland Wastewater Treatment for both the ICFD and ICSO will provide service once the agencies are combined in the new Facility. No new firefighters or sheriff personnel will be hired; the existing wastewater treatment should meet the demand of the new facility. Therefore, any impact should be less than significant.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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? d) As stated above no new firefighters or sheriff personnel will be hired, therefore, the solid waste should not exceed State or local standards, therefore any impacts should be less than significant.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste? e) The Permittee will comply with federal, state and local statues and therefore, no impacts would occur.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

XX. **WILDFIRE**

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? a) According to the Draft Fire Hazard Severity Zone Map for Imperial County prepared by the California Department of Forestry and Fire Protection, the Project site is not located in or near state responsibility, areas or lands classified as very high hazard severity zones. The proposed Project would not substantially impair an adopted emergency response plan or emergency evacuation plan. Therefore, no impact is expected.	<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? b) The project site is not located in or near state responsibility, areas or lands classified as very high hazard severity zones (California Department of Forestry and Fire Protection 2007). Therefore, the project would not worsen wildfire risks. Therefore, no impact is expected for this area.	<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? c) The project site is not located in or near state responsibility, areas or lands classified as very high hazard severity zones (California Department of Forestry and Fire Protection 2007). The project would not require the installation or maintenance of associated infrastructure that may worsen fire risk or that may result in temporary or ongoing impacts to the environment. Therefore, no impact is expected.	<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? d) The project site is not located in or near state responsibility, areas or lands classified as very high hazard severity zones (California Department of Forestry and Fire Protection 2007). 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 instability, or drainage changes. Therefore, no impact is expected.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Note: Authority cited: Sections 21083 and 21083.05, Public Resources Code. Reference: Section 65088.4, Gov. Code; Sections 21080(c), 21080.1, 21080.3, 21083, 21083.05, 21083.3, 21093, 21094, 21095, and 21151, Public Resources Code; Sundstrom v. County of Mendocino, (1988) 202 Cal.App.3d 296; Leonoff v. Monterey Board of

Potentially Significant Impact (PSI)	Potentially Significant Unless Mitigation Incorporated (PSUMI)	Less Than Significant Impact (LTSI)	No Impact (NI)
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Supervisors, (1990) 222 Cal.App.3d 1337; Eureka Citizens for Responsible Govt. v. City of Eureka (2007) 147 Cal.App.4th 357; Protect the Historic Amador Waterways v. Amador Water Agency (2004) 116 Cal.App.4th at 1109; San Franciscans Upholding the Downtown Plan v. City and County of San Francisco (2002) 102 Cal.App.4th 656.

*Revised 2009- CEQA
 Revised 2011- ICPDS
 Revised 2016 – ICPDS
 Revised 2017 – ICPDS
 Revised 2019 – ICPDS*

SECTION 3

III. MANDATORY FINDINGS OF SIGNIFICANCE

The following are Mandatory Findings of Significance in accordance with Section 15065 of the CEQA Guidelines.

- | | | | | |
|--|--------------------------|--------------------------|--------------------------|--------------------------|
| <p>a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, eliminate tribal cultural resources or eliminate important examples of the major periods of California history or prehistory?</p> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <p>b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)</p> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <p>c) Does the project have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly?</p> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

IV. PERSONS AND ORGANIZATIONS CONSULTED

This section identifies those persons who prepared or contributed to preparation of this document. This section is prepared in accordance with Section 15129 of the CEQA Guidelines.

A. COUNTY OF IMPERIAL

- Jim Minnick, Director of Planning & Development Services
- Michael Abraham, AICP, Assistant Director of Planning & Development Services
- Patricia Valenzuela, Project Planner
- Imperial County Air Pollution Control District
- Department of Public Works
- Fire Department
- Ag Commissioner
- Environmental Health Services
- Sheriff's Office

B. OTHER AGENCIES/ORGANIZATIONS

- _____
- _____

(Written or oral comments received on the checklist prior to circulation)

V. REFERENCES

1. "County of Imperial General Plan EIR", prepared by Brian F. Mooney & Associates in 1993; and as Amended by County in 1996, 1998, 2001, 2003, 2006 & 2008, 2015, 2016.
2. Environmental Assessment Determination and compliance Findings of HUD-Assisted Projects. _____

VI. NEGATIVE DECLARATION – County of Imperial

The following Negative Declaration is being circulated for public review in accordance with the California Environmental Quality Act Section 21091 and 21092 of the Public Resources Code.

Project Name: Niland Public Safety Facility

Project Applicant: Imperial County Public Works

Project Location: 8071 Luxor Ave, Niland. CA

Description of Project:

Construction of a shared facility that will co-locate the Fire Department and the Sheriff's Office, along with a community room to serve as a cooling center and emergency shelter.

VII. FINDINGS

This is to advise that the County of Imperial, acting as the lead agency, has conducted an Initial Study to determine if the project may have a significant effect on the environmental and is proposing this Negative Declaration based upon the following findings:

The Initial Study shows that there is no substantial evidence that the project may have a significant effect on the environment and a **NEGATIVE DECLARATION** will be prepared.

The Initial Study identifies potentially significant effects but:

- (1) Proposals made or agreed to by the applicant before this proposed Mitigated Negative Declaration was released for public review would avoid the effects or mitigate the effects to a point where clearly no significant effects would occur.
- (2) There is no substantial evidence before the agency that the project may have a significant effect on the environment.
- (3) Mitigation measures are required to ensure all potentially significant impacts are reduced to levels of insignificance.

A **NEGATIVE DECLARATION** will be prepared.

If adopted, the Negative Declaration means that an Environmental Impact Report will not be required. Reasons to support this finding are included in the attached Initial Study. The project file and all related documents are available for review at the County of Imperial, Planning & Development Services Department, 801 Main Street, El Centro, CA 92243 (442) 265-1736.

NOTICE

The public is invited to comment on the proposed Negative Declaration during the review period.

Date of Determination Jim Minnick, Director of Planning & Development Services

The Applicant hereby acknowledges and accepts the results of the Environmental Evaluation Committee (EEC) and hereby agrees to implement all Mitigation Measures, if applicable, as outlined in the MMRP.

Applicant Signature

Date

SECTION 4

VIII. RESPONSE TO COMMENTS

(ATTACH DOCUMENTS, IF ANY, HERE)

IX. MITIGATION MONITORING & REPORTING PROGRAM (MMRP)

(ATTACH DOCUMENTS, IF ANY, HERE)

S:\AllUsers\APN\021\111\008\is19-0024\EEC\Initial Study - Environmental Checklist for Niland Public facility.docx



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December 4, 2019

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DEC 04 2019

IMPERIAL COUNTY
PLANNING & DEVELOPMENT SERVICES

Ms. Patricia Valenzuela
Planner IV
Planning & Development Services Department
County of Imperial
801 Main Street
El Centro, CA 92243

SUBJECT: Imperial County Fire Department and Sheriff's Office Substations Project in
Niland, CA, IS No. 19-0024

Dear Ms. Valenzuela:

On November 22, 2019, the Imperial Irrigation District received from the Imperial County Planning & Development Services Dept. a request for agency comments on Initial Study no. 19-0024. The applicant, Imperial County Public Works, is proposing to construct a shared 7,555 sq. ft. facility that will co-locate the Imperial County Fire Department Substation and the Imperial County Sheriff's office Substation at 8071 Luxor Ave., Niland, California.

The Imperial Irrigation District has reviewed the information and has the following comments:

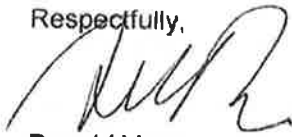
1. For electrical service for the project, the applicant should be advised to contact Ignacio Romo, IID Customer Project Development Planner, at (760) 482-3426 or e-mail Mr. Romo at igromo@iid.com to initiate the customer service application process. In addition to submitting a formal application (available for download at the district website <http://www.iid.com/home/showdocument?id=12923>), the applicant will be required to submit a complete set of approved plans (including CAD files), project schedule, estimated in-service date, one-line diagram of facility, electrical loads, panel size, voltage, and the applicable fees, permits, easements and environmental compliance documentation pertaining to the provision of electrical service to the project. The applicant shall be responsible for all costs and mitigation measures related to providing electrical service to the project.
2. Any construction or operation on IID property or within its existing and proposed right of way or easements including but not limited to: surface improvements such as proposed new streets, driveways, parking lots, landscape; and all water, sewer, storm water, or any other above ground or underground utilities; will require an encroachment permit, or encroachment agreement (depending on the circumstances). A copy of the IID encroachment permit application and instructions are available for download at <http://www.iid.com/departments/real-estate>. The IID Real Estate Section should be contacted at (760) 339-9239 for additional information regarding encroachment permits or agreements.

3. In addition to IID's recorded easements, IID claims, at a minimum, a prescriptive right of way to the toe of slope of all existing canals and drains. Where space is limited and depending upon the specifics of adjacent modifications, the IID may claim additional secondary easements/prescriptive rights of ways to ensure operation and maintenance of IID's facilities can be maintained and are not impacted and if impacted mitigated. Thus, IID should be consulted prior to the installation of any facilities adjacent to IID's facilities. Certain conditions may be placed on adjacent facilities to mitigate or avoid impacts to IID's facilities.

4. Any new, relocated, modified or reconstructed IID facilities required for and by the project (which can include but is not limited to electrical utility substations, electrical transmission and distribution lines, etc.) need to be included as part of the project's CEQA and/or NEPA documentation, environmental impact analysis and mitigation. Failure to do so will result in postponement of any construction and/or modification of IID facilities until such time as the environmental documentation is amended and environmental impacts are fully analyzed. **Any and all mitigation necessary as a result of the construction, relocation and/or upgrade of IID facilities is the responsibility of the project proponent.**

Should you have any questions, please do not hesitate to contact me at 760-482-3609 or at dvargas@iid.com. Thank you for the opportunity to comment on this matter.

Respectfully,



Donald Vargas
Compliance Administrator II

Enrique B. Martinez – General Manager
Mike Pacheco – Manager, Water Dept.
Marilyn Del Bosque Gilbert – Manager, Energy Dept.
Jamil Asbury – Deputy Manager, Energy Dept., Operations
Enrique Do Loon – Asst. Mgr., Energy Dept., Distr., Planning, Eng. & Customer Service
Vance Taylor – Asst. General Counsel
Robert Laurie – Asst. General Counsel
Michael P. Kemp – Superintendent, Regulatory & Environmental Compliance
Laura Cervantes – Supervisor, Real Estate
Jessica Humes – Environmental Project Mgr. Sr., Water Dept.



AIR POLLUTION CONTROL DISTRICT

December 6, 2019

Jim Minnick, Director
Imperial County Planning & Development Services
801 Main Street
El Centro, CA 92243

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DEC 06 2019

IMPERIAL COUNTY
PLANNING & DEVELOPMENT SERVICES

SUBJECT: Initial Study 19-0024—Niland Public Safety Facility

Dear Mr. Minnick:

The Imperial County Air Pollution Control District ("Air District") would like to thank you for the opportunity to review and comment on Initial Study (IS) 19-0024 that will co-locate the Imperial County Fire Department Substation and the Imperial County Sheriff's Office substation in a shared facility at 8071 Luxor Avenue in Niland (APN 021-111-008).

Upon review, the Air District requests that the applicant present proof to the Air District that the applicant has contacted the California Air Resources Board (CARB) Asbestos Program. Additionally, the applicant is requested to contact Emmanuel Sanchez, APC Enforcement Division Manager, to discuss measures to protect adjacent residents (sensitive receptors) from fugitive dust caused by construction activities. All construction must adhere to the Air District's Regulation VIII, and a Construction Notification Form must also be submitted to the Air District 10 days prior to the commencement of construction.

The Air District's Rules & Regulations can be found on its website (www.co.imperial.ca.us/AirPollution). Should the applicant have any questions, please contact our office at (442) 265-1800.

Respectfully,

Curtis Blondell
APC Environmental Coordinator

Monique Soucier
APC Division Manager



COUNTY OF
IMPERIAL

DEPARTMENT OF
PUBLIC WORKS

155 S. 11th Street
El Centro, CA
92243

Tel: (442) 265-1818
Fax: (442) 265-1858

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Public Works works for the Public

September 4, 2019

Mr. Jim Minnick, Planning Director
County of Imperial Planning & Development Services Department
801 Main Street
El Centro, CA 92243

Attn: Michael Abraham

**SUBJECT: Niland Public Safety Facility – Project No. ICCED-012
Initial Study Request**

Dear Mr. Minnick:

The County of Imperial has been awarded funding from the California Department of Housing and Community Development (HCD), through its Community Development Block Grant (CDBG) program, for the construction of a shared facility that will co-locate the Imperial County Fire Department Substation and the Imperial County Sheriff's Office Substation in Niland, California.

The new safety facility, containing a multipurpose community room that can serve as a cooling center to the public, will be located on 8071 Luxor Ave, Niland, CA 92257 (APN 021-111-008). The project site includes a single parcel (APN 021-111-008) and is currently occupied by the Imperial County Fire Department No. 7.

The project consists of the demolition of the existing fire station facility and other existing appurtenances and constructing a new Niland Public Safety Facility building consisting of a 7,555 square foot wood framed stucco single story structure. Additional project details can be found in the Project Manual, Civil Plans and Architectural Plans located on the Imperial County Community & Economic Development website at <http://www.imperialcountyced.com/> under "Bids-RFPs".

The Imperial County Department of Public Works (ICDPW) requests an Initial Study for environmental determination for the Niland Public Safety Facility project. Below mentioned document is provided for your reference:

- Niland Public Safety Facility – Environmental Assessment with attachments (January 2019)

Payment in the amount of \$2,500, for associated CEQA review fees, will be issued upon receipt of invoice.

Should you have any questions, please do not hesitate to contact Jenell Guerrero, Administrative Analyst III, with this department, at 442-265-1815 or via email at jenellguerrero@co.imperial.ca.us. Thank you in advance for your time and assistance with this matter.

Respectfully,

John A. Gay, P.E.
Director of Public Works

JMG/ag

Enclosure(s)

COUNTY EXECUTIVE OFFICE

Tony Rouhotas, Jr.
County Executive Officer
tonyrohotas@co.imperial.ca.us
www.co.imperial.ca.us



County Administration Center
940 Main Street, Suite 208
El Centro, CA 92243
Tel: 442-265-1001
Fax: 442-265-1010

January 17, 2019

Shannon Lauchner
California Office of Historic Preservation
1725 23rd Street, Suite 100
Sacramento, CA 95816

Subject: Niland Public Safety Facility - Environmental Assessment

Dear Ms. Lauchner:

The County of Imperial has been awarded funding from the California Department of Housing and Community Development (HCD), through its Community Block Grant (CDBG) program, for the construction of a shared facility that will co-locate the Imperial County Fire Department Substation and the Imperial County Sheriff's Office Substation in Niland, California. The new Safety Facility will contain a multipurpose community room that can serve as a cooling center to the public. According to the CDBG Grant Management Manual, the County is required to comply with all historical preservation regulation when implementing grant funded projects. This letter serves to fulfill compliance by contacting the State Historic Preservation Office (SHPO) and allowing the opportunity for review and comment.

A search of the California Historic Landmarks Database and National Register of Historic Places did not identify any resources within a 1/8-mile search of the project site at 8071 Luxor Avenue, Niland, CA. The Environmental Finding Form and draft Environmental Assessment (including a detailed project description, maps, and supporting documentation) is attached to this letter to provide SHPO with the opportunity to evaluate and provide clearance prior to any construction activities. The County will not proceed with the project until we receive a response from your office or the thirty-day response period has expired.

If you have any questions regarding this matter, please feel free to contact me at (442) 265-1101 or by email at esperanzacolio@co.imperial.ca.us. You may also contact Jade Padilla at (442) 265-1104 or by e-mail at jadepadilla@co.imperial.ca.us.

Sincerely,

Tony Rouhotas, Jr.
County Executive Officer

By: 
Esperanza Colio Warren
Deputy County Executive Officer

Attachments: Environmental Finding Form
Copies of Letters Mailed to Tribal Agencies
Niland Public Safety Facility - Environmental Assessment

CC: Tony Rouhotas, Imperial County Executive Officer
Jade Padilla, Interim Community & Economic Development Manager
Tyler Mayo, Community & Economic Coordinator

"Establishing Direction. Creating Opportunity"

AN EQUAL OPPORTUNITY/AFFIRMATIVE ACTION EMPLOYER



HUD ENVIRONMENTAL FINDING FORM (EFF)

CDBG Grantee: County of Imperial

ACTIVITY DESCRIPTION: The County of Imperial has been awarded funding from the California Department of Housing and Community Development (HCD), through its Community Development Block Grant (CDBG) program, for the construction of a shared facility that will co-locate the Imperial County Fire Department Substation and the Imperial County Sheriff's Office Substation at 8071 Luxor Avenue, Niland, California. The new Safety Facility will contain a multipurpose community room that can serve as a cooling center to the public.

Describe the type and scope of the activity (**Type:** housing rehabilitation, public facilities, public improvements, business loan, micro enterprise program, etc.; **Scope:** sewer and water improvements in support of 27 units of affordable housing, known as the "Live Here" project, located at 123 Happy Way, Happy City, CA).

THE ENVIRONMENTAL LEVEL OF REVIEW FOR THIS ACTIVITY IS: PUBLIC FACILITY AS NOTED BELOW:

- Exempt** (24 CFR Part 58.34), **OR**
- Categorically Excluded NOT subject** to the §58.5 statutes [24 CFR Part 58.35(b)]

Attached documentation for either of the above:

- HUD Environmental Form for Statutes and Regulations at 24 CFR Part 58.6

- Categorically Excluded subject** to the §58.5 statutes per 24 CFR Part 58.35(a), but **requires no mitigation** and *has converted to exempt status* [24 CFR Part 58.34(a)(12)],
OR
- Categorically Excluded subject** to the §58.5 statutes [24 CFR Part 58.35(a)], but **will require mitigation** and, therefore, will not convert.

Attached documentation for either of the above:

- HUD Environmental Form for Statutes and Regulations at 24 CFR Part 58.6,

AND

(Choose either Statutory Worksheet or RER)

- Statutory Worksheet**
If the Statutory Worksheet triggers public noticing requirements, also provide:
 - Notice of Intent to Request Release of Funds (proof of publication) and
 - Request for Release of Funds and Certification (HUD-7015.15 form).

OR

- Rehabilitation Environmental Review (RER) form** (tiered environmental reviews only).
RER Appendix A (Parts 3-6) must be completed after the project site is identified and before you proceed with the project. A copy of Appendix A must be kept in the project file.

The RER **requires** public noticing, provide:

- Notice of Intent to Request Release of Funds (proof of publication) and
- Request for Release of Funds and Certification (HUD-7015.15 form)

Environmental Assessment (24 CFR Part 58.36)

Attached documentation:

- HUD Environmental Form for Statutes and Regulations at 24 CFR Part 58.6
- Environmental Assessment
- Combined Finding of No Significant Impact/Notice of Intent to Request Release of Funds (proof of publication)
- Request for Release of Funds and Certification (HUD-7015.15 form)

Environmental Impact Statement (24 CFR Part 58.37). **Contact a CDBG Representative.**


Certifying Officer Signature

Esperanza Colio Warren
Print Name

01-18-19
Date Certified

COUNTY EXECUTIVE OFFICE

Tony Rouhotas, Jr.
County Executive Officer
tonyrouhotas@co.imperial.ca.us
www.co.imperial.ca.us



County Administration Center
940 Main Street, Suite 208
El Centro, CA 92243
Tel: 442-265-1001
Fax: 442-265-101

January 9, 2019

Allen Lawson, Spokesman
San Pasqual Band of Diegueno Mission Indians of California
PO Box 365
Valley Center, CA 92082-0365

RE: Invitation to Consult Under Section 106 – Niland Public Safety Facility

Dear Allen Lawson,

This letter formally invites you to request consultation pursuant to Section 106 of the National Historic Preservation Act (NHPA) regarding the proposed Niland Public Safety Facility. The proposed project is construction of a shared facility for the Imperial County Fire Department (ICFD) Substation and the Imperial County Sheriff's Office (ICSO) Substation with a cooling center. The project is located on the site currently occupied by the ICFD Station No. 7 which will be demolished to accommodate the new construction.

Section 106 requires consultation with federally-recognized Indian tribes when a project may affect a historic property of religious and cultural significance to the tribe. Section 106 covers a broad range of projects, including construction, renovation, repair, or rehabilitation; ground disturbances (e.g. sewer lines, utility lines [above and below ground], foundations; footings, grading, access roads) and changes to an area's visual characteristics. To this end, the County is contacting you to consult on this project.

The County of Imperial is committed to fulfilling the goals of Section 106 and believes that tribal participation in the planning process is crucial for the success of the proposed project. The Imperial County Community and Economic Development Department performed a search on HUD's Triable Directory Assessment Tool (TDAT) to obtain a list of tribes who should be included in the planning consultation process regarding the proposed project and your name was included in the NAHC's response.

The project site includes a single parcel (APN 021-111-008) located at 8071 Luxor Avenue in Niland, CA. Niland is approximately 4.5 miles east of the Salton Sea and 8 miles north of Calipatria. Niland is approximately 0.4 square miles bordered on the north and east the railroad tracks, on the west by State Route (SR) 111 and on the south by Noffsinger Road. The Project site is bordered by 3rd Street on the north and Luxor Avenue on the east. Maps showing the regional location of the proposed project are provided as attachments to this letter.

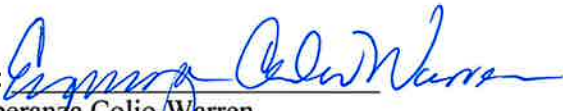
If your tribe would like to consult with the County of Imperial regarding this project, please respond in writing to Esperanza Colio-Warren, Deputy Executive Officer, County of Imperial, 940 W. Main Street, Suite 208, El Centro, CA 92243. Any sensitive information shared with the County regarding cultural places and/or sacred sites will be kept strictly confidential and will not be divulged to the public.

"Establishing Direction. Creating Opportunity"

AN EQUAL OPPORTUNITY/AFFIRMATIVE ACTION EMPLOYER

Respectfully,

Tony Rouhotas Jr.
County Executive Officer

By: 
Esperanza Colio-Warren
Deputy County Executive Officer

Attachments: Location Map
Project Area Map

CC: Jade Padilla, Interim Community & Economic Development Manager
Tyler Mayo, Economic Development Coordinator

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REGIONAL LOCATION MAP



"Establishing Direction. Creating Opportunity"

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APN 021-111-008



1" = 47 ft	Sub Title	10/10/2017		
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This map represents a visual display of related geographic information. Data provided hereon is not a guarantee of actual field conditions. To be sure of correct information, please contact Imperial County staff for the most up-to-date information.

"Establishing Direction. Creating Opportunity"

AN EQUAL OPPORTUNITY/AFFIRMATIVE ACTION EMPLOYER

COUNTY EXECUTIVE OFFICE

Tony Rouhotas, Jr.
County Executive Officer
tonyrouhotas@co.imperial.ca.us
www.co.imperial.ca.us



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El Centro, CA 92243
Tel: 442-265-1001
Fax: 442-265-101

January 9, 2019

Angela Santos, Chairperson
Manzanita Band of Diegueno Mission Indians of the Manzanita Reservation
PO Box 1302
Boulevard, CA 91905-1302

RE: Invitation to Consult Under Section 106 – Niland Public Safety Facility

Dear Angela Santos,

This letter formally invites you to request consultation pursuant to Section 106 of the National Historic Preservation Act (NHPA) regarding the proposed Niland Public Safety Facility. The proposed project is construction of a shared facility for the Imperial County Fire Department (ICFD) Substation and the Imperial County Sheriff's Office (ICSO) Substation with a cooling center. The project is located on the site currently occupied by the ICFD Station No. 7 which will be demolished to accommodate the new construction.

Section 106 requires consultation with federally-recognized Indian tribes when a project may affect a historic property of religious and cultural significance to the tribe. Section 106 covers a broad range of projects, including construction, renovation, repair, or rehabilitation; ground disturbances (e.g. sewer lines, utility lines [above and below ground], foundations; footings, grading, access roads) and changes to an area's visual characteristics. To this end, the County is contacting you to consult on this project.

The County of Imperial is committed to fulfilling the goals of Section 106 and believes that tribal participation in the planning process is crucial for the success of the proposed project. The Imperial County Community and Economic Development Department performed a search on HUD's Triable Directory Assessment Tool (TDAT) to obtain a list of tribes who should be included in the planning consultation process regarding the proposed project and your name was included in the NAHC's response.

The project site includes a single parcel (APN 021-111-008) located at 8071 Luxor Avenue in Niland, CA. Niland is approximately 4.5 miles east of the Salton Sea and 8 miles north of Calipatria. Niland is approximately 0.4 square miles bordered on the north and east the railroad tracks, on the west by State Route (SR) 111 and on the south by Noffsinger Road. The Project site is bordered by 3rd Street on the north and Luxor Avenue on the east. Maps showing the regional location of the proposed project are provided as attachments to this letter.

If your tribe would like to consult with the County of Imperial regarding this project, please respond in writing to Esperanza Colio-Warren, Deputy Executive Officer, County of Imperial, 940 W. Main Street, Suite 208, El Centro, CA 92243. Any sensitive information shared with the County regarding cultural places and/or sacred sites will be kept strictly confidential and will not be divulged to the public.

"Establishing Direction. Creating Opportunity"

Respectfully,

Tony Rouhotas Jr.
County Executive Officer

By: 
Esperanza Colio-Warren
Deputy County Executive Officer

Attachments: Location Map
Project Area Map

CC: Jade Padilla, Interim Community & Economic Development Manager
Tyler Mayo, Economic Development Coordinator

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AN EQUAL OPPORTUNITY/AFFIRMATIVE ACTION EMPLOYER

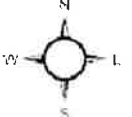



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APN 021-111-008



1" = 47 ft	Sub Title	10/10/2017		
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COUNTY EXECUTIVE OFFICE

Tony Rouhotas, Jr.
County Executive Officer
tonyrohotas@co.imperial.ca.us
www.co.imperial.ca.us



County Administration Center
940 Main Street, Suite 208
El Centro, CA 92243
Tel: 442-265-1001
Fax: 442-265-101

January 9, 2019

Anthony Madrigal, THPO
Twenty-Nine Palms Band of Mission Indians of California
46-200 Harrison Place
Coachella, CA 92236

RE: Invitation to Consult Under Section 106 – Niland Public Safety Facility

Dear Anthony Madrigal,

This letter formally invites you to request consultation pursuant to Section 106 of the National Historic Preservation Act (NHPA) regarding the proposed Niland Public Safety Facility. The proposed project is construction of a shared facility for the Imperial County Fire Department (ICFD) Substation and the Imperial County Sheriff's Office (ICSO) Substation with a cooling center. The project is located on the site currently occupied by the ICFD Station No. 7 which will be demolished to accommodate the new construction.

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The County of Imperial is committed to fulfilling the goals of Section 106 and believes that tribal participation in the planning process is crucial for the success of the proposed project. The Imperial County Community and Economic Development Department performed a search on HUD's Triable Directory Assessment Tool (TDAT) to obtain a list of tribes who should be included in the planning consultation process regarding the proposed project and your name was included in the NAHC's response.


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"Establishing Direction. Creating Opportunity"

Respectfully,

Tony Rouhotas Jr.
County Executive Officer

By: 
Esperanza Colio-Warren
Deputy County Executive Officer

Attachments: Location Map
Project Area Map

CC: Jade Padilla, Interim Community & Economic Development Manager
Tyler Mayo, Economic Development Coordinator

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APN 021-111-008



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COUNTY EXECUTIVE OFFICE

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County Executive Officer
tonyrohotas@co.imperial.ca.us
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El Centro, CA 92243
Tel: 442-265-1001
Fax: 442-265-101

January 9, 2019

Arlene Kingery, THPO
Quechan Tribe of the Fort Yuma Indian Reservation
350 Picacho Road
Winterhaven, CA 92283

RE: Invitation to Consult Under Section 106 – Niland Public Safety Facility

Dear Arlene Kingery,

This letter formally invites you to request consultation pursuant to Section 106 of the National Historic Preservation Act (NHPA) regarding the proposed Niland Public Safety Facility. The proposed project is construction of a shared facility for the Imperial County Fire Department (ICFD) Substation and the Imperial County Sheriff's Office (ICSO) Substation a cooling center. The project is located on the site currently occupied by the ICFD Station No. 7 which will be demolished to accommodate the new construction.

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The County of Imperial is committed to fulfilling the goals of Section 106 and believes that tribal participation in the planning process is crucial for the success of the proposed project. The Imperial County Community and Economic Development Department performed a search on HUD's Triable Directory Assessment Tool (TDAT) to obtain a list of tribes who should be included in the planning consultation process regarding the proposed project and your name was included in the NAHC's response.

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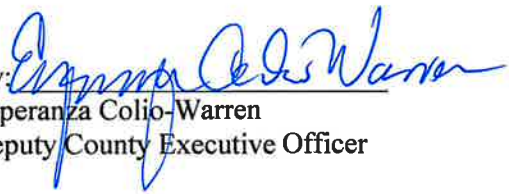
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AN EQUAL OPPORTUNITY/AFFIRMATIVE ACTION EMPLOYER

Respectfully,

Tony Rouhotas Jr.
County Executive Officer

By: 
Esperanza Colio-Warren
Deputy County Executive Officer

Attachments: Location Map
Project Area Map

CC: Jade Padilla, Interim Community & Economic Development Manager
Tyler Mayo, Economic Development Coordinator

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APN 021-111-008



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COUNTY EXECUTIVE OFFICE

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tonyrohotas@co.imperial.ca.us
www.co.imperial.ca.us



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El Centro, CA 92243
Tel: 442-265-1001
Fax: 442-265-101

January 9, 2019

Dennis Patch, Chairman
Colorado River Indian Tribes of the Colorado River Indian Reservation
26600 Mohave Road
Parker, AZ 85344

RE: Invitation to Consult Under Section 106 – Niland Public Safety Facility

Dear Dennis Patch,

This letter formally invites you to request consultation pursuant to Section 106 of the National Historic Preservation Act (NHPA) regarding the proposed Niland Public Safety Facility. The proposed project is construction of a shared facility for the Imperial County Fire Department (ICFD) Substation and the Imperial County Sheriff's Office (ICSO) Substation with a cooling center. The project is located on the site currently occupied by the ICFD Station No. 7 which will be demolished to accommodate the new construction.

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"Establishing Direction. Creating Opportunity"

Respectfully,

Tony Rouhotas Jr.
County Executive Officer

By: 
Esperanza Colio-Warren
Deputy County Executive Officer

Attachments: Location Map
Project Area Map

CC: Jade Padilla, Interim Community & Economic Development Manager
Tyler Mayo, Economic Development Coordinator

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REGIONAL LOCATION MAP



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APN 021-111-008



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Tel: 442-265-1001
Fax: 442-265-101

January 9, 2019

Keeny Escalanti
Quechan Tribe of the Fort Yuma Indian Reservation
350 Picacho Road
Winterhaven, CA 92283

RE: Invitation to Consult Under Section 106 – Niland Public Safety Facility

Dear Keeny Escalanti,

This letter formally invites you to request consultation pursuant to Section 106 of the National Historic Preservation Act (NHPA) regarding the proposed Niland Public Safety Facility. The proposed project is construction of a shared facility for the Imperial County Fire Department (ICFD) Substation and the Imperial County Sheriff's Office (ICSO) Substation with as a cooling center. The project is located on the site currently occupied by the ICFD Station No. 7 which will be demolished to accommodate the new construction.

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"Establishing Direction. Creating Opportunity"

Respectfully,

Tony Rouhotas Jr.
County Executive Officer

By: 
Esperanza Colio-Warren
Deputy County Executive Officer

Attachments: Location Map
Project Area Map

CC: Jade Padilla, Interim Community & Economic Development Manager
Tyler Mayo, Economic Development Coordinator

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REGIONAL LOCATION MAP

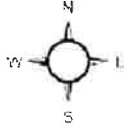



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COUNTY EXECUTIVE OFFICE

Tony Rouhotas, Jr.
County Executive Officer
tonyrohotas@co.imperial.ca.us
www.co.imperial.ca.us



County Administration Center
940 Main Street, Suite 208
El Centro, CA 92243
Tel: 442-265-1001
Fax: 442-265-101

January 9, 2019

Darrell Mike, Chairperson
Twenty-Nine Palms Band of Mission Indians of California
46-200 Harrison Place
Coachella, CA 92236

RE: Invitation to Consult Under Section 106 – Niland Public Safety Facility

Dear Darrell Mike,

This letter formally invites you to request consultation pursuant to Section 106 of the National Historic Preservation Act (NHPA) regarding the proposed Niland Public Safety Facility. The proposed project is construction of a shared facility for the Imperial County Fire Department (ICFD) Substation and the Imperial County Sheriff's Office (ICSO) Substation with a cooling center. The project is located on the site currently occupied by the ICFD Station No. 7 which will be demolished to accommodate the new construction.

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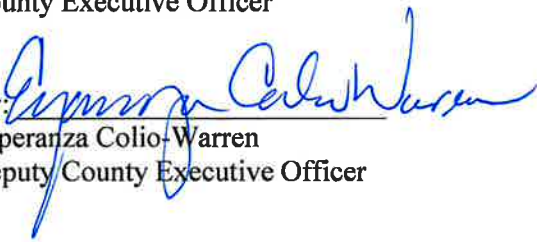
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AN EQUAL OPPORTUNITY/AFFIRMATIVE ACTION EMPLOYER

Respectfully,

Tony Rouhotas Jr.
County Executive Officer

By: 
Esperanza Colio-Warren
Deputy County Executive Officer

Attachments: Location Map
Project Area Map

CC: Jade Padilla, Interim Community & Economic Development Manager
Tyler Mayo, Economic Development Coordinator

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REGIONAL LOCATION MAP



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APN 021-111-008



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El Centro, CA 92243
Tel: 442-265-1001
Fax: 442-265-101

January 9, 2019

Robert Pinto, Chairperson
Ewiiapaayp Band of Kumeyaay Indians
4054 Willows Road
Alpine, CA 91901

RE: Invitation to Consult Under Section 106 – Niland Public Safety Facility

Dear Robert Pinto,

This letter formally invites you to request consultation pursuant to Section 106 of the National Historic Preservation Act (NHPA) regarding the proposed Niland Public Safety Facility. The proposed project is construction of a shared facility for the Imperial County Fire Department (ICFD) Substation and the Imperial County Sheriff's Office (ICSO) Substation with a cooling center. The project is located on the site currently occupied by the ICFD Station No. 7 which will be demolished to accommodate the new construction.

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"Establishing Direction. Creating Opportunity"

Respectfully,

Tony Rouhotas Jr.
County Executive Officer

By: 
Esperanza Colio-Warren
Deputy County Executive Officer

Attachments: Location Map
Project Area Map

CC: Jade Padilla, Interim Community & Economic Development Manager
Tyler Mayo, Economic Development Coordinator

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**U.S. Department of Housing and Urban
Development**

451 Seventh Street, SW
Washington, DC 20410
www.hud.gov

espanol.hud.gov

Environmental Assessment Determinations and Compliance Findings for HUD-assisted Projects 24 CFR Part 58

Project Information

Project Name: Niland Public Safety Facility Project

Responsible Entity: County of Imperial

Grant Recipient (if different than Responsible Entity):

State/Local Identifier: EIN: 95-6000-924

Preparer: Kevin L. Grant

Certifying Officer Name and Title: Tony Rouhotas, Jr. County Executive Officer

Grant Recipient (if different than Responsible Entity):

Consultant: Ericsson-Grant, Inc.

Direct Comments to: Esperanza Colio-Warren, Deputy Executive Officer

Project Location: 8071 Luxor Avenue, Niland, California (see map below).

APN 021-111-008



Description of the Proposed Project [24 CFR 50.12 & 58.32; 40 CFR 1508.25]:

The proposed project is a shared facility for the Imperial County Fire Department (ICFD) Substation and the Imperial County Sheriff's Office (ICSO) Substation with a community room that can serve as a cooling center. The facility will be located in the Niland Colonia and provide services to the northern unincorporated area of the County. The Cooling Center included in the facility will also serve as an emergency gathering location for Niland residents. The existing Fire Substation 7 (see photo below) on the site will be demolished to construct the new shared facility.



Statement of Purpose and Need for the Proposal [40 CFR 1508.9(b)]:

The proposed facility is necessary for the ICFD and ICSSO to properly provide services efficiently and effectively to the northern area of Imperial County.

Fire Substation

The existing Fire Substation 7 is not suitable for full-time staffing or fire operations as it has not been maintained to industry standards nor is it legally equipped to provide services. The nearest County fire station to the Niland facility is in the City of Imperial, which is approximately 30.5 miles away. If operation at the existing Fire Substation 7 was not possible, it would take 45 minutes to respond to an incident in Niland from the facility in Imperial. Thus, it is essential to have a fully operational fire station to ensure the safety and welfare of the Niland community and northern Imperial County.

Due to the uninhabitable conditions of the existing Fire Station 7, the only portion of the facility still in use is the apparatus bay, which houses the fire engine. The staff operates from a mobile home located directly behind (west of) the existing facility. Through this substation, the Fire Department provides fire protection, preventative action, emergency response and related services. In other substations, the Department may offer classes to the community, such as CPR, First Aid, Fire Extinguisher Education and Smoke Detector Education. Unfortunately, offering these classes through Fire Substation 7 is not an option as the current limitations of the facility do not allow for any such activity.

Sheriff's Substation

The ICSSO currently operates out of a facility separate from the existing Fire Substation 7. The ICSSO substation is located at 218 East 1st Street in Niland approximately .20 miles from Fire Substation 7. The facility consists of one large room, a restroom, and three holding cells. Although the building is showing signs of dilapidation, which are worsening over time, the ICSSO is still operating out of this facility. This can be challenging as some of the facility issues, such as the lack of functioning restroom fixtures in the cells and efficient ventilation, interfere with the ability to operate effectively. As the ICSSO provides services to the entire northern portion of the County, it is essential to have an adequate facility for the protection and welfare of the community.

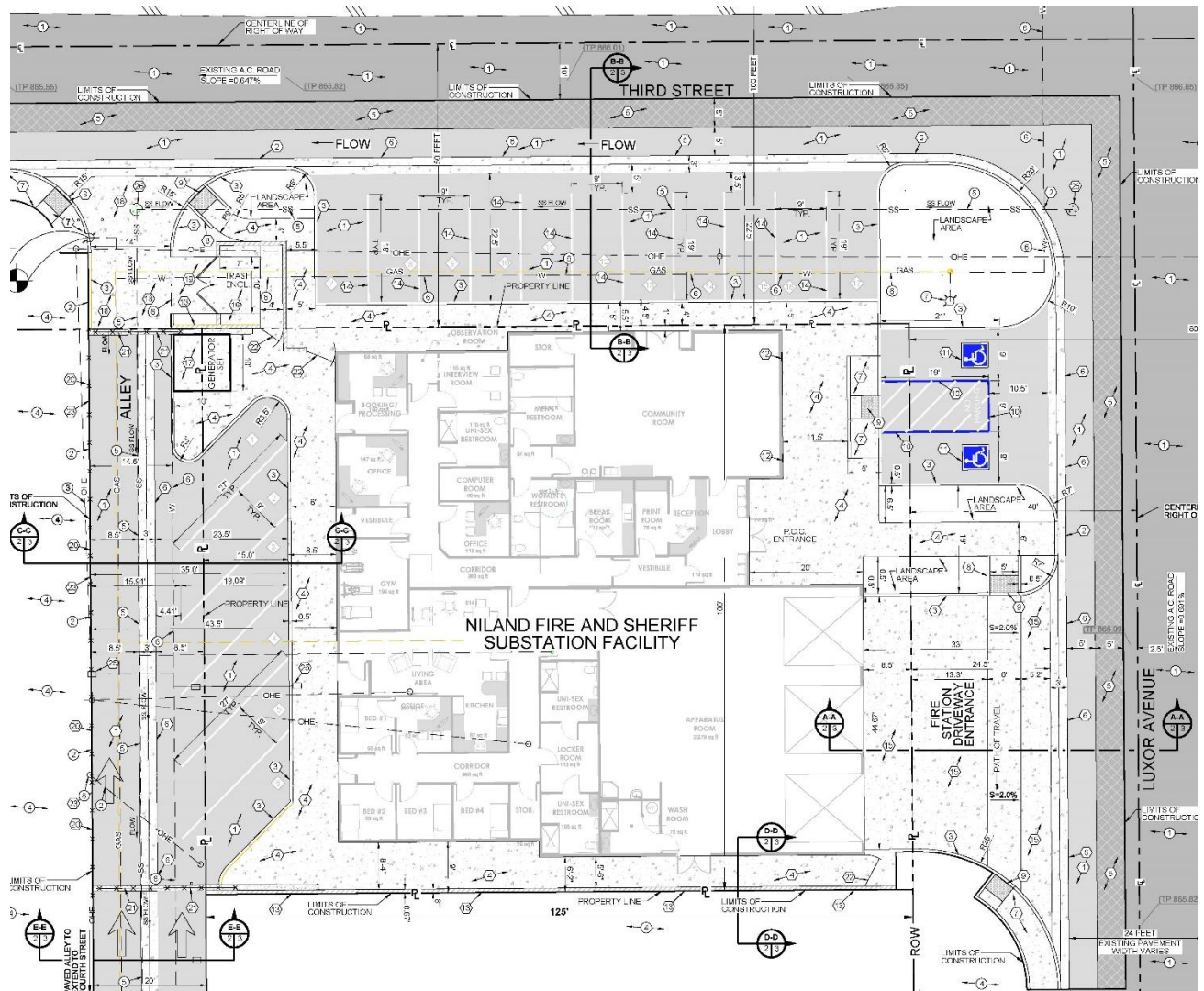


Should the conditions of the existing facility continue to deteriorate, operations may be limited by the available functionality of the building. The nearest station to the Niland facility is in Brawley,

approximately 19.7 miles and 27 minutes away. While this may not seem detrimental, should an emergency occur in Bombay Beach, which is the jurisdiction of the Niland substation, the Brawley station will not be able to respond for 45 minutes as it is approximately 37.2 miles away.

Cooling Center/Emergency Shelter

In addition to a combined ICFD/ICSO facility (see site/floor plan and elevations below), a cooling center will also be included. As the temperature in Imperial County can often range between 110 and 120 degrees during the summer, the primary purpose of this room is to serve as a cooling center for residents who do not have, or cannot afford, air conditioning units. Additionally, this room can be used to hold public meetings, as a distribution center for emergency food and supplies, and as a community meeting location in emergency situations. Imperial County is highly susceptible to earthquakes. As some of the homes in this area are old and not structurally sound, this room can be used as emergency shelter if an earthquake were to occur.



Elevations of the facility are provided below.



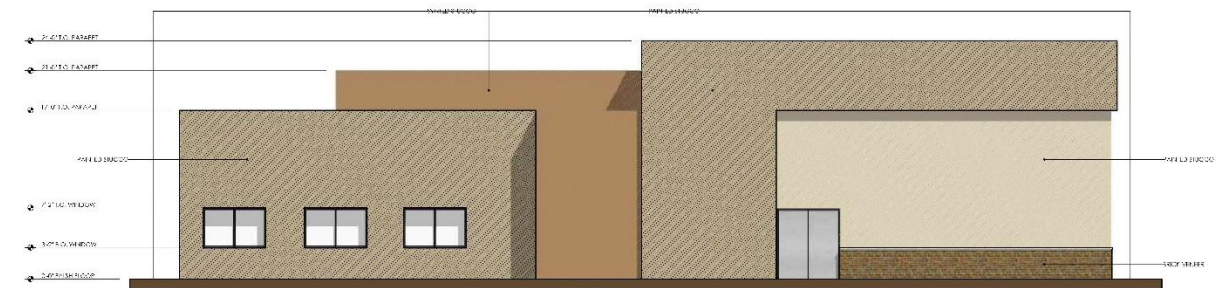
EAST ELEVATION



NORTH ELEVATION



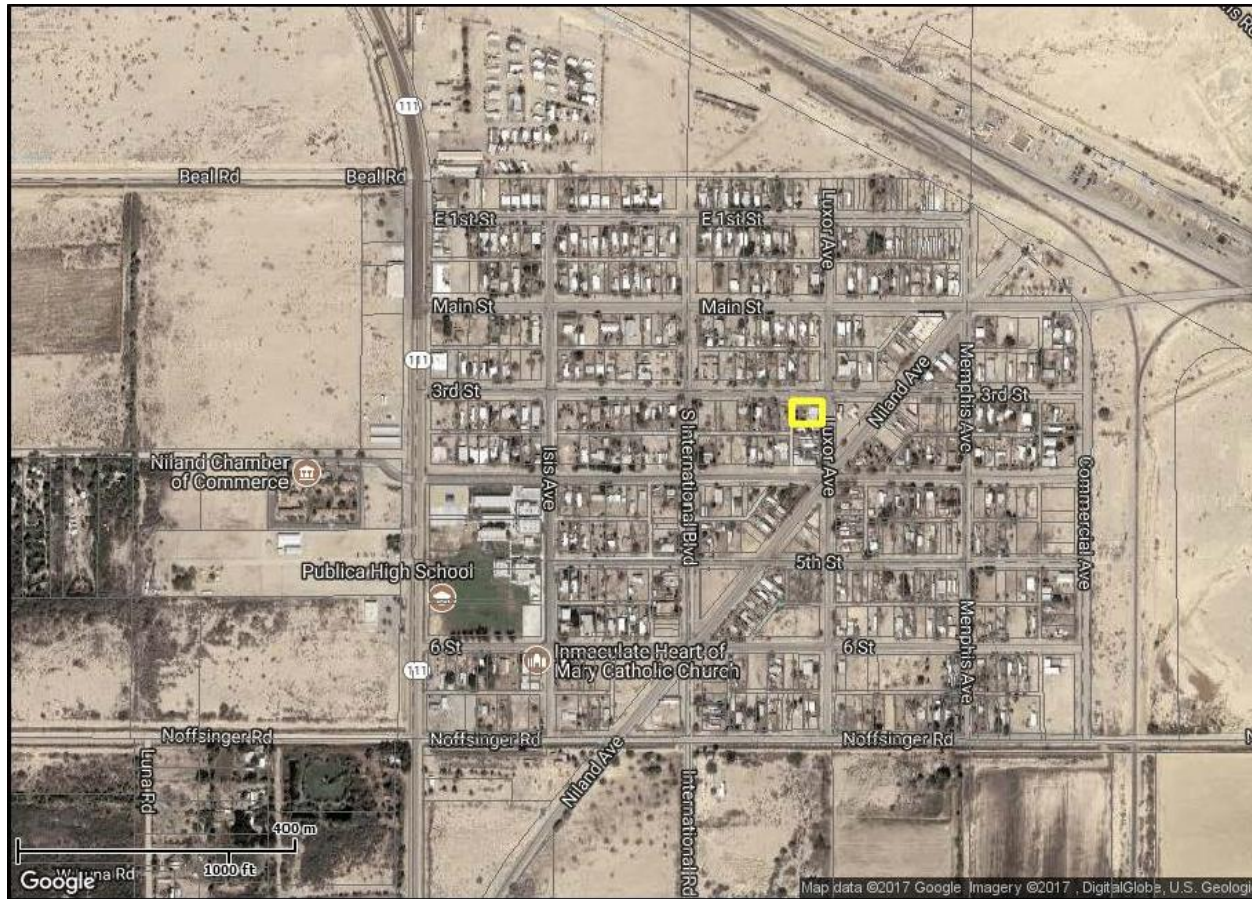
WEST ELEVATION



SOUTH ELEVATION

Existing Conditions and Trends [24 CFR 58.40(a)]:

The proposed project site at 8071 Luxor Avenue is located in the Niland Colonia, a small urban area in an unincorporated portion of northeastern Imperial County. The Colonia is approximately 4.5 miles east of the Salton Sea and 8 miles north of Calipatria. Niland is approximately 0.4 square miles bordered on the north and east the railroad tracks, on the west by State Route (SR) 111 and on the south by Noffsinger Road (see map below).



The site is bordered by 3rd Street on the north and Luxor Avenue on the east. Overhead telephone lines are located adjacent to the property line along 3rd Street and also to the west of the site. The area to the north across 3rd Street consists of vacant lots with overgrown vegetation as well as residential uses (mobile homes). Vacant structures and overhead telephone lines are located directly east across Luxor Avenue. Homes border the site to the south. Several palm trees and other mature trees are located on the site as well as on the adjacent property to the south. Unpaved gravel areas surround all properties as there are no paved driveways or sidewalks.

Currently ICFD Substation 7 is on the site at 8071 Luxor Avenue. The substation is housing only a fire engine. The building itself is not suitable for personnel to occupy as it poses health and safety threats. The poor conditions of the facility include exposed building insulation, potential exposure to asbestos (floor tiles), water damage, and structural damage (refer to Attachment I). The firefighters assigned to this substation are currently residing in and operating out of a mobile home located behind (west of) the existing building. The existing Fire Substation 7 building located on the site will be demolished to construct the new facility that will be shared by the ICFD and ICSSO.

The ICSSO Substation is also showing signs of deterioration (refer to Attachment I). The exterior of the roof has significant signs of water damage and the building was not constructed to meet the requirements of American's with Disabilities Act (ADA). Additionally, this substation is improperly wired and lacks operating restroom fixtures. The existing fire department building located on the site will be demolished to construct a new facility.

Funding Information

Grant Number	HUD Program	Funding Amount
17-CDBG-12013	\$5,000,000.00	\$5,000,000.00

Estimated Total HUD Funded Amount: \$5,000,000.00

Estimated Total Project Cost (HUD and non-HUD funds) [24 CFR 58.32(d)]: **\$5,000,000.00**

Engineer’s Construction estimate: \$3,904,573.00

Compliance with 24 CFR 50.4, 58.5, and 58.6 Laws and Authorities

Record below the compliance or conformance determinations for each statute, executive order, or regulation. Provide credible, traceable, and supportive source documentation for each authority. Where applicable, complete the necessary reviews or consultations and obtain or note applicable permits of approvals. Clearly note citations, dates/names/titles of contacts, and page references. Attach additional documentation as appropriate.

Compliance Factors: Statutes, Executive Orders, and Regulations listed at 24 CFR §58.5 and §58.6	Are formal compliance steps or mitigation required?	Compliance determinations
STATUTES, EXECUTIVE ORDERS, AND REGULATIONS LISTED AT 24 CFR 50.4 and 58.6		
Airport Hazards 24 CFR Part 51 Subpart D	Yes No <input type="checkbox"/> <input checked="" type="checkbox"/>	No airports are located within a one-mile radius of the project site (Refer to Attachment A, EDR NEPA Check, p. 3). The closest airport to the project site is the Cliff Hatfield Memorial Airport located approximately 7.5 miles to the southeast. The project would not interfere with any airport clear zones or accident potential zones.
Coastal Barrier Resources Coastal Barrier Resources Act, as amended by the Coastal Barrier Improvement Act of 1990 [16 USC 3501]	Yes No <input type="checkbox"/> <input checked="" type="checkbox"/>	The Niland Colonia is located approximately 105 miles east of the California Coast. (Refer to Attachment C, Project Site Location Map). The project would have no impact with regard to Coastal Barrier Resources.
Flood Insurance Flood Disaster Protection Act of 1973 and National Flood Insurance Reform Act of 1994 [42 USC 4001-4128 and 42 USC 5154a]	Yes No <input type="checkbox"/> <input checked="" type="checkbox"/>	The project site is within Zone X per Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) No 06025C0725C (Refer Attachment A, EDR NEPA Check, p. 66-67 [Flood Plain Map and Flood Plain Map Findings] and Attachment B, FEMA FIRM). Zone X is defined as an area of minimal flood hazard.

<p>Compliance Factors: Statutes, Executive Orders, and Regulations listed at 24 CFR §58.5 and §58.6</p>	<p>Are formal compliance steps or mitigation required?</p>	<p>Compliance determinations</p>
<p>STATUTES, EXECUTIVE ORDERS, AND REGULATIONS LISTED AT 24 CFR 50.4 and 58.6</p>		
<p>Clean Air Clean Air Act, as amended, particularly section 176(c) & (d); 40 CFR Parts 6, 51, 93</p>	<p>Yes No <input type="checkbox"/> <input checked="" type="checkbox"/></p>	<p>Imperial County has been designated as a non-attainment area for both ozone and PM₁₀ (fugitive dust, 10 micrometers or less) standards. Construction of the project could result in a temporary increase in PM₁₀ in association with demolition, clearing, grading and excavation. The area to be disturbed on-site is 12,500 square feet (0.2870 acres)/ the off-site area (outside of the property boundaries within the public right-of-way) is 18,660 square feet (0.4284 acres). Total area to be disturbed is 31,160 square feet (0.7154 acres) (Mayo, pers. comm., 2018). The project is anticipated to require ±400 cubic yards of import fill (Mayo, pers. comm., 2018). The Imperial County Air Pollution Control District (ICAPCD) has construction emissions thresholds of 150 pounds per day (lbs/day) for PM₁₀ and PM_{2.5}; 75 lbs/day for Nitrogen Oxide (NO_x); 100 lbs/day for Carbon Monoxide (CO); and 500 lbs/day for Reactive Organic Gases (ROG) (ICAPCD 2007, p. 19). Based on the size of the area to be disturbed (less than one-half acre) and the duration of the project (approximately 8 months with grading activities occurring during the first few weeks of construction), no significant emissions of ozone precursors or other criteria pollutants would occur (i.e. ICAPCD thresholds would not be exceeded). Operation of the proposed Niland Public Safety Facility would not result in the generation of significant quantities of ozone precursors, or PM₁₀. Although the project is expected to be well below emission thresholds and no significant air quality impacts are anticipated, the project will utilize standard dust suppression measures to further minimize dust generation during project construction (demolition of existing ICFD building, clearing, excavation and earthwork) (see Mitigation Measure AQ-1). The project site will be paved and the amount of operational traffic is not anticipated to increase as the Niland Public Safety Facility would merely combine and re-locate the existing ICFD Substation 7 and ICSO substation rather than adding a new fire or sheriff facility to serve the</p>

Compliance Factors: Statutes, Executive Orders, and Regulations listed at 24 CFR §58.5 and §58.6	Are formal compliance steps or mitigation required?	Compliance determinations
STATUTES, EXECUTIVE ORDERS, AND REGULATIONS LISTED AT 24 CFR 50.4 and 58.6		
Clean Air Clean Air Act, as amended, particularly section 176(c) & (d); 40 CFR Parts 6, 51, 93	Yes No <input type="checkbox"/> <input checked="" type="checkbox"/>	area. The ICFD will have 4 firefighters on site on a daily basis, 24/7, 7 days of the week. The ICSO will have 5 members on duty at all times and could be actively at the facility if not dispatched or on patrol (Mayo, pers., comm., 2018). The number of staff at the facility at any given time may vary depending on incident priority and necessity. Currently increased staffing levels for either the ICFD or ICSO are not planned as that would require budget amendments only approved by the Board of Supervisors. Thus, the maximum number of employees at the proposed Niland Public Safety Facility at one time would be 9. This number would not result in substantial vehicle trip emissions during operation. Documentation: ICAPCD CEQA Air Quality Handbook 2007.
Coastal Zone Management Coastal Zone Management Act, sections 307(c) & (d)	Yes No <input type="checkbox"/> <input checked="" type="checkbox"/>	The Niland Colonia is located approximately 105 miles east of the California Coast. (Refer to Attachment C, Project Site Location Map). The project would have no impact with regard to Coastal Zone Management.
Contamination and Toxic Substances 24 CFR Part 50.3(i) & 58.5(i)(2)	Yes No <input type="checkbox"/> <input checked="" type="checkbox"/>	The project site is located in the Niland Colonia. The Colonia is a small urban area characterized by residential uses and surrounded by undeveloped land and agricultural fields in unincorporated northeastern Imperial County. The project involves construction of a 7,590 square-foot building to house the ICFD and ISCO; a cooling center and emergency shelter with a parking lot; sidewalks; driveways and perimeter fencing. None of the processes associated with construction or operation of the project would result in the routine transport, use, or disposal of hazardous materials. Further, the project does not propose the handling of hazardous or acutely hazardous materials, substances or waste. No other toxic materials or hazards are present. (Refer to EDR NEPA Check [Attachment A])

<p>Compliance Factors: Statutes, Executive Orders, and Regulations listed at 24 CFR §58.5 and §58.6</p>	<p>Are formal compliance steps or mitigation required?</p>	<p>Compliance determinations</p>
<p>STATUTES, EXECUTIVE ORDERS, AND REGULATIONS LISTED AT 24 CFR 50.4 and 58.6</p>		
<p>Endangered Species Endangered Species Act of 1973, particularly section 7; 50 CFR Part 402</p>	<p>Yes No <input type="checkbox"/> <input checked="" type="checkbox"/></p>	<p>Based on a search of the California Endangered Species Database, areas within a 1-mile radius of the project site contain threatened or endangered species or critical habitat. However, based on the Natural Areas Map, none of the species are located on or immediately adjacent to the project site. (Refer to Attachment A, EDR NEPA Check, page 3 Natural Areas Map, and pp. 4-62, Natural Areas Map Findings of EDR NEPA Check). The site is highly disturbed and includes the ICFD Substation 7, a mobile home currently used to house the fire station, and a metal canopy to provide shade for fire vehicles.</p>
<p>Explosive and Flammable Hazards 24 CFR Part 51 Subpart C</p>	<p>Yes No <input type="checkbox"/> <input checked="" type="checkbox"/></p>	<p>The location of the proposed project is not found on a list of hazardous materials sites nor were any hazardous materials sites identified on or proximate to the project site (Refer to EDR NEPA Check Attachment A).</p>
<p>Farmlands Protection Farmland Protection Policy Act of 1981, particularly sections 1504(b) and 1541; 7 CFR Part 658</p>	<p>Yes No <input type="checkbox"/> <input checked="" type="checkbox"/></p>	<p>Based on the "Imperial County Important Farmland 2016 Map" (Refer to Attachment D) prepared by the California Department of Conservation, the project site is designated as "Urban and Built-Up Land." The project site is not located within an area designated as Prime, Unique or Farmland of Statewide Importance. The project would not result in any adverse impacts with regard to the Farmland Protection Policy Act. Documentation: Imperial County Important Farmland 2016 Map.</p>
<p>Floodplain Management Executive Order 11988, particularly section 2(a); 24 CFR Part 55</p>	<p>Yes No <input type="checkbox"/> <input checked="" type="checkbox"/></p>	<p>The project site is within Zone X per FEMA FIRM Map No 06025C0725C, (Refer Attachment A, EDR NEPA Check, p. 72-73 [Flood Plain Map and Flood Plain Map Findings] and Attachment B, FEMA FIRM). Zone X is defined as an area of minimal flood hazard.</p>

Compliance Factors: Statutes, Executive Orders, and Regulations listed at 24 CFR §58.5 and §58.6	Are formal complianc e steps or mitigation required?	Compliance determinations
STATUTES, EXECUTIVE ORDERS, AND REGULATIONS LISTED AT 24 CFR 50.4 and 58.6		
Historic Preservation National Historic Preservation Act of 1966, particularly sections 106 and 110; 36 CFR Part 800	Yes No <input type="checkbox"/> <input checked="" type="checkbox"/>	<p>The project site is not listed in the CA Historic Sites Database or the National Register of Historical Places Databased. (Refer to Attachment A, EDR NEPA Check, p. 2 and p. 68). All work will be done within previously disturbed areas at 8071 Luxor Avenue and the surrounding area to install sidewalk and driveways. Construction workers, vehicles and staged materials will be monitored to ensure that project boundaries are maintained and that no areas outside of the project site are disturbed. The likelihood of encountering cultural resources at the project site is low. However, as with any project involving earthmoving activities, the potential exists to uncover unknown subsurface cultural resources or human remains. Mitigation Measures CUL-1, CUL-2, and CUL-3 would be implemented if any previously unknown resources or human remains are discovered during construction.</p>
Noise Abatement and Control Noise Control Act of 1972, as amended by the Quiet Communities Act of 1978; 24 CFR Part 51 Subpart B	Yes No <input type="checkbox"/> <input checked="" type="checkbox"/>	<p>An increase in noise levels would occur during project construction in association with equipment and material deliveries, demolition, workers, etc. Noise associated with these activities would be temporary (8 months) and would be subject to Mitigation Measures NOI-1, NOI-2 and NOI-3 to ensure compliance with the Imperial County Noise Ordinance. Once operational, an increase in noise may occur as first responders leave the Niland Public Safety Facility. The ICFD use of sirens is based on the surrounding traffic and intersections, time of day and general area (rural vs. urban). The Niland Public Safety Facility is proposed in an area that is not congested. Accordingly, the use of the sirens will be minimal with no noticeable increase in ICFD siren use than previous to date in association with the existing ICFD Substation 7 currently occupying a portion of the project site. In an emergency, ICSO patrol vehicles will sound sirens immediately after leaving the station in keeping with department policy and state law. The existing ICSO Substation at 218 East 1st Street,</p>

<p>Compliance Factors: Statutes, Executive Orders, and Regulations listed at 24 CFR §58.5 and §58.6</p>	<p>Are formal compliance steps or mitigation required?</p>	<p>Compliance determinations</p>
<p>STATUTES, EXECUTIVE ORDERS, AND REGULATIONS LISTED AT 24 CFR 50.4 and 58.6</p>		
<p>Noise Abatement and Control</p> <p>Noise Control Act of 1972, as amended by the Quiet Communities Act of 1978; 24 CFR Part 51 Subpart B</p>	<p>Yes No <input type="checkbox"/> <input checked="" type="checkbox"/></p>	<p>Niland, is less than a quarter mile to the north of the project site. Therefore, combining both the ICFD and ICSD in one location would not result in substantial changes in the level of noise from sirens experienced by Niland residents. Thus, residents would not be anticipated to notice an increase in siren noise, only a change in location from the existing facility to the new location shared with the ICFD on Luxor Avenue. Documentation: Imperial County General Plan Noise Element, 1993.</p>
<p>Sole Source Aquifers</p> <p>Safe Drinking Water Act of 1974, as amended, particularly section 1424(e); 40 CFR Part 149</p>	<p>Yes No <input type="checkbox"/> <input checked="" type="checkbox"/></p>	<p>EPA Region 9 (Pacific Southwest) includes California, Arizona, Nevada and the Hawaiian Islands. No sole source aquifers are located beneath or in proximity to the project site (Refer to Attachment E Map of Region 9 Sole Source Aquifers in California).</p>
<p>Wetlands Protection</p> <p>Executive Order 11990, particularly sections 2 and 5</p>	<p>Yes No <input type="checkbox"/> <input checked="" type="checkbox"/></p>	<p>No wetlands are located on or within 1/8-mile of the project site based on a search of the National Wetlands Inventory. (Refer to Attachment A EDR NEPA Check, p. 74 and pp. 75-81). The project would have no impact on a wetland. The site has been previously disturbed and a portion is currently occupied by a modular unit used to house ICFD staff and a metal canopy to shade the Substation's fire equipment and vehicles.</p>
<p>Wild and Scenic Rivers</p> <p>Wild and Scenic Rivers Act of 1968, particularly section 7(b) and (c)</p>	<p>Yes No <input type="checkbox"/> <input checked="" type="checkbox"/></p>	<p>California has approximately 189,454 miles of rivers. Of this total, approximately 1,999.6 miles are designated as wild and scenic. None of these rivers align through Imperial County. (Refer to Attachment F, California Wild and Scenic River System and Management Agencies).</p>

Compliance Factors: Statutes, Executive Orders, and Regulations listed at 24 CFR §58.5 and §58.6	Are formal compliance steps or mitigation required?	Compliance determinations
STATUTES, EXECUTIVE ORDERS, AND REGULATIONS LISTED AT 24 CFR 50.4 and 58.6		
ENVIRONMENTAL JUSTICE		
Environmental Justice Executive Order 12898	Yes No <input type="checkbox"/> <input checked="" type="checkbox"/>	The project site is suitable for the proposed Niland Public Safety Facility. The project will not result in a disproportionately high or adverse human health or environmental impact on a minority population, low-income population or Indian tribe, because there is no disproportionate impact from one or more environmental hazards and no health risks are present in association with the proposed project. On the contrary, the project would provide facilities for the ICFD and ICSO as well as a cooling center and emergency shelter for the residents of Niland.

Environmental Assessment Factors [24 CFR 58.40; Ref. 40 CFR 1508.8 & 1508.27] Recorded below is the qualitative and quantitative significance of the effects of the proposal on the character, features and resources of the project area. Each factor has been evaluated and documented, as appropriate and in proportion to its relevance to the proposed action. Verifiable source documentation has been provided and described in support of each determination, as appropriate. Credible, traceable and supportive source documentation for each authority has been provided. Where applicable, the necessary reviews or consultations have been completed and applicable permits of approvals have been obtained or noted. Citations, dates/names/titles of contacts, and page references are clear. Additional documentation is attached, as appropriate. **All conditions, attenuation or mitigation measures have been clearly identified.**

Impact Codes: Use an impact code from the following list to make the determination of impact for each factor.

- (1) Minor beneficial impact
- (2) No impact anticipated
- (3) Minor Adverse Impact – May require mitigation
- (4) Significant or potentially significant impact requiring avoidance or modification which may require an Environmental Impact Statement

Environmental Assessment Factor	Impact Code	Impact Evaluation
LAND DEVELOPMENT		
Conformance with Plans / Compatible Land Use and Zoning / Scale and Urban Design	1	<p>The project would result in construction and operation of the Niland Public Safety Facility, a combined ICFD/ISCO facility and cooling center/emergency shelter at 8071 Luxor Avenue in the Niland Colonia. The Colonia has been designated as an "Urban Area" (Refer to Attachment G) in the Land Use Element of the Imperial County General Plan (adopted November 9, 1993), which encompasses approximately 200 acres (Imperial County General Plan Land Use Element 2015, p. 4). The site is zoned G/S, Government/Special. The project would conform to the development standards as set out under Title 9: Division III Land Use Ordinances. According to the County's Zoning Code, the project is a principally permitted use (Fire/Police Station) in the Government/Special (GS) (Townsite of Niland, Map 11A, Effective July 1, 1998) zone and would be consistent with development patterns allowed in the Niland Urban Area. Therefore, the proposed project would not conflict with land use plans and policies. Documentation: Imperial County General Plan Land Use Element 2015, p. 4.</p>
Soil Suitability/ Slope/ Erosion/ Drainage/ Storm Water Runoff	1	<p>A site-specific Geotechnical Report (Attachment H) was prepared for the project site. Liquefaction is a potential design consideration because of underlying saturated substrata. (LandMark 2018, p. 10). The site is flat and lies at an elevation of 135 feet below means sea level. Adjacent properties are also flat and at approximately the same elevation (Landmark 2018, p. 5) No soil erosion hazards were identified. Adequate drainage and collection of stormwater runoff will be required to accommodate development of the site and prevent ponding (LandMark 2018, p. 15). Soil conditions and drainage would be addressed through implementing the design criteria identified in Section 4 of the Geotechnical Report prepared for the project (mitigation measure GEO-1).</p>
Hazards and Nuisances including Site Safety and Noise	2	<p>The proposed Niland Public Safety Facility would provide facilities for co-location of the ICFD and ICSSO as well as a cooling center and emergency shelter for the residents of Niland. The primary seismic hazard at the site is the potential for strong groundshaking during earthquakes along the San Andreas, Imperial, Elmore Ranch, Brawley Seismic Zone and Superstition Hills faults. The site is not within and Alquist Priolo Earthquake Fault Zone, therefore, surface fault rupture is considered to be low at the site. (LandMark 2018, p. 10). Geologic and seismic hazards would be addressed through implementing the design criteria identified in Section 4 of the Geotechnical Report</p>

Environmental Assessment Factor	Impact Code	Impact Evaluation
Hazards and Nuisances including Site Safety and Noise	2	(Attachment H) prepared for the project (mitigation measure GEO-1). Some short-term noise would be generated during construction and demolition but would be addressed through implementation of mitigation measures NOI-1, NOI-2 and NOI-3. Operational noise would be intermittent associated with sirens when fire and sheriff vehicles leave the station. This noise would be short-term and intermittent. Further, this kind of noise currently exists in Niland at the existing ICFD and ICSO facilities. No other site safety issues are present.
Energy Consumption	1	The project is a 7,590 square foot building housing the ICFD and ICSO on a 24 hour per day/7 days per week basis. The facility would also serve intermittently as needed as a cooling center during the summer and an emergency shelter in the event of an earthquake. Energy consumption would occur in association with heating, cooling and lighting the structure on a 24-hour basis, 365 days of the year. However, based on the size of the facility, the small number of employees at any given time (9) and the use of energy efficient lighting and appliances, energy consumption is not anticipated to be substantial or wasteful. Moreover, the proposed project would upgrade existing, substandard facilities currently being used which likely require more energy to operate based on outdated and inefficient design.
SOCIOECONOMIC		
Employment and Income Patterns	1	The proposed project would co-locate ICFD and ICSO personal in a single public safety facility. Employees from the two existing separate facilities would be relocated to the Niland Public Safety Facility. The ICFD will have 4 firemen occupying the Niland Public Safety Facility and the ICSO will staff 5 employees at the facility at any one time (Mayo, pers. comm., 2018). This would bring the occupancy to 9 employees. No additional employees would be hired to occupy the facility. A few short-term construction jobs would be generated for approximately 8 months. The minimal number and temporary nature of the construction employment would not create a substantial increase in population in the project area. Therefore, on an overall basis, the proposed project would have no effect on employment and income patterns.
Demographic Character Changes, Displacement	2	The proposed project would place a new Public Safety Facility co-locating the ICFD and ICSO Substations in the Colonia of Niland. The proposed project would not result in any changes to the demographic character of the Colonia.

Environmental Assessment Factor	Impact Code	Impact Evaluation
COMMUNITY FACILITIES AND SERVICES		
Educational and Cultural Facilities	2	The proposed project would place a new Public Safety Facility co-locating the ICFD and ICSO facilities in the Colonia of Niland. The proposed project would not result in any changes to the demographic character of the Colonia.
Commercial Facilities	2	The proposed Niland Public Safety Facility consists of a 7,590-square foot building, parking lot, sidewalks, driveways and perimeter fencing. The project would not induce population growth creating the need for more commercial facilities. Therefore, the project would have no effect on commercial facilities.
Health Care and Social Services	2	The proposed project is construction of the Niland Public Safety Facility. The project would not affect health care and social services in Imperial County.
Solid Waste Disposal/Recycling	2	The proposed project is construction of the Niland Public Safety Facility. Based on the nature of the project and limited staff occupancy (i.e. 9 staff) the facility would not generate large quantities of solid waste. Trash and wastepaper generated by the facility would be disposed of at a local landfill.
Waste Water / Sanitary Sewers	2	The proposed Niland Public Safety Facility would connect to the existing wastewater system served by the Niland County Sanitary District (Mayo, pers. comm., 2018). The District serves the existing temporary structure used by the ICFD as well as the ISCO substation at 218 East 1 st Street in Niland via a sanitary sewer line located to the east of the project site. The proposed project will have the same types of accommodations (e.g. washing machine, bathroom, showers, etc.) as currently exist at the temporary modular unit. The project will combine two existing facilities and also serve as a cooling center/emergency shelter. As such, the Project is not anticipated to have a substantial impact on the capacity of the wastewater treatment plant.
Water Supply	2	The Golden State Water Company currently provides water service to the temporary modular fire substation as well as the current ICSO Substation located at 218 East 1 st Street in Niland. The site is surrounded by a water line on the north and east. The Golden State Water Company would lower the water meter enclosure to 0.30 feet below grade prior to grading activities and relocate the existing water meter enclosure. Based on the provision of water infrastructure and adequate groundwater, no impacts to water supply would occur.

Environmental Assessment Factor	Impact Code	Impact Evaluation
Public Safety - Police, Fire and Emergency Medical	2	The project would provide a new facility for the ICFD and ICSO, demolishing ICFD Substation 7 currently located at 8071 Luxor Avenue and replacing the deteriorating facility at 218 East 1 st Street in Niland. The Niland Public Safety Facility will allow both the ICFD and ICSO to function more efficiently while providing proper accommodations for staff. The project would not increase the demand on either the ICFD or the ICSO. Likewise, the project would not generate increased demand for emergency medical services and no impact would occur to this service.
Parks, Open Space and Recreation	1	The proposed project would co-locate the ICFD and ISCO in a combined facility in the Niland Colonia. The project site does not support park, open space or recreational use, nor is it planned these uses. The new facility includes an indoor gym facility which will provide opportunities for staff to work out. The project would not require construction of new, or expansion of existing, parks, open space or recreational facilities.
Transportation and Accessibility	2	Construction of the Niland Public Safety Facility would result in a slight increase in traffic associated with demolition, material and equipment delivery and construction workers. However, these trips would not have a substantial effect on local roadways given the low volumes of traffic in the area. In addition, construction trips would cease once demolition and construction is completed. As no new firefighters or Sheriff's officers would be hired, operation of the proposed Niland Public Safety Facility would not increase traffic beyond what is already occurring at the existing ICSO Substation at 218 East 1 st Street in Niland and modular unit providing temporary housing for the ICFD on the project site. Operational trips associated with calls for service would now originate from one location at 8071 Luxor Avenue rather than from two separate facilities as the ICSO substation will co-locate with the ICFD. The Niland ICSO Substation had 3,700 calls for service year-to-date for 2018. The ICFD Substation responded to approximately 560 calls in 2017 (Mayo, pers. comm., 2018). The proposed project does not include any aviation components, nor would it cause any aviation safety risks. Therefore, the proposed project would not result in a change of air traffic patterns or result in substantial safety risks.

Environmental Assessment Factor	Impact Code	Impact Evaluation
NATURAL FEATURES		
Unique Natural Features, Water Resources	2	The Farmland Mapping and Monitoring Program monitors conversion of the state's agricultural lands. The Niland Colonia is primarily surrounded by Farmland of Local Importance with some areas of Prime Farmland and Farmland of Statewide Importance. However, the proposed project would be located on "Urban and Built-Up Land" in area that has been previously disturbed (See Attachment D, FMMP Map). No noteworthy unique natural features are located on the project site as it has been previously disturbed.
Vegetation, Wildlife	2	Vegetation on the project site includes several trees which could have nesting birds. The project site has minimal potential habitat for wildlife based on past disturbance and the presence of the existing modular unit used to house ICFD staff and the metal canopy structure for fire equipment and vehicles. The project is not likely to affect Federally-listed or proposed threatened and endangered species (i.e., plants, animals, fish, or invertebrates) as none were identified on the site. However, mitigation measures BIO-1, BIO-2 and BIO-3 would avoid any impacts to birds or any other wildlife, if present. Documentation: EDR NEPA Check (See Attachment A, pp. 3-66 Natural Areas Map Findings).
Other Factors	1	None applicable.

Additional Studies Performed:

Not Applicable.

Field Inspection (Date and completed by):

County staff visited both the existing ICFD Substation 7 and the ICSO Substations and photographed conditions in November 2017. Refer to Attachment I.

List of Sources, Agencies and Persons Consulted [40 CFR 1508.9(b)]:

- California Department of Conservation, Division of Land Resource Protection, Farmland Mapping and Monitoring Program. 2017. Imperial County Important Farmland 2016. Published June 2017.
- EDR NEPA Search Map Report. 2018. Niland Public Safety Facility, 8071 Luxor Avenue, Calipatria, CA 92233. Inquiry Number: 5485889.1s November 15, 2018.
- Federal Emergency Management Agency (FEMA). 2008. Flood Insurance Rate Map Imperial County California and Incorporated Areas. Map Number 06025C0725C. Effective Date: September 26, 2008.
- Imperial County Air Pollution Control District. 2007. *2007 ICAPCD CEQA Handbook for the Preparation of Air Quality Impact Assessments*. November 2007.
- Imperial County, 2015a. "Land Use Element of the Imperial County General Plan." Approved October 6, 2015.
- 2015b. Imperial County General Plan Noise Element. Approved October 6, 2015.
2008. Imperial County General Plan, Imperial County Land Use Plan. Updated March 1, 2007.
- LandMark. 2018. Geotechnical Report, Proposed Fire & Sheriff Substation 8071 Luxor Avenue, Niland, California. November 2018.
- Lauchner, Shannon. 2019. State Historian II. State Office of Historic Preservation.
- Mayo, Tyler. Economic Development Coordinator, County of Imperial. 2018. Personal communication (e-mail) December 4, 2018. Referenced in text as (Mayo, pers. comm., 2018).
- National Wild and Scenic Rivers System. Accessed at <https://www.rivers.gov/california.php>. Accessed February 11, 2017.
- Lauchner, Shannon, State Historian II. State Office of Historic Preservation.
- United States Environmental Protection Agency. 2016. Pacific Southwest Region 9, Groundwater, Sole Source Aquifer. Accessed at: <https://www3.epa.gov/region9/water/groundwater/ssa.html>

List of Permits Obtained:

Type of Permit	Issuing Agency	Anticipated Application Date	Anticipated Approval Date	Cost of Permit
Grading Permit	County of Imperial Public Works Department	June 11, 2018	October 25, 2018	\$2,500.00
Building Permit	County of Imperial Building Department	June 26, 2018	October 25, 2018	\$52,300.00
Air Pollution Control Permit	County of Imperial Air Pollution Control District	March 25, 2019	March 25, 2019	\$1,500.00
Contractors Construction Trailer Permit	County of Imperial Planning and Development Department	March 21, 2019	April 10, 2019	\$1,200.00
Customer Service Proposal to IID Power Division (Electrical Permit)	Imperial Irrigation District	June 11, 2018	October 25, 2018	\$60,000.00

Public Outreach [24 CFR 50.23 & 58.43]:

The EA/FONSI is available for review at the local Housing and Urban Development (HUD) office located at 1275 Main Street, El Centro, 92243 or the County of Imperial Community. HUD will mail notices to any individual requesting notification.

The County of Imperial Community and Economic Development Department will send notices to any interested individuals or groups interested in the project and will notice the Finding of No Significant Impact (FONSI) in the Imperial Valley Press (in English) and the El Sol del Valley Imperial (in Spanish). In addition, a notice regarding the FONSI will be sent to the State Historic Preservation Office for (SHPO) review and comment; to the HUD at 1725 23rd Street, Suite 100, Sacramento, CA 95816; and the Environmental Protection Agency, District #9 Regional Office at 75 Hawthorne Street, San Francisco, CA 94105-3901.

Cumulative Impact Analysis [24 CFR 58.32]:

The proposed Project is located in the Niland Colonia, a sparsely populated area in rural Imperial County. No other projects are currently under construction or planned in the area. Therefore, no cumulative impacts would occur.

Alternatives [24 CFR 58.40(e); 40 CFR 1508.9]

4th Street and SR 11 Alternative

An alternative site in Niland was considered for the Project. The alternative site is located on a single APN (021-040-026-000) approximately 1.48 acres in size bordered by 4th Street on the north and State Route (SR) 111 in on the east. The site does not have a physical address at this time. A multi-family residence is to the west and a single-family residence and vacant land is to the south. An elementary school and residential uses are along the eastern side of SR 111. This site was eliminated from consideration because it was not possible to meet the Grant Milestones in a timely manner.

No Action Alternative [24 CFR 58.40(e)]:

Under the No Action Alternative, the proposed Niland Public Safety Facility would not be constructed and the current temporary modular unit would continue to be located at 8071 Luxor Avenue accommodating only the ICFD. The existing ICSO Substation would continue to operate out of a building with numerous inadequacies and safety issues. The cooling center and emergency shelter would not be constructed.

The only potential adverse impacts that the proposed project would have on the human environment are temporary demolition and construction-related impacts, specifically noise and dust generated during construction. The No Action Alternative would eliminate the short-term impacts of construction noise, construction dust, potential disturbance of nesting birds, potential for erosion, and discovery of unknown cultural resources. However, the serious health and safety issues that the proposed project is designed to alleviate for the ICFD and ICSO would continue. Further, the residents of Niland would not have access to a cooling center or emergency shelter. Overall, the long-term health and safety benefits of the project outweigh the temporary construction-related impacts.

Summary of Findings and Conclusions:

The proposed Project would result in an overall beneficial impact for ICFD and ISCO staff as well as the residents of the Niland Colonia. The Project will provide a new public safety facility to allow the safe and efficient operation of the ICFD and ISCO operations to serve Niland and the north County. The project will also include space for a cooling center/emergency shelter. Short-term construction impacts can be addressed through implementation of the mitigation measures identified below. No adverse effects would result from implementation of the proposed Niland Public Safety Facility.

Mitigation Measures and Conditions [40 CFR 1505.2(c)]

Summarize below all mitigation measures adopted by the Responsible Entity to reduce, avoid, or eliminate adverse environmental impacts and to avoid non-compliance or non-conformance with the above-listed authorities and factors. These measures/conditions must be incorporated into project contracts, development agreements, and other relevant documents. The staff responsible for implementing and monitoring mitigation measures should be clearly identified in the mitigation plan.

Law, Authority, or Factor	Mitigation Measure
Imperial County Air Pollution Control District	<p>Mitigation Measure AQ-1: During clearing, grading, earth moving, or excavation operations, excessive fugitive dust emissions shall be controlled by the following techniques:</p> <ul style="list-style-type: none"> • Prepare a high wind dust control plan and implement plan elements and terminate soil disturbance when winds exceed 25 mph. • Limit the simultaneous disturbance area to as small an area as practical when winds exceed 25 mph. • Stabilize previously disturbed areas if subsequent construction is delayed. • Water exposed surfaces 3 times per day. • Cover all stock piles with tarps. • Replace ground cover in disturbed areas quickly. • Reduce speeds on unpaved roads to less than 15 mph.
Imperial County Community and Economic Development Department	<p>Bio-1 A pre-construction survey shall be conducted by a Biologist to identify any sensitive biological resources in the areas affected by construction.</p> <p>Bio-2 If warranted by the results of the pre-construction survey, a Biological Monitor shall be present during construction to ensure that resources are avoided and protected.</p> <p>Bio-3 A third-party compliance monitor shall be present during pre-construction activities/final design and construction to ensure that activities remain within designated boundaries and that no biological resources are unduly disturbed or harmed.</p>
Imperial County Community and Economic Development Department, Qualified Archaeologist, as necessary.	<p>Mitigation Measure CUL-1: Should archaeological resources be encountered during construction of the project, all work in that area shall be halted and a qualified archaeologist shall be summoned and shall have the authority to halt and redirect construction until the significance of the find can be determined. If the resource is determined to be significant, a recovery and catalog program shall be implemented.</p>


Law, Authority, or Factor	Mitigation Measure
Imperial County Community and Economic Development Department, Qualified Paleontologist, as necessary.	Mitigation Measure CUL-2: Should artifacts or items of potential paleontological significance be discovered during the project construction activities, all work in that area shall be halted and a qualified paleontologist shall be summoned to the site to evaluate the find. If the resource is determined to be significant, a recovery and catalog program shall be implemented.
Imperial County Community and Economic Development Department, County Coroner and Native American Heritage Commission, as appropriate.	Mitigation Measure CUL-3: If human remains are uncovered during project construction, State Health and Safety Code Section 7050.5 states that no further disturbance shall occur in the immediate area until the County Coroner has made the necessary findings as to origin and disposition pursuant to Public Resources Code Section 5097.98. If the coroner recognizes the human remains to be those of a Native American, or has reason to believe that they are those of a Native American, he or she shall contact, by telephone within 24 hours, the State Native American Heritage Commission (NAHC) who will then contact the appropriate tribal representative.
County of Imperial Noise Ordinance, Imperial County Community and Economic Development Department	Mitigation Measure NOI-1: During construction, the project shall be subject to noise control via implementation of the County of Imperial Noise Ordinance.
County of Imperial Noise Ordinance, Imperial County Community and Economic Development Department	Mitigation Measure NOI-2: Construction equipment operation shall be limited to the hours of 7 a.m. to 7 p.m., Monday through Friday, and 9 a.m. to 5 p.m. Saturday. No commercial construction operations are permitted on Sunday or holidays.
County of Imperial Noise Ordinance, Imperial County Community and Economic Development Department	Mitigation Measure NOI-3: No construction equipment, or combination of equipment regardless of age or date of acquisition, shall be operated so as to cause noise at a level in excess of seventy-five (75) decibels for more than eight (8) hours during any twenty-four (24) hour period when measured at or within the property lines of any property which is developed and used either in part or in whole for residential purposes.
Imperial County Community and Economic Development Department, Clean Water Act, the Region 7 Regional Water Quality Control Board	Mitigation Measure HYD-1: The County shall prepare a Notice of Intent to prepare a Stormwater Pollution Prevention Plan (SWPPP). The SWPPP will address water quality impacts associated with construction and operation of the project. To mitigate impacts from short-term erosion and discharge of pollutants, all best management practices (BMPs) identified in the SWPPP would be implemented. The SWPPP shall be consistent with the requirements of the

Law, Authority, or Factor	Mitigation Measure
	<p>County, Clean Water Act and the BMPs of the Region 7 Regional Water Quality Control Board. Construction BMPs shall include, but may not be limited to the following:</p> <ul style="list-style-type: none"> • Store stockpiled materials and wastes under a roof or plastic sheeting; • Berm around stockpile/storage areas to prevent contact with runoff; • Perform major maintenance, repair and vehicle and equipment washing off-site or in designated and controlled areas on-site; • Sweep up spilled dry construction materials (e.g. cement) immediately: water will not be used to wash away these materials. • Clean up liquid spills on paved or impermeable surfaces using "dry" clean-up methods (e.g. absorbent materials, cat litter, rags) and dispose of clean-up materials properly.
<p>Geotechnical Report Proposed Fire & Sheriff Substation 8071 Luxor Avenue Niland, California</p>	<p>GEO-1: The project shall incorporate the Design Criteria identified in Section 4 of the Geotechnical Report prepared by LandMark (2018) regarding</p> <ul style="list-style-type: none"> • Site Preparation <ul style="list-style-type: none"> ➢ Clearing and Grubbing ➢ Building Pad Preparation ➢ Moisture Control and Drainage ➢ Observation and Density Testing ➢ Auxiliary Structures Foundation Preparation • Utility Trench Backfill • Foundations and Settlements <ul style="list-style-type: none"> ➢ Flat Plate Structural Mats ➢ Grade-beam Reinforced Foundations • Slabs On-Grade <ul style="list-style-type: none"> ➢ Structural Concrete ➢ Non-structural Concrete • Concrete Mixes and Corrosivity • Excavations • Seismic Design • Pavements

Determination:

Finding of No Significant Impact [24 CFR 58.40(g)(1); 40 CFR 1508.27]
The project will not result in a significant impact on the quality of the human environment.

Finding of Significant Impact [24 CFR 58.40(g)(2); 40 CFR 1508.27]
The project may significantly affect the quality of the human environment.

Preparer Signature:  Date: 1-17-19

Name/Title/Organization: Keyin L. Grant, Managing Principal, Ericsson-Grant, Inc.

Certifying Officer Signature:  Date: 1/19/2019

Name/Title: Esperanza Polio Warren, County Deputy CEO

This original, signed document and related supporting material must be retained on file by the Responsible Entity in an Environmental Review Record (ERR) for the activity/project (ref: 24 CFR Part 58.38) and in accordance with recordkeeping requirements for the HUD program(s).

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ATTACHMENT A

EDR REPORT

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Niland Public Safety Facility

8071 Luxor Avenue
Calipatria, CA 92233

Inquiry Number: 5485889.1s
November 15, 2018

EDR NEPASearch™ Map Report



6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

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Key Contacts and Government Records Searched.....	90

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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EDR NEPASearch DESCRIPTION

The National Environmental Policy Act of 1969 (NEPA) requires that Federal agencies include in their decision-making processes appropriate and careful consideration of all environmental effects and actions, analyze potential environmental effects of proposed actions and their alternatives for public understanding and scrutiny, avoid or minimize adverse effects of proposed actions, and restore and enhance environmental quality as much as possible.

The EDR NEPASearch Map Report provides information which may be used, in conjunction with additional research, to determine whether a proposed site or action will have significant environmental effect.

TARGET PROPERTY ADDRESS

NILAND PUBLIC SAFETY FACILITY
8071 LUXOR AVENUE
CALIPATRIA, CA 92233

Inquiry #: 5485889.1s
Date: 11/15/18

TARGET PROPERTY COORDINATES

Latitude (North):	33.238815 - 33° 14' 19.7"
Longitude (West):	115.512993 - 115° 30' 46.8"
Universal Transverse Mercator:	Zone 11
UTM X (Meters):	638544.1
UTM Y (Meters):	3678556.2

The report provides maps and data for the following items (where available). Search results are provided in the Map Findings Summary on page 2 of this report.

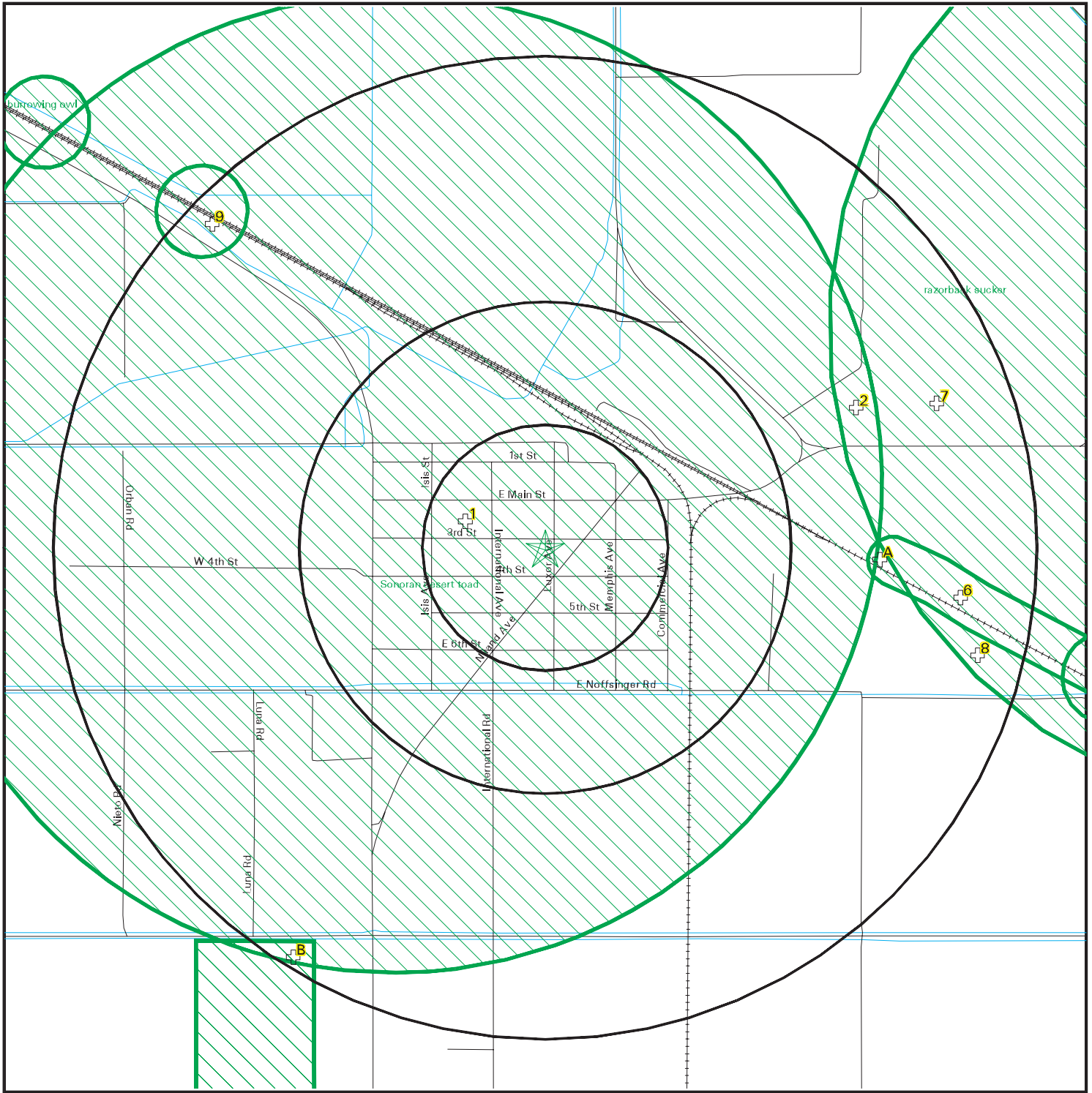
Section	Regulation
Natural Areas Map	
• Federal Lands Data:	
- Officially designated wilderness areas	47 CFR 1.1307(1)
- Officially designated wildlife preserves, sanctuaries and refuges	47 CFR 1.1307(2)
- Wild and scenic rivers	40 CFR 6.302(e)
- Fish and Wildlife	40 CFR 6.302
• Threatened or Endangered Species, Fish and Wildlife, Critical Habitat Data (where available)	47 CFR 1.1307(3); 40 CFR 6.302
Historic Sites Map	
• National Register of Historic Places	47 CFR 1.1307(4); 40 CFR 6.302
• State Historic Places (where available)	
• Indian Reservations	
Flood Plain Map	
• National Flood Plain Data (where available)	47 CFR 1.1307(6); 40 CFR 6.302
Wetlands Map	
• National Wetlands Inventory Data (where available)	47 CFR 1.1307(7); 40 CFR 6.302
FCC & FAA Map	
• FCC antenna/tower sites, FAA Markings and Obstructions, Airports, Topographic gradient	47 CFR 1.1307(8)
Key Contacts and Government Records Searched	

MAP FINDINGS SUMMARY

The databases searched in this report are listed below. Database descriptions and other agency contact information is contained in the Key Contacts and Government Records Searched section on page 90 of this report.

Applicable Regulation from 47 CFR/FCC Checklist	Database	Search Distance (Miles)	Within Search	Within 1/8 Mile
<u>NATURAL AREAS MAP</u>				
1.1307a (1) Officially Designated Wilderness Area	US Federal Lands	1.00	NO	NO
	US Wilderness Preservation	1.00	NO	NO
1.1307a (2) Officially Designated Wildlife Preserve	US Federal Lands	1.00	NO	NO
	CA PCT Lands	1.00	NO	NO
	CA Conservation Easement	1.00	NO	NO
	CA Protected Areas	1.00	YES	NO
	CA ACEC	1.00	NO	NO
	US NCED	1.00	NO	NO
	US ACEC	1.00	NO	NO
	US Scenic River	1.00	NO	NO
	CA Land Ownership	1.00	YES	NO
	US Critical Water Habitat	1.00	NO	NO
	US Critical Land Habitat	1.00	NO	NO
1.1307a (3) Threatened or Endangered Species or Critical Habitat	US Endangered Species	County	YES	N/A
1.1307a (3) Threatened or Endangered Species or Critical Habitat	CA Endangered Species	1.00	YES	YES
<u>HISTORIC SITES MAP</u>				
1.1307a (4) Listed or eligible for National Register	CA Historic Landmarks	1.00	NO	NO
1.1307a (4) Listed or eligible for National Register	Natchez Trace National Scenic	1.00	NO	NO
1.1307a (4) Listed or eligible for National Register	Potomac Heritage National Scen	1.00	NO	NO
	Indian Reservations	1.00	NO	NO
1.1307a (4) Listed or eligible for National Register	US Trails	1.00	NO	NO
1.1307a (4) Listed or eligible for National Register	National Register of Hist. Pla	1.00	NO	NO
<u>FLOODPLAIN MAP</u>				
1.1307 (6) Located in a Flood Plain	FLOODPLAIN	1.00	NO	NO
<u>WETLANDS MAP</u>				
1.1307 (7) Change in surface features (wetland fill)	NWI	1.00	YES	NO
	CA COASTAL ZONE	20.00	NO	NO
<u>FCC & FAA SITES MAP</u>				
	Cellular	1.00	YES	NO
	Antenna Structure Registration	1.00	YES	NO
	AM Antenna	1.00	NO	NO
	FM Antenna	1.00	NO	NO
	FAA DOF	1.00	YES	NO
	Airports	1.00	NO	---
	Power Lines	1.00	YES	---

Natural Areas Map



- | | |
|-------------------|---------------------------|
| ★ Target Property | ⊕ Locations |
| ∩ Roads | ▨ Federal Areas |
| ∩ County Boundary | ∩ Federal Linear Features |
| ∩ Waterways | ▨ State Areas |
| ■ Water | ∩ State Linear Features |



SITE NAME: Niland Public Safety Facility
 ADDRESS: 8071 Luxor Avenue
 Calipatria CA 92233
 LAT/LONG: 33.238816 / 115.512991

CLIENT: Ericsson-Grant Inc.
 CONTACT: Kevin Grant
 INQUIRY #: 5485889.1s
 DATE: November 15, 2018

NATURAL AREAS MAP FINDINGS

Federal Endangered Species from the U.S. Fish and Wildlife for IMPERIAL County

Group:Birds

Common Name: Southwestern willow flycatcher
Status: Endangered

Scientific Name: Empidonax traillii extimus

Common Name: Western snowy plover
Status: Threatened

Scientific Name: Charadrius alexandrinus nivosus

Common Name: Least Bell's vireo
Status: Endangered

Scientific Name: Vireo bellii pusillus

Common Name: Yuma clapper rail
Status: Endangered

Scientific Name: Rallus longirostris yumanensis

Group:Fishes

Common Name: Desert pupfish
Status: Endangered

Scientific Name: Cyprinodon macularius

Common Name: Razorback sucker
Status: Endangered

Scientific Name: Xyrauchen texanus

Group:Flowering Plants

Common Name: Peirson's milk-vetch
Status: Threatened

Scientific Name: Astragalus magdalenae var. peirsonii

Group:Insects

Common Name: Quino checkerspot butterfly
Status: Endangered

Scientific Name: Euphydryas editha quino (=E. e. wrighti)

Group:Mammals

Common Name: Peninsular bighorn sheep
Status: Endangered

Scientific Name: Ovis canadensis nelsoni

Group:Reptiles

Common Name: Desert tortoise
Status: Threatened

Scientific Name: Gopherus agassizii

Federal Endangered Species from the U.S. Fish and Wildlife for CA State

Group:Amphibians

Common Name: Western spadefoot
Status: Under Review

Scientific Name: Spea hammondi

Common Name: Channel Islands slender salamander
Status: Species of Concern

Scientific Name: Batrachoseps pacificus pacificus

Common Name: Limestone salamander
Status: Under Review

Scientific Name: Hydromantes brunus

Common Name: Large-blotched ensatina
Status: Species of Concern

Scientific Name: Ensatina eschscholtzii klauberi

Common Name: Oregon spotted frog

Scientific Name: Rana pretiosa

NATURAL AREAS MAP FINDINGS

Federal Endangered Species from the U.S. Fish and Wildlife for CA State (Continued...)

Status: Threatened

<p>Common Name: Lowland leopard (=San Felipe leopard) frog Status: Species of Concern</p>	<p>Scientific Name: <i>Rana yavapaiensis</i></p>
<p>Common Name: Del Norte salamander Status: Species of Concern</p>	<p>Scientific Name: <i>Plethodon elongatus</i></p>
<p>Common Name: Owens Valley web-toes salamander Status: Species of Concern</p>	<p>Scientific Name: <i>Hydromantes</i> sp.</p>
<p>Common Name: Mount Lyell salamander Status: Species of Concern</p>	<p>Scientific Name: <i>Hydromantes platycephalus</i></p>
<p>Common Name: Foothill yellow-legged frog Status: Under Review</p>	<p>Scientific Name: <i>Rana boylei</i></p>
<p>Common Name: Breckenridge Mountain slender salamander Status: Species of Concern</p>	<p>Scientific Name: <i>Batrachoseps</i> sp.</p>
<p>Common Name: California tiger Salamander Status: Endangered</p>	<p>Scientific Name: <i>Ambystoma californiense</i></p>
<p>Common Name: Kern Plateau salamander Status: Under Review</p>	<p>Scientific Name: <i>Batrachoseps robustus</i></p>
<p>Common Name: Lesser slender salamander Status: Under Review</p>	<p>Scientific Name: <i>Batrachoseps minor</i></p>
<p>Common Name: Yellow-blotched ensatina Status: Species of Concern</p>	<p>Scientific Name: <i>Ensatina eschscholtzii croceator</i></p>
<p>Common Name: Northern red-legged frog Status: Species of Concern</p>	<p>Scientific Name: <i>Rana aurora aurora</i></p>
<p>Common Name: Relictual slender salamander Status: Under Review</p>	<p>Scientific Name: <i>Batrachoseps relictus</i></p>
<p>Common Name: Cascades frog Status: Under Review</p>	<p>Scientific Name: <i>Rana cascadae</i></p>
<p>Common Name: Inyo Mountains slender salamander Status: Under Review</p>	<p>Scientific Name: <i>Batrachoseps campi</i></p>
<p>Common Name: Shasta salamander Status: Under Review</p>	<p>Scientific Name: <i>Hydromantes shastae</i></p>
<p>Common Name: Arizona toad Status: Under Review</p>	<p>Scientific Name: <i>Bufo microscaphus microscaphus</i></p>
<p>Common Name: Kern Canyon slender salamander Status: Under Review</p>	<p>Scientific Name: <i>Batrachoseps simatus</i></p>
<p>Common Name: Black toad Status: Species of Concern</p>	<p>Scientific Name: <i>Bufo exsul</i></p>

NATURAL AREAS MAP FINDINGS

Federal Endangered Species from the U.S. Fish and Wildlife for CA State (Continued...)

Common Name: Tailed frog
Status: Species of Concern

Scientific Name: *Ascaphus truei*

Group:Arachnids

Common Name: Carlow's Cave pseudoscorpion
Status: Species of Concern

Scientific Name: *Aphrastochthonius similis*

Common Name: Hom's micro-blind harvestman
Status: Species of Concern

Scientific Name: *Microcina homi*

Common Name: Lum's micro-blind harvestman
Status: Species of Concern

Scientific Name: *Microcina lumi*

Common Name: Edgewood blind harvestman
Status: Species of Concern

Scientific Name: *Calcina minor*

Common Name: Lee's micro-blind harvestman
Status: Species of Concern

Scientific Name: *Microcina leei*

Common Name: Jung's micro-blind harvestman
Status: Under Review

Scientific Name: *Microcina jungi*

Common Name: Grubbs' cave pseudoscorpion
Status: Species of Concern

Scientific Name: *Aphrastochthonius grubbsi*

Common Name: Music Hall Cave pseudoscorpion
Status: Species of Concern

Scientific Name: *Pseudogarypus orpheus*

Common Name: Lacey's cave pseudoscorpion
Status: Species of Concern

Scientific Name: *Larca laceyi*

Common Name: Empire Cave pseudoscorpion
Status: Species of Concern

Scientific Name: *Microcreagris imperialis*

Common Name: Santa Cruz telemid spider
Status: Species of Concern

Scientific Name: *Telema* sp.

Common Name: Aalbu's cave pseudoscorpion
Status: Species of Concern

Scientific Name: *Archeolarca aalbui*

Common Name: Monterey Dunes scorpion
Status: Species of Concern

Scientific Name: *Pauroctonus maritimus*

Common Name: Tiburon micro-blind harvestman
Status: Species of Concern

Scientific Name: *Microcina tiburona*

Group:Birds

Common Name: Xantus'sMurrelet
Status: Candidate

Scientific Name: *Synthliboramphus hypoleucus*

Common Name: Spotted Towhee
Status: Species of Concern

Scientific Name: *Pipilo maculatus clementae*

Common Name: Cooper's hawk

Scientific Name: *Accipiter cooperii*

NATURAL AREAS MAP FINDINGS

Federal Endangered Species from the U.S. Fish and Wildlife for CA State (Continued...)

Status: Species of Concern

Common Name: Grasshopper sparrow
Status: Species of Concern

Scientific Name: *Ammodramus savannarum* ssp. *perpallidus*

Common Name: Black-backed woodpecker
Status: Under Review

Scientific Name: *picoides arcticus*

Common Name: Tufted Puffin
Status: Under Review

Scientific Name: *Fratercula cirrhata*

Common Name: Sharp shinned hawk
Status: Species of Concern

Scientific Name: *Accipiter striatus*

Common Name: Common Yellowthroat
Status: Species of Concern

Scientific Name: *Geothlypis trichas sinuosa*

Common Name: Yuma clapper rail
Status: Endangered

Scientific Name: *Rallus longirostris yumanensis*

Common Name: Southwestern willow flycatcher
Status: Endangered

Scientific Name: *Empidonax traillii extimus*

Common Name: Southern California rufous-crowned
sparrow
Status: Species of Concern

Scientific Name: *Aimophila ruficeps canescens*

Common Name: California spotted Owl
Status: Under Review

Scientific Name: *Strix occidentalis occidentalis*

Common Name: Tricolored blackbird
Status: Under Review

Scientific Name: *Agelaius tricolor*

Common Name: San Joaquin LeConte's thrasher
Status: Species of Concern

Scientific Name: *Toxostoma lecontei macmillanorum*

Common Name: Eagle Mountain scrub jay
Status: Species of Concern

Scientific Name: *Aphelocoma coerulescens cana*

Common Name: Elegant tern
Status: Species of Concern

Scientific Name: *Sterna elegans*

Common Name: Least bittern
Status: Species of Concern

Scientific Name: *Ixobrychus exilis hesperis*

Common Name: Song Sparrow
Status: Species of Concern

Scientific Name: *Melospiza melodia pusillula*

Common Name: Little willow flycatcher
Status: Species of Concern

Scientific Name: *Empidonax traillii brewsteri*

Common Name: Song Sparrow
Status: Species of Concern

Scientific Name: *Melospiza melodia samuelis*

Common Name: Large-billed savannah sparrow
Status: Species of Concern

Scientific Name: *Passerculus sandwichensis rostratus*

NATURAL AREAS MAP FINDINGS

Federal Endangered Species from the U.S. Fish and Wildlife for CA State (Continued...)

Common Name: Black tern
Status: Species of Concern

Scientific Name: *Chlidonias niger*

Common Name: Song Sparrow
Status: Species of Concern

Scientific Name: *Melospiza melodia maxillaris*

Common Name: Fulvous whistling duck
Status: Species of Concern

Scientific Name: *Dendrocygna bicolor*

Common Name: Belding's savannah sparrow
Status: Species of Concern

Scientific Name: *Passerculus sandwichensis beldingi*

Common Name: Bell's sage sparrow
Status: Species of Concern

Scientific Name: *Amphispiza belli belli*

Group: Conifers and Cycads

Common Name: Monterey cypress
Status: Species of Concern

Scientific Name: *Cupressus macrocarpa*

Common Name: Torrey, Del Mar pine
Status: Species of Concern

Scientific Name: *Pinus torreyana torreyana*

Common Name: Tecate cypress
Status: Species of Concern

Scientific Name: *Cupressus forbesii*

Common Name: Bolander's beach pine
Status: Species of Concern

Scientific Name: *Pinus contorta bolanderi*

Common Name: Monterey pine
Status: Species of Concern

Scientific Name: *Pinus radiata*

Common Name: Torrey Island pine
Status: Species of Concern

Scientific Name: *Pinus torreyana insularis*

Common Name: Mendocino cypress
Status: Species of Concern

Scientific Name: *Cupressus goveniana pigmaea*

Common Name: Yellow cedar
Status: Under Review

Scientific Name: *Callitropsis nootkatensis*

Group: Crustaceans

Common Name: [Unnamed] isopod
Status: Species of Concern

Scientific Name: *Caecidotea tomalensis*

Common Name: Vernal pool tadpole shrimp
Status: Endangered

Scientific Name: *Lepidurus packardi*

Common Name: Longhorn fairy shrimp
Status: Endangered

Scientific Name: *Branchinecta longiantenna*

Common Name: California freshwater shrimp
Status: Endangered

Scientific Name: *Syncaris pacifica*

Common Name: Mono Lake brine shrimp

Scientific Name: *Artemia monica*

NATURAL AREAS MAP FINDINGS

Federal Endangered Species from the U.S. Fish and Wildlife for CA State (Continued...)

Status: Species of Concern

Common Name: Conservancy fairy shrimp
Status: Endangered

Scientific Name: Branchinecta conservatio

Group: Ferns and Allies

Common Name: Crater Lake grap fern
Status: Species of Concern

Scientific Name: Botrychium pumicola nealleyi

Common Name: No common name
Status: Species of Concern

Scientific Name: Botrychium crenulatum

Group: Fishes

Common Name: Rough sculpin
Status: Species of Concern

Scientific Name: Cottus asperimus

Common Name: Kern River rainbow trout
Status: Species of Concern

Scientific Name: Oncorhynchus mykiss gilberti

Common Name: Steelhead
Status: Endangered

Scientific Name: Oncorhynchus (=Salmo) mykiss

Common Name: Goose Lake redband trout
Status: Species of Concern

Scientific Name: Oncorhynchus mykiss ssp.

Common Name: Eagle Lake rainbow Trout
Status: Under Review

Scientific Name: Oncorhynchus mykiss aquilarum

Common Name: Flannelmouth sucker
Status: Species of Concern

Scientific Name: Catostomus latipinnis

Common Name: Steelhead
Status: Under Review

Scientific Name: Oncorhynchus (=Salmo) mykiss

Common Name: longfin smelt
Status: Candidate

Scientific Name: Spirinchus thaleichthys

Common Name: Benton Valley speckled dace
Status: Species of Concern

Scientific Name: Rhinichthys osculus ssp.

Common Name: Jenny Creek sucker
Status: Species of Concern

Scientific Name: Catostomus rimiculus ssp.

Common Name: Arroyo chub
Status: Species of Concern

Scientific Name: Gila orcuttii

Common Name: Steelhead
Status: Threatened

Scientific Name: Oncorhynchus (=Salmo) mykiss

Common Name: Owens speckled dace
Status: Species of Concern

Scientific Name: Rhinichthys osculus ssp.

Common Name: Red Hills roach
Status: Species of Concern

Scientific Name: Lavinia symmetricus ssp.

NATURAL AREAS MAP FINDINGS

Federal Endangered Species from the U.S. Fish and Wildlife for CA State (Continued...)

Common Name: Santa Ana speckled dace Status: Species of Concern	Scientific Name: <i>Rhinichthys osculus</i> ssp.
Common Name: Shoshone pupfish Status: Species of Concern	Scientific Name: <i>Cyprinodon nevadensis shoshone</i>
Common Name: Long Valley speckled dace Status: Species of Concern	Scientific Name: <i>Rhinichthys osculus</i> ssp.
Common Name: Klamath largescale sucker Status: Species of Concern	Scientific Name: <i>Catostomus snyderi</i>
Common Name: Goose Lake sucker Status: Species of Concern	Scientific Name: <i>Catostomus occidentalis lacusanserinus</i>
Common Name: Sacramento perch Status: Species of Concern	Scientific Name: <i>Archoplites interruptus</i>
Common Name: green sturgeon Status: Threatened	Scientific Name: <i>Acipenser medirostris</i>
Common Name: Pit roach Status: Species of Concern	Scientific Name: <i>Lavinia symmetricus mitrulus</i>
Common Name: Warner Valley redband trout Status: Species of Concern	Scientific Name: <i>Oncorhynchus mykiss</i> ssp.
Common Name: Amargosa Canyon speckled dace Status: Species of Concern	Scientific Name: <i>Rhinichthys osculus</i> ssp.
Common Name: Russian River tule perch Status: Species of Concern	Scientific Name: <i>Hysteroecarpus traskii</i> pomo
Common Name: Goose Lake lamprey Status: Species of Concern	Scientific Name: <i>Lampetra tridentata</i> ssp.
Common Name: Gualala roach Status: Species of Concern	Scientific Name: <i>Lavinia symmetricus parvipinnis</i>

Group: Flowering Plants

Common Name: Marin dwarf-flax Status: Threatened	Scientific Name: <i>Hesperolinon congestum</i>
Common Name: Fleshy owl's-clover Status: Threatened	Scientific Name: <i>Castilleja campestris</i> ssp. <i>succulenta</i>
Common Name: Pine Hill ceanothus Status: Endangered	Scientific Name: <i>Ceanothus roderickii</i>
Common Name: Hoover's spurge Status: Threatened	Scientific Name: <i>Chamaesyce hooveri</i>
Common Name: Suisun thistle Status: Endangered	Scientific Name: <i>Cirsium hydrophilum</i> var. <i>hydrophilum</i>

NATURAL AREAS MAP FINDINGS

Federal Endangered Species from the U.S. Fish and Wildlife for CA State (Continued...)

Common Name: Vine Hill clarkia Status: Endangered	Scientific Name: <i>Clarkia imbricata</i>
Common Name: Soft bird's-beak Status: Endangered	Scientific Name: <i>Cordylanthus mollis</i> ssp. <i>mollis</i>
Common Name: Baker's larkspur Status: Endangered	Scientific Name: <i>Delphinium bakeri</i>
Common Name: Yellow larkspur Status: Endangered	Scientific Name: <i>Delphinium luteum</i>
Common Name: lone (incl. Irish Hill) buckwheat Status: Endangered	Scientific Name: <i>Eriogonum apricum</i> (incl. var. <i>prostratum</i>)
Common Name: Pine Hill flannelbush Status: Endangered	Scientific Name: <i>Fremontodendron californicum</i> ssp. <i>decumbens</i>
Common Name: El Dorado bedstraw Status: Endangered	Scientific Name: <i>Galium californicum</i> ssp. <i>sierrae</i>
Common Name: Sebastopol meadowfoam Status: Endangered	Scientific Name: <i>Limnanthes vinculans</i>
Common Name: San Joaquin Orcutt grass Status: Threatened	Scientific Name: <i>Orcuttia inaequalis</i>
Common Name: Sacramento Orcutt grass Status: Endangered	Scientific Name: <i>Orcuttia viscida</i>
Common Name: Pitkin Marsh lily Status: Endangered	Scientific Name: <i>Lilium pardalinum</i> ssp. <i>pitkinense</i>
Common Name: Few-flowered navarretia Status: Endangered	Scientific Name: <i>Navarretia leucocephala</i> ssp. <i>pauciflora</i> (=N. <i>pauciflora</i>)
Common Name: Many-flowered navarretia Status: Endangered	Scientific Name: <i>Navarretia leucocephala</i> ssp. <i>plieantha</i>
Common Name: Colusa grass Status: Threatened	Scientific Name: <i>Neostapfia colusana</i>
Common Name: Hairy Orcutt grass Status: Endangered	Scientific Name: <i>Orcuttia pilosa</i>
Common Name: Lake County stonecrop Status: Endangered	Scientific Name: <i>Parvisedum leiocarpum</i>
Common Name: Calistoga allocarya Status: Endangered	Scientific Name: <i>Plagiobothrys strictus</i>
Common Name: Napa bluegrass Status: Endangered	Scientific Name: <i>Poa napensis</i>
Common Name: Hartweg's golden sunburst	Scientific Name: <i>Pseudobahia bahiifolia</i>

NATURAL AREAS MAP FINDINGS

Federal Endangered Species from the U.S. Fish and Wildlife for CA State (Continued...)

Status: Endangered

Common Name: San Joaquin adobe sunburst
Status: Threatened

Scientific Name: *Pseudobahia peirsonii*

Common Name: Layne's butterweed
Status: Threatened

Scientific Name: *Senecio layneae*

Common Name: Keck's Checker-mallow
Status: Endangered

Scientific Name: *Sidalcea keckii*

Common Name: Kenwood Marsh checker-mallow
Status: Endangered

Scientific Name: *Sidalcea oregana* ssp. *valida*

Common Name: Metcalf Canyon jewelflower
Status: Endangered

Scientific Name: *Streptanthus albidus* ssp. *albidus*

Common Name: Presidio Manzanita
Status: Endangered

Scientific Name: *Arctostaphylos hookeri* var. *ravenii*

Common Name: Sonoma sunshine
Status: Endangered

Scientific Name: *Blennosperma bakeri*

Common Name: Tiburon mariposa lily
Status: Threatened

Scientific Name: *Calochortus tiburonensis*

Common Name: Coyote ceanothus
Status: Endangered

Scientific Name: *Ceanothus ferrisiae*

Common Name: Sonoma spineflower
Status: Endangered

Scientific Name: *Chorizanthe valida*

Common Name: Tiburon jewelflower
Status: Endangered

Scientific Name: *Streptanthus niger*

Common Name: Hidden Lake bluecurls
Status: Threatened

Scientific Name: *Trichostema austromontanum* ssp. *compactum*

Common Name: Fountain thistle
Status: Endangered

Scientific Name: *Cirsium fontinale* var. *fontinale*

Common Name: Presidio clarkia
Status: Endangered

Scientific Name: *Clarkia franciscana*

Common Name: Palmate-bracted bird's beak
Status: Endangered

Scientific Name: *Cordylanthus palmatus*

Common Name: Tiburon paintbrush
Status: Endangered

Scientific Name: *Castilleja affinis* ssp. *neglecta*

Common Name: Sonoma alopecurus
Status: Endangered

Scientific Name: *Alopecurus aequalis* var. *sonomensis*

Common Name: lone manzanita
Status: Threatened

Scientific Name: *Arctostaphylos myrtifolia*

NATURAL AREAS MAP FINDINGS

Federal Endangered Species from the U.S. Fish and Wildlife for CA State (Continued...)

Common Name: Pallid manzanita Status: Threatened	Scientific Name: <i>Arctostaphylos pallida</i>
Common Name: Solano grass Status: Endangered	Scientific Name: <i>Tuctoria mucronata</i>
Common Name: San Mateo thornmint Status: Endangered	Scientific Name: <i>Acanthomintha obovata</i> ssp. <i>duttonii</i>
Common Name: Clara Hunt's milk-vetch Status: Endangered	Scientific Name: <i>Astragalus clarianus</i>
Common Name: Chinese Camp brodiaea Status: Threatened	Scientific Name: <i>Brodiaea pallida</i>
Common Name: Mariposa pussypaws Status: Threatened	Scientific Name: <i>Calyptridium pulchellum</i>
Common Name: Stebbins' morning-glory Status: Endangered	Scientific Name: <i>Calystegia stebbinsii</i>
Common Name: White sedge Status: Endangered	Scientific Name: <i>Carex albida</i>
Common Name: Santa Clara Valley dudleya Status: Endangered	Scientific Name: <i>Dudleya setchellii</i>
Common Name: Island tree poppy Status: Species of Concern	Scientific Name: <i>Dendromecon rigida rhamnoides</i>
Common Name: Northcoast birds-beak Status: Species of Concern	Scientific Name: <i>Cordylanthus maritimus palustris</i>
Common Name: Loch Lomond coyote thistle Status: Endangered	Scientific Name: <i>Eryngium constancei</i>
Common Name: Red Hills vervain Status: Threatened	Scientific Name: <i>Verbena californica</i>
Common Name: San Francisco lessingia Status: Endangered	Scientific Name: <i>Lessingia germanorum</i> (=L.g. var. <i>germanorum</i>)
Common Name: Payson's jewelflower Status: Species of Concern	Scientific Name: <i>Caulanthus simulans</i>
Common Name: Santa Barbara false-lupine Status: Species of Concern	Scientific Name: <i>Thermopsis macrophylla agnina</i>
Common Name: Beaked clarkia Status: Species of Concern	Scientific Name: <i>Clarkia rostrata</i>
Common Name: Boundary Peak rock-cress Status: Species of Concern	Scientific Name: <i>Boechera pinzliae</i>
Common Name: Island jepsonia Status: Species of Concern	Scientific Name: <i>Jepsonia malvifolia</i>

NATURAL AREAS MAP FINDINGS

Federal Endangered Species from the U.S. Fish and Wildlife for CA State (Continued...)

Common Name: Channel Island tree poppy Status: Species of Concern	Scientific Name: <i>Dendromecon rigida</i> ssp. <i>harfordii</i>
Common Name: Springville clarkia Status: Threatened	Scientific Name: <i>Clarkia springvillensis</i>
Common Name: Pennell's bird's-beak Status: Endangered	Scientific Name: <i>Cordylanthus tenuis</i> ssp. <i>capillaris</i>
Common Name: Hollisteria Status: Species of Concern	Scientific Name: <i>Hollisteria lanata</i>
Common Name: Tuolumne fawn-lily Status: Species of Concern	Scientific Name: <i>Erythronium tuolumnense</i>
Common Name: No common name Status: Species of Concern	Scientific Name: <i>Holocarpa virgata elongata</i>
Common Name: Peirson's spring beauty Status: Species of Concern	Scientific Name: <i>Claytonia lanceolata peirsonii</i>
Common Name: Hispid birds-beak Status: Species of Concern	Scientific Name: <i>Cordylanthus mollis hispidus</i>
Common Name: Wart-stemmed ceanothus Status: Species of Concern	Scientific Name: <i>Ceanothus verrucosus</i>
Common Name: Oso manzanita Status: Species of Concern	Scientific Name: <i>Arctostaphylos osoensis</i>
Common Name: Dudley's lousewort Status: Species of Concern	Scientific Name: <i>Pedicularis dudleyi</i>
Common Name: Pierpoint Springs liveforever Status: Species of Concern	Scientific Name: <i>Dudleya cymosa costifolia</i>
Common Name: Mono milk-vetch Status: Species of Concern	Scientific Name: <i>Astragalus monoensis monoensis</i>
Common Name: Kern mallow Status: Endangered	Scientific Name: <i>Eremalche kernensis</i>
Common Name: San Mateo woolly sunflower Status: Endangered	Scientific Name: <i>Eriophyllum latilobum</i>
Common Name: Long-petaled lewisia Status: Species of Concern	Scientific Name: <i>Lewisia longipetala</i>
Common Name: Monterrey manzanita Status: Species of Concern	Scientific Name: <i>Arctostaphylos montereyensis</i>
Common Name: [Unnamed] checkermallow Status: Species of Concern	Scientific Name: <i>Sidalcea malvaeflora patula</i>
Common Name: Howe's hedgehog cactus Status: Species of Concern	Scientific Name: <i>Echinocereus engelmannii howei</i>

NATURAL AREAS MAP FINDINGS

Federal Endangered Species from the U.S. Fish and Wildlife for CA State (Continued...)

Common Name: Tuolumne coyote-thistle Status: Species of Concern	Scientific Name: <i>Eryngium pinnatisectum</i>
Common Name: No common name Status: Species of Concern	Scientific Name: <i>Lessingia micradenia micradenia</i>
Common Name: Santa Catalina Island manzanita Status: Species of Concern	Scientific Name: <i>Arctostaphylos catalinae</i>
Common Name: Cuyamaca raspberry Status: Species of Concern	Scientific Name: <i>Rubus glaucifolius ganderi</i>
Common Name: [Unnamed] milk-vetch Status: Species of Concern	Scientific Name: <i>Astragalus lentiformis</i>
Common Name: Brandegee eriastrum Status: Species of Concern	Scientific Name: <i>Eriastrum brandegeae</i>
Common Name: San Clemente Island brodiaea Status: Species of Concern	Scientific Name: <i>Triteleia clementina</i>
Common Name: Summer-holly Status: Species of Concern	Scientific Name: <i>Comarostaphylis diversifolia diversifolia</i>
Common Name: Borrego Valley peppergrass Status: Species of Concern	Scientific Name: <i>Lepidium flavum felipense</i>
Common Name: Ahart's dwarf rush Status: Species of Concern	Scientific Name: <i>Juncus leiospermus var. ahartii</i>
Common Name: No common name Status: Species of Concern	Scientific Name: <i>Chorizanthe polygonoides longispina</i>
Common Name: San Francisco wallflower Status: Species of Concern	Scientific Name: <i>Erysimum franciscanum</i>
Common Name: Diablo rock-rose Status: Species of Concern	Scientific Name: <i>Helianthella castanea</i>
Common Name: Carmel Valley malacothrix Status: Species of Concern	Scientific Name: <i>Malacothrix saxatilis arachnoidea</i>
Common Name: Lupine, San Mateo tre Status: Species of Concern	Scientific Name: <i>Lupinus arboreus eximius</i>
Common Name: No common name Status: Species of Concern	Scientific Name: <i>Dendrographa leucophaea</i>
Common Name: Butte County meadowfoam Status: Endangered	Scientific Name: <i>Limnanthes floccosa ssp. californica</i>
Common Name: Bakersfield cactus Status: Endangered	Scientific Name: <i>Opuntia treleasei</i>
Common Name: Klamath manzanita Status: Species of Concern	Scientific Name: <i>Arctostaphylos klamathensis</i>

NATURAL AREAS MAP FINDINGS

Federal Endangered Species from the U.S. Fish and Wildlife for CA State (Continued...)

Common Name: Laguna Mountains aster Status: Species of Concern	Scientific Name: Machaeranthera asteroides lagunensis
Common Name: Heart-leaved pitcher-sage Status: Species of Concern	Scientific Name: Lepechinia cardiophylla
Common Name: Caper-fruited tropidocarpum Status: Species of Concern	Scientific Name: Tropidocarpum capparideum
Common Name: Santiago Peak phacelia Status: Species of Concern	Scientific Name: Phacelia suaveolens keckii
Common Name: Panamint daisy Status: Species of Concern	Scientific Name: Enceliopsis covillei
Common Name: Shasta River mariposa lily Status: Species of Concern	Scientific Name: Calochortus monanthus
Common Name: Jaeger's bush milk-vetch Status: Species of Concern	Scientific Name: Astragalus pachypus jaegeri
Common Name: Mouse buckwheat Status: Species of Concern	Scientific Name: Eriogonum nudum murinum
Common Name: Ashy phacelia Status: Species of Concern	Scientific Name: Phacelia distans
Common Name: Little mousetail Status: Species of Concern	Scientific Name: Myosurus minimus apus
Common Name: Orcutt's dudleya Status: Species of Concern	Scientific Name: Dudleya attentuata orcuttii
Common Name: Star-fruited, small stonecrop Status: Species of Concern	Scientific Name: Sedum radiatum depauperatum
Common Name: Bodie Hills draba Status: Species of Concern	Scientific Name: Cusickiella quadricostata
Common Name: Pappose spikeweed Status: Species of Concern	Scientific Name: Hemizonia parryi congdonii
Common Name: Hoover's rosinweed Status: Species of Concern	Scientific Name: Calycadenia hooveri
Common Name: Glandular dwarf-flax Status: Species of Concern	Scientific Name: Hesperolinon adenophyllum
Common Name: Otay lotus Status: Species of Concern	Scientific Name: Lotus crassifolius otayensis
Common Name: Kingston Mountains cinquefoil Status: Species of Concern	Scientific Name: Ivesia patellifera
Common Name: Bear Valley wooly-pod Status: Species of Concern	Scientific Name: Astragalus leucolobus

NATURAL AREAS MAP FINDINGS

Federal Endangered Species from the U.S. Fish and Wildlife for CA State (Continued...)

Common Name: Bellinger's meadowfoam Status: Species of Concern	Scientific Name: <i>Limnanthes floccosa bellingeriana</i>
Common Name: San Clemente Island milk-vetch Status: Species of Concern	Scientific Name: <i>Astragalus nevinii</i>
Common Name: Bear Valley pyrrocoma Status: Species of Concern	Scientific Name: <i>Pyrrocoma uniflora gossypina</i>
Common Name: Munz's mariposa lily Status: Species of Concern	Scientific Name: <i>Calochortus palmeri munzii</i>
Common Name: Orcutt's linanthus Status: Species of Concern	Scientific Name: <i>Linanthus orcuttii</i>
Common Name: Tiburon tarweed Status: Species of Concern	Scientific Name: <i>Hemizonia multicaulis vernalis</i>
Common Name: Warner Springs lessingia Status: Species of Concern	Scientific Name: <i>Lessingia glandulifera tomentosa</i>
Common Name: Descanso milk-vetch Status: Species of Concern	Scientific Name: <i>Astragalus oocarpus</i>
Common Name: Klamath gentian Status: Species of Concern	Scientific Name: <i>Gentiana plurisetosa</i>
Common Name: Little San Bernardino Mountains gilia Status: Species of Concern	Scientific Name: <i>Gilia maculata</i>
Common Name: Mono Lake lupine Status: Species of Concern	Scientific Name: <i>Lupinus duranii</i>
Common Name: Suisun aster Status: Species of Concern	Scientific Name: <i>Aster chilensis lentus</i>
Common Name: Kruckeberg's jewelflower Status: Species of Concern	Scientific Name: <i>Streptanthus morrisonii kruckebergii</i>
Common Name: Ferris' milk-vetch Status: Species of Concern	Scientific Name: <i>Astragalus tener</i> var. <i>ferrisae</i>
Common Name: Salinas Valley popcornflower Status: Species of Concern	Scientific Name: <i>Plagiobothrys uncinatus</i>
Common Name: Twisselmann's nemacladus Status: Species of Concern	Scientific Name: <i>Nemacladus twisselmannii</i>
Common Name: Orange lupine Status: Species of Concern	Scientific Name: <i>Lupinus citrinus</i>
Common Name: Cuesta Pass sidalcea Status: Species of Concern	Scientific Name: <i>Sidalcea hickmanii anomala</i>
Common Name: San Francisco popcornflower Status: Species of Concern	Scientific Name: <i>Plagiobothrys torreyi</i> var. <i>diffusus</i>

NATURAL AREAS MAP FINDINGS

Federal Endangered Species from the U.S. Fish and Wildlife for CA State (Continued...)

Common Name: Catalina ironwood Status: Species of Concern	Scientific Name: <i>Lyonothamnus floribundus floribundus</i>
Common Name: Orcutt's brodiaea Status: Species of Concern	Scientific Name: <i>Brodiaea orcuttii</i>
Common Name: Parry's horkelia Status: Species of Concern	Scientific Name: <i>Horkelia parryi</i>
Common Name: Panamint Mountains lupine Status: Species of Concern	Scientific Name: <i>Lupinus magnificus magnificus</i>
Common Name: Mono Hot Springs evening-primrose Status: Species of Concern	Scientific Name: <i>Camissonia sierrae alticola</i>
Common Name: Forked fiddleneck Status: Species of Concern	Scientific Name: <i>Amsinckia vernicosa furcata</i>
Common Name: Jaeger's caulostramina Status: Species of Concern	Scientific Name: <i>Caulostramina jaegeri</i>
Common Name: San Bernardino butterweed Status: Species of Concern	Scientific Name: <i>Packera bernardina</i>
Common Name: Island tree mallow Status: Species of Concern	Scientific Name: <i>Lavatera assurgentiflora</i>
Common Name: Wedge-leaved horkelia Status: Species of Concern	Scientific Name: <i>Horkelia cuneata sericea</i>
Common Name: Arroyo Seco bush-mallow Status: Species of Concern	Scientific Name: <i>Malacothamnus palmeri lucianus</i>
Common Name: Sand mesa manzanita Status: Species of Concern	Scientific Name: <i>Arctostaphylos rudis</i>
Common Name: Sonoma ceanothus Status: Species of Concern	Scientific Name: <i>Ceanothus sonomensis</i>
Common Name: Santa Lucia manzanita Status: Species of Concern	Scientific Name: <i>Arctostaphylos luciana</i>
Common Name: Refugio manzanita Status: Species of Concern	Scientific Name: <i>Arctostaphylos refugioensis</i>
Common Name: Donner Pass buckwheat Status: Species of Concern	Scientific Name: <i>Eriogonum umbellatum torreyanum</i>
Common Name: Orcutt's bird's-beak Status: Species of Concern	Scientific Name: <i>Cordylanthus orcuttianus</i>
Common Name: Piute buckwheat Status: Species of Concern	Scientific Name: <i>Eriogonum breedlovei breedlovei</i>
Common Name: San Bernardino Mountains dudleya Status: Species of Concern	Scientific Name: <i>Dudleya abramsii affinis</i>

NATURAL AREAS MAP FINDINGS

Federal Endangered Species from the U.S. Fish and Wildlife for CA State (Continued...)

Common Name: Dwarf goldenstar Status: Species of Concern	Scientific Name: Bloomeria humilis
Common Name: Ojai fritillary Status: Species of Concern	Scientific Name: Fritillaria ojaiensis
Common Name: Humboldt Bay owl's clover Status: Species of Concern	Scientific Name: Castilleja ambigua humboldtiensis
Common Name: Prostrate hosackia Status: Species of Concern	Scientific Name: Lotus nuttallianus
Common Name: San Luis Obispo monardella Status: Species of Concern	Scientific Name: Monardella frutescens
Common Name: Closed-lip beardtongue Status: Species of Concern	Scientific Name: Penstemon personatus
Common Name: Velvety false-lupine Status: Species of Concern	Scientific Name: Thermopsis macrophylla semota
Common Name: Nuttall's scrub oak Status: Species of Concern	Scientific Name: Quercus dumosa
Common Name: San Gabriel manzanita Status: Species of Concern	Scientific Name: Arctostaphylos gabrielensis
Common Name: Hanaupah laphamia Status: Species of Concern	Scientific Name: Perityle villosa
Common Name: Seaside, Coulter's daisy Status: Species of Concern	Scientific Name: Lasthenia glabrata coulteri
Common Name: Sp. nov. ined. (chaparral) beargrass Status: Species of Concern	Scientific Name: Nolina sp.
Common Name: Palmer's mariposa lily Status: Species of Concern	Scientific Name: Calochortus palmeri palmeri
Common Name: No common name Status: Species of Concern	Scientific Name: Ivesia longibracteata
Common Name: Ertter's milk-vetch Status: Species of Concern	Scientific Name: Astragalus ertterae
Common Name: Heartscale Status: Species of Concern	Scientific Name: Atriplex cordulata
Common Name: Mt. Eddy draba Status: Species of Concern	Scientific Name: Draba carnosula
Common Name: Shirley Meadows mariposa lily Status: Species of Concern	Scientific Name: Calochortus westonii
Common Name: Candleholder dudleya Status: Species of Concern	Scientific Name: Dudleya candelabrum

NATURAL AREAS MAP FINDINGS

Federal Endangered Species from the U.S. Fish and Wildlife for CA State (Continued...)

Common Name: Santa Cruz gooseberry Status: Species of Concern	Scientific Name: <i>Ribes thacherianum</i>
Common Name: Munz cholla Status: Species of Concern	Scientific Name: <i>Opuntia munzii</i>
Common Name: Lakeside ceanothus Status: Species of Concern	Scientific Name: <i>Ceanothus cyaneus</i>
Common Name: Point Reyes meadowfoam Status: Species of Concern	Scientific Name: <i>Limnanthes douglasii sulphurea</i>
Common Name: Los Angeles sunflower Status: Species of Concern	Scientific Name: <i>Helianthus nuttallii parishii</i>
Common Name: Howell's lewisia Status: Species of Concern	Scientific Name: <i>Lewisia cotyledon howellii</i>
Common Name: Santa Barbara Island cream cups Status: Species of Concern	Scientific Name: <i>Platystemon californicus ciliatus</i>
Common Name: Island snapdragon Status: Species of Concern	Scientific Name: <i>Gambelia speciosa</i>
Common Name: Adobe sanicle Status: Species of Concern	Scientific Name: <i>Sanicula maritima</i>
Common Name: Nissenan manzanita Status: Species of Concern	Scientific Name: <i>Arctostaphylos nissenana</i>
Common Name: Parish's rock-cress Status: Species of Concern	Scientific Name: <i>Arabis parishii</i>
Common Name: Tiehm's rock-cress Status: Species of Concern	Scientific Name: <i>Arabis tiehmii</i>
Common Name: Yosemite wooly-sunflower Status: Species of Concern	Scientific Name: <i>Eriophyllum nubigenum</i>
Common Name: Jones layia Status: Species of Concern	Scientific Name: <i>Layia jonesii</i>
Common Name: White bear desert-poppy Status: Species of Concern	Scientific Name: <i>Arctomecon merriamii</i>
Common Name: Panamint dudleya Status: Species of Concern	Scientific Name: <i>Dudleya saxosa saxosa</i>
Common Name: Dunn's mariposa lily Status: Species of Concern	Scientific Name: <i>Calochortus dunnii</i>
Common Name: California dissanthelium Status: Species of Concern	Scientific Name: <i>Dissanthelium californicum</i>
Common Name: Temblor buckwheat Status: Species of Concern	Scientific Name: <i>Eriogonum temblorense</i>

NATURAL AREAS MAP FINDINGS

Federal Endangered Species from the U.S. Fish and Wildlife for CA State (Continued...)

Common Name: Shaw's agave Status: Species of Concern	Scientific Name: <i>Agave shawii</i>
Common Name: Pickering ivesia Status: Species of Concern	Scientific Name: <i>Ivesia pickeringii</i>
Common Name: Forked buckwheat Status: Species of Concern	Scientific Name: <i>Eriogonum bifurcatum</i>
Common Name: San Bernardino rock-cress Status: Species of Concern	Scientific Name: <i>Arabis breweri pecuniaria</i>
Common Name: Butterworth's buckwheat Status: Species of Concern	Scientific Name: <i>Eriogonum butterworthianum</i>
Common Name: Borrego aster Status: Species of Concern	Scientific Name: <i>Xylorhiza orcuttii</i>
Common Name: The Lassics lupine Status: Species of Concern	Scientific Name: <i>Lupinus constancei</i>
Common Name: Giant spanishneedle Status: Species of Concern	Scientific Name: <i>Palafoxia arida gigantea</i>
Common Name: San Clemente island bedstraw Status: Species of Concern	Scientific Name: <i>Galium catalinense acrispum</i>
Common Name: Pecho manzanita Status: Species of Concern	Scientific Name: <i>Arctostaphylos pechoensis</i>
Common Name: Lavin's milk-vetch Status: Species of Concern	Scientific Name: <i>Astragalus oophorus lavinii</i>
Common Name: Tahquitz ivesia Status: Species of Concern	Scientific Name: <i>Ivesia callida</i>
Common Name: Adder's-mouth Status: Species of Concern	Scientific Name: <i>Malaxis brachypoda</i>
Common Name: Black-flowered figwort Status: Species of Concern	Scientific Name: <i>Scrophularia atrata</i>
Common Name: Indian Valley brodiaea Status: Species of Concern	Scientific Name: <i>Brodiaea coronaria rosea</i>
Common Name: Alkali mariposa lily Status: Species of Concern	Scientific Name: <i>Calochortus striatus</i>
Common Name: Franciscan manzanita Status: Endangered	Scientific Name: <i>Arctostaphylos franciscana</i>
Common Name: Coast lily Status: Species of Concern	Scientific Name: <i>Lilium maritimum</i>
Common Name: Mt. Gleason paintbrush Status: Species of Concern	Scientific Name: <i>Castilleja gleasonii</i>

NATURAL AREAS MAP FINDINGS

Federal Endangered Species from the U.S. Fish and Wildlife for CA State (Continued...)

Common Name: Gander's pitcher-sage Status: Species of Concern	Scientific Name: <i>Lepechinia ganderi</i>
Common Name: Mt. Tamalpais thistle Status: Species of Concern	Scientific Name: <i>Cirsium hydrophilum vaseyi</i>
Common Name: Greene's mariposa lily Status: Species of Concern	Scientific Name: <i>Calochortus greenei</i>
Common Name: Yellow-tubered toothwort Status: Species of Concern	Scientific Name: <i>Cardamine nuttallii</i>
Common Name: Mendocino bush-mallow Status: Species of Concern	Scientific Name: <i>Malacothamnus mendocinensis</i>
Common Name: Mono phacelia Status: Species of Concern	Scientific Name: <i>Phacelia monoensis</i>
Common Name: Butte County catchfly Status: Species of Concern	Scientific Name: <i>Silene occidentalis longistipitata</i>
Common Name: Barton Flats horkelia Status: Species of Concern	Scientific Name: <i>Horkelia wilderae</i>
Common Name: No common name Status: Species of Concern	Scientific Name: <i>Ivesia jaegeri</i>
Common Name: Rusby's desert-mallow Status: Species of Concern	Scientific Name: <i>Sphaeralcea rusbyi eremicola</i>
Common Name: Oregon fireweed Status: Species of Concern	Scientific Name: <i>Epilobium oreganum</i>
Common Name: Pallid birds-beak Status: Species of Concern	Scientific Name: <i>Cordylanthus tenuis pallescens</i>
Common Name: San Clemente Island evening-primrose Status: Species of Concern	Scientific Name: <i>Camissonia guadalupensis clementina</i>
Common Name: Carmel Valley bush-mallow Status: Species of Concern	Scientific Name: <i>Malacothamnus palmeri involucratus</i>
Common Name: Coast wallflower Status: Species of Concern	Scientific Name: <i>Erysimum ammophilum</i>
Common Name: Hutchinson's delphinium Status: Species of Concern	Scientific Name: <i>Delphinium hutchinsonae</i>
Common Name: Otay manzanita Status: Species of Concern	Scientific Name: <i>Arctostaphylos otayensis</i>
Common Name: Jacumba milk-vetch Status: Species of Concern	Scientific Name: <i>Astragalus douglasii perstrictus</i>
Common Name: Santa Susana tarweed Status: Species of Concern	Scientific Name: <i>Hemizonia minthornii</i>

NATURAL AREAS MAP FINDINGS

Federal Endangered Species from the U.S. Fish and Wildlife for CA State (Continued...)

Common Name: Santa Lucia pogogyne Status: Species of Concern	Scientific Name: Pogogyne clareana
Common Name: Moreno currant Status: Species of Concern	Scientific Name: Ribes canthariforme
Common Name: Pine City stonecrop Status: Species of Concern	Scientific Name: Sedum pinetorum
Common Name: [Unnamed] milk-vetch Status: Species of Concern	Scientific Name: Astragalus tegetarioides
Common Name: Cienega Seca oxytheca Status: Species of Concern	Scientific Name: Oxytheca parishii ciengensis
Common Name: Tracy's sanicle Status: Species of Concern	Scientific Name: Sanicula tracyi
Common Name: Tulare horkelia Status: Species of Concern	Scientific Name: Horkelia tularensis
Common Name: Palmer's haplopappus Status: Species of Concern	Scientific Name: Haplopappus palmeri palmeri
Common Name: Northcoast semaphore grass Status: Species of Concern	Scientific Name: Pleuropogon hooverianus
Common Name: Mt. Hamilton jewelflower Status: Species of Concern	Scientific Name: Streptanthus callistus
Common Name: Recurved larkspur Status: Species of Concern	Scientific Name: Delphinium recurvatum
Common Name: Hospital Canyon larkspur Status: Species of Concern	Scientific Name: Delphinium californicum interius
Common Name: Island wallflower Status: Species of Concern	Scientific Name: Erysimum insulare insulare
Common Name: Talus fritillary Status: Species of Concern	Scientific Name: Fritillaria falcata
Common Name: Mendocino gentian Status: Species of Concern	Scientific Name: Gentiana setigera
Common Name: Lost Hills saltbush Status: Species of Concern	Scientific Name: Atriplex vallicola
Common Name: Vine Hill manzanita Status: Species of Concern	Scientific Name: Arctostaphylos densiflora
Common Name: Bolander's horkelia Status: Species of Concern	Scientific Name: Horkelia bolanderi
Common Name: Howell's montia Status: Species of Concern	Scientific Name: Montia howellii

NATURAL AREAS MAP FINDINGS

Federal Endangered Species from the U.S. Fish and Wildlife for CA State (Continued...)

Common Name: July gold Status: Species of Concern	Scientific Name: <i>Dedeckera eurekaensis</i>
Common Name: Santa Catalina figwort Status: Species of Concern	Scientific Name: <i>Scrophularia villosa</i>
Common Name: Ahart's whitlow-wort Status: Species of Concern	Scientific Name: <i>Paronychia ahartii</i>
Common Name: Fern-leaved ironwood Status: Species of Concern	Scientific Name: <i>Lyonothamnus floribundus asplenifolius</i>
Common Name: The Lassics sandwort Status: Species of Concern	Scientific Name: <i>Minuartia decumbens</i>
Common Name: Fremont's rosinweed Status: Species of Concern	Scientific Name: <i>Calycadenia fremontii</i>
Common Name: Valley spearscale Status: Species of Concern	Scientific Name: <i>Atriplex joaquiniana</i>
Common Name: Secund jewelflower Status: Species of Concern	Scientific Name: <i>Streptanthus glandulosus hoffmanii</i>
Common Name: Plumas ivesia Status: Species of Concern	Scientific Name: <i>Ivesia sericoleuca</i>
Common Name: Arid northern clarkia Status: Species of Concern	Scientific Name: <i>Clarkia borealis arida</i>
Common Name: Bonny Doon manzanita Status: Species of Concern	Scientific Name: <i>Arctostaphylos silvicola</i>
Common Name: Santa Catalina monkey-flower Status: Species of Concern	Scientific Name: <i>Mimulus traskiae</i>
Common Name: No common name Status: Species of Concern	Scientific Name: <i>Eschscholzia multiflora twisselmannii</i>
Common Name: Barstow wooly-sunflower Status: Species of Concern	Scientific Name: <i>Eriophyllum mohavense</i>
Common Name: Pitkin Marsh paintbrush Status: Species of Concern	Scientific Name: <i>Castilleja uliginosa</i>
Common Name: Pleasant Valley mariposa lily Status: Species of Concern	Scientific Name: <i>Calochortus clavatus avius</i>
Common Name: Short-jointed beavertail cactus Status: Species of Concern	Scientific Name: <i>Opuntia basilaris brachyclada</i>
Common Name: San Bernardino Mountains monkey-flower Status: Species of Concern	Scientific Name: <i>Mimulus exiguus</i>
Common Name: Scott Valley phacelia Status: Species of Concern	Scientific Name: <i>Phacelia greenei</i>

NATURAL AREAS MAP FINDINGS

Federal Endangered Species from the U.S. Fish and Wildlife for CA State (Continued...)

Common Name: San Luis serpentine dudleya Status: Species of Concern	Scientific Name: <i>Dudleya abramsii bettinae</i>
Common Name: Marble Mountain catchfly Status: Species of Concern	Scientific Name: <i>Silene marmorensis</i>
Common Name: Parrish's brittlescale Status: Species of Concern	Scientific Name: <i>Atriplex parishii</i>
Common Name: Flax-like monardella Status: Species of Concern	Scientific Name: <i>Monardella linoides oblonga</i>
Common Name: Western bog violet Status: Species of Concern	Scientific Name: <i>Viola primulifolia occidentalis</i>
Common Name: Johnston's buckwheat Status: Species of Concern	Scientific Name: <i>Eriogonum microthecum johnstonii</i>
Common Name: Whipple's monkey-flower Status: Species of Concern	Scientific Name: <i>Mimulus whipplei</i>
Common Name: Drymaria dwarf-flax Status: Species of Concern	Scientific Name: <i>Hesperolinon drymarioides</i>
Common Name: Jared's peppergrass Status: Species of Concern	Scientific Name: <i>Lepidium jaredii jaredii</i>
Common Name: Crisp monardella Status: Species of Concern	Scientific Name: <i>Monardella crispa</i>
Common Name: Humboldt Bay gumplant Status: Species of Concern	Scientific Name: <i>Grindelia stricta blakei</i>
Common Name: Jointed buckwheat Status: Species of Concern	Scientific Name: <i>Eriogonum intrafractum</i>
Common Name: Charlotte's phacelia Status: Species of Concern	Scientific Name: <i>Phacelia nashiana</i>
Common Name: Heckner's lewisia Status: Species of Concern	Scientific Name: <i>Lewisia cotyledon heckneri</i>
Common Name: Munz's hedgehog cactus Status: Species of Concern	Scientific Name: <i>Echinocereus engelmannii munzii</i>
Common Name: Goldenbush Status: Species of Concern	Scientific Name: <i>Isocoma arguta</i>
Common Name: Bodie Hills rock-cress Status: Species of Concern	Scientific Name: <i>Arabis bodiensis</i>
Common Name: No common name Status: Species of Concern	Scientific Name: <i>Stylocline masonii</i>
Common Name: Compact cobweb thistle Status: Species of Concern	Scientific Name: <i>Cirsium occidentale compactum</i>

NATURAL AREAS MAP FINDINGS

Federal Endangered Species from the U.S. Fish and Wildlife for CA State (Continued...)

Common Name: No common name Status: Species of Concern	Scientific Name: <i>Teloschistes villosus</i>
Common Name: Peirson's morning-glory Status: Species of Concern	Scientific Name: <i>Calystegia peirsonii</i>
Common Name: The Cedars globe-lily Status: Species of Concern	Scientific Name: <i>Calochortus raichei</i>
Common Name: No common name Status: Species of Concern	Scientific Name: <i>Lessingia arachnoidea</i>
Common Name: Sierra Valley ivesia Status: Species of Concern	Scientific Name: <i>Ivesia aperta aperta</i>
Common Name: Ballona cinquefoil Status: Species of Concern	Scientific Name: <i>Potentilla multijuga</i>
Common Name: Silver-haired ivesia Status: Species of Concern	Scientific Name: <i>Ivesia argyrocoma</i>
Common Name: No common name Status: Species of Concern	Scientific Name: <i>Heterodermia erinacea</i>
Common Name: San Benito spineflower Status: Species of Concern	Scientific Name: <i>Chorizanthe biloba immemora</i>
Common Name: Cedar Crest allocarya Status: Species of Concern	Scientific Name: <i>Plagiobothrys glyptocarpus modestus</i>
Common Name: Trinity phacelia Status: Species of Concern	Scientific Name: <i>Phacelia dalesiana</i>
Common Name: Kingston bedstraw Status: Species of Concern	Scientific Name: <i>Galium hilendiae kingstonense</i>
Common Name: Short-leaved dudleya Status: Species of Concern	Scientific Name: <i>Dudleya blochmaniae blochmaniae</i>
Common Name: [Unnamed] linanthus Status: Species of Concern	Scientific Name: <i>Linanthus concinnus</i>
Common Name: Point Reyes stickyseed Status: Species of Concern	Scientific Name: <i>Blennosperma nanum robustum</i>
Common Name: Mason's lilaeopsis Status: Species of Concern	Scientific Name: <i>Lilaeopsis masonii</i>
Common Name: Mojave tarweed Status: Species of Concern	Scientific Name: <i>Hemizonia mohavensis</i>
Common Name: Island hazardia Status: Species of Concern	Scientific Name: <i>Hazardia cana</i>
Common Name: Parish's gooseberry Status: Species of Concern	Scientific Name: <i>Ribes divaricatum parishii</i>

NATURAL AREAS MAP FINDINGS

Federal Endangered Species from the U.S. Fish and Wildlife for CA State (Continued...)

Common Name: Mt. Hamilton thistle Status: Species of Concern	Scientific Name: <i>Cirsium fontinale campylon</i>
Common Name: Conejo buckwheat Status: Species of Concern	Scientific Name: <i>Eriogonum crocatum</i>
Common Name: Masonic Mountain jewelflower Status: Species of Concern	Scientific Name: <i>Streptanthus oliganthus</i>
Common Name: Panamint Mountains buckwheat Status: Species of Concern	Scientific Name: <i>Eriogonum microthecum panamintense</i>
Common Name: Egg Lake monkey-flower Status: Species of Concern	Scientific Name: <i>Mimulus pygmaeus</i>
Common Name: Black wooly-pod Status: Species of Concern	Scientific Name: <i>Astragalus funereus</i>
Common Name: Cuyamaca larkspur Status: Species of Concern	Scientific Name: <i>Delphinium hesperium cuyamacae</i>
Common Name: Cooke's phacelia Status: Species of Concern	Scientific Name: <i>Phacelia cookei</i>
Common Name: Marin checkermallow Status: Species of Concern	Scientific Name: <i>Sidalcea hickmanii viridis</i>
Common Name: Henderson's bentgrass Status: Species of Concern	Scientific Name: <i>Agrostis hendersonii</i>
Common Name: Nine Mile Canyon phacelia Status: Species of Concern	Scientific Name: <i>Phacelia novemmillensis</i>
Common Name: Curve-podded Mojave milk-vetch Status: Species of Concern	Scientific Name: <i>Astragalus mohavensis hemigyus</i>
Common Name: Freed's jewelflower Status: Species of Concern	Scientific Name: <i>Streptanthus brachiatus hoffmanii</i>
Common Name: Snake cholla Status: Species of Concern	Scientific Name: <i>Opuntia parryi serpentina</i>
Common Name: Wolf's evening-primrose Status: Species of Concern	Scientific Name: <i>Oenothera wolfii</i>
Common Name: Stephens' beardtongue Status: Species of Concern	Scientific Name: <i>Penstemon stephensii</i>
Common Name: Parish's phacelia Status: Species of Concern	Scientific Name: <i>Phacelia parishii</i>
Common Name: Blasdale's bentgrass Status: Species of Concern	Scientific Name: <i>Agrostis blasdalei blasdalei</i>
Common Name: [Unnamed] scurf-pea Status: Species of Concern	Scientific Name: <i>Pediomelum castoreum</i>

NATURAL AREAS MAP FINDINGS

Federal Endangered Species from the U.S. Fish and Wildlife for CA State (Continued...)

Common Name: Shaggy-hair lupine Status: Species of Concern	Scientific Name: <i>Lupinus spectabilis</i>
Common Name: Short-lobed broomrape Status: Species of Concern	Scientific Name: <i>Orobanche parishii brachyloba</i>
Common Name: San Nicolas Island lomatium Status: Species of Concern	Scientific Name: <i>Lomatium insulare</i>
Common Name: Tecopa bird's-beak Status: Species of Concern	Scientific Name: <i>Cordylanthus tecopensis</i>
Common Name: Many-stemmed liveforever Status: Species of Concern	Scientific Name: <i>Dudleya multicaulis</i>
Common Name: Hearst's ceanothus Status: Species of Concern	Scientific Name: <i>Ceanothus hearstiorum</i>
Common Name: Variegated dudleya Status: Species of Concern	Scientific Name: <i>Dudleya variegata</i>
Common Name: Sandmat manzanita Status: Species of Concern	Scientific Name: <i>Arctostaphylos pumila</i>
Common Name: Northern California black walnut Status: Species of Concern	Scientific Name: <i>Juglans californica hindsii</i>
Common Name: Delta tule-pea Status: Species of Concern	Scientific Name: <i>Lathyrus jepsonii jepsonii</i>
Common Name: Stebbins lewisia Status: Species of Concern	Scientific Name: <i>Lewisia stebbinsii</i>
Common Name: Wilkin's harebell Status: Species of Concern	Scientific Name: <i>Campanula wilkinsiana</i>
Common Name: Cup Lake draba Status: Species of Concern	Scientific Name: <i>Draba asterophora macrocarpa</i>
Common Name: Mecca aster Status: Species of Concern	Scientific Name: <i>Xylorhiza cognata</i>
Common Name: Small-leaved rose Status: Species of Concern	Scientific Name: <i>Rosa minutifolia</i>
Common Name: Cambria morning-glory Status: Species of Concern	Scientific Name: <i>Calystegia subacaulis episcopalis</i>
Common Name: San Benito thornmint Status: Species of Concern	Scientific Name: <i>Acanthomintha obovata obovata</i>
Common Name: Bear Valley phlox Status: Species of Concern	Scientific Name: <i>Phlox dolichantha</i>
Common Name: Owens Peak lomatium Status: Species of Concern	Scientific Name: <i>Lomatium shevockii</i>

NATURAL AREAS MAP FINDINGS

Federal Endangered Species from the U.S. Fish and Wildlife for CA State (Continued...)

Common Name: Wild Rose Canyon buckwheat Status: Species of Concern	Scientific Name: <i>Eriogonum eremicola</i>
Common Name: Mt. Saint Helena morning-glory Status: Species of Concern	Scientific Name: <i>Calystegia collina oxyphylla</i>
Common Name: Large red buckwheat Status: Species of Concern	Scientific Name: <i>Eriogonum grande rubescens</i>
Common Name: Dog Valley ivesia Status: Species of Concern	Scientific Name: <i>Ivesia aperta canina</i>
Common Name: Del Norte manzanita Status: Species of Concern	Scientific Name: <i>Arctostaphylos nortensis</i>
Common Name: [Unnamed] milk-vetch Status: Species of Concern	Scientific Name: <i>Astragalus gilmanii</i>
Common Name: Seaside birds-beak Status: Species of Concern	Scientific Name: <i>Cordylanthus rigidus littoralis</i>
Common Name: Sp. nov. ined. (Del Norte) rock-cress Status: Species of Concern	Scientific Name: <i>Arabis</i> sp.
Common Name: California marina Status: Species of Concern	Scientific Name: <i>Marina orcuttii orcuttii</i>
Common Name: San Felipe monardella Status: Species of Concern	Scientific Name: <i>Monardella nana leptosiphon</i>
Common Name: San Francisco owl's-clover Status: Species of Concern	Scientific Name: <i>Triphysaria floribunda</i>
Common Name: San Benito fritillary Status: Species of Concern	Scientific Name: <i>Fritillaria viridea</i>
Common Name: Red-flowered lotus Status: Species of Concern	Scientific Name: <i>Lotus rubriflorus</i>
Common Name: Palmer's grapplinghook Status: Species of Concern	Scientific Name: <i>Harpagonella palmeri palmeri</i>
Common Name: No common name Status: Species of Concern	Scientific Name: <i>Stylocline citroleum</i>
Common Name: Humboldt lily Status: Species of Concern	Scientific Name: <i>Lilium humboldtii ocellatum</i>
Common Name: Death Valley sandpaperplant Status: Species of Concern	Scientific Name: <i>Petalonyx thurberi gilmanii</i>
Common Name: San Diego marsh elder Status: Species of Concern	Scientific Name: <i>Iva hayesiana</i>
Common Name: Merced phacelia Status: Species of Concern	Scientific Name: <i>Phacelia ciliata opaca</i>

NATURAL AREAS MAP FINDINGS

Federal Endangered Species from the U.S. Fish and Wildlife for CA State (Continued...)

Common Name: Tomales clarkia Status: Species of Concern	Scientific Name: <i>Clarkia concinna raichei</i>
Common Name: Spinysepaled eryngo Status: Species of Concern	Scientific Name: <i>Eryngium spinosepalum</i>
Common Name: Bakersfield saltbush Status: Species of Concern	Scientific Name: <i>Atriplex tularensis</i>
Common Name: Dorr's Cabin jewelflower Status: Species of Concern	Scientific Name: <i>Streptanthus morrisonii hirtiflorus</i>
Common Name: No common name Status: Species of Concern	Scientific Name: <i>Malacothrix crispifolia</i>
Common Name: Mt. Tedoc linanthus Status: Species of Concern	Scientific Name: <i>Linanthus nuttallii howellii</i>
Common Name: Smooth tarplant Status: Species of Concern	Scientific Name: <i>Hemizonia pungens laevis</i>
Common Name: Pajaroensis manzanita Status: Species of Concern	Scientific Name: <i>Arctostaphylos pajaroensis</i>
Common Name: Rock sanicle Status: Species of Concern	Scientific Name: <i>Sanicula saxatilis</i>
Common Name: Kernville poppy Status: Species of Concern	Scientific Name: <i>Eschscholzia procera</i>
Common Name: Mt. Hamilton coreopsis Status: Species of Concern	Scientific Name: <i>Coreopsis hamiltonii</i>
Common Name: No common name Status: Species of Concern	Scientific Name: <i>Lessingia micradenia glabrata</i>
Common Name: Aphanisma Status: Species of Concern	Scientific Name: <i>Aphanisma blitoides</i>
Common Name: Mosquin's clarkia Status: Species of Concern	Scientific Name: <i>Clarkia mosquinii mosquinii</i>
Common Name: East Bay clarkia Status: Species of Concern	Scientific Name: <i>Clarkia concinna automixa</i>
Common Name: Silky cryptantha Status: Species of Concern	Scientific Name: <i>Cryptantha crinita</i>
Common Name: Bensoniella Status: Species of Concern	Scientific Name: <i>Bensoniella oregona</i>
Common Name: Santa Margarita manzanita Status: Species of Concern	Scientific Name: <i>Arctostaphylos pilosula pilosula</i>
Common Name: Robison's monardella Status: Species of Concern	Scientific Name: <i>Monardella robisonii</i>

NATURAL AREAS MAP FINDINGS

Federal Endangered Species from the U.S. Fish and Wildlife for CA State (Continued...)

Common Name: Brewer's dwarf-flax Status: Species of Concern	Scientific Name: <i>Hesperolinon breweri</i>
Common Name: Howell's alkali grass Status: Species of Concern	Scientific Name: <i>Puccinellia howellii</i>
Common Name: Maritime california-lilac Status: Species of Concern	Scientific Name: <i>Ceanothus maritimus</i>
Common Name: No common name Status: Species of Concern	Scientific Name: <i>Collinsia antonina</i>
Common Name: Schreiber's manzanita Status: Species of Concern	Scientific Name: <i>Arctostaphylos glutinosa</i>
Common Name: Pale-yellow layia Status: Species of Concern	Scientific Name: <i>Layia heterotricha</i>
Common Name: Hardham's evening-primrose Status: Species of Concern	Scientific Name: <i>Camissonia hardhamiae</i>
Common Name: Comanche layia Status: Species of Concern	Scientific Name: <i>Layia leucopappa</i>
Common Name: Southern tarplant Status: Species of Concern	Scientific Name: <i>Hemizonia parryi australis</i>
Common Name: Howell's tauschia Status: Species of Concern	Scientific Name: <i>Tauschia howellii</i>
Common Name: Lake County dwarf-flax Status: Species of Concern	Scientific Name: <i>Hesperolinon didymocarpum</i>
Common Name: Morrison's jewelflower Status: Species of Concern	Scientific Name: <i>Streptanthus morrisonii morrisonii</i>
Common Name: Rincon ceanothus Status: Species of Concern	Scientific Name: <i>Ceanothus confusus</i>
Common Name: Little Sur manzanita Status: Species of Concern	Scientific Name: <i>Arctostaphylos edmundsii</i>
Common Name: Valley sagittaria Status: Species of Concern	Scientific Name: <i>Sagittaria sanfordii</i>
Common Name: Rock lady Status: Species of Concern	Scientific Name: <i>Holmgrenanthe petrophila</i>
Common Name: Cone Peak bedstraw Status: Species of Concern	Scientific Name: <i>Galium californicum lucense</i>
Common Name: Butte County sidalcea Status: Species of Concern	Scientific Name: <i>Sidalcea robusta</i>
Common Name: San Nicolas Island buckwheat Status: Species of Concern	Scientific Name: <i>Eriogonum grande timorum</i>

NATURAL AREAS MAP FINDINGS

Federal Endangered Species from the U.S. Fish and Wildlife for CA State (Continued...)

Common Name: No common name Status: Species of Concern	Scientific Name: <i>Malacothrix intermedia</i>
Common Name: Dune larkspur Status: Species of Concern	Scientific Name: <i>Delphinium parryi blochmaniae</i>
Common Name: Amargosa penstemon Status: Species of Concern	Scientific Name: <i>Penstemon fruticiformis amargosae</i>
Common Name: Preston Peak rock-cress Status: Species of Concern	Scientific Name: <i>Arabis mcdonaldiana</i>
Common Name: Thread-leaved penstemon Status: Species of Concern	Scientific Name: <i>Penstemon filiformis</i>
Common Name: Blair's munzothamnus Status: Species of Concern	Scientific Name: <i>Stephanomeria blairii</i>
Common Name: Stebbins' madia Status: Species of Concern	Scientific Name: <i>Madia stebbinsii</i>
Common Name: Mission Canyon bluecup Status: Species of Concern	Scientific Name: <i>Githopsis diffusa filicaulis</i>
Common Name: Saw-toothed lewisia Status: Species of Concern	Scientific Name: <i>Lewisia serrata</i>
Common Name: White-margined penstemon Status: Species of Concern	Scientific Name: <i>Penstemon albomarginatus</i>
Common Name: Contact Mine streptanthus Status: Species of Concern	Scientific Name: <i>Streptanthus brachiatus brachiatus</i>
Common Name: Coast barrel cactus Status: Species of Concern	Scientific Name: <i>Ferocactus viridescens</i>
Common Name: Santa Cruz manzanita Status: Species of Concern	Scientific Name: <i>Arctostaphylos andersonii</i>
Common Name: San Jacinto bedstraw Status: Species of Concern	Scientific Name: <i>Galium californicum primum</i>
Common Name: Mt. Vision ceanothus Status: Species of Concern	Scientific Name: <i>Ceanothus gloriosus porrectus</i>
Common Name: Rock Creek broomrape Status: Species of Concern	Scientific Name: <i>Orobanche valida valida</i>
Common Name: Raiches manzanita Status: Species of Concern	Scientific Name: <i>Arctostaphylos stanfordiana raichei</i>
Common Name: Sandfood Status: Species of Concern	Scientific Name: <i>Pholisma sonorae</i>
Common Name: Spanish needle onion Status: Species of Concern	Scientific Name: <i>Allium shevockii</i>

NATURAL AREAS MAP FINDINGS

Federal Endangered Species from the U.S. Fish and Wildlife for CA State (Continued...)

Common Name: Petaluma popcornflower Status: Species of Concern	Scientific Name: <i>Plagiobothrys mollis vestitus</i>
Common Name: Montara manzanita Status: Species of Concern	Scientific Name: <i>Arctostaphylos montaraensis</i>
Common Name: [Unnamed] adobe-lily Status: Species of Concern	Scientific Name: <i>Fritillaria pluriflora</i>
Common Name: Snow Mountain buckwheat Status: Species of Concern	Scientific Name: <i>Eriogonum nervulosum</i>
Common Name: Supple daisy Status: Species of Concern	Scientific Name: <i>Erigeron supplex</i>
Common Name: Hoover's button-celery Status: Species of Concern	Scientific Name: <i>Eryngium aristulatum hooveri</i>
Common Name: San Luis lupine Status: Species of Concern	Scientific Name: <i>Lupinus ludovicianus</i>
Common Name: Legenere Status: Species of Concern	Scientific Name: <i>Legenere limosa</i>
Common Name: Pink sand-verbena Status: Species of Concern	Scientific Name: <i>Abronia umbellata breviflora</i>
Common Name: Prostrate buckwheat Status: Species of Concern	Scientific Name: <i>Eriogonum prociduum</i>
Common Name: Butte County morning-glory Status: Species of Concern	Scientific Name: <i>Calystegia atriplicifolia buttensis</i>
Common Name: San Bernardino Mountains orthocarpus Status: Species of Concern	Scientific Name: <i>Castilleja lasiorhyncha</i>
Common Name: Parry's tetraococcus Status: Species of Concern	Scientific Name: <i>Tetraococcus dioicus</i>
Common Name: Red Rock tarweed Status: Species of Concern	Scientific Name: <i>Hemizonia arida</i>
Common Name: Trinity buckwheat Status: Species of Concern	Scientific Name: <i>Eriogonum alpinum</i>
Common Name: Applegate stonecrop Status: Species of Concern	Scientific Name: <i>Sedum oblanceolatum</i>
Common Name: Twisselmann's buckwheat Status: Species of Concern	Scientific Name: <i>Eriogonum twisselmannii</i>
Common Name: San Clemente Island buckwheat Status: Species of Concern	Scientific Name: <i>Eriogonum giganteum formosum</i>
Common Name: Algodones Dunes sunflower Status: Species of Concern	Scientific Name: <i>Helianthus niveus tephrodes</i>

NATURAL AREAS MAP FINDINGS

Federal Endangered Species from the U.S. Fish and Wildlife for CA State (Continued...)

Common Name: Plummer's mariposa lily Status: Species of Concern	Scientific Name: Calochortus plummerae
Common Name: Point Reyes horkelia Status: Species of Concern	Scientific Name: Horkelia marinensis
Common Name: Davidson's bush-mallow Status: Species of Concern	Scientific Name: Malacothamnus davidsonii
Common Name: Bristlecone catseye Status: Species of Concern	Scientific Name: Cryptantha roosiorum
Common Name: Vine Hill ceanothus Status: Species of Concern	Scientific Name: Ceanothus foliosus vineatus
Common Name: Marin knotweed Status: Species of Concern	Scientific Name: Polygonum marinense
Common Name: Hardy Creek barberry Status: Species of Concern	Scientific Name: Berberis nervosa mendocinensis
Common Name: Parasol clover Status: Species of Concern	Scientific Name: Trifolium bolanderi
Common Name: Fragrant fritillary Status: Species of Concern	Scientific Name: Fritillaria liliacea
Common Name: Ziegler's layia Status: Species of Concern	Scientific Name: Layia platyglossa
Common Name: Seaside tarweed Status: Species of Concern	Scientific Name: Hemizonia multicaulis multicaulis
Common Name: Foothill mariposa lily Status: Species of Concern	Scientific Name: Calochortus weedii intermedius
Common Name: Mendocino coast paintbrush Status: Species of Concern	Scientific Name: Castilleja mendocinensis
Common Name: Slough thistle Status: Species of Concern	Scientific Name: Cirsium crassicaule
Common Name: South Coast Range morning-glory Status: Species of Concern	Scientific Name: Calystegia collina venusta
Common Name: Cache Peak buckwheat Status: Species of Concern	Scientific Name: Eriogonum kennedyi pinicola
Common Name: California beaked-rush Status: Species of Concern	Scientific Name: Rhynchospora californica
Common Name: Pringle monardella Status: Species of Concern	Scientific Name: Monardella pringlei
Common Name: Southern island phacelia Status: Species of Concern	Scientific Name: Phacelia floribunda

NATURAL AREAS MAP FINDINGS

Federal Endangered Species from the U.S. Fish and Wildlife for CA State (Continued...)

Common Name: Humboldt milk-vetch Status: Species of Concern	Scientific Name: <i>Astragalus agnicidus</i>
Common Name: Trask's milk-vetch Status: Species of Concern	Scientific Name: <i>Astragalus traskiae</i>
Common Name: Veiny monardella Status: Species of Concern	Scientific Name: <i>Monardella douglasii venosa</i>
Common Name: Tecate tarweed Status: Species of Concern	Scientific Name: <i>Hemizonia floribunda</i>
Common Name: South coast saltbush Status: Species of Concern	Scientific Name: <i>Atriplex pacifica</i>
Common Name: Arroyo de la Cruz manzanita Status: Species of Concern	Scientific Name: <i>Arctostaphylos cruzensis</i>
Common Name: Santa Cruz Island monkey-flower Status: Species of Concern	Scientific Name: <i>Mimulus brandegeei</i>
Common Name: Northcoast phacelia Status: Species of Concern	Scientific Name: <i>Phacelia insularis continentis</i>
Common Name: Sand dune phacelia Status: Under Review	Scientific Name: <i>Phacelia argentea</i>
Common Name: Inyo mariposa lily Status: Species of Concern	Scientific Name: <i>Calochortus excavatus</i>
Common Name: Webber's milk-vetch Status: Species of Concern	Scientific Name: <i>Astragalus webberi</i>
Common Name: Delta coyote-thistle Status: Species of Concern	Scientific Name: <i>Eryngium racemosum</i>
Common Name: Hall's madia Status: Species of Concern	Scientific Name: <i>Madia hallii</i>
Common Name: Red Hills soaproot Status: Species of Concern	Scientific Name: <i>Chlorogalum grandiflorum</i>
Common Name: No common name Status: Species of Concern	Scientific Name: <i>Ceanothus arboreus glaber</i>
Common Name: Guadalupe Island lupine Status: Species of Concern	Scientific Name: <i>Lupinus guadalupensis</i>
Common Name: Sequoia gooseberry Status: Species of Concern	Scientific Name: <i>Ribes tularensis</i>
Common Name: Swamp harebell Status: Species of Concern	Scientific Name: <i>Campanula californica</i>
Common Name: Parry's spineflower Status: Species of Concern	Scientific Name: <i>Chorizanthe parryi parryi</i>

NATURAL AREAS MAP FINDINGS

Federal Endangered Species from the U.S. Fish and Wildlife for CA State (Continued...)

Common Name: Parish's bush-mallow Status: Species of Concern	Scientific Name: Malacothamnus parishii
Common Name: Tamalpais manzanita Status: Species of Concern	Scientific Name: Arctostaphylos hookeri montana
Common Name: San Clemente Island brodiaea Status: Species of Concern	Scientific Name: Brodiaea kinkiensis
Common Name: Tamalpais jewelflower Status: Species of Concern	Scientific Name: Streptanthus batrachopus
Common Name: Panoche peppergrass Status: Species of Concern	Scientific Name: Lepidium jaredii album
Common Name: Dacite manzanita Status: Species of Concern	Scientific Name: Arctostaphylos tomentosa daciticola
Common Name: Fresno County bird's-beak Status: Species of Concern	Scientific Name: Cordylanthus tenuis barbatus
Common Name: Bolinas ceanothus Status: Species of Concern	Scientific Name: Ceanothus masonii
Common Name: No common name Status: Species of Concern	Scientific Name: Astragalus lentiginosus antonius
Common Name: San Diego goldenstar Status: Species of Concern	Scientific Name: Muilla clevelandii
Common Name: Hearsts' manzanita Status: Species of Concern	Scientific Name: Arctostaphylos hookeri hearstiorum
Common Name: Orocopia sage Status: Species of Concern	Scientific Name: Salvia greatai
Common Name: Abbott's bush-mallow Status: Species of Concern	Scientific Name: Malacothamnus abbottii
Common Name: Merced monardella Status: Species of Concern	Scientific Name: Monardella leucocephala
Common Name: Alverson's foxtail cactus Status: Species of Concern	Scientific Name: Coryphantha vivipara alversonii
Common Name: San Gabriel River dudleya Status: Species of Concern	Scientific Name: Dudleya cymosa crebrifolia
Common Name: Kern River daisy Status: Species of Concern	Scientific Name: Erigeron multiceps
Common Name: Jepson's onion Status: Species of Concern	Scientific Name: Allium jepsonii
Common Name: Auburua Ranch jewelflower Status: Species of Concern	Scientific Name: Streptanthus insignis lyonii

NATURAL AREAS MAP FINDINGS

Federal Endangered Species from the U.S. Fish and Wildlife for CA State (Continued...)

Common Name: Saline Valley phacelia Status: Species of Concern	Scientific Name: Phacelia amabilis
Common Name: Nevada oryctes Status: Species of Concern	Scientific Name: Oryctes nevadensis
Common Name: Kaweah brodiaea Status: Species of Concern	Scientific Name: Brodiaea insignis
Common Name: Baldwin Lake linanthus Status: Species of Concern	Scientific Name: Linanthus killipii
Common Name: Mt. Diablo jewelflower Status: Species of Concern	Scientific Name: Streptanthus hispidus
Common Name: Thorne's buckwheat Status: Species of Concern	Scientific Name: Eriogonum ericifolium thornei
Common Name: Diamond-petaled poppy Status: Species of Concern	Scientific Name: Eschscholzia rhombipetala
Common Name: Showy raillardella Status: Species of Concern	Scientific Name: Raillardella pringlei
Common Name: Scadden Flat checkerbloom Status: Species of Concern	Scientific Name: Sidalcea stipularis
Common Name: Slender mariposa lily Status: Species of Concern	Scientific Name: Calochortus clavatus gracilis
Common Name: Mojave monkey-flower Status: Species of Concern	Scientific Name: Mimulus mohavensis
Common Name: Anthony Peak lupine Status: Species of Concern	Scientific Name: Lupinus antoninus
Common Name: No common name Status: Species of Concern	Scientific Name: Arnica lonchophylla
Common Name: Poison Canyon stickseed Status: Species of Concern	Scientific Name: Hackelia brevicula
Common Name: Borrego bedstraw Status: Species of Concern	Scientific Name: Galium angustifolium borregoense
Common Name: Hickman's onion Status: Species of Concern	Scientific Name: Allium hickmanii
Common Name: One-awned spineflower Status: Species of Concern	Scientific Name: Chorizanthe rectispina
Common Name: Inyo laphamia Status: Species of Concern	Scientific Name: Perityle inyoensis
Common Name: DeDecker's lupine Status: Species of Concern	Scientific Name: Lupinus padre-crowleyi

NATURAL AREAS MAP FINDINGS

Federal Endangered Species from the U.S. Fish and Wildlife for CA State (Continued...)

Common Name: Thurber's reedgrass Status: Species of Concern	Scientific Name: Calamagrostis crassiglumis
Common Name: Stebbins' lomatium Status: Species of Concern	Scientific Name: Lomatium stebbinsii
Common Name: Sp. nov. ined. (Pit River) jewelflower Status: Species of Concern	Scientific Name: Streptanthus sp.
Common Name: Mountains Springs bush lupine Status: Species of Concern	Scientific Name: Lupinus excubitus medius
Common Name: Gander butterweed Status: Species of Concern	Scientific Name: Packera ganderi
Common Name: Forest Camp sandwort Status: Species of Concern	Scientific Name: Arenaria macradenia kuschei
Common Name: Monterey ceanothus Status: Species of Concern	Scientific Name: Ceanothus cuneatus rigidus
Common Name: Most beautiful jewelflower Status: Species of Concern	Scientific Name: Streptanthus albidus peramoenus
Common Name: San Francisco gumplant Status: Species of Concern	Scientific Name: Grindelia hirsuta maritima
Common Name: Mt. Hamilton harebell Status: Species of Concern	Scientific Name: Campanula sharsmithiae
Common Name: Congdon's lomatium Status: Species of Concern	Scientific Name: Lomatium congdonii
Common Name: Plaskett Meadows linanthus Status: Species of Concern	Scientific Name: Linanthus harknessii condensatus
Common Name: Lemon colored fawn-lily Status: Species of Concern	Scientific Name: Erythronium citrinum rodrickii
Common Name: Raven's milk-vetch Status: Species of Concern	Scientific Name: Astragalus monoensis ravenii
Common Name: Nevin's woolly-sunflower Status: Species of Concern	Scientific Name: Eriophyllum nevinii
Common Name: California ditaxis Status: Species of Concern	Scientific Name: Ditaxis serrata
Common Name: Tehama dwarf-flax Status: Species of Concern	Scientific Name: Hesperolinon tehamense
Common Name: Piute Mountains jewelflower Status: Species of Concern	Scientific Name: Streptanthus cordatus piutensis
Common Name: No common name Status: Species of Concern	Scientific Name: Calochortus weedii vestus

NATURAL AREAS MAP FINDINGS

Federal Endangered Species from the U.S. Fish and Wildlife for CA State (Continued...)

Common Name: Slender pentachaeta Status: Species of Concern	Scientific Name: <i>Pentachaeta exilis aeolica</i>
Common Name: Purple monkey-flower Status: Species of Concern	Scientific Name: <i>Mimulus purpureus purpureus</i>
Common Name: Calistoga ceanothus Status: Species of Concern	Scientific Name: <i>Ceanothus divergens</i>
Common Name: Butte fritillary Status: Species of Concern	Scientific Name: <i>Fritillaria eastwoodiae</i>
Common Name: Pale yellow lupine Status: Species of Concern	Scientific Name: <i>Lupinus luteolus</i>
Common Name: Arroyo de la Cruz mariposa lily Status: Species of Concern	Scientific Name: <i>Calochortus clavatus recurvifolius</i>
Common Name: Umpqua green-gentian Status: Species of Concern	Scientific Name: <i>Frasera fastigiata</i>
Common Name: Canyon Creek stonecrop Status: Species of Concern	Scientific Name: <i>Sedum paradisum</i>
Common Name: Ash Creek ivesia Status: Species of Concern	Scientific Name: <i>Ivesia paniculata</i>
Common Name: Cliff spurge Status: Species of Concern	Scientific Name: <i>euphorbia misera</i>
Common Name: Small-flowered morning-glory Status: Species of Concern	Scientific Name: <i>Convolvulus equitans</i>
Common Name: Beautiful Hulsea Status: Species of Concern	Scientific Name: <i>Hulsea vestita ssp. callicarpha</i>
Common Name: Cleveland's bush monkeyflower Status: Species of Concern	Scientific Name: <i>Diplacus clevelandii</i>
Common Name: Fish's milkwort Status: Species of Concern	Scientific Name: <i>Polygala cornuta var. fishiae</i>
Common Name: Mt. Diablo phacelia Status: Species of Concern	Scientific Name: <i>Phacelia phacelioides</i>
Common Name: Gairdner's yampah Status: Species of Concern	Scientific Name: <i>Perideridia gairdneri gairdneri</i>
Common Name: Santa Catalina Island desert-thorn Status: Species of Concern	Scientific Name: <i>Lycium hassei</i>
Common Name: No common name Status: Species of Concern	Scientific Name: <i>Lecanora xanthosora</i>
Common Name: Stebbins' phacelia Status: Species of Concern	Scientific Name: <i>Phacelia stebbinsii</i>

NATURAL AREAS MAP FINDINGS

Federal Endangered Species from the U.S. Fish and Wildlife for CA State (Continued...)

Common Name: Silver, Santa Cruz Island hosackia Status: Species of Concern	Scientific Name: <i>Lotus argophyllus niveus</i>
Common Name: Smooth pungent forsellesia Status: Species of Concern	Scientific Name: <i>Glossopetalon pungens glabra</i>
Common Name: Eastwood's goldenweed Status: Species of Concern	Scientific Name: <i>Ericameria fasciculata</i>
Common Name: Rayless layia Status: Species of Concern	Scientific Name: <i>Layia discoidea</i>
Common Name: San Gabriel bedstraw Status: Species of Concern	Scientific Name: <i>Galium grande</i>
Common Name: Island morning-glory Status: Species of Concern	Scientific Name: <i>Calystegia macrostegia amplissima</i>
Common Name: Santa Barbara Island buckwheat Status: Species of Concern	Scientific Name: <i>Eriogonum giganteum compactum</i>
Common Name: The Geysers panic grass Status: Species of Concern	Scientific Name: <i>Dichanthelium acuminatum acuminatum</i>
Common Name: Flat-seeded spurge Status: Species of Concern	Scientific Name: <i>Chamaesyce platysperma</i>
Common Name: Narrow-leaved nightshade Status: Species of Concern	Scientific Name: <i>Solanum tenuilobatum</i>
Common Name: Green liveforever Status: Species of Concern	Scientific Name: <i>Dudleya virens</i>
Common Name: Three Peaks jewelflower Status: Species of Concern	Scientific Name: <i>Streptanthus morrisonii elatus</i>
Common Name: Big Bear milk-vetch Status: Species of Concern	Scientific Name: <i>Astragalus lentiginosus sierrae</i>
Common Name: Deane's milk-vetch Status: Species of Concern	Scientific Name: <i>Astragalus deanei</i>
Common Name: Ft. Tejon wooly-sunflower Status: Species of Concern	Scientific Name: <i>Eriophyllum lanatum hallii</i>
Common Name: El Dorado mule-ears Status: Species of Concern	Scientific Name: <i>Wyethia reticulata</i>
Common Name: Siskiyou onion Status: Species of Concern	Scientific Name: <i>Allium tribracteatum</i>
Common Name: Enterprise clarkia Status: Species of Concern	Scientific Name: <i>Clarkia mosquinii xerophila</i>
Common Name: San Francisco Bay spineflower Status: Species of Concern	Scientific Name: <i>Chorizanthe cuspidata cuspidata</i>

NATURAL AREAS MAP FINDINGS

Federal Endangered Species from the U.S. Fish and Wildlife for CA State (Continued...)

Common Name: Santa Cruz silverpuffs Status: Species of Concern	Scientific Name: <i>Stebbinsoseris decipiens</i>
Common Name: Hetch Hetchy monkey-flower Status: Species of Concern	Scientific Name: <i>Mimulus filicaulis</i>
Common Name: Caliente clarkia Status: Species of Concern	Scientific Name: <i>Clarkia tembloriensis</i> ssp. <i>calientensis</i>
Common Name: Lemon lily Status: Species of Concern	Scientific Name: <i>Lilium parryi</i>
Common Name: Two carpeled dwarf-flax Status: Species of Concern	Scientific Name: <i>Hesperolinon bicarpellatum</i>
Common Name: Baker's meadowfoam Status: Species of Concern	Scientific Name: <i>Limnanthes bakeri</i>

Group:Insects

Common Name: Denning's cryptic caddisfly Status: Species of Concern	Scientific Name: <i>Cryptochia denningi</i>
Common Name: Shirrtail Creek stonefly Status: Species of Concern	Scientific Name: <i>Megaleuctra sierra</i>
Common Name: Sonoma arctic skipper Status: Species of Concern	Scientific Name: <i>Carterocephalus palaemon</i> ssp.
Common Name: Globose dune beetle Status: Species of Concern	Scientific Name: <i>Coelus globosus</i>
Common Name: Sierra pygmy grasshopper Status: Species of Concern	Scientific Name: <i>Tetrix sierrana</i>
Common Name: Bumblebee scarab Status: Species of Concern	Scientific Name: <i>Lichnanthe ursina</i>
Common Name: Franklin's bumblebee Status: Under Review	Scientific Name: <i>Bombus franklini</i>
Common Name: Gold rush hanging fly Status: Species of Concern	Scientific Name: <i>Orbittacus obscurus</i>
Common Name: Brownish dubiraphian riffle beetle Status: Species of Concern	Scientific Name: <i>Dubiraphia brunnescens</i>
Common Name: Coachella Valley jerusalem cricket Status: Species of Concern	Scientific Name: <i>Stenopelmatus cahuiensis</i>
Common Name: Desert monkey grasshopper Status: Species of Concern	Scientific Name: <i>Psychomastix deserticola</i>
Common Name: Point Conception jerusalem cricket Status: Species of Concern	Scientific Name: <i>Ammopelmatus muwu</i>

NATURAL AREAS MAP FINDINGS

Federal Endangered Species from the U.S. Fish and Wildlife for CA State (Continued...)

Common Name: Sacramento anthicid Status: Species of Concern	Scientific Name: Anthicus sacramento
Common Name: Wawona riffle beetle Status: Species of Concern	Scientific Name: Atractelmis wawona
Common Name: San Joaquin tiger beetle Status: Species of Concern	Scientific Name: Cicindela tranquebarica ssp.
Common Name: Sagehen Creek goeracean caddisfly Status: Species of Concern	Scientific Name: Goeracea oregona
Common Name: Hopping's blister beetle Status: Species of Concern	Scientific Name: Lytta hoppingi
Common Name: Kelso Dune glaresis scarab Status: Species of Concern	Scientific Name: Glaresis arenata
Common Name: Wilbur Springs shore fly Status: Species of Concern	Scientific Name: Paracoenia calida
Common Name: Antioch andrenid bee Status: Species of Concern	Scientific Name: Perdita scitula antiochensis
Common Name: Point Reyes blue Status: Species of Concern	Scientific Name: Icaricia icariodes ssp.
Common Name: Simple hydroporus diving beetle Status: Species of Concern	Scientific Name: Hydroporus simplex
Common Name: Antioch cophuran robberfly Status: Species of Concern	Scientific Name: Cophura hurdi
Common Name: MacNeill sooty wing skipper Status: Species of Concern	Scientific Name: Hesperopsis graciellae
Common Name: King's Creek ecclisomyian caddisfly Status: Species of Concern	Scientific Name: Ecclisomyia bilera
Common Name: King's Creek parapsyche caddisfly Status: Species of Concern	Scientific Name: Parapsyche extensa
Common Name: Kings Canyon cryptochian caddisfly Status: Species of Concern	Scientific Name: Cryptochia excella
Common Name: San Clemente Island coenonycha beetle Status: Species of Concern	Scientific Name: Coenonycha clementina
Common Name: Spiny rhyacophilan caddisfly Status: Species of Concern	Scientific Name: Rhyacophila spinata
Common Name: Delta june beetle Status: Species of Concern	Scientific Name: Polyphylla stellata
Common Name: Trinity Alps ground beetle Status: Species of Concern	Scientific Name: Nebria sahlbergii triad

NATURAL AREAS MAP FINDINGS

Federal Endangered Species from the U.S. Fish and Wildlife for CA State (Continued...)

Common Name: San Francisco lacewing Status: Species of Concern	Scientific Name: Nothochrysa californica
Common Name: San Gabriel Mountains blue Status: Species of Concern	Scientific Name: Plejebus saepiolus ssp.
Common Name: White Mountains copper Status: Species of Concern	Scientific Name: Lycaena rubicus ssp.
Common Name: Oso Flaco patch butterfly Status: Species of Concern	Scientific Name: Chlosyne leanira osoflaco
Common Name: Golden-horned caddisfly Status: Species of Concern	Scientific Name: Neothremma genella
Common Name: Rude's long-horned beetle Status: Species of Concern	Scientific Name: Necydalis rudei
Common Name: Busck's gall moth Status: Species of Concern	Scientific Name: Carolella busckana
Common Name: Andrew's marble butterfly Status: Species of Concern	Scientific Name: Euchloe hyantis andrewsi
Common Name: [Unnamed] ground beetle Status: Species of Concern	Scientific Name: Scaphinotus behrensi
Common Name: White Mountains saepiolus blue Status: Species of Concern	Scientific Name: Plejebus saepiolus ssp.
Common Name: White Mountains sandhill skipper Status: Species of Concern	Scientific Name: Polites sabuleti albomontana
Common Name: Greenest tiger beetle Status: Species of Concern	Scientific Name: Cicindela tranquebarica viridissima
Common Name: Siskiyou caddisfly Status: Species of Concern	Scientific Name: Neothremma siskiyou
Common Name: Casey's June Beetle Status: Endangered	Scientific Name: Dinacoma caseyi
Common Name: Channel Islands dune beetle Status: Species of Concern	Scientific Name: Coelus pacificus
Common Name: Hurd's metapogon robberfly Status: Species of Concern	Scientific Name: Metapogon hurdi
Common Name: Molestan blister beetle Status: Species of Concern	Scientific Name: Lytta molesta
Common Name: Nelson's miloderes weevil Status: Species of Concern	Scientific Name: Miloderes nelsoni
Common Name: Lake Tahoe benthic stonefly Status: Species of Concern	Scientific Name: Capnia lacustra

NATURAL AREAS MAP FINDINGS

Federal Endangered Species from the U.S. Fish and Wildlife for CA State (Continued...)

Common Name: Bilobed rhyacophilan caddisfly Status: Species of Concern	Scientific Name: Rhyacophila mosana
Common Name: Santa Cruz Island shore weevil Status: Species of Concern	Scientific Name: Trigonoscuta stantoni
Common Name: Ancient ant Status: Species of Concern	Scientific Name: Smithistruma reliquia
Common Name: Pinnacles shield-back katydid Status: Species of Concern	Scientific Name: Idiostatus kathleenae
Common Name: Oso Flaco robber fly Status: Species of Concern	Scientific Name: Ablautus schlingeri
Common Name: Morro Bay blue butterfly Status: Species of Concern	Scientific Name: Icaricia icarioides moroensis
Common Name: Valley mydas fly Status: Under Review	Scientific Name: Rhapsiomidas trochilus
Common Name: Giuliani's dubiraphian riffle beetle Status: Species of Concern	Scientific Name: Dubiraphia giulianii
Common Name: Amphibious caddisfly Status: Species of Concern	Scientific Name: Desmona bethula
Common Name: Cheese-weed moth lacewing Status: Species of Concern	Scientific Name: Oliarces clara
Common Name: Monarch butterfly Status: Under Review	Scientific Name: Danaus plexippus plexippus
Common Name: Humboldt ground beetle Status: Species of Concern	Scientific Name: Scaphinotus longiceps
Common Name: Curved-foot hygrotus diving beetle Status: Species of Concern	Scientific Name: Hygrotus curvipes
Common Name: Mono checkerspot Status: Species of Concern	Scientific Name: Euphydryas editha monoensis
Common Name: White Mountains icarioides blue Status: Species of Concern	Scientific Name: Plejebus icarioides ssp.
Common Name: Pinnacles optioservus riffle beetle Status: Species of Concern	Scientific Name: Optioservus canus
Common Name: Long-tailed caddisfly Status: Species of Concern	Scientific Name: Farula sp.
Common Name: Santa Monica shieldback katydid Status: Species of Concern	Scientific Name: Neduba longipennis
Common Name: Mission blue butterfly Status: Endangered	Scientific Name: Icaricia icarioides missionensis

NATURAL AREAS MAP FINDINGS

Federal Endangered Species from the U.S. Fish and Wildlife for CA State (Continued...)

Common Name: Myrtle's silverspot butterfly Status: Endangered	Scientific Name: Speyeria zerene myrtleae
Common Name: San Bruno elfin butterfly Status: Endangered	Scientific Name: Callophrys mossii bayensis
Common Name: Callippe silverspot butterfly Status: Endangered	Scientific Name: Speyeria callippe callippe
Common Name: Delhi Sands flower-loving fly Status: Endangered	Scientific Name: Rhapsiomidas terminatus abdominalis
Common Name: California diplectronon caddisfly Status: Species of Concern	Scientific Name: Diplectrona californica
Common Name: Wandering skipper Status: Species of Concern	Scientific Name: Panoquina errans
Common Name: [Unnamed] riffle beetle Status: Species of Concern	Scientific Name: Microcylleopus similis
Common Name: Spring Mountains icarioides blue Status: Species of Concern	Scientific Name: Plejebus icarioides ssp.
Common Name: Lange's El Segundo Dune weevil Status: Species of Concern	Scientific Name: Onychobaris langei
Common Name: Sandy beach tiger beetle Status: Species of Concern	Scientific Name: Cicindela hirticollis gravida
Common Name: Yellow-banded andrenid bee Status: Species of Concern	Scientific Name: Perdita hirticeps luteocincta
Common Name: Leech's chaetarhrian water scavenger beetle Status: Species of Concern	Scientific Name: Chaetarhria leechi
Common Name: San Gabriel Mountains elfin Status: Species of Concern	Scientific Name: Incisalia mossii ssp.
Common Name: Woolly hydroporus diving beetle Status: Species of Concern	Scientific Name: Hydroporus hirsutus
Common Name: Fort Dick limnephilus caddisfly Status: Species of Concern	Scientific Name: Limnephilus atercus
Common Name: Ciervo aegialian scarab Status: Species of Concern	Scientific Name: Aegialia concinna
Common Name: Cold Spring caddisfly Status: Species of Concern	Scientific Name: Lepidostoma ermanae
Common Name: White Mountains skipper Status: Species of Concern	Scientific Name: Hesperia mirimae ssp.
Common Name: Doyen's trigonoscuta dune weevil	Scientific Name: Trigonoscuta sp.

NATURAL AREAS MAP FINDINGS

Federal Endangered Species from the U.S. Fish and Wildlife for CA State (Continued...)

Status: Species of Concern

Common Name: Siskiyou ground beetle
Status: Species of Concern

Scientific Name: *Nebria gebleri siskiyouensis*

Common Name: Antioch mutillid wasp
Status: Species of Concern

Scientific Name: *Myrmosula pacifica*

Common Name: Hermes copper butterfly
Status: Candidate

Scientific Name: *Lycaena hermes*

Common Name: Confusion caddisfly
Status: Species of Concern

Scientific Name: *Cryptochia shasta*

Common Name: Death Valley june beetle
Status: Species of Concern

Scientific Name: *Polyphylla erratica*

Common Name: Ford's sand dune moth
Status: Species of Concern

Scientific Name: *Psammobotys fordii*

Common Name: Dorothy's El Segundo Dune weevil
Status: Species of Concern

Scientific Name: *Trigonoscuta dorothea dorothea*

Common Name: Santa Catalina Island trigonoscuta weevil
Status: Species of Concern

Scientific Name: *Trigonoscuta catalina*

Common Name: Saratoga Springs belostoman bug
Status: Species of Concern

Scientific Name: *Belostoma saratogae*

Common Name: Antioch Dunes anthicid
Status: Species of Concern

Scientific Name: *Anthicus antiochensis*

Common Name: Wing-shoulder minute moss beetle
Status: Species of Concern

Scientific Name: *Ochthebius crassalus*

Common Name: Antioch sphecid wasp
Status: Species of Concern

Scientific Name: *Philanthus nasalis*

Common Name: Dohrn's elegant eucnemid beetle
Status: Species of Concern

Scientific Name: *Paleoxenus dohrni*

Common Name: Redheaded sphecid wasp
Status: Species of Concern

Scientific Name: *Eucerceris ruficeps*

Common Name: [Unnamed] riffle beetle
Status: Species of Concern

Scientific Name: *Microcylleopus fomicoideus*

Common Name: Boharts' blue
Status: Species of Concern

Scientific Name: *Philotiella speciosa bohartorum*

Common Name: Castle Crags rhyacophilan caddisfly
Status: Species of Concern

Scientific Name: *Rhyacophila lineata*

Common Name: Middlekauf's shieldback katydid
Status: Species of Concern

Scientific Name: *Idiostatus middlekaufi*

NATURAL AREAS MAP FINDINGS

Federal Endangered Species from the U.S. Fish and Wildlife for CA State (Continued...)

Common Name: Atascadero june beetle Status: Species of Concern	Scientific Name: Polyphylla nubila
Common Name: Travertine band-thigh diving beetle Status: Species of Concern	Scientific Name: Hygrotus fontinalis
Common Name: Leech's skyline diving beetle Status: Species of Concern	Scientific Name: Hydroporus leechi
Common Name: South Forks ground beetle Status: Species of Concern	Scientific Name: Nebria darlingtoni
Common Name: Morrison's blister beetle Status: Species of Concern	Scientific Name: Lytta morrisoni
Common Name: Marin elfin Status: Species of Concern	Scientific Name: Incisalia mossii ssp.
Common Name: Saline Valley snow-front june beetle Status: Species of Concern	Scientific Name: Polyphylla anteronivea
Common Name: Wilbur Springs minute moss beetle Status: Species of Concern	Scientific Name: Ochthebius reticulus
Common Name: Tehachapi Mountain silverspot Status: Species of Concern	Scientific Name: Speyeria egleis tehachapina
Common Name: Valley oak ant Status: Under Review	Scientific Name: Proceratium californicum
Common Name: Coachella giant sand treader cricket Status: Species of Concern	Scientific Name: Macrobaenetes valgum
Common Name: Ricksecker's water scavenger beetle Status: Species of Concern	Scientific Name: Hydrochara rickseckeri
Common Name: Brown-tassel trigonoscuta weevil Status: Species of Concern	Scientific Name: Trigonoscuta brunneotesselata
Common Name: Henne's eucosman moth Status: Species of Concern	Scientific Name: Eucosma hennei
Common Name: Samwell Cave cricket Status: Species of Concern	Scientific Name: Pristoceuthophilus sp.
Common Name: Kelso jerusalem cricket Status: Species of Concern	Scientific Name: Ammopelmatus kelsoensis
Common Name: White sand bear scarab Status: Species of Concern	Scientific Name: Lichnanthe albopilosa
Common Name: Dry Creek cliff strider bug Status: Species of Concern	Scientific Name: Oravelia pege
Common Name: Antioch efferian robberfly Status: Species of Concern	Scientific Name: Efferia antiochi

NATURAL AREAS MAP FINDINGS

Federal Endangered Species from the U.S. Fish and Wildlife for CA State (Continued...)

Common Name: San Emigdio blue
Status: Species of Concern
Scientific Name: *Plebulina emigdionis*

Common Name: Blaisdell trigonoscuta weevil
Status: Species of Concern
Scientific Name: *Trigonoscuta blaisdelli*

Common Name: Mojave Desert blister beetle
Status: Species of Concern
Scientific Name: *Lytta inseparata*

Common Name: Oso Flaco flightless moth
Status: Species of Concern
Scientific Name: *Areniscythriss brachypteris*

Common Name: Kelso giant sand treader cricket
Status: Species of Concern
Scientific Name: *Macrobaenetes kelsoensis*

Common Name: Oblivious tiger beetle
Status: Species of Concern
Scientific Name: *Cicindela latesignata obliviosa*

Common Name: Moestan blister beetle
Status: Species of Concern
Scientific Name: *Lytta moesta*

Group:Lichens

Common Name: [Unnamed] lichen
Status: Species of Concern
Scientific Name: *Texosporium sancti-jacobi*

Common Name: Splitting yarn lichen
Status: Species of Concern
Scientific Name: *Sulcaria isidiisera*

Group:Mammals

Common Name: Tipton kangaroo rat
Status: Endangered
Scientific Name: *Dipodomys nitratoides nitratoides*

Common Name: White-footed vole
Status: Species of Concern
Scientific Name: *Arborimus albipes*

Common Name: Buena Vista Lake ornate Shrew
Status: Endangered
Scientific Name: *Sorex ornatus relictus*

Common Name: Riparian woodrat (=San Joaquin Valley)
Status: Endangered
Scientific Name: *Neotoma fuscipes riparia*

Common Name: White-eared pocket mouse
Status: Species of Concern
Scientific Name: *Perognathus alticola alticola*

Common Name: San Nicolas Island fox
Status: Species of Concern
Scientific Name: *Urocyon littoralis dickeyi*

Common Name: Mountain beaver
Status: Species of Concern
Scientific Name: *Aplodontia rufa californica*

Common Name: Owens Valley California vole
Status: Species of Concern
Scientific Name: *Microtus californicus vallicola*

Common Name: Allen's big-eared bat
Scientific Name: *Idionycteris phyllotis*

NATURAL AREAS MAP FINDINGS

Federal Endangered Species from the U.S. Fish and Wildlife for CA State (Continued...)

Status: Species of Concern

Common Name: California red tree vole
Status: Species of Concern

Scientific Name: Arborimus pomo

Common Name: Salt marsh ornate shrew
Status: Species of Concern

Scientific Name: Sorex ornatus salicornicus

Common Name: Yuma hispid cotton rat
Status: Species of Concern

Scientific Name: Sigmodon hispidus eremicus

Common Name: Berkeley kangaroo rat
Status: Species of Concern

Scientific Name: Dipodomys heermanni berkleyensis

Common Name: Point Reyes jumping mouse
Status: Species of Concern

Scientific Name: Zapus trinotatus orarius

Common Name: Pacific Townsend's big-eared bat
Status: Species of Concern

Scientific Name: Plecotus townsendii townsendii

Common Name: Greater western mastiff-bat
Status: Species of Concern

Scientific Name: Eumops perotis californicus

Common Name: Pallid San Diego pocket mouse
Status: Species of Concern

Scientific Name: Perognathus fallax pallidus

Common Name: Earthquake Merriam's kangaroo rat
Status: Species of Concern

Scientific Name: Dipodomys merriami collinus

Common Name: Los Angeles little pocket mouse
Status: Species of Concern

Scientific Name: Perognathus longimembris brevinasus

Common Name: Lodgepole chipmunk
Status: Species of Concern

Scientific Name: Tamias speciosus speciosus

Common Name: Short-nosed kangaroo rat
Status: Species of Concern

Scientific Name: Dipodomys nitratooides brevinasus

Common Name: Tulare grasshopper mouse
Status: Species of Concern

Scientific Name: Onychomys torridus tularensis

Common Name: Mojave river vole
Status: Species of Concern

Scientific Name: Microtus californicus mohavensis

Common Name: San Francisco dusky-footed woodrat
Status: Species of Concern

Scientific Name: Neotoma fuscipes annectens

Common Name: San Diego black-tailed jackrabbit
Status: Species of Concern

Scientific Name: Lepus californicus bennettii

Common Name: Guadalupe fur seal
Status: Threatened

Scientific Name: Arctocephalus townsendi

Common Name: Dulzura California pocket mouse
Status: Species of Concern

Scientific Name: Perognathus californicus femoralis

NATURAL AREAS MAP FINDINGS

Federal Endangered Species from the U.S. Fish and Wildlife for CA State (Continued...)

Common Name: Stephens' California vole Status: Species of Concern	Scientific Name: <i>Microtus californicus stephensi</i>
Common Name: Salt marsh vagrant shrew Status: Species of Concern	Scientific Name: <i>Sorex vagrans halicoetes</i>
Common Name: San Diego desert woodrat Status: Species of Concern	Scientific Name: <i>Neotoma lepida intermedia</i>
Common Name: Palm Springs little pocket mouse Status: Species of Concern	Scientific Name: <i>Perognathus longimembris bangsi</i>
Common Name: Pale Townsend's big-eared bat Status: Species of Concern	Scientific Name: <i>Plecotus townsendii pallescens</i>
Common Name: Occult little brown bat Status: Species of Concern	Scientific Name: <i>Myotis lucifugus occultus</i>
Common Name: California wolverine Status: Species of Concern	Scientific Name: <i>Gulo gulo luteus</i>
Common Name: San Bernardino northern flying squirrel Status: Under Review	Scientific Name: <i>Glaucomys sabrinus californicus</i>
Common Name: Tehachapi white-eared pocket mouse Status: Species of Concern	Scientific Name: <i>Perognathus alticola inexpectatus</i>
Common Name: Colorado River cotton rat Status: Species of Concern	Scientific Name: <i>Sigmodon arizonae plenus</i>
Common Name: Suisun ornate shrew Status: Species of Concern	Scientific Name: <i>Sorex ornatus sinuosus</i>
Common Name: Salinas pocket mouse Status: Species of Concern	Scientific Name: <i>Perognathus inornatus psammophilus</i>
Common Name: Southern grasshopper mouse Status: Species of Concern	Scientific Name: <i>Onychomys torridus ramona</i>
Common Name: Channel Islands spotted skunk Status: Species of Concern	Scientific Name: <i>Spilogale putorius amphiala</i>
Common Name: Yuma puma Status: Species of Concern	Scientific Name: <i>Felis concolor browni</i>
Common Name: Island fox Status: Status Undefined	Scientific Name: <i>Urocyon littoralis</i>
Common Name: Jacumba little pocket mouse Status: Species of Concern	Scientific Name: <i>Perognathus longimembris internationalis</i>
Common Name: Spotted bat Status: Species of Concern	Scientific Name: <i>Euderma maculatum</i>
Common Name: Point Reyes mountain beaver Status: Species of Concern	Scientific Name: <i>Aplodontia rufa phaea</i>

NATURAL AREAS MAP FINDINGS

Federal Endangered Species from the U.S. Fish and Wildlife for CA State (Continued...)

Common Name: Monterey ornate shrew Status: Species of Concern	Scientific Name: <i>Sorex ornatus salarius</i>
Common Name: San Joaquin pocket mouse Status: Species of Concern	Scientific Name: <i>Perognathus inornatus</i>
Common Name: Northwestern San Diego pocket mouse Status: Species of Concern	Scientific Name: <i>Perognathus fallax fallax</i>
Common Name: Cave myotis Status: Species of Concern	Scientific Name: <i>Myotis velifer</i>
Common Name: California leaf-nosed bat Status: Species of Concern	Scientific Name: <i>Macrotus californicus</i>
Common Name: Sierra Nevada snowshoe hare Status: Species of Concern	Scientific Name: <i>Lepus americanus tahoensis</i>
Common Name: San Clemente deer mouse Status: Species of Concern	Scientific Name: <i>Peromyscus maniculatus clementis</i>
Common Name: Marysville California kangaroo rat Status: Species of Concern	Scientific Name: <i>Dipodomys californicus eximius</i>
Common Name: San Clemente Island fox Status: Species of Concern	Scientific Name: <i>Urocyon littoralis clementae</i>
Common Name: Merced kangaroo rat Status: Species of Concern	Scientific Name: <i>Dipodomys heermanni dixonii</i>
Common Name: Nelson's antelope ground squirrel Status: Species of Concern	Scientific Name: <i>Ammospermophilus nelsoni</i>
Common Name: Mexican long-tongued bat Status: Species of Concern	Scientific Name: <i>Choeronycteris mexicana</i>
Common Name: Alameda Island mole Status: Species of Concern	Scientific Name: <i>Scapanus latimanus parvus</i>
Common Name: Monterey dusky-footed woodrat Status: Species of Concern	Scientific Name: <i>Neotoma fuscipes luciana</i>
Common Name: Santa Catalina ornate shrew Status: Species of Concern	Scientific Name: <i>Sorex ornatus willetti</i>
Common Name: Riparian brush rabbit Status: Endangered	Scientific Name: <i>Sylvilagus bachmani riparius</i>

Group: Reptiles

Common Name: San Diego ringneck snake Status: Species of Concern	Scientific Name: <i>Diadophis punctatus similis</i>
Common Name: California horned lizard Status: Species of Concern	Scientific Name: <i>Phrynosoma coronatum frontale</i>

NATURAL AREAS MAP FINDINGS

Federal Endangered Species from the U.S. Fish and Wildlife for CA State (Continued...)

Common Name: Coronado skink Status: Species of Concern	Scientific Name: <i>Eumeces skiltonianus interparietalis</i>
Common Name: Rosy boa Status: Species of Concern	Scientific Name: <i>Charina trivirgata</i>
Common Name: San Diego banded gecko Status: Species of Concern	Scientific Name: <i>Coleonyx variegatus abbotti</i>
Common Name: San Bernardino ringneck snake Status: Species of Concern	Scientific Name: <i>Diadophis punctatus modestus</i>
Common Name: Banded gila monster Status: Species of Concern	Scientific Name: <i>Heloderma suspectum cinctum</i>
Common Name: San Diego Mountain king snake Status: Species of Concern	Scientific Name: <i>Lampropeltis zonata pulchra</i>
Common Name: Panamint alligator lizard Status: Under Review	Scientific Name: <i>Elgaria panamintina</i>
Common Name: Two-striped garter snake Status: Species of Concern	Scientific Name: <i>Thamnophis hammondi</i>
Common Name: Santa Cruz Island gopher snake Status: Species of Concern	Scientific Name: <i>Pituophis melanoleucus pumilis</i>
Common Name: South coast garter snake Status: Species of Concern	Scientific Name: <i>Thamnophis sirtalis</i> ssp.
Common Name: Southwestern pond turtle Status: Species of Concern	Scientific Name: <i>Actinemys marmorata pallida</i>
Common Name: Northern red diamond rattlesnake Status: Species of Concern	Scientific Name: <i>Crotalus ruber ruber</i>
Common Name: Silvery legless lizard Status: Species of Concern	Scientific Name: <i>Anniella pulchra pulchra</i>
Common Name: Southern rubber boa Status: Under Review	Scientific Name: <i>Charina bottae umbratica</i>
Common Name: Chuckwalla Status: Species of Concern	Scientific Name: <i>Sauromalus ater</i>
Common Name: San Bernardino mountain king snake Status: Species of Concern	Scientific Name: <i>Lampropeltis zonata parvirubra</i>
Common Name: Coastal rosy boa Status: Species of Concern	Scientific Name: <i>Charina trivirgata roseofusca</i>
Common Name: Sierra night lizard Status: Species of Concern	Scientific Name: <i>Xantusia vigilis sierrae</i>
Common Name: Coastal western whiptail Status: Species of Concern	Scientific Name: <i>Cnemidophorus tigris multiscutatus</i>

NATURAL AREAS MAP FINDINGS

Federal Endangered Species from the U.S. Fish and Wildlife for CA State (Continued...)

Common Name: Orange-throated whiptail
Status: Species of Concern
Scientific Name: *Cnemidophorus hyperythrus*

Common Name: San Diego horned lizard
Status: Species of Concern
Scientific Name: *Phrynosoma coronatum blainvillii*

Common Name: Coast patch-nosed snake
Status: Species of Concern
Scientific Name: *Salvadora hexalepis virgultea*

Common Name: San Joaquin whipsnake
Status: Species of Concern
Scientific Name: *Masticophis flagellum ruddocki*

Common Name: Mojave fringe-toed Lizard
Status: Status Undefined
Scientific Name: *Uma scoparia*

Common Name: Barefoot gecko
Status: Species of Concern
Scientific Name: *Coleonyx switaki*

Group:Snails

Common Name: Peninsula Coast Range shoulderband
Status: Species of Concern
Scientific Name: *Helminthoglypta nickliniana awania*

Common Name: White desertsnaill
Status: Species of Concern
Scientific Name: *Eremarionta immaculata*

Common Name: Newcomb's littorine snail
Status: Species of Concern
Scientific Name: *Algamorda newcombiana*

Common Name: Owens springsnail
Status: Species of Concern
Scientific Name: *Pyrgulopsis owensensis*

Common Name: [Unnamed] snail
Status: Species of Concern
Scientific Name: *Valvata virens*

Common Name: Cockerell's striate disc
Status: Species of Concern
Scientific Name: *Discus shemeki cockerelli*

Common Name: Yates' tight coin
Status: Species of Concern
Scientific Name: *Ammonitella yatesii*

Common Name: San Clemente islandsnail
Status: Species of Concern
Scientific Name: *Micrarionta gabbii*

Common Name: Aardhals springsnail
Status: Species of Concern
Scientific Name: *Pyrgulopsis aardahli*

Common Name: Morongo desertsnaill
Status: Species of Concern
Scientific Name: *Eremarionta morongoana*

Common Name: Wongs springsnail
Status: Species of Concern
Scientific Name: *Pyrgulopsis wongi*

Common Name: Pomo bronze shoulderband
Status: Species of Concern
Scientific Name: *Helminthoglypta arrosa pomoensis*

NATURAL AREAS MAP FINDINGS

Federal Endangered Species from the U.S. Fish and Wildlife for CA State (Continued...)

Common Name: Grapevine Springs squat tryonia Status: Species of Concern	Scientific Name: Tryonia rowlandsi
Common Name: Victorville shoulderband Status: Species of Concern	Scientific Name: Helminthoglypta mohaveana
Common Name: Bridges' Coast Range shoulderband Status: Species of Concern	Scientific Name: Helminthoglypta nickliniana bridgesi
Common Name: Kern shoulderband Status: Species of Concern	Scientific Name: Helminthoglypta callistoderma
Common Name: [Unnamed] islandsnail Status: Species of Concern	Scientific Name: Micrarionta rowelli bakerensis
Common Name: California McCoy snail islandsnail Status: Species of Concern	Scientific Name: Micrarionta rowelli mccoiana
Common Name: Badwater snail Status: Species of Concern	Scientific Name: Assiminea infima
Common Name: Mimic tryonia Status: Species of Concern	Scientific Name: Tryonia imitator
Common Name: Williams' bronze shoulderband Status: Species of Concern	Scientific Name: Helminthoglypta arrosa williamsi
Common Name: Santa Barbara islandsnail Status: Species of Concern	Scientific Name: Micrarionta facta
Common Name: Hirsute sierra sideband Status: Species of Concern	Scientific Name: Monadenia mormonum hirsuta
Common Name: Yosemite mariposa sideband Status: Species of Concern	Scientific Name: Monadenia hillebrandi yosemitensis
Common Name: Thousand Palms desertsnaill Status: Species of Concern	Scientific Name: Eremarionta millepalmarum
Common Name: Button's Sierra sideband Status: Species of Concern	Scientific Name: Monadenia mormonum buttoni
Common Name: White Abalone Status: Endangered	Scientific Name: Haliotis sorenseni
Common Name: Grapevine Springs elongate tryonia Status: Species of Concern	Scientific Name: Tryonia margae
Common Name: Redwood shoulderband Status: Species of Concern	Scientific Name: Helminthoglypta sequoicola consors
Common Name: Merced Canyon shoulderband Status: Species of Concern	Scientific Name: Helminthoglypta allynsmithi
Common Name: Wintu sideband Status: Under Review	Scientific Name: Monadenia troglodytes ssp. wintu

NATURAL AREAS MAP FINDINGS

Federal Endangered Species from the U.S. Fish and Wildlife for CA State (Continued...)

Common Name: Globular pebblesnail Status: Under Review	Scientific Name: Fluminicola sph
Common Name: Fish Slough springsnail Status: Species of Concern	Scientific Name: Pyrgulopsis perturbata
Common Name: Santa Barbara shelled slug Status: Species of Concern	Scientific Name: Binneya notabilis
Common Name: Shasta sideband Status: Under Review	Scientific Name: Monadenia troglodytes troglodytes
Common Name: Robust tryonia Status: Species of Concern	Scientific Name: Tryonia robusta
Common Name: Peninsular Range shoulderband Status: Species of Concern	Scientific Name: Helminthoglypta traski coelata
Common Name: Catalina mountainsnail Status: Species of Concern	Scientific Name: Radiocentrum avalonense
Common Name: Keeled sideband Status: Species of Concern	Scientific Name: Monadenia circumcarinata
Common Name: San Nicolas islandsnail Status: Species of Concern	Scientific Name: Micrarionta feralis
Common Name: Pricklypear islandsnail Status: Species of Concern	Scientific Name: Micrarionta opuntia

Map ID
Direction
Distance
Distance (ft.)

EDR ID
Database

1
North
0-1/8 mi
0

CAESP00202713
CA Endangered Species

Common Name: Sonoran desert toad
Scientific Name: Incilius alvarius
Global Rank: G5
State Rank: SH
CA Rare Plant Rank: Not Applicable
Federal Listing Status: None
State Listing Status: None
Element Type: Animal
Element Occurrence #: 1

2
ENE
1/2-1 mi
3377

CAESP00203008
CA Endangered Species

NATURAL AREAS MAP FINDINGS

Common Name: Sonoran desert toad
Scientific Name: *Incilius alvarius*
Global Rank: G5
State Rank: SH
CA Rare Plant Rank: Not Applicable
Federal Listing Status: None
State Listing Status: None
Element Type: Animal
Element Occurrence #: 1

Common Name: razorback sucker
Scientific Name: *Xyrauchen texanus*
Global Rank: G1
State Rank: S1
CA Rare Plant Rank: Not Applicable
Federal Listing Status: Endangered
State Listing Status: Endangered
Element Type: Animal
Element Occurrence #: 16

A3
East
1/2-1 mi
3470

CAESP00203380
CA Endangered Species

Common Name: Sonoran desert toad
Scientific Name: *Incilius alvarius*
Global Rank: G5
State Rank: SH
CA Rare Plant Rank: Not Applicable
Federal Listing Status: None
State Listing Status: None
Element Type: Animal
Element Occurrence #: 1

Common Name: burrowing owl
Scientific Name: *Athene cunicularia*
Global Rank: G4
State Rank: S2
CA Rare Plant Rank: Not Applicable
Federal Listing Status: None
State Listing Status: None
Element Type: Animal
Element Occurrence #: 1216

A4
East
1/2-1 mi
3539

CAESP00203382
CA Endangered Species

NATURAL AREAS MAP FINDINGS

Common Name: burrowing owl
Scientific Name: *Athene cunicularia*
Global Rank: G4
State Rank: S2
CA Rare Plant Rank: Not Applicable
Federal Listing Status: None
State Listing Status: None
Element Type: Animal
Element Occurrence #: 1216

A5
East
1/2-1 mi
3577

CAESP00203379
CA Endangered Species

Common Name: Sonoran desert toad
Scientific Name: *Incilius alvarius*
Global Rank: G5
State Rank: SH
CA Rare Plant Rank: Not Applicable
Federal Listing Status: None
State Listing Status: None
Element Type: Animal
Element Occurrence #: 1

Common Name: razorback sucker
Scientific Name: *Xyrauchen texanus*
Global Rank: G1
State Rank: S1
CA Rare Plant Rank: Not Applicable
Federal Listing Status: Endangered
State Listing Status: Endangered
Element Type: Animal
Element Occurrence #: 16

Common Name: burrowing owl
Scientific Name: *Athene cunicularia*
Global Rank: G4
State Rank: S2
CA Rare Plant Rank: Not Applicable
Federal Listing Status: None
State Listing Status: None
Element Type: Animal
Element Occurrence #: 1216

6
East
1/2-1 mi
3581

CAESP00203373
CA Endangered Species

NATURAL AREAS MAP FINDINGS

Common Name: razorback sucker
Scientific Name: Xyrauchen texanus
Global Rank: G1
State Rank: S1
CA Rare Plant Rank: Not Applicable
Federal Listing Status: Endangered
State Listing Status: Endangered
Element Type: Animal
Element Occurrence #: 16

Common Name: burrowing owl
Scientific Name: Athene cunicularia
Global Rank: G4
State Rank: S2
CA Rare Plant Rank: Not Applicable
Federal Listing Status: None
State Listing Status: None
Element Type: Animal
Element Occurrence #: 1216

7
East
1/2-1 mi
3585

CAESP00202572
CA Endangered Species

Common Name: razorback sucker
Scientific Name: Xyrauchen texanus
Global Rank: G1
State Rank: S1
CA Rare Plant Rank: Not Applicable
Federal Listing Status: Endangered
State Listing Status: Endangered
Element Type: Animal
Element Occurrence #: 16

8
East
1/2-1 mi
3967

CAESP00202572
CA Endangered Species

Common Name: razorback sucker
Scientific Name: Xyrauchen texanus
Global Rank: G1
State Rank: S1
CA Rare Plant Rank: Not Applicable
Federal Listing Status: Endangered
State Listing Status: Endangered
Element Type: Animal

NATURAL AREAS MAP FINDINGS

Element Occurrence #: 16

9
NW
1/2-1 mi
4669

CAESP00202913
CA Endangered Species

Common Name: Sonoran desert toad
Scientific Name: *Incilius alvarius*
Global Rank: G5
State Rank: SH
CA Rare Plant Rank: Not Applicable
Federal Listing Status: None
State Listing Status: None
Element Type: Animal
Element Occurrence #: 1

Common Name: burrowing owl
Scientific Name: *Athene cucularia*
Global Rank: G4
State Rank: S2
CA Rare Plant Rank: Not Applicable
Federal Listing Status: None
State Listing Status: None
Element Type: Animal
Element Occurrence #: 1215

B10
SSW
1/2-1 mi
4901

CANAPA000088736
CA Protected Areas

Holding ID: 88221
Unit Name: California State Lands Commission
Alternate Site Name: Not Reported
Owning Agency: California State Lands Commission
Agency Jurisdiction: State
Agency Type: State Agency
Public Access: Open Access
Special Use: Not Reported
Year Acquired: 0
GAP Designation: State Other
Local Designation: State Lands Commission
URL: Not Reported

B11
SSW
1/2-1 mi
4901

CAGO00000045446
CA Land Ownership

NATURAL AREAS MAP FINDINGS

Agency: California State Lands Commission
Group: Other State Lands
Level: State

Endangered Species Codes

Global Imperilment Rank Codes - GRANK: Priority rank (1-5) based on number of occurrences through element's range.

G1 - Critically imperiled globally because of extreme rarity (5 or fewer occurrences or very few remaining individuals or acres) or because of some factor(s) making it especially vulnerable to extinction.

G2 - Imperiled globally because of rarity (6-20 occurrences or few remaining individuals or acres) or because of some factor(s) making it especially vulnerable to extinction.

G3 - Vulnerable. Either very rare and local throughout its range or found locally (even abundantly at some of its locations) in a restricted range. (e.g., a single western state, a physiographic region in the East) or because of other factors making it vulnerable to extinction throughout its range; in terms of occurrences, in the range of 21 - 100.

G4 - Apparently secure globally, though it may be quite rare in parts of its range, especially at the periphery.

G5 - Demonstrably secure globally, though it may be quite rare in parts of its range, especially at the periphery.

GH - Possibly extinct or eliminated. Of historical occurrence throughout its range, i.e., formerly part of the established biota, with the expectation that it may be rediscovered (e.g., Bachman's Warbler). For historic and ecological communities, no likelihood for rediscovery, but possibility of restoration (e.g., American Chestnut Forest).

GNA - Not applicable to the element at a global level. Includes Hybrids, Invasive species, species of Domestic Origin, Cultural communities, and communities that have been managed.

GNR - Rank not assigned.

GU - Unrankable. Possibly in peril range-wide but status uncertain; more information is needed.

GX - Believed to be extinct throughout range (e.g., Passenger Pigeon) with virtually no likelihood that it will be rediscovered. For an ecological community, no restoration potential.

G#G# - Rank with a range. Used to show the range of uncertainty, will not skip more than 1 rank.

T-RANKS - T subranks are given to global ranks when a subspecies, variety, or race is considered at the state level. The subrank is made up of a "T" plus a number or letter (1, 2, 3, 4, 5, H, U, X) with the same ranking rules as a full species.

State Rank Codes - SRANK: Priority rank (1-5) based on number of occurrences through element's range.

S1 - Critically imperiled, Extremely rare. Typically 5 or fewer estimated occurrences in the state, or only a few remaining individuals, may be especially vulnerable to extirpation.

S2 - Imperiled, very rare. Typically between 5 and 20 estimated occurrences or with many individuals in fewer occurrences, often susceptible to becoming extirpated.

S3 - Vulnerable, rare to uncommon. Typically between 21 and 100 estimated occurrences, may have fewer occurrences but with large number of individuals in some populations, may be susceptible to large-scale disturbances.

S4 - Common, apparently secure under present conditions. Typically 100 or more estimated occurrences, but may be fewer with many large populations, may be restricted to only a portion of the state, usually not susceptible to immediate threats.

S5 - Demonstrably widespread, common, and secure in the state and essentially ineradicable under present conditions.

SA - Accidental.

SH - Historically known from the state, but not verified for an extended period, usually 15 years.

SU - Unrankable, not assessed. Possibly in peril in the state, but status uncertain, more information is needed. When possible, the most likely rank is assigned and a question mark is added to show uncertainty.

SX - Apparently extirpated from state.

SNR - Unranked. The state rank not yet assessed.

SRF - Reported falsely in the state.

SE - Exotic for local area.

SZ - Birds that migrate through the state but have no identifiable location.

S#S# - State level of G#G#.

Endangered Species Codes, (Continued...)

General Ranking Notes

Q - A "Q" in the global rank indicates the element's taxonomic classification as a species is a matter of conjecture among scientists.

A - Accidental - far outside usual range

C - Captive or Cultivated only

HYB - Element represents an interspecific hybrid, not a species

R - Reported but not confirmed

Z - Zero Occurrences

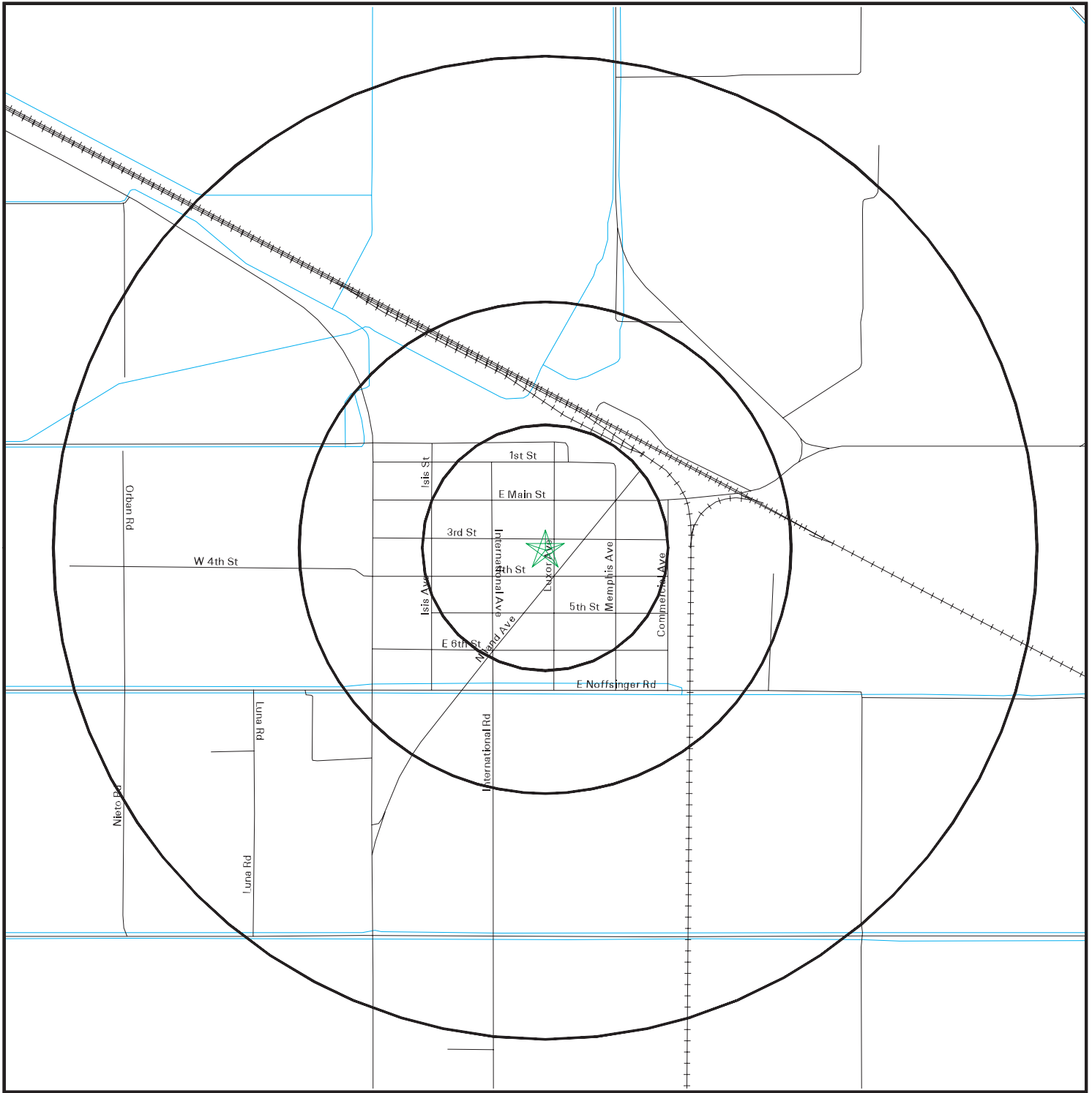
Breeding Status Qualifiers (animals only)

B - Breeding population of the element

N - Nonbreeding population of the element

M - Migrant population

Historic Sites Map



- ★ Target Property
- Streets
- County Boundary
- Waterways
- Water
- ◆ Historic Sites
- Federal Historic Areas
- State Historic Areas
- US Indian Reservations
- ▲ Scenic Trail



SITE NAME: Niland Public Safety Facility
 ADDRESS: 8071 Luxor Avenue
 Calipatria CA 92233
 LAT/LONG: 33.238816 / 115.512991

CLIENT: Ericsson-Grant Inc.
 CONTACT: Kevin Grant
 INQUIRY #: 5485889.1s
 DATE: November 15, 2018

HISTORIC SITES MAP FINDINGS

Map ID
Direction
Distance
Distance (ft.)

EDR ID
Database

No mapped sites were found in EDR's search of available government records within the search radius around the target property.

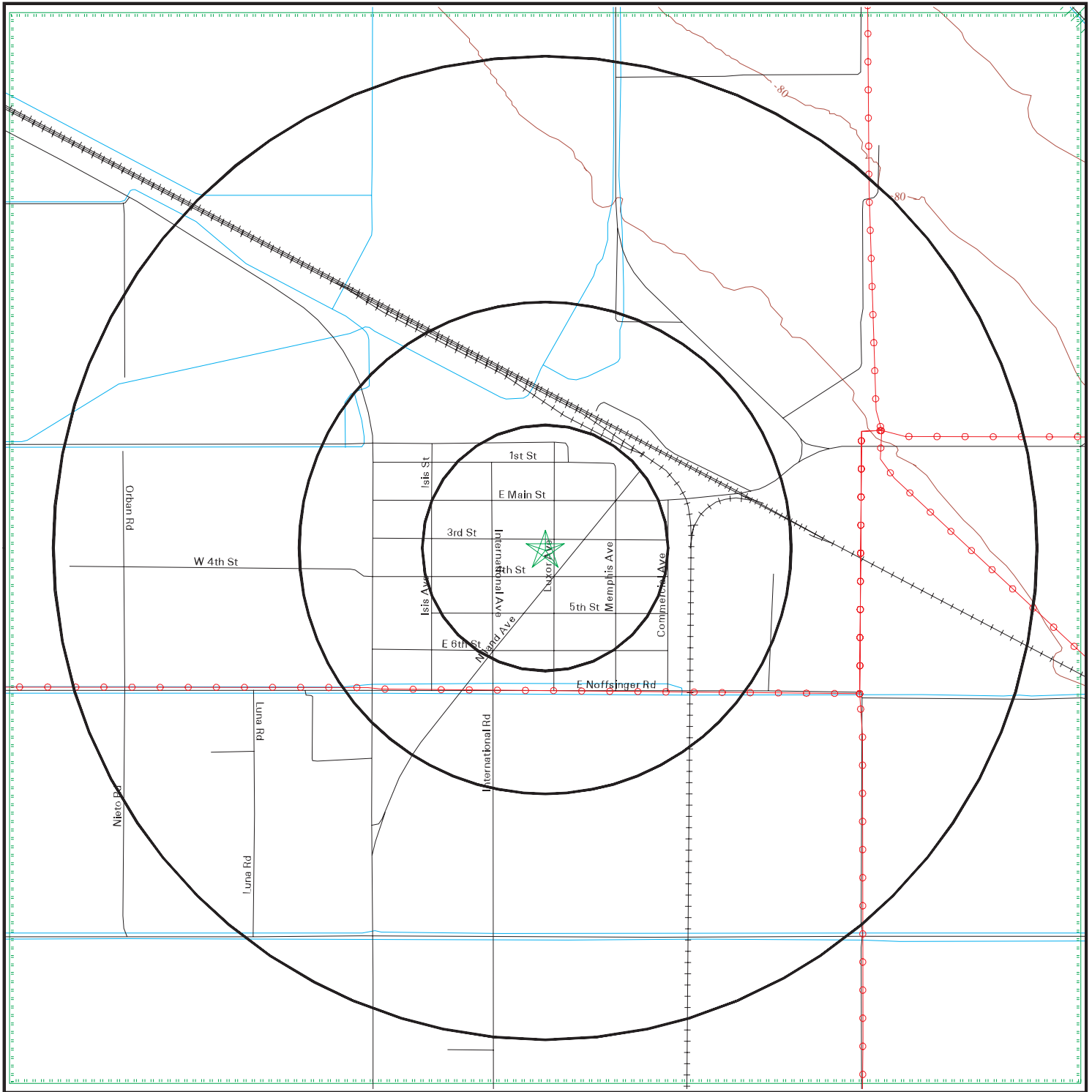
UNMAPPABLE HISTORIC SITES













Due to poor or inadequate address information, the following sites were not mapped:

Status
EDR ID
Database

No unmapped sites were found in EDR's search of available government records.

Flood Plain Map



-  Major Roads
-  Power Lines
-  Contour Lines
-  Pipe Lines
-  Waterways
-  Fault Lines
-  County Boundary
-  Water
-  100-year flood zone
-  500-year flood zone
-  Electronic FEMA data available
-  Electronic FEMA data not available



SITE NAME: Niland Public Safety Facility
 ADDRESS: 8071 Luxor Avenue
 Calipatria CA 92233
 LAT/LONG: 33.238816 / 115.512991

CLIENT: Ericsson-Grant Inc.
 CONTACT: Kevin Grant
 INQUIRY #: 5485889.1s
 DATE: November 15, 2018

FLOOD PLAIN MAP FINDINGS

Source: FEMA FIRM Flood Data, FEMA Q3 Flood Data

Flood Panel Number	FEMA Source Type
--------------------	------------------

Flood Plain panel at target property:

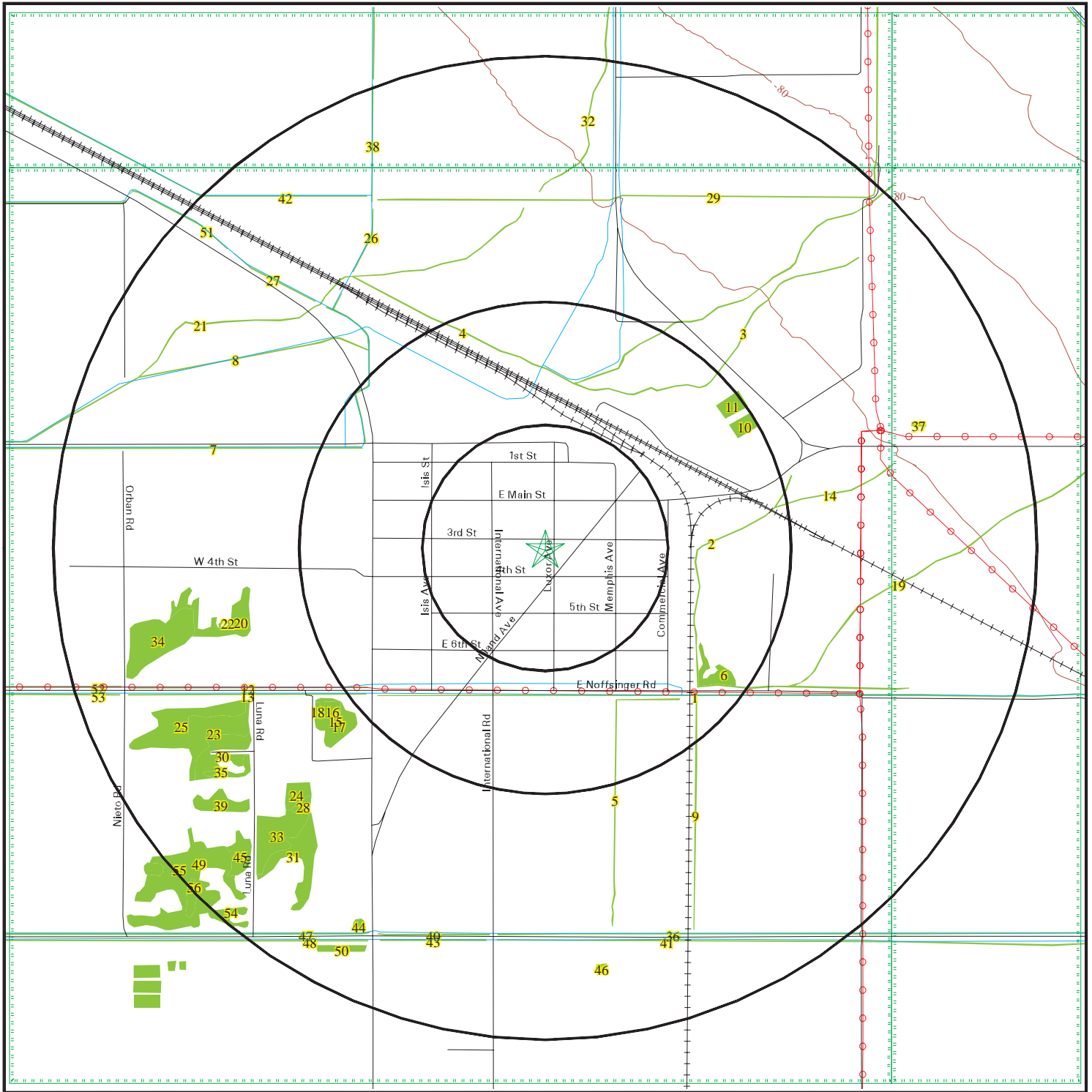
06025C0725C	(FEMA FIRM Flood data)
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Additional Flood Plain panel(s) in search area:

06025C0425C	(FEMA FIRM Flood data)
-------------	------------------------

06025C0750C	(FEMA FIRM Flood data)
-------------	------------------------

National Wetlands Inventory Map



- Major Roads
- Contour Lines
- Waterways
- County Boundary

- Power Lines
- Fault Lines

- Water
- National Wetlands Inventory
- State Wetlands
- Electronic NWI data available
- Electronic NWI data not available

SITE NAME: Niland Public Safety Facility
 ADDRESS: 8071 Luxor Avenue
 Calipatria CA 92233
 LAT/LONG: 33.238816 / 115.512991

CLIENT: Ericsson-Grant Inc.
 CONTACT: Kevin Grant
 INQUIRY #: 5485889.1s
 DATE: November 15, 2018

WETLANDS MAP FINDINGS

Source: Fish and Wildlife Service NWI data

NWI hardcopy map at target property: Niland
 Additional NWI hardcopy map(s) in search area:
 Wister
 Iris

Map ID	Direction	Distance	Distance (ft.)	Code and Description*	Database
1	South	1/4-1/2 mi	1572	R2UBFx [R] Riverine [2] Lower Perennial [UB] Unconsolidated Bottom [F] Semipermanently Flooded [x] Excavated Lat/Lon: 33.234493 / -115.512993	NWI
2	East	1/4-1/2 mi	1611	R4SBJx [R] Riverine [4] Intermittent [SB] Streambed [J] Intermittently Flooded [x] Excavated Lat/Lon: 33.238392 / -115.507744	NWI
3	NNE	1/4-1/2 mi	1757	R4SBJ [R] Riverine [4] Intermittent [SB] Streambed [J] Intermittently Flooded Lat/Lon: 33.243469 / -115.511452	NWI
4	North	1/4-1/2 mi	1784	R4SBJx [R] Riverine [4] Intermittent [SB] Streambed [J] Intermittently Flooded [x] Excavated Lat/Lon: 33.243652 / -115.512016	NWI
5	SSE	1/4-1/2 mi	1793	R4SBCx [R] Riverine [4] Intermittent [SB] Streambed [C] Seasonally Flooded [x] Excavated Lat/Lon: 33.234364 / -115.510490	NWI
6	ESE	1/4-1/2 mi	1953	PEM1Ah [P] Palustrine [EM] Emergent [1] Persistent [A] Temporarily Flooded [h] Diked/Impounded Lat/Lon: 33.236038 / -115.507530	NWI
7	WNW	1/4-1/2 mi	2231	R4SBCx [R] Riverine [4] Intermittent [SB] Streambed [C] Seasonally Flooded [x] Excavated Lat/Lon: 33.241772 / -115.519386	NWI
8	WNW	1/4-1/2 mi	2234	R4SBCx [R] Riverine [4] Intermittent [SB] Streambed [C] Seasonally Flooded [x] Excavated Lat/Lon: 33.241947 / -115.519287	NWI

*See Wetland Classification System for additional information.

WETLANDS MAP FINDINGS

Map ID Direction Distance Distance (ft.)	Code and Description*	Database
9 SE 1/4-1/2 mi 2297	R4SBCx [R] Riverine [4] Intermittent [SB] Streambed [C] Seasonally Flooded [x] Excavated Lat/Lon: 33.234352 / -115.507683	NWI
10 ENE 1/4-1/2 mi 2379	PUSAx [P] Palustrine [US] Unconsolidated Shore [A] Temporarily Flooded [x] Excavated Lat/Lon: 33.242416 / -115.506508	NWI
11 NE 1/4-1/2 mi 2382	PUSAx [P] Palustrine [US] Unconsolidated Shore [A] Temporarily Flooded [x] Excavated Lat/Lon: 33.242634 / -115.506668	NWI
12 SW 1/4-1/2 mi 2415	R2UBFx [R] Riverine [2] Lower Perennial [UB] Unconsolidated Bottom [F] Semipermanently Flooded [x] Excavated Lat/Lon: 33.234707 / -115.519203	NWI
13 SW 1/4-1/2 mi 2474	R2UBFx [R] Riverine [2] Lower Perennial [UB] Unconsolidated Bottom [F] Semipermanently Flooded [x] Excavated Lat/Lon: 33.234505 / -115.519257	NWI
14 East 1/4-1/2 mi 2488	R4SBJ [R] Riverine [4] Intermittent [SB] Streambed [J] Intermittently Flooded Lat/Lon: 33.240009 / -115.504974	NWI
15 SW 1/2-1 mi 2704	PSS1C [P] Palustrine [SS] Scrub Shrub [1] Broad-Leaved Deciduous [C] Seasonally Flooded Lat/Lon: 33.233952 / -115.519684	NWI
16 SW 1/2-1 mi 2747	PUBHx [P] Palustrine [UB] Unconsolidated Bottom [H] Permanently Flooded [x] Excavated Lat/Lon: 33.234291 / -115.520180	NWI
17 SW 1/2-1 mi 2839	PUBHx [P] Palustrine [UB] Unconsolidated Bottom [H] Permanently Flooded [x] Excavated Lat/Lon: 33.233700 / -115.520012	NWI

*See Wetland Classification System for additional information.

WETLANDS MAP FINDINGS

Map ID Direction Distance Distance (ft.)	Code and Description*	Database
18 SW 1/2-1 mi 2928	PUBFx [P] Palustrine [UB] Unconsolidated Bottom [F] Semipermanently Flooded [x] Excavated Lat/Lon: 33.234253 / -115.520882	NWI
19 ESE 1/2-1 mi 2999	R4SBJ [R] Riverine [4] Intermittent [SB] Streambed [J] Intermittently Flooded Lat/Lon: 33.234749 / -115.504456	NWI
20 West 1/2-1 mi 3196	PSS1A [P] Palustrine [SS] Scrub Shrub [1] Broad-Leaved Deciduous [A] Temporarily Flooded Lat/Lon: 33.237617 / -115.523354	NWI
21 NNW 1/2-1 mi 3213	R4SBJ [R] Riverine [4] Intermittent [SB] Streambed [J] Intermittently Flooded Lat/Lon: 33.247337 / -115.515762	NWI
22 WSW 1/2-1 mi 3460	PUBFx [P] Palustrine [UB] Unconsolidated Bottom [F] Semipermanently Flooded [x] Excavated Lat/Lon: 33.236622 / -115.524002	NWI
23 WSW 1/2-1 mi 3559	PSS1C [P] Palustrine [SS] Scrub Shrub [1] Broad-Leaved Deciduous [C] Seasonally Flooded Lat/Lon: 33.234371 / -115.523361	NWI
24 SW 1/2-1 mi 3564	PEM1C [P] Palustrine [EM] Emergent [1] Persistent [C] Seasonally Flooded Lat/Lon: 33.231903 / -115.521248	NWI
25 WSW 1/2-1 mi 3609	PSS1A [P] Palustrine [SS] Scrub Shrub [1] Broad-Leaved Deciduous [A] Temporarily Flooded Lat/Lon: 33.234337 / -115.523521	NWI
26 NW 1/2-1 mi 3612	R4SBCx [R] Riverine [4] Intermittent [SB] Streambed [C] Seasonally Flooded [x] Excavated Lat/Lon: 33.246964 / -115.519753	NWI

*See Wetland Classification System for additional information.

WETLANDS MAP FINDINGS

Map ID Direction Distance Distance (ft.)	Code and Description*	Database
27 NW 1/2-1 mi 3613	R4SBCx [R] Riverine [4] Intermittent [SB] Streambed [C] Seasonally Flooded [x] Excavated Lat/Lon: 33.246071 / -115.521065	NWI
28 SW 1/2-1 mi 3647	PEM1A [P] Palustrine [EM] Emergent [1] Persistent [A] Temporarily Flooded Lat/Lon: 33.231525 / -115.521194	NWI
29 North 1/2-1 mi 3728	R4SBCx [R] Riverine [4] Intermittent [SB] Streambed [C] Seasonally Flooded [x] Excavated Lat/Lon: 33.249062 / -115.512939	NWI
30 WSW 1/2-1 mi 3733	PSS1A [P] Palustrine [SS] Scrub Shrub [1] Broad-Leaved Deciduous [A] Temporarily Flooded Lat/Lon: 33.233398 / -115.523369	NWI
31 SW 1/2-1 mi 3787	PSS1A [P] Palustrine [SS] Scrub Shrub [1] Broad-Leaved Deciduous [A] Temporarily Flooded Lat/Lon: 33.231056 / -115.521263	NWI
32 North 1/2-1 mi 3815	R4SBA [R] Riverine [4] Intermittent [SB] Streambed [A] Temporarily Flooded Lat/Lon: 33.249302 / -115.513184	NWI
33 SW 1/2-1 mi 3818	PSS1C [P] Palustrine [SS] Scrub Shrub [1] Broad-Leaved Deciduous [C] Seasonally Flooded Lat/Lon: 33.231007 / -115.521339	NWI
34 West 1/2-1 mi 3831	PSS1C [P] Palustrine [SS] Scrub Shrub [1] Broad-Leaved Deciduous [C] Seasonally Flooded Lat/Lon: 33.236992 / -115.525337	NWI
35 SW 1/2-1 mi 3868	PSS1C [P] Palustrine [SS] Scrub Shrub [1] Broad-Leaved Deciduous [C] Seasonally Flooded Lat/Lon: 33.232738 / -115.523376	NWI

*See Wetland Classification System for additional information.

WETLANDS MAP FINDINGS

Map ID Direction Distance Distance (ft.)	Code and Description*	Database
36 South 1/2-1 mi 4133	R2UBFx [R] Riverine [2] Lower Perennial [UB] Unconsolidated Bottom [F] Semipermanently Flooded [x] Excavated Lat/Lon: 33.227455 / -115.512825	NWI
37 ENE 1/2-1 mi 4143	PUBHx [P] Palustrine [UB] Unconsolidated Bottom [H] Permanently Flooded [x] Excavated Lat/Lon: 33.242405 / -115.500130	NWI
38 NNW 1/2-1 mi 4146	R4SBCx [R] Riverine [4] Intermittent [SB] Streambed [C] Seasonally Flooded [x] Excavated Lat/Lon: 33.249008 / -115.519066	NWI
39 SW 1/2-1 mi 4160	PEM1C [P] Palustrine [EM] Emergent [1] Persistent [C] Seasonally Flooded Lat/Lon: 33.231426 / -115.523384	NWI
40 South 1/2-1 mi 4184	R2UBFx [R] Riverine [2] Lower Perennial [UB] Unconsolidated Bottom [F] Semipermanently Flooded [x] Excavated Lat/Lon: 33.227432 / -115.514946	NWI
41 South 1/2-1 mi 4201	R2UBFx [R] Riverine [2] Lower Perennial [UB] Unconsolidated Bottom [F] Semipermanently Flooded [x] Excavated Lat/Lon: 33.227268 / -115.513069	NWI
42 NNW 1/2-1 mi 4226	R4SBAX [R] Riverine [4] Intermittent [SB] Streambed [A] Temporarily Flooded [x] Excavated Lat/Lon: 33.249180 / -115.519241	NWI
43 South 1/2-1 mi 4248	R2UBFx [R] Riverine [2] Lower Perennial [UB] Unconsolidated Bottom [F] Semipermanently Flooded [x] Excavated Lat/Lon: 33.227268 / -115.515068	NWI
44 SSW 1/2-1 mi 4442	PSS1A [P] Palustrine [SS] Scrub Shrub [1] Broad-Leaved Deciduous [A] Temporarily Flooded Lat/Lon: 33.227879 / -115.519455	NWI

*See Wetland Classification System for additional information.

WETLANDS MAP FINDINGS

Map ID Direction Distance Distance (ft.)	Code and Description*	Database
45 SW 1/2-1 mi 4444	PSS1C [P] Palustrine [SS] Scrub Shrub [1] Broad-Leaved Deciduous [C] Seasonally Flooded Lat/Lon: 33.230232 / -115.523338	NWI
46 South 1/2-1 mi 4506	PUSC [P] Palustrine [US] Unconsolidated Shore [C] Seasonally Flooded [x] Excavated Lat/Lon: 33.226524 / -115.511200	NWI
47 SSW 1/2-1 mi 4530	R2UBFx [R] Riverine [2] Lower Perennial [UB] Unconsolidated Bottom [F] Semipermanently Flooded [x] Excavated Lat/Lon: 33.227493 / -115.519157	NWI
48 SSW 1/2-1 mi 4617	R2UBFx [R] Riverine [2] Lower Perennial [UB] Unconsolidated Bottom [F] Semipermanently Flooded [x] Excavated Lat/Lon: 33.227253 / -115.519218	NWI
49 SW 1/2-1 mi 4658	PSS1A [P] Palustrine [SS] Scrub Shrub [1] Broad-Leaved Deciduous [A] Temporarily Flooded Lat/Lon: 33.229828 / -115.523849	NWI
50 SSW 1/2-1 mi 4673	PUSC [P] Palustrine [US] Unconsolidated Shore [C] Seasonally Flooded [x] Excavated Lat/Lon: 33.227100 / -115.519249	NWI
51 NW 1/2-1 mi 4681	R2UBFx [R] Riverine [2] Lower Perennial [UB] Unconsolidated Bottom [F] Semipermanently Flooded [x] Excavated Lat/Lon: 33.247635 / -115.524147	NWI
52 WSW 1/2-1 mi 4781	R2UBFx [R] Riverine [2] Lower Perennial [UB] Unconsolidated Bottom [F] Semipermanently Flooded [x] Excavated Lat/Lon: 33.234726 / -115.527863	NWI
53 WSW 1/2-1 mi 4824	R2UBFx [R] Riverine [2] Lower Perennial [UB] Unconsolidated Bottom [F] Semipermanently Flooded [x] Excavated Lat/Lon: 33.234489 / -115.527908	NWI

*See Wetland Classification System for additional information.

WETLANDS MAP FINDINGS

Map ID	Direction	Distance	Code and Description*	Database
Distance (ft.)				
54			PSS1A	NWI
SW			[P] Palustrine [SS] Scrub Shrub [1] Broad-Leaved Deciduous [A] Temporarily Flooded	
1/2-1 mi				
5019			Lat/Lon: 33.228168 / -115.523430	
55			PUBHx	NWI
SW			[P] Palustrine [UB] Unconsolidated Bottom [H] Permanently Flooded [x] Excavated	
1/2-1 mi				
5130			Lat/Lon: 33.229504 / -115.525597	
56			PSS1C	NWI
SW			[P] Palustrine [SS] Scrub Shrub [1] Broad-Leaved Deciduous [C] Seasonally Flooded	
1/2-1 mi				
5182			Lat/Lon: 33.229015 / -115.525299	

*See Wetland Classification System for additional information.

WETLANDS CLASSIFICATION SYSTEM

National Wetland Inventory Maps are produced by the U.S. Fish and Wildlife Service, a sub-department of the U.S. Department of the Interior. In 1974, the U.S. Fish and Wildlife Service developed a criteria for wetland classification with four long range objectives:

- to describe ecological units that have certain homogeneous natural attributes,
- to arrange these units in a system that will aid decisions about resource management,
- to furnish units for inventory and mapping, and
- to provide uniformity in concepts and terminology throughout the U.S.

High altitude infrared photographs, soil maps, topographic maps and site visits are the methods used to gather data for the productions of these maps. In the infrared photos, wetlands appear as different colors and these wetlands are then classified by type. Using a hierarchical classification, the maps identify wetland and deepwater habitats according to:

- system
- subsystem
- class
- subclass
- modifiers

(as defined by Cowardin, et al. U.S. Fish and Wildlife Service FWS/OBS 79/31. 1979.)

The classification system consists of five systems:

1. marine
2. estuarine
3. riverine
4. lacustrine
5. palustrine

The marine system consists of deep water tidal habitats and adjacent tidal wetlands. The riverine system consists of all wetlands contained within a channel. The lacustrine systems includes all nontidal wetlands related to swamps, bogs & marshes. The estuarine system consists of deepwater tidal habitats and where ocean water is diluted by fresh water. The palustrine system includes nontidal wetlands dominated by trees and shrubs and where salinity is below .5% in tidal areas. All of these systems are divided in subsystems and then further divided into class.

National Wetland Inventory Maps are produced by transferring gathered data on a standard 7.5 minute U.S.G.S. topographic map. Approximately 52 square miles are covered on a National Wetland Inventory map at a scale of 1:24,000. Electronic data is compiled by digitizing these National Wetland Inventory Maps.

SYSTEM

MARINE

SUBSYSTEM

1 - SUBTIDAL

2 - INTERTIDAL

CLASS	RB-ROCK BOTTOM	UB-UNCONSOLIDATED BOTTOM	AB-AQUATIC BED	RF-REEF	OW-OPEN WATER / Unknown Bottom	AB-AQUATIC BED	RF-REEF	RS-ROCKY SHORE	US-UNCONSOLIDATED SHORE
Subclass	1 Bedrock 2 Rubble	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic	1 Algal 3 Rooted Vascular 5 Unknown Submergent	1 Coral 3 Worm		1 Algal 3 Rooted Vascular 5 Unknown Submergent	1 Coral 3 Worm	1 Bedrock 2 Rubble	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic

SYSTEM

E - ESTUARINE

SUBSYSTEM

1 - SUBTIDAL

CLASS	RB-ROCK BOTTOM	UB-UNCONSOLIDATED BOTTOM	AB-AQUATIC BED	RF-REEF	OW-OPEN WATER / Unknown Bottom
Subclass	1 Bedrock 2 Rubble	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic	1 Algal 3 Rooted Vascular 4 Floating Vascular 5 Unknown Submergent 6 Unknown Surface	2 Mollusk 3 Worm	

SUBSYSTEM

2 - INTERTIDAL

CLASS	AB-AQUATIC BED	RF-REEF	SB - STREAMBED	RS-ROCKY SHORE	US-UNCONSOLIDATED SHORE	EM-EMERGENT	SS-SCRUB SHRUB	FO-FORESTED
Subclass	1 Algal 3 Rooted Vascular 4 Floating Vascular 5 Unknown Submergent 6 Unknown Surface	2 Mollusk 3 Worm	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic	1 Bedrock 2 Rubble	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic	1 Persistent 2 Nonpersistent	1 Broad-Leaved Deciduous 2 Needle-Leaved Deciduous 3 Broad-Leaved Evergreen 4 Needle-Leaved Evergreen 5 Dead 6 Deciduous 7 Evergreen	1 Broad-Leaved Deciduous 2 Needle-Leaved Deciduous 3 Broad-Leaved Evergreen 4 Needle-Leaved Evergreen 5 Dead 6 Deciduous 7 Evergreen

SYSTEM

R - RIVERINE

SUBSYSTEM

1 - TIDAL 2 - LOWER PERENNIAL 3 - UPPER PERENNIAL 4 - INTERMITTENT 5 - UNKNOWN PERENNIAL

CLASS	RB-ROCK BOTTOM	UB-UNCONSOLIDATED BOTTOM	*SB-STREAMBED	AB-AQUATIC BED	RS-ROCKY SHORE	US-UNCONSOLIDATED SHORE	**EM-EMERGENT	OW-OPEN WATER/ Unknown Bottom
Subclass	1 Bedrock 2 Rubble	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic	1 Bedrock 2 Rubble 3 Cobble-Gravel 4 Sand 5 Mud 6 Organic 7 Vegetated	1 Algal 2 Aquatic Moss 3 Rooted Vascular 4 Floating Vascular 5 Unknown Submergent 6 Unknown Surface	1 Bedrock 2 Rubble	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic 5 Vegetated	2 Nonpersistent	

* STREAMBED is limited to TIDAL and INTERMITTENT SUBSYSTEMS, and comprises the only CLASS in the INTERMITTENT SUBSYSTEM.
 **EMERGENT is limited to TIDAL and LOWER PERENNIAL SUBSYSTEMS.

SYSTEM

L - LACUSTRINE

SUBSYSTEM

1 - LIMNETIC

CLASS	RB-ROCK BOTTOM	UB-UNCONSOLIDATED BOTTOM	AB-AQUATIC BED	OW-OPEN WATER/ Unknown Bottom
Subclass	1 Bedrock 2 Rubble	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic	1 Algal 2 Aquatic Moss 3 Rooted Vascular 4 Floating Vascular 5 Unknown Submergent 6 Unknown Surface	

SUBSYSTEM

2 - LITTORAL

CLASS	RB-ROCK BOTTOM	UB-UNCONSOLIDATED BOTTOM	AB-AQUATIC BED	RS-ROCKY SHORE	US-UNCONSOLIDATED SHORE	EM-EMERGENT	OW-OPEN WATER/ Unknown Bottom
Subclass	1 Bedrock 2 Rubble	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic	1 Algal 2 Aquatic Moss 3 Rooted Vascular 4 Floating Vascular 5 Unknown Submergent 6 Unknown Surface	1 Bedrock 2 Rubble	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic 5 Vegetated	2 Nonpersistent	

SUBSYSTEM

P - PALUSTRINE

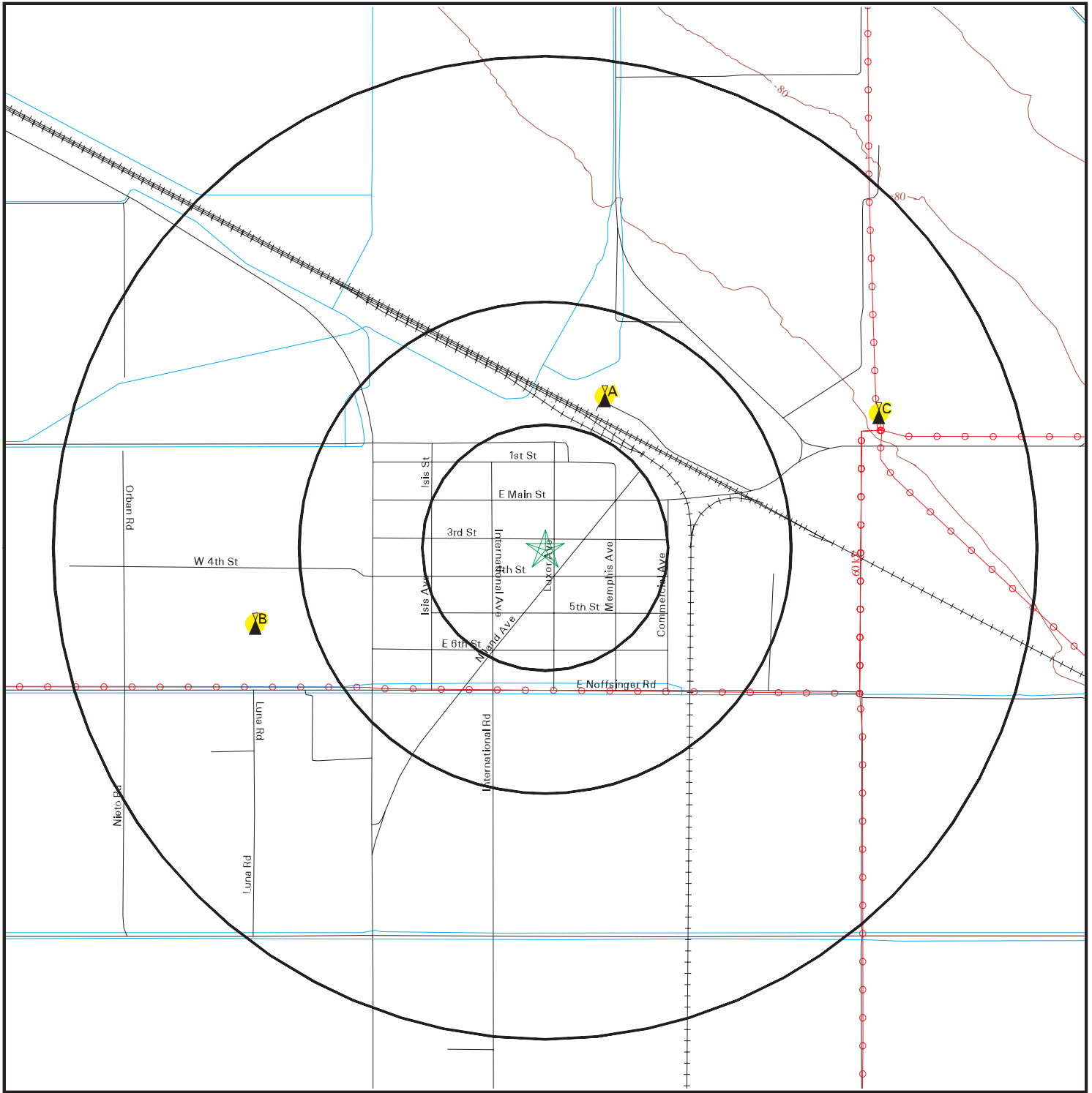
CLASS	RB--ROCK BOTTOM	UB--UNCONSOLIDATED BOTTOM	AB-AQUATIC BED	US--UNCONSOLIDATED SHORE	ML--MOSS- LICHEN	EM--EMERGENT	SS--SCRUB-SHRUB	FO--FORESTED	OW-OPEN WATER/ Unknown
Subclass	1 Bedrock 2 Rubble 3 Mud 4 Organic	1 Cobble-Gravel 2 Sand	1 Algal 2 Aquatic Moss 3 Rooted Vascular 4 Floating Vascular 5 Unknown 6 Unknown Surface	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic 5 Vegetated	1 Moss 2 Lichen	1 Persistent 2 Nonpersistent	1 Broad-Leaved 2 Needle-Leaved 3 Broad-Leaved 4 Needle-Leaved 5 Dead 6 Deciduous 7 Evergreen	1 Broad-Leaved 2 Needle-Leaved 3 Broad-Leaved 4 Needle-Leaved 5 Dead 6 Deciduous 7 Evergreen	


MODIFIERS

In order to more adequately describe wetland and deepwater habitats one or more of the water regime, water chemistry, soil, or special modifiers may be applied at the class or lower level in the hierarchy. The farmed modifier may also be applied to the ecological system.

WATER REGIME				WATER CHEMISTRY			SOIL	SPECIAL MODIFIERS
Non-Tidal	Tidal	Coastal Halinity	Inland Salinity	pH	all Fresh Water			
A Temporarily Flooded	H Permanently Flooded	K Artificially Flooded	*S Temporary-Tidal		1 Hyperhaline	7 Hypersaline	g Organic	b Beaver
B Saturated	J Intermittently Flooded	L Subtidal	*R Seasonal-Tidal		2 Euhaline	8 Eusaline	n Mineral	d Partially Drained/Ditched
C Seasonally Flooded	K Artificially Flooded	M Irregularly Exposed	*T Semipermanent -Tidal		3 Mixohaline (Brackish)	9 Mixosaline	a Acid	f Farmed
D Seasonally Flooded/ Well Drained	W Intermittently Flooded/Temporary	N Regularly Flooded	V Permanent -Tidal		4 Polyhaline	0 Fresh	t Circumneutral	h Diked/Impounded
E Seasonally Flooded/ Saturated	Y Saturated/Semipermanent/ Seasonal	P Irregularly Flooded	U Unknown		5 Mesohaline		i Alkaline	r Artificial Substrate
F Semipermanently Flooded	Z Intermittently Exposed/Permanent	*These water regimes are only used in tidally influenced, freshwater systems.			6 Oligohaline			s Spoil
G Intermittently Exposed	U Unknown				0 Fresh			x Excavated

FCC & FAA Sites Map



-  Streets
-  Contour Lines
-  County Boundary
-  Waterways
-  Power Lines
-  Water
-  Sites



SITE NAME: Niland Public Safety Facility
ADDRESS: 8071 Luxor Avenue
 Calipatria CA 92233
LAT/LONG: 33.238816 / 115.512991

CLIENT: Ericsson-Grant Inc.
CONTACT: Kevin Grant
INQUIRY #: 5485889.1s
DATE: November 15, 2018

FCC & FAA SITES MAP FINDINGS TOWERS

Map ID
Direction
Distance
Distance (ft.)

EDR ID
Database

A1
NNE
1/4-1/2 mi
1746

DOF161200025884
FAA DOF

Obstacle #: 06-000365
Obstacle Type: TOWER
Quantity: 1
Ft Above Ground: 260
Ft Above Sea Level: 140
Verification Status: Verified
Lighting: Medium Intensity White Strobe
Horizontal Accuracy: +/- 20 ft
Vertical Accuracy: +/- 50 ft
Markings: None
Action: Change
Action Date: 2012088

A2
NNE
1/4-1/2 mi
1752

ANT130000010060
ANTREG

Registration #: 1013320
File #: A0759164
Issue Date: 3/26/2012
Entity: UNION PACIFIC RAILROAD COMPANY
Height: 79.2
Address: 6M-W BLDG SP YD
FAA Study: 2012-AWP-2191-OE
FAA Circular: 70/7460-1K
License ID: L00005111
Contact Name: BRAD G. ZIELIE
Contact Address: 1400 DOUGLAS ST. STOP 0650
Contact City: OMAHA
Contact State: NE
Contact Zip: 68179
ASR Search: <http://wireless2.fcc.gov/UlsApp/AsrSearch/asrRegistrationSearch.jsp>

This record is for a license, and it may or may not indicate a site which has been built.

FCC & FAA SITES MAP FINDINGS TOWERS

Map ID
Direction
Distance
Distance (ft.)

EDR ID
Database

B3
WSW
1/2-1 mi
3215

DOF161200025879
FAA DOF

Obstacle #: 06-020099
Obstacle Type: TOWER
Quantity: 1
Ft Above Ground: 200
Ft Above Sea Level: 42
Verification Status: Verified
Lighting: None
Horizontal Accuracy: +/- 50 ft
Vertical Accuracy: +/- 20 ft
Markings: None
Action: Change
Action Date: 2009308

B4
WSW
1/2-1 mi
3222

ANT130000080523
ANTREG

Registration #: 1235434
File #: A0590925
Issue Date: 4/11/2008
Entity: SBA Towers II LLC
Height: 60.7
Address: 8031 Hwy 111 (CA105112-A)
FAA Study: 2008-AWP-1883-OE
FAA Circular: Not Reported
License ID: L01211381
Contact Name: Edward G. Roach
Contact Address: 5900 Broken Sound Pkwy NW
Contact City: Boca Raton
Contact State: FL
Contact Zip: 33487
ASR Search: <http://wireless2.fcc.gov/UlsApp/AsrSearch/asrRegistrationSearch.jsp>

This record is for a license, and it may or may not indicate a site which has been built.

FCC & FAA SITES MAP FINDINGS TOWERS

Map ID
Direction
Distance
Distance (ft.)

EDR ID
Database

C5
ENE
1/2-1 mi
3831

ANT130000012197
ANTREG

Registration #: 1016231
File #: A0019456
Issue Date: 4/22/1997
Entity: IMPERIAL IRRIGATION DISTRICT
Height: 56
Address: BEAL RD 1 MI E
FAA Study: 94-AWP-0892-OE
FAA Circular: Not Reported
License ID: Not Reported
Contact Name: CHUCK SCROGGINS
Contact Address: 333 E BARIONI BLVD
Contact City: IMPERIAL
Contact State: CA
Contact Zip: 92251
ASR Search: <http://wireless2.fcc.gov/UISApp/AsrSearch/asrRegistrationSearch.jsp>

This record is for a license, and it may or may not indicate a site which has been built.

C6
ENE
1/2-1 mi
3829

CELL16100003566
CELLULAR

Call Sign: KNKN269
Location #: 16
Address: Niland: BEAL RD 1 MI E
City: NILAND
Structure Type: TOWER
Ground Elevation: -30.5
Overall Height: 60

This record is for a license, and it may or may not indicate a site which has been built.

FCC & FAA SITES MAP FINDINGS TOWERS

Map ID
Direction
Distance
Distance (ft.)

EDR ID
Database

C7
 ENE
 1/2-1 mi
 3829

CELL16100001710
 CELLULAR

Call Sign: KNKN205
 Location #: 10
 Address: (Niland) BEAL RD 1 MI E
 City: NILAND
 Structure Type: LTOWER
 Ground Elevation: -30.5
 Overall Height: 60

This record is for a license, and it may or may not indicate a site which has been built.

C8
 ENE
 1/2-1 mi
 3910

DOF161200025883
 FAA DOF

Obstacle #: 06-002321
 Obstacle Type: TOWER
 Quantity: 1
 Ft Above Ground: 198
 Ft Above Sea Level: 98
 Verification Status: Unverified
 Lighting: None
 Horizontal Accuracy: +/- 250 ft
 Vertical Accuracy: +/- 50 ft
 Markings: None
 Action: Change
 Action Date: 2014124

FCC & FAA SITES MAP FINDINGS TOWERS

Map ID
Direction
Distance
Distance (ft.)

EDR ID
Database

C9
ENE
1/2-1 mi
3913

ANT130000031909
ANTREG

Registration #: 1041023
File #: A0048309
Issue Date: 3/17/1998
Entity: SOUTHERN CELLULAR, INC. DBA = RAMCELL OF CALIFORNIA
Height: 57.3
Address: 1 MILE NE
FAA Study: Not Reported
FAA Circular: Not Reported
License ID: Not Reported
Contact Name: JILL D. RAMSEY
Contact Address: 6915 HARRODSBURG ROAD
Contact City: NICHOLASVILLE
Contact State: KY
Contact Zip: 40356
ASR Search: <http://wireless2.fcc.gov/UlsApp/AsrSearch/asrRegistrationSearch.jsp>

This record is for a license, and it may or may not indicate a site which has been built.

FCC & FAA SITES MAP FINDINGS AIRPORTS

EDR ID
Database

No Sites Reported.

FCC & FAA SITES MAP FINDINGS POWERLINES

EDR ID
Database

4940
POWERLINES

Voltage: 60
Range: Yes
Hi voltage: 92
Volt cat: 0-69 kV
Type: Alternating current
Status: Active
Corridor: Single line
Owner: Imperial Irrigation District
Owner id: IIDCA
Num owners: Single Owner
Operator: Imperial Irrigation District
Operator id: IIDCA
Last owner: Not Reported
Last own id: Not Reported
Last oper: Not Reported
Last oper id: Not Reported
Mileage: 3.8151263000000002

64646
POWERLINES

Voltage: 60
Range: Yes
Hi voltage: 92
Volt cat: 0-69 kV
Type: Alternating current
Status: Active
Corridor: Single line
Owner: Imperial Irrigation District
Owner id: IIDCA
Num owners: Single Owner
Operator: Imperial Irrigation District
Operator id: IIDCA
Last owner: Not Reported
Last own id: Not Reported
Last oper: Not Reported
Last oper id: Not Reported
Mileage: 5.5124653600000002

111856
POWERLINES

Voltage: 60
Range: Yes
Hi voltage: 92
Volt cat: 0-69 kV
Type: Alternating current

FCC & FAA SITES MAP FINDINGS

POWERLINES

EDR ID
Database

Status: Active
Corridor: Multiple lines
Owner: Imperial Irrigation District
Owner id: IIDCA
Num owners: Single Owner
Operator: Imperial Irrigation District
Operator id: IIDCA
Last owner: Not Reported
Last own id: Not Reported
Last oper: Not Reported
Last oper id: Not Reported
Mileage: .5989474599999999

5631
POWERLINES

Voltage: 60
Range: Yes
Hi voltage: 92
Volt cat: 0-69 kV
Type: Alternating current
Status: Active
Corridor: Multiple lines
Owner: Imperial Irrigation District
Owner id: IIDCA
Num owners: Single Owner
Operator: Imperial Irrigation District
Operator id: IIDCA
Last owner: Not Reported
Last own id: Not Reported
Last oper: Not Reported
Last oper id: Not Reported
Mileage: .5989474599999999

28306
POWERLINES

Voltage: 110
Range: Yes
Hi voltage: 161
Volt cat: 70-138 kV
Type: Alternating current
Status: Active
Corridor: Single line
Owner: Imperial Irrigation District
Owner id: IIDCA
Num owners: Single Owner
Operator: Imperial Irrigation District
Operator id: IIDCA

FCC & FAA SITES MAP FINDINGS

POWERLINES

EDR ID
Database

Last owner: Not Reported
Last own id: Not Reported
Last oper: Not Reported
Last oper id: Not Reported
Mileage: 51.275699879999998

28767
POWERLINES

Voltage: 110
Range: Yes
Hi voltage: 161
Volt cat: 70-138 kV
Type: Alternating current
Status: Active
Corridor: Single line
Owner: Imperial Irrigation District
Owner id: IIDCA
Num owners: Single Owner
Operator: Imperial Irrigation District
Operator id: IIDCA
Last owner: Not Reported
Last own id: Not Reported
Last oper: Not Reported
Last oper id: Not Reported
Mileage: 6.2630496600000001

108503
POWERLINES

Voltage: 110
Range: Yes
Hi voltage: 161
Volt cat: 70-138 kV
Type: Alternating current
Status: Active
Corridor: Single line
Owner: Imperial Irrigation District
Owner id: IIDCA
Num owners: Single Owner
Operator: Imperial Irrigation District
Operator id: IIDCA
Last owner: Not Reported
Last own id: Not Reported
Last oper: Not Reported
Last oper id: Not Reported
Mileage: 2.52917448

KEY CONTACTS & GOVERNMENT RECORDS SEARCHED

Various Federal laws and executive orders address specific environmental concerns. NEPA requires the responsible offices to integrate to the greatest practical extent the applicable procedures required by these laws and executive orders. EDR provides key contacts at agencies charged with implementing these laws and executive orders to supplement the information contained in this report.

NATURAL AREAS

Wilderness Areas

Government Records Searched in This Report

FED_LAND: Federal Lands

Source: USGS

Telephone: 703-648-5094

Federal data from Bureau of Land Management, National Park Service, Forest Service, and Fish and Wildlife Service.

- National Parks
- Forests
- Monuments
- Wildlife Sanctuaries, Preserves, Refuges
- Federal Wilderness Areas.

Date of Government Version: 12/31/2005

US NWP: National Wilderness Preservation System

This map layer consists of National Wilderness Preservation System areas of 320 acres or more, in the United States, Puerto Rico, and the U.S. Virgin Islands. Some established wilderness areas which are larger than 320 acres are not included in this map layer because their boundaries were not available from the owning or administering agency.

Source: U.S. Geological Survey.

Telephone: 888-275-8747

Federal Contacts for Additional Information

National Park Service, Pacific West Region

600 Harrison Street, Suite 600

San Francisco, CA 94107

415-427-1300

USDA Forest Service, Pacific Southwest

630 Sansome Street

San Francisco, CA 94111

415-705-2557

BLM - California State Office

2800 Cottage Way, Room W-1834

Sacramento, CA 95825-1886

916-978-4400

Fish & Wildlife Service, Fish & Wildlife Region 8

2800 Cottage Way W-2606

Sacramento, CA 95825

916-414-6464

KEY CONTACTS & GOVERNMENT RECORDS SEARCHED

Wildlife Preserves, Sanctuaries and Refuges

Government Records Searched in This Report

FED_LAND: Federal Lands

Source: USGS

Telephone: 703-648-5094

Federal data from Bureau of Land Management, National Park Service, Forest Service, and Fish and Wildlife Service.

- National Parks
- Forests
- Monuments
- Wildlife Sanctuaries, Preserves, Refuges
- Federal Wilderness Areas.

Date of Government Version: 12/31/2005

CA Land Ownership: CA Land Ownership

Statewide GIS layer of land ownership, compiled from multiple data sources and snapped to county parcels.

Source: Cal Fire.

Telephone: 916-653-5123

CA PCT Lands: CA Public, Conservation and Trust Lands

A 1:100,000 polygon features class representing public, conservation and trust land ownership in the state of California. Developed for the California Resources Agency Legacy Project, this dataset depicts ownership features as submitted by major public, trust, and non-profit groups in the state.

Source: California Resources Agency.

Telephone: 510-653-1369

CA Protected Areas: Protected Areas Database

The California Protected Areas Database (CPAD) contains GIS data about lands that are owned in fee and protected for open space purposes by over 1,000 public agencies or non-profit organizations.

Source: GreenInfo Network.

Telephone: 510-350-8700

CA ACEC: Areas of Critical Environmental Concern

BLM Areas of Critical Environmental Concern in California

Source: Bureau of Land Management.

Telephone: 916-978-4400

CA Conservation Easement: Conservation Easement Database

The California Conservation Easement Database (CCED) contains GIS data for conservation and open space easements for public and private property.

Source: GreenInfo Network.

Telephone: 510-350-8700

US Critical Water Habitat: US Critical Water Habitat

When a species is proposed for listing as endangered or threatened under the Endangered Species Act, the U.S.

Fish and Wildlife Service must consider whether there are areas of habitat believed to be essential the species conservation.

Those areas may be proposed for designation as critical habitat. Critical habitat is a term defined and used in the Act.

Source: US Fish & Wildlife Services.

Telephone: 970-226-9468

US Critical Land Habitat: US Critical Land Habitat

When a species is proposed for listing as endangered or threatened under the Endangered Species Act, the U.S.

Fish and Wildlife Service must consider whether there are areas of habitat believed to be essential the species conservation.

Those areas may be proposed for designation as critical habitat. Critical habitat is a term defined and used in the Act.

Source: US Fish & Wildlife Services.

Telephone: 970-226-9468

KEY CONTACTS & GOVERNMENT RECORDS SEARCHED

US ACEC: Areas of Critical Environmental Concern Designated Polygons

The designated ACECs are "areas within the public lands where special management attention is required to protect and prevent irreparable damage to important historic, cultural, or scenic values, fish and wildlife resources or other natural systems of processes, or to protect life and safety from natural hazards

Source: Bureau of Land Management.

Telephone: 202-912-7352

US NCED: National Conservation Easement Database

NCED shows a comprehensive picture of privately owned conservation easement lands in the U.S. The NCED will allow better strategic planning for conservation and development by merging data on land protection with biodiversity and resources, improving ecological and economic plans and investments.

Source: U.S Endowment for Forestry and Communities.

Telephone: 202-621-1647

US Scenic River: National Wild and Scenic River System

National Wild and Scenic Rivers System

Source: USGS National Atlas and the Interagency Wild and Scenic River Coordinating Council.

Telephone: 509-546-8333

Federal Contacts for Additional Information

Fish & Wildlife Service, Fish & Wildlife Region 8
2800 Cottage Way W-2606
Sacramento, CA 95825
916-414-6464

State Contacts for Additional Information

Department of Fish and Wildlife 916-653-7667

Wild and scenic rivers

Government Records Searched in This Report

FED_LAND: Federal Lands

Source: USGS

Telephone: 703-648-5094

Federal data from Bureau of Land Management, National Park Service, Forest Service, and Fish and Wildlife Service.

- National Parks
- Forests
- Monuments
- Wildlife Sanctuaries, Preserves, Refuges
- Federal Wilderness Areas.

Date of Government Version: 12/31/2005

Federal Contacts for Additional Information

Fish & Wildlife Service, Fish & Wildlife Region 8
2800 Cottage Way W-2606
Sacramento, CA 95825
916-414-6464

Endangered Species

Government Records Searched in This Report

KEY CONTACTS & GOVERNMENT RECORDS SEARCHED

CA Endangered Species: Natural Diversity Database

Source: Dept. of Fish and Game.

Telephone: 916-324-3812

CA Endangered Species: California Natural Diversity Database

The California Natural Diversity Database (CNDDB) provides location and status information for the California most imperiled species.

Source: Department of Fish and Wildlife.

Telephone: 916-322-2493

Federal Endangered Species by County: Threatened and Endangered Species Listing

Endangered, Threatened, Emergency Listing (Endangered), Emergency Listing (Threatened), Experimental Population (Essential), Experimental Population (Non-Essential), Similarity of Appearance (Endangered), Similarity of Appearance (Threatened).

Source: US Fish and Wildlife Services.

Telephone: 800-344-9453

Federal Contacts for Additional Information

Fish & Wildlife Service, Fish & Wildlife Region 8

2800 Cottage Way W-2606

Sacramento, CA 95825

916-414-6464

State Contacts for Additional Information

Natural Heritage Program, Dept. of Fish & Game 916-322-2493

LANDMARKS, HISTORICAL, AND ARCHEOLOGICAL SITES

Historic Places

Government Records Searched in This Report

National Register of Historic Places:

The National Register of Historic Places is the official federal list of districts, sites, buildings, structures, and objects significant in American history, architecture, archeology, engineering, and culture. These contribute to an understanding of the historical and cultural foundations of the nation.

The National Register includes:

- All prehistoric and historic units of the National Park System;
- National Historic Landmarks, which are properties recognized by the Secretary of the Interior as possessing national significance; and
- Properties significant in American, state, or local prehistory and history that have been nominated by State Historic Preservation Officers, federal agencies, and others, and have been approved for listing by the National Park Service.

Date of Government Version: 07/19/2015

CA Historic Landmarks: CA Historical Landmarks

Historical Landmarks are sites, buildings, features or events that are of statewide significance and have anthropological, cultural, military, political, architectural, economic, scientific or technical, religious, experimental, or other value

Source: Office of Historic Preservation.

Telephone: 916-653-6624

Potomac Heritage National Scenic Trail: Potomac Heritage National Scenic Trail

Source: Potomac Heritage NST Office.

Telephone: 304-535-4014

Natchez Trace National Scenic Trail: Natchez Trace National Scenic Trail

Source: Natchez Trace Parkway.

Telephone: 800-305-7417

KEY CONTACTS & GOVERNMENT RECORDS SEARCHED

Indian Reservations: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Source: USGS.

Telephone: 202-208-3710

US Trails: US Trails

This dataset contains a baseline inventory and condition assessment of all non-motorized trails on U.S. Fish and Wildlife Service lands as part of the National Trails Inventory Program conducted by the US Dept. of Transportation, Federal Highway Administration, Federal Lands Highway Division.

Source: U.S. Fish and Wildlife.

Telephone: 703-358-2205

Federal Contacts for Additional Information

Park Service; Advisory Council on Historic Preservation

1849 C Street NW

Washington, DC 20240

Phone: (202) 208-6843

State Contacts for Additional Information

Office of Historic Preservation, Ept. Of Parks & Recreation 916-653-6624

Indian Religious Sites

Government Records Searched in This Report

Indian Reservations:

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Source: USGS

Phone: 888-275-8747

Date of Government Version: 12/31/2005

Federal Contacts for Additional Information

Department of the Interior- Bureau of Indian Affairs

Office of Public Affairs

1849 C Street, NW

Washington, DC 20240-0001

Office: 202-208-3711

Fax: 202-501-1516

National Association of Tribal Historic Preservation Officers

1411 K Street NW, Suite 700

Washington, DC 20005

Phone: 202-628-8476

Fax: 202-628-2241

State Contacts for Additional Information

A listing of local Tribal Leaders and Bureau of Indian Affairs Representatives can be found at:

<http://www.doi.gov/bia/areas/agency.html>

Phoenix Area Office, Bureau of Indian Affairs

One North First Street P.O. Box 10

Phoenix, AZ 85001

602-379-6600

KEY CONTACTS & GOVERNMENT RECORDS SEARCHED

Sacramento Area Office, Bureau of Indian Affairs
2800 Cottage Way
Sacramento, CA 95825
916-979-2600

Cultural Division, Yuork Tribe
1034 6th Street
Eureka, CA 95501

Scenic Trails

State Contacts for Additional Information
Pacific Crest Trail Association
5325 Elkhorn Boulevard, #256
Sacramento, California 95842
916-349-2109

FLOOD PLAIN, WETLANDS AND COASTAL ZONE

Flood Plain Management

Government Records Searched in This Report

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.

Source: FEMA

Phone: 877-336-2627

Date of Government Version: 2003, 2015

Federal Contacts for Additional Information

Federal Emergency Management Agency 877-3362-627

State Contacts for Additional Information

Office of Emergency Services 916-262-1843

Wetlands Protection

Government Records Searched in This Report

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005, 2010, and 2015 from the U.S. Fish and Wildlife Service.

Source: U.S. Fish and Wildlife Service.

Phone: 608-238-9333

Date of Government Version: 05/28/2015

State Wetlands Data: Wetland Inventory

Source: Department of Fish and Wildlife

Telephone: 916-445-0411

Federal Contacts for Additional Information

Fish & Wildlife Service 813-570-5412

State Contacts for Additional Information

Department of Fish and Wildlife 916-653-7667

KEY CONTACTS & GOVERNMENT RECORDS SEARCHED

Coastal Zone Management

Government Records Searched in This Report

CAMA Management Areas

Dept. of Env., Health & Natural Resources
919-733-2293

Federal Contacts for Additional Information

Office of Ocean and Coastal Resource Management

N/ORM, SSMC4
1305 East-West Highway
Silver Spring, Maryland 20910
301-713-3102

State Contacts for Additional Information

California Coastal Commission 415-904-5200

Government Records Searched in This Report

CA Coastline Information

Department of Fish and Game
831-649-7143

FCC & FAA SITES MAP

For NEPA actions that come under the authority of the FCC, the FCC requires evaluation of Antenna towers and/or supporting structures that are to be equipped with high intensity white lights which are to be located in residential neighborhoods, as defined by the applicable zoning law.

Government Records Searched in This Report

Cellular

Federal Communications Commission

445 12th Street, SW
Washington, DC 20554
888-225-5322

Antenna Structure Registration

Federal Communications Commission

445 12th Street, SW
Washington, DC 20554
888-225-5322

AM Antenna

Federal Communications Commission

445 12th Street, SW
Washington, DC 20554
888-225-5322

FM Antenna

Federal Communications Commission

445 12th Street, SW
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888-225-5322

FAA Digital Obstacle File

Federal Aviation Administration (FAA)

1305 East-West Highway, Station 5631
Silver Spring, MD 20910-3281
Telephone: 301-713-2817

Describes known obstacles of interest to aviation users in the US. Used by the Federal Aviation Administration (FAA) and the National Oceanic and Atmospheric Administration to manage the National Airspace System.

KEY CONTACTS & GOVERNMENT RECORDS SEARCHED

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Private and public use landing facilities.

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Federal Contacts for Additional Information

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Federal Communications Commission
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Washington, DC 20554
Phone: 202-418-2470

OTHER CONTACT SOURCES

NEPA Single Point of Contact

State Contacts for Additional Information
Grants Coordination
State Clearinghouse
P.O. Box 3044
Room 222
Sacramento, CA 95812-3044
916-445-0613

STREET AND ADDRESS INFORMATION

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ATTACHMENT B

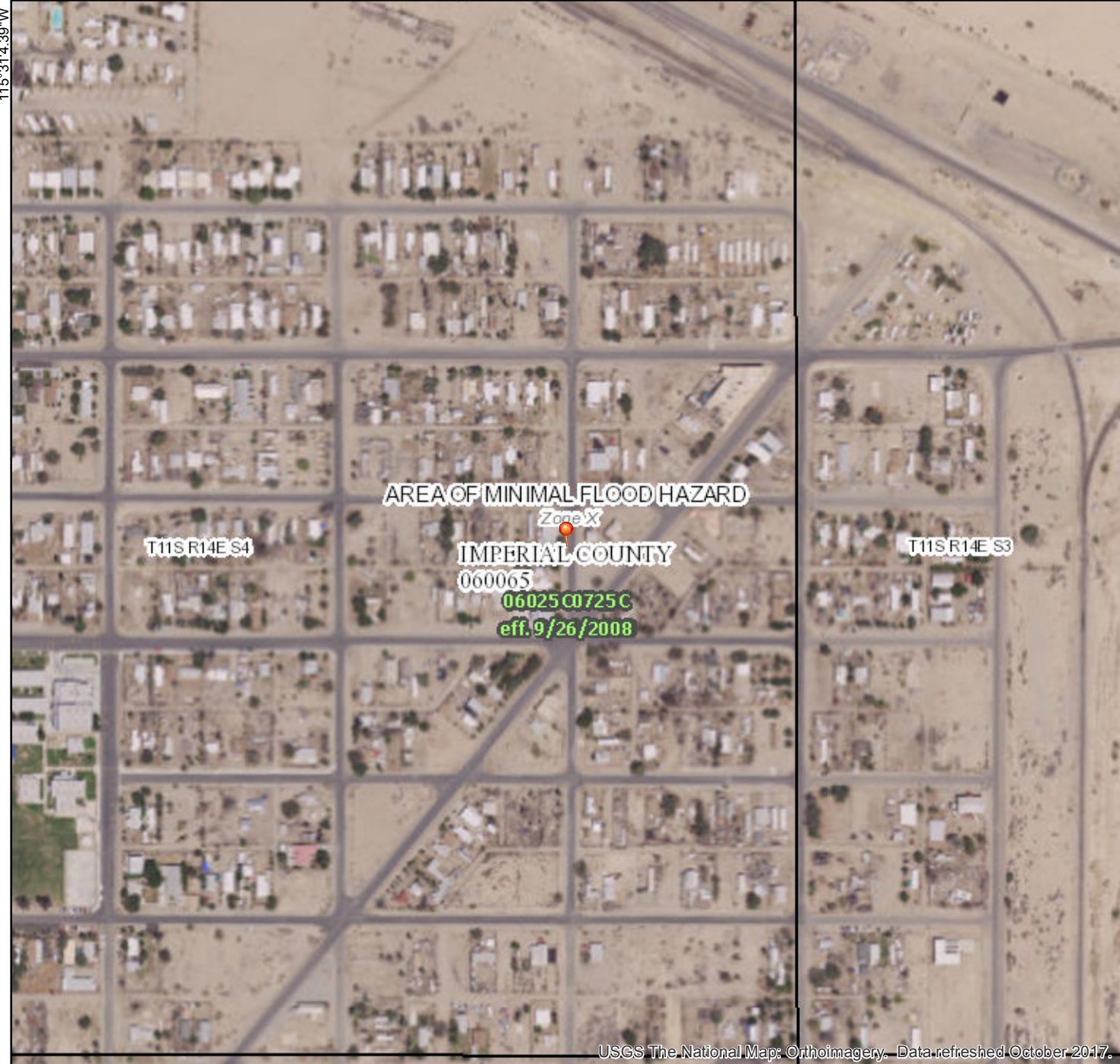
**FEMA FIRM
OF PROJECT SITE**

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National Flood Hazard Layer FIRMMette



33°14'34.65"N



Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

- | | | |
|------------------------------------|--|--|
| SPECIAL FLOOD HAZARD AREAS | | Without Base Flood Elevation (BFE)
<i>Zone A, V, A99</i> |
| | | With BFE or Depth <i>Zone AE, AO, AH, VE, AR</i> |
| | | Regulatory Floodway |
| OTHER AREAS OF FLOOD HAZARD | | 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile <i>Zone X</i> |
| | | Future Conditions 1% Annual Chance Flood Hazard <i>Zone X</i> |
| | | Area with Reduced Flood Risk due to Levee. See Notes. <i>Zone X</i> |
| | | Area with Flood Risk due to Levee <i>Zone D</i> |
| OTHER AREAS | | NO SCREEN Area of Minimal Flood Hazard <i>Zone X</i> |
| | | Effective LOMRs |
| GENERAL STRUCTURES | | Area of Undetermined Flood Hazard <i>Zone D</i> |
| | | Channel, Culvert, or Storm Sewer |
| | | Levee, Dike, or Floodwall |
| OTHER FEATURES | | 20.2 Cross Sections with 1% Annual Chance Water Surface Elevation
17.5 |
| | | Coastal Transect |
| | | Base Flood Elevation Line (BFE) |
| | | Limit of Study |
| | | Jurisdiction Boundary |
| MAP PANELS | | Coastal Transect Baseline |
| | | Profile Baseline |
| | | Hydrographic Feature |
| | | Digital Data Available |
| | | No Digital Data Available |
| | | Unmapped |



The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on **11/15/2018 at 12:55:46 PM** and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

USGS The National Map: Orthoimagery. Data refreshed October 2017.



33°14'4.56"N

115°30'26.94"W

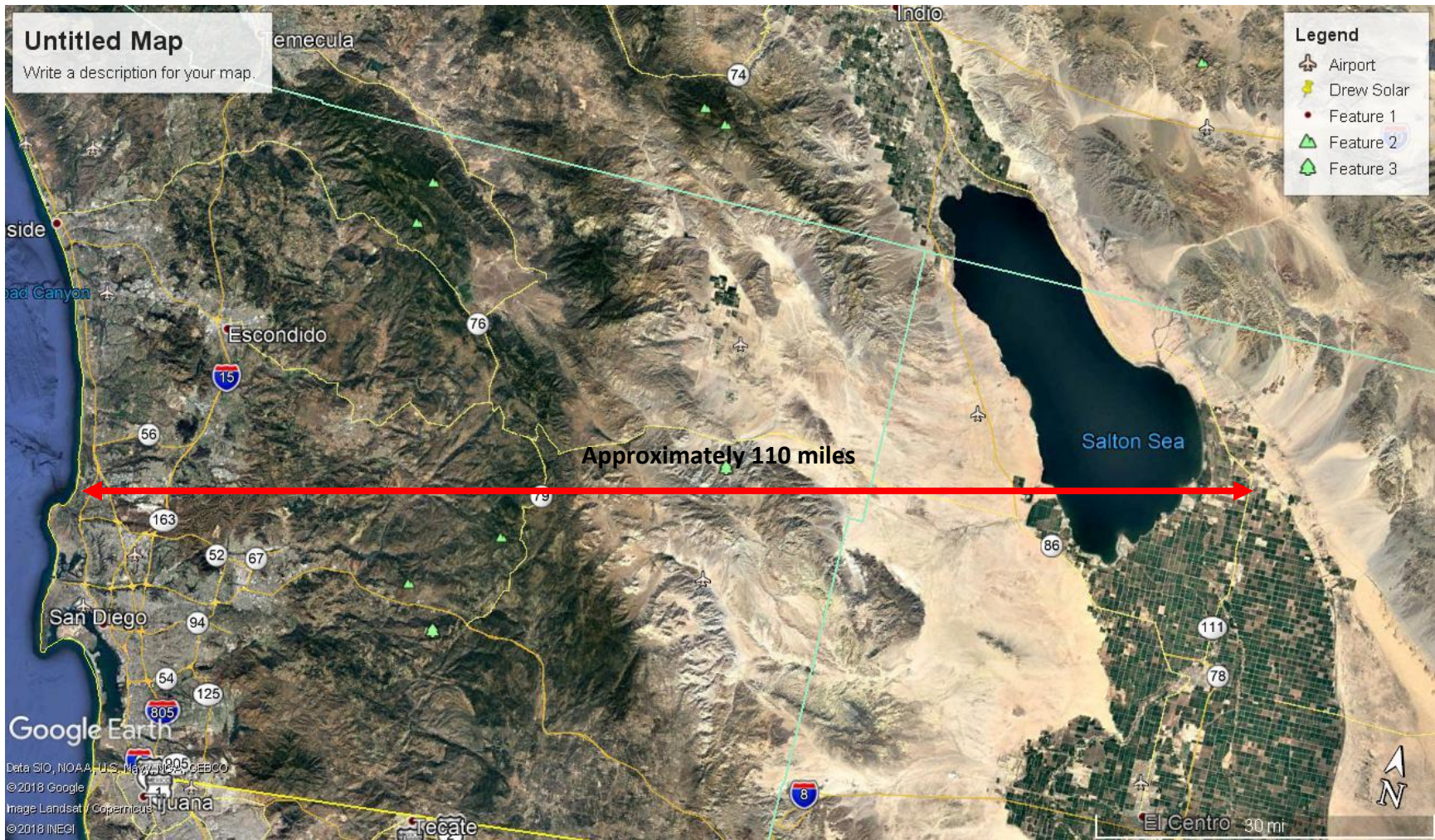


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ATTACHMENT C

PROJECT DISTANCE FROM COAST

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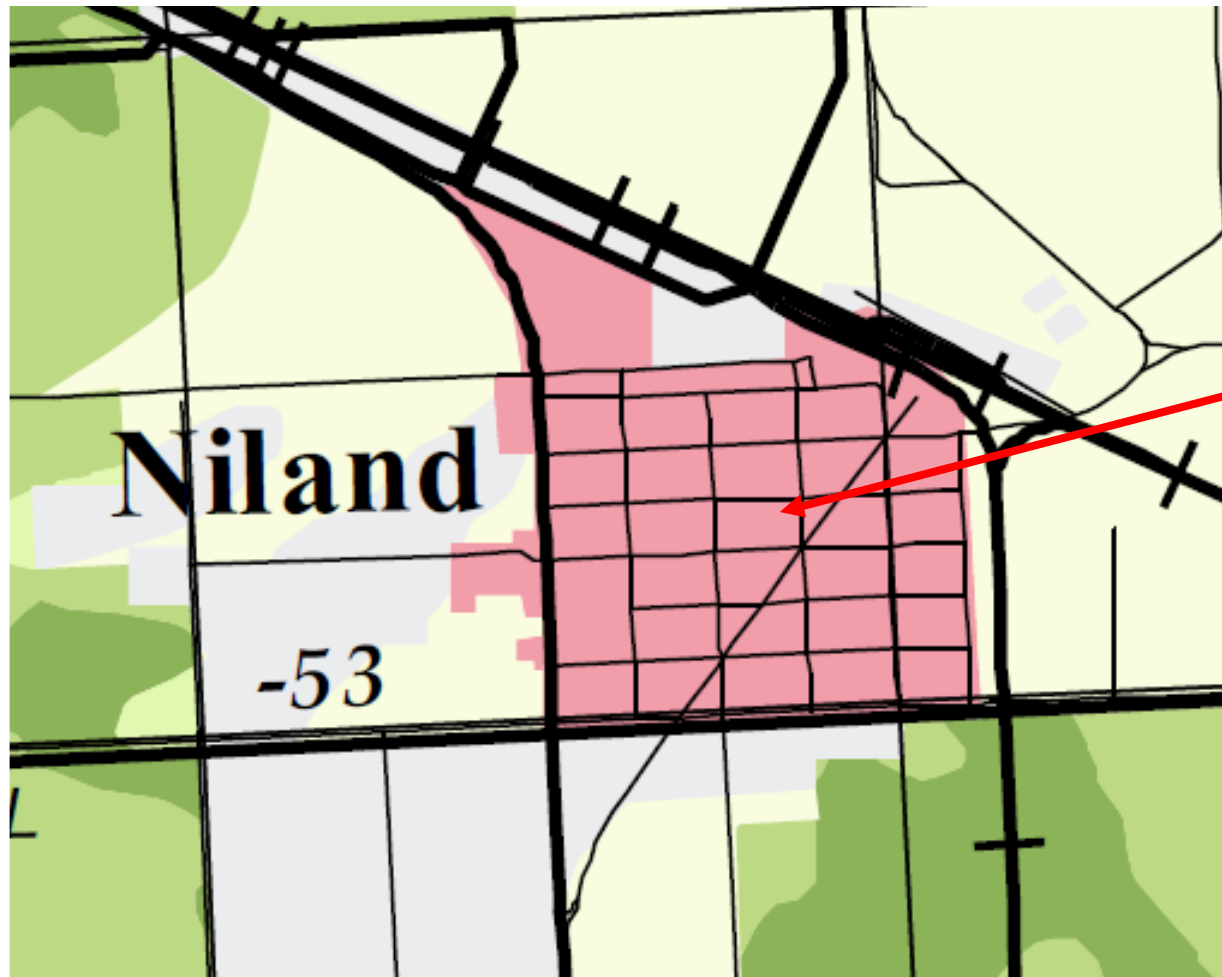


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ATTACHMENT D

FMMP OF PROJECT SITE

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Project Site



URBAN AND BUILT-UP LAND

URBAN AND BUILT-UP LAND IS OCCUPIED BY STRUCTURES WITH A BUILDING DENSITY OF AT LEAST 1 UNIT TO 1.5 ACRES, OR APPROXIMATELY 6 STRUCTURES TO A 10-ACRE PARCEL. COMMON EXAMPLES INCLUDE RESIDENTIAL, INDUSTRIAL, COMMERCIAL, INSTITUTIONAL FACILITIES, CEMETERIES, AIRPORTS, GOLF COURSES, SANITARY LANDFILLS, SEWAGE TREATMENT, AND WATER CONTROL STRUCTURES.

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ATTACHMENT E

SOLE SOURCE AQUIFER

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Source: United States Environmental Protection Agency/Google Earth 2016.

MAP OF SOLE SOURCE AQUIFERS RELATIVE TO PROJECT SITE

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ATTACHMENT F

WILD AND SCENIC RIVERS

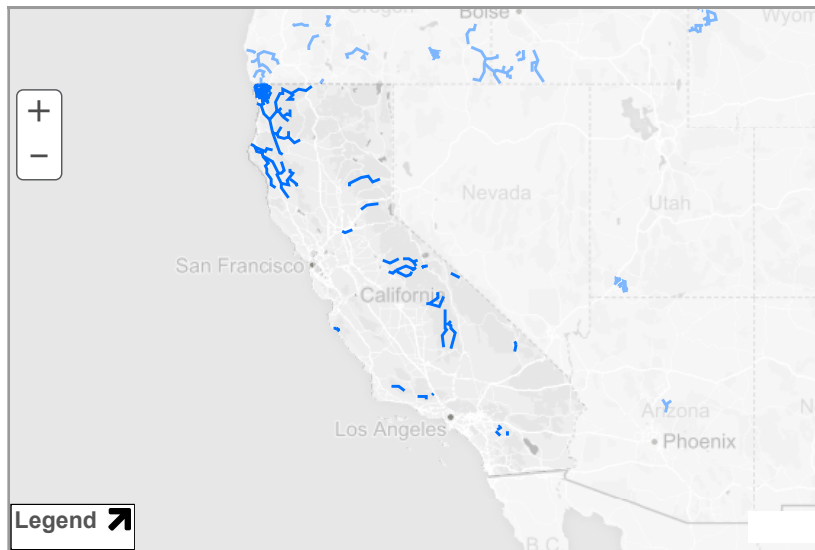
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HOME | NATIONAL SYSTEM | MANAGEMENT | RESOURCES | PUBLICATIONS | CONTACT US | 50 YEARS

CALIFORNIA

California has approximately 189,454 miles of river, of which 1,999.6 miles are designated as wild & scenic—1% of the state's river miles.



California

Choose A River

Seen as barren by the first explorers to today's first-time visitors, the rivers of the high desert simply hide their treasures well.

[+ View larger map](#)

- Amargosa River
- American River (Lower)
- American River (North Fork)
- Bautista Creek
- Big Sur River
- Black Butte River
- Cottonwood Creek
- Eel River
- Feather River
- Fuller Mill Creek
- Kern River
- Kings River
- Klamath River
- Merced River
- Owens River Headwaters
- Palm Canyon Creek
- Piru Creek
- San Jacinto River (North Fork)
- Sespe Creek

- Sisquoc River**
- Smith River**
- Trinity River**
- Tuolumne River**

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Designated Rivers

- About WSR Act
- State Listings
- Profile Pages

National System

- WSR Table
- Study Rivers
- Stewardship
- WSR Act Legislation

River Management

- Council
- Agencies
- Management Plans
- GIS Mapping

Resources

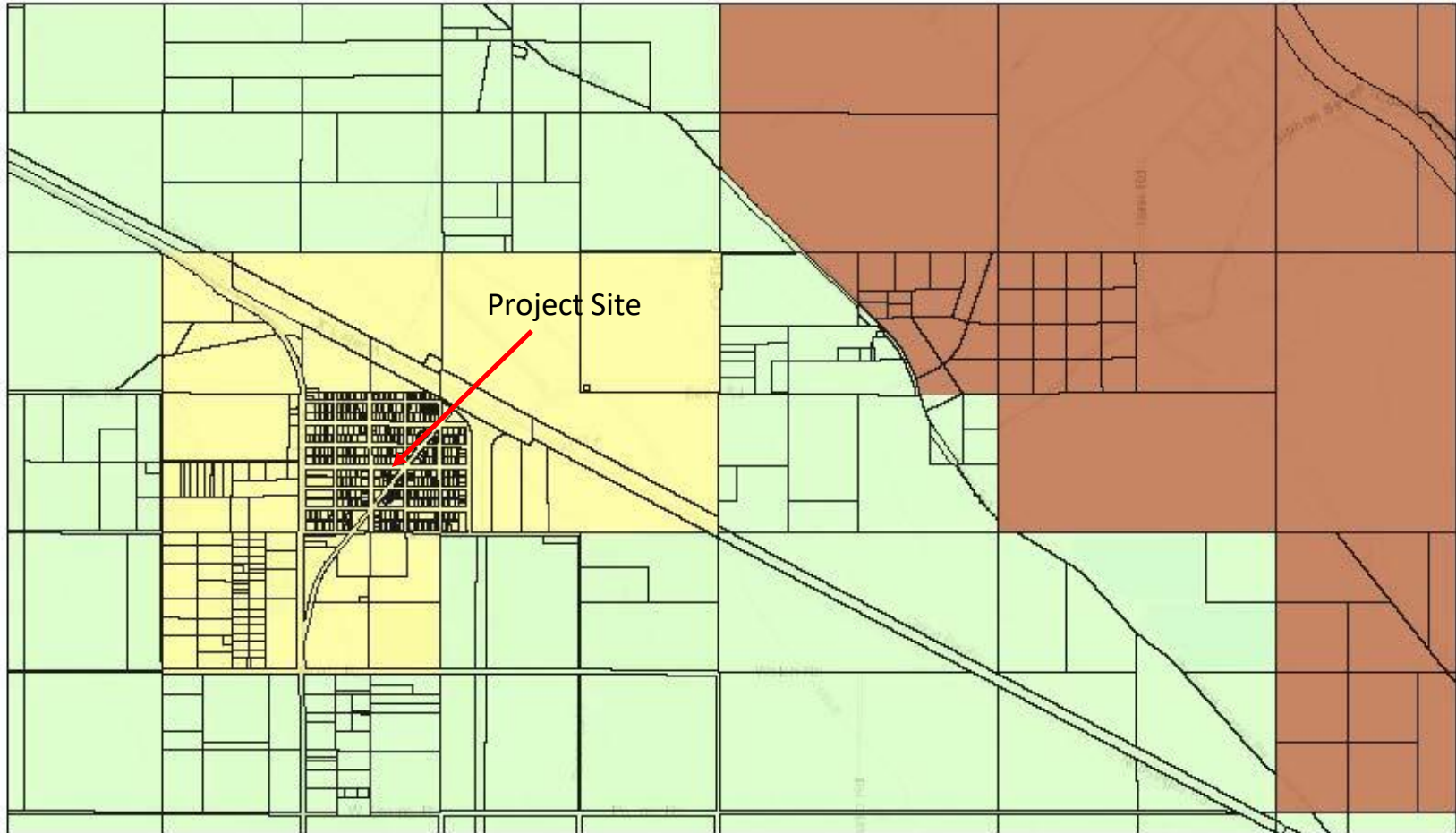
- Q & A Search
- Bibliography
- Publications
- GIS Mapping
- Logo & Sign Standards
- Display

ATTACHMENT G

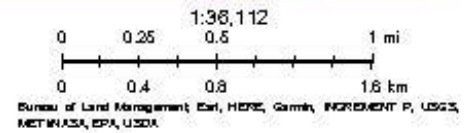
**GENERAL PLAN
LAND USE MAP**

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General Plan Land Use



November 18, 2018



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ATTACHMENT H

GEO TECHNICAL REPORT

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Geotechnical Report

Proposed Fire & Sheriff Substation 8071 Luxor Avenue Niland, California

Prepared for:

The Holt Group
1601 N. Imperial Avenue
El Centro, CA 92243



Prepared by:



Landmark Consultants, Inc.
780 N. 4th Street
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November 2018

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November 29, 2018

Mr. Jack Holt, PE
The Holt Group
1601 N. Imperial Avenue
El Centro, CA 92243

**Geotechnical Report
Niland Fire and Sheriff Substation
8071 Luxor Avenue
Niland, California
LCI Report No. LE18206**

Dear Mr. Holt:

This geotechnical report is provided for design and construction of the proposed fire and sheriff substation located at 8071 Luxor Avenue in Niland, California. Our geotechnical exploration was conducted in response to your request for our services. The enclosed report describes our soil engineering site evaluation and presents our professional opinions regarding geotechnical conditions at the site to be considered in the design and construction of the project.

This executive summary presents *selected* elements of our findings and professional opinions. This summary *may not* present all details needed for the proper application of our findings and professional opinions. Our findings, professional opinions, and application options are *best related through reading the full report*, and are best evaluated with the active participation of the engineer of record who developed them. The findings of this study are summarized below:

- Surficial soils consist of a 1 to 2 foot thick gravely sand (SP) overlying sandy silt (ML) to clayey silt (ML) soils. The silt soils have a very low to low expansion potential
- Foundation designs should mitigate expansive soil conditions by one of the following methods:
 1. Remove and replace upper 2.5 feet of clayey silt soils with non-expansive sands.
 2. Design foundations to resist expansive forces in accordance with the 2016 California Building Code (CBC) Chapter 18, Section 1808 or the Post-Tensioning Institute, 3rd Edition. This requires grade-beam stiffened of floor slabs (25 feet maximum on center) or post-tensioned floor slabs. Design soil bearing pressure = 1,500 psf. Differential movement of 1.0 to 1.5 inches can be expected for slab on grade foundations placed on clay soils.
 3. A combination of the methods described above.

- The risk of liquefaction induced settlement is low (estimated settlement of ½ inch at 9.5 to 49 feet below ground surface). There is a very low risk of ground rupture should liquefaction occur.
- The native soils are aggressive to concrete and steel. Concrete mixes for concrete placed in contact with native soils shall have a maximum water cement ratio of 0.45 and a minimum compressive strength of 4,500 psi (minimum of 6 sacks Type V cement per cubic yard).
- All reinforcing bars, anchor bolts and hold down bolts shall have a minimum concrete cover of 3.0 inches unless epoxy coated (ASTM D3963/A934). Hold-down straps are not allowed at the foundation perimeter. No pressurized water lines are allowed below or within the foundations.
- Pavement structural sections should be designed for sandy silt subgrade soils (R-Value = 50).

We did not encounter soil conditions that would preclude development of the proposed project provided the professional opinions contained in this report are considered in the design and construction of this project.

We appreciate the opportunity to provide our findings and professional opinions regarding geotechnical conditions at the site. Please provide our office with a set of the foundation plans and civil plans for review to insure that the geotechnical site constraints have been included in the design documents. If you have any questions or comments regarding our findings, please call our office at (760) 370-3000.

Respectfully Submitted,
Landmark Consultants, Inc.



Steven K. Williams, PG, EG
Senior Engineering Geologist



Jeffrey O. Lyon, PE
President



Distribution:
Client (4)

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Appendices

- APPENDIX A: Vicinity and Site Maps
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- APPENDIX D: Liquefaction Analysis
- APPENDIX E: Pipe Bedding and Trench Backfill Recommendations
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Section 1

INTRODUCTION

1.1 Project Description

This report presents the findings of our geotechnical exploration and soil testing for the proposed fire and sheriff substation located at 8071 Luxor Avenue in Niland, California (See Vicinity Map, Plate A-1). The proposed project will consist of removing the existing fire station and the construction of the new approximately 8,500 square feet building with bays for fire apparatus, offices, living area, booking/processing/interview rooms, and a community room. A site plan for the proposed development was provided by The Holt Group.

The structure is planned to consist of slabs-on-grade foundations and steel/wood-frame construction. Footing loads at exterior bearing walls are estimated at 1 to 3 kips per lineal foot. Column loads are estimated to range from 10 to 30 kips. If structural loads exceed those stated above, we should be notified so we may evaluate their impact on foundation settlement and bearing capacity. Site development will include building pad preparation, underground utility installation including trench backfill, concrete foundation construction, parking lot construction, and concrete sidewalk placement.

1.2 Purpose and Scope of Work

The purpose of this geotechnical study was to investigate the subsurface soil at selected locations within the site for evaluation of physical/engineering properties and liquefaction potential during seismic events. Professional opinions were developed from field and laboratory test data and are provided in this report regarding geotechnical conditions at this site and the effect on design and construction. The scope of our services consisted of the following:

- ▶ Field exploration and in-situ testing of the site soils at selected locations and depths.
- ▶ Laboratory testing for physical and/or chemical properties of selected samples.
- ▶ Review of the available literature and publications pertaining to local geology, faulting, and seismicity.
- ▶ Engineering analysis and evaluation of the data collected.
- ▶ Preparation of this report presenting our findings and professional opinions regarding the geotechnical aspects of project design and construction.

This report addresses the following geotechnical parameters:

- ▶ Subsurface soil and groundwater conditions
- ▶ Site geology, regional faulting and seismicity, near source factors, and site seismic accelerations
- ▶ Liquefaction potential and its mitigation
- ▶ Expansive soil and methods of mitigation
- ▶ Aggressive soil conditions to metals and concrete

Professional opinions with regard to the above parameters are provided for the following:

- ▶ Site grading and earthwork
- ▶ Building pad and foundation subgrade preparation
- ▶ Allowable soil bearing pressures and expected settlements
- ▶ Concrete slabs-on-grade
- ▶ Lateral earth pressures
- ▶ Excavation conditions and buried utility installations
- ▶ Mitigation of the potential effects of salt concentrations in native soil to concrete mixes and steel reinforcement
- ▶ Seismic design parameters
- ▶ Pavement structural sections

Our scope of work for this report did not include an evaluation of the site for the presence of environmentally hazardous materials or conditions, storm water infiltration, groundwater mounding, or landscape suitability of the soil.

1.3 Authorization

Mr. Jack Holt of The Holt Group provided authorization by written agreement to proceed with our work on November 6, 2018. We conducted our work according to our written proposal dated November 1, 2018.

Section 2

METHODS OF INVESTIGATION

2.1 Field Exploration

Subsurface exploration was performed on November 15, 2018 using Middle Earth Geo-Testing, Inc. of Orange, California to advance two (2) electric cone penetrometer (CPT) soundings to approximate depths of 25 to 50 feet below existing ground surface. The soundings were made at the locations shown on the Site and Exploration Plan (Plate A-2). The approximate sounding locations were established in the field and plotted on the site map by sighting to discernible site features. Shallow (3-foot deep) hand auger borings (3-inch diameter) were made adjacent to the CPT soundings in order to obtain near surface soil samples for laboratory analysis.

CPT soundings provide a continuous profile of the soil stratigraphy with readings every 2.5cm (1 inch) in depth. Direct sampling for visual and physical confirmation of soil properties has been used by our firm to establish direct correlations with CPT exploration in this geographical region.

The CPT exploration was conducted by hydraulically advancing an instrumented Hogentogler 10cm² conical probe into the ground at a rate of 2cm per second using a 23-ton truck as a reaction mass. An electronic data acquisition system recorded a nearly continuous log of the resistance of the soil against the cone tip (Q_c) and soil friction against the cone sleeve (F_s) as the probe was advanced. Empirical relationships (Robertson and Campanella, 1989) were then applied to the data to give a continuous profile of the soil stratigraphy. Interpretation of CPT data provides correlations for SPT blow count, phi (ϕ) angle (soil friction angle), undrained shear strength (S_u) of clays and over-consolidation ratio (OCR). These correlations may then be used to evaluate vertical and lateral soil bearing capacities and consolidation characteristics of the subsurface soil.

Interpretive logs of the CPT soundings are presented on Plates B-1 and B-2 in Appendix B. A key to the interpretation of CPT soundings is presented on Plate B-3. The stratification lines shown on the subsurface logs represent the approximate boundaries between the various strata. However, the transition from one stratum to another may be gradual over some range of depth.

2.2 Laboratory Testing

Laboratory tests were conducted on selected bulk soil samples obtained from hand auger borings made adjacent to the CPT locations to aid in classification and evaluation of selected engineering properties of the near surface soils. The tests were conducted in general conformance to the procedures of the American Society for Testing and Materials (ASTM) or other standardized methods as referenced below. The laboratory testing program consisted of the following tests:

- ▶ Plasticity Index (ASTM D4318) – used for soil classification and expansive soil design criteria
- ▶ Particle Size Analyses (ASTM D422) – used for soil classification and liquefaction evaluation
- ▶ Expansion Index (Swell) Test (ASTM D4829) – used for evaluating relative expansion classification.
- ▶ R Value (CAL 301) – used for pavement structural section design
- ▶ Chemical Analyses (soluble sulfates & chlorides, pH, and resistivity) (Caltrans Methods) – used for concrete mix proportions and corrosion protection requirements.

The laboratory test results are presented on Plates C-1 through C-5 in Appendix C.

Engineering parameters of soil strength, compressibility and relative density utilized for developing design criteria provided within this report were either extrapolated from correlations with the subsurface CPT data or from data obtained from the field and laboratory testing program.

Section 3

DISCUSSION

3.1 Site Conditions

The project site is currently occupied by the Imperial County Fire Station building. The existing building is a masonry structure with two bays for equipment on the east side. Offices are located to the south side of the fire station. A shade structure is located on the north side of the building.

The project site is bounded on the north by 3rd Street and the east by Luxor Avenue. Single family residential homes are located to the south. An unpaved alley forms the western margin of the property. A chain link fence surrounds the site. Adjacent properties are flat-lying and are approximately at the same elevation with this site.

The project site lies at an elevation of approximately 135 feet below mean sea level (MSL) (El. 865 local datum) in the Imperial Valley region of the California low desert. The surrounding properties lie on terrain which is flat (planar), part of a large agricultural valley, which was previously an ancient lake bed covered with fresh water to an elevation of 43± feet above MSL. Annual rainfall in this arid region is less than 3 inches per year with four months of average summertime temperatures above 100 °F. Winter temperatures are mild, seldom reaching freezing.

3.2 Geologic Setting

The project site is located in the Imperial Valley portion of the Salton Trough physiographic province. The Salton Trough is a topographic and geologic structural depression resulting from large scale regional faulting. The trough is bounded on the northeast by the San Andreas Fault and Chocolate Mountains and the southwest by the Peninsular Range and faults of the San Jacinto Fault Zone. The Salton Trough represents the northward extension of the Gulf of California, containing both marine and non-marine sediments deposited since the Miocene Epoch (Morton, 1977). Tectonic activity that formed the trough continues at a high rate as evidenced by deformed young sedimentary deposits and high levels of seismicity. Figure 1 shows the location of the site in relation to regional faults and physiographic features.

The Imperial Valley is directly underlain by lacustrine deposits, which consist of interbedded lenticular and tabular silt, sand, and clay. The Late Pleistocene to Holocene (present) lake deposits are probably less than 100 feet thick and derived from periodic flooding of the Colorado River which intermittently formed a fresh water lake (Lake Cahuilla). Older deposits consist of Miocene to Pleistocene non-marine and marine sediments deposited during intrusions of the Gulf of California. Basement rock consisting of Mesozoic granite and Paleozoic metamorphic rocks are estimated to exist at depths between 15,000 - 20,000 feet.

3.3 Subsurface Soil

The U. S. Soil Conservation Service compiled a map of surface soil conditions based on a thirteen-year study from 1962-1975 (Zimmerman, 1981). The Soil Survey maps were published in 1981 and indicate that surficial deposits at the project site and surrounding area consist predominantly of clayey silt loams of the Niland soil group (see Plate A-3). These loams are formed in sediment and alluvium of mixed origin (Colorado River overflows and fresh-water lake-bed sediments).

Subsurface soils encountered during the field exploration conducted on November 15, 2018 consist of 1 to 2 feet of surficial silty gravely sand (SP) overlying interbedded clayey silts, silty clays, and sandy silts to a depth of 50 feet, the maximum depth of exploration. The subsurface logs (Plates B-1 and B-2) depict the stratigraphic relationships of the various soil types.

The native near surface silts exhibit very low swell potential (Expansion Index, EI = 6) when tested according to the Standard Test Method for Expansion Index of Soils (ASTM D4829). The silt is slightly expansive when wetted and can shrink with moisture loss (drying). Development of building foundations, concrete flatwork, and asphaltic concrete pavements should include provisions for mitigating potential swelling forces and reduction in soil strength, which can occur from saturation of the soil. Causes for soil saturation include landscape irrigation, broken utility lines, or capillary rise in moisture upon sealing the ground surface to evaporation. Moisture losses can occur with lack of landscape watering, close proximity of structures to downslopes and root system moisture extraction from deep rooted shrubs and trees placed near the foundations. The design engineer (foundations) should consider the effects of non-uniform moisture conditions around the entire foundation when selecting design criteria for the foundations.

Typical measures used for similar projects to remediate expansive soil include:

- ▶ Replacement of expansive silts/clays with non-expansive sands or silts.
- ▶ Capping silt/clay soil with a non-expansive sand layer of sufficient thickness (2.5 feet minimum) to reduce the effects of soil shrink/swell.
- ▶ Design of foundations that are resistant to shrink/swell forces of silt/clay soil.
- ▶ A combination of the methods described above

3.4 Groundwater

Groundwater was not noted in the CPT soundings, but is typically encountered at approximately 10 to 15 feet below ground surface (24 inches below ground surface) following heavy rainfall in the vicinity of the project site. Perched groundwater may be encountered at the sand/clay interface. There is uncertainty in the accuracy of short-term water level measurements, particularly in fine-grained soil. Groundwater levels may fluctuate with precipitation, irrigation of adjacent properties, site landscape watering, drainage, and site grading. The referenced groundwater level should not be interpreted to represent an accurate or permanent condition. Our work scope did not include a groundwater surface mounding study resulting from applied landscape water.

3.5 Faulting

The project site is located in the seismically active Imperial Valley of southern California with numerous mapped faults of the San Andreas Fault System traversing the region. The San Andreas Fault System is comprised of the San Andreas, San Jacinto, and Elsinore Fault Zones in southern California. The Imperial fault represents a transition from the more continuous San Andreas fault to a more nearly echelon pattern characteristic of the faults under the Gulf of California (USGS, 1990). We have performed a computer-aided search of known faults or seismic zones that lie within a 62 mile (100 kilometer) radius of the project site (Table 1).

A fault map illustrating known active faults relative to the site is presented on Figure 1, *Regional Fault Map*. Figure 2 shows the project site in relation to local faults. The criterion for fault classification adopted by the California Geological Survey defines Earthquake Fault Zones along Holocene-active or pre-Holocene faults (CGS, 2018b).

Earthquake Fault Zones are regulatory zones that address the hazard of surface fault rupture.

A Holocene-active fault is one that has ruptured during Holocene time (within the last 11,700 years). A pre-Holocene fault is a fault that has not ruptured in the last 11,700 years. Pre-Holocene faults may still be capable of surface rupture in the future, but are not regulated by the A-P act.

Review of the current Alquist-Priolo Earthquake Fault Zone maps (CGS, 2018a) indicates that the nearest mapped Earthquake Fault Zone is the Coachella Segment of the San Andreas fault located approximately 17.1 miles northwest of the project site.

The current model for seismic and tectonic activity south of the San Andreas fault is associated with interaction of transform faulting and spreading centers. The model depicts the Pacific Plate moving to the northwest relative to the North American Plate, along a series of subparallel, northwest trending, right lateral, en echelon faults, that results in the land being pulled apart at spreading centers. The northwest trending faults terminate at these centers, though continued transform movements are shifted across the spreading zone to the adjacent transform fault. This zone of crustal rifting and intense seismic activity is known as the Brawley Seismic Zone (BSZ) in the Imperial Valley. The project site is located approximately 6 miles east of the Brawley Seismic Zone. The BSZ extends northward beyond the termination of the mapped Imperial/Brawley faults to beneath the Salton Sea, where it terminates upon intersecting the San Andreas fault near Bombay Beach. The BSZ was the source of the 1981 5.9Mw Westmorland earthquake sequence that involved activity on at least seven distinct fault planes within the zone.

3.6 Historical Seismicity

The Imperial Valley is one of the most seismically active regions in the United States, and has experienced several historical events of magnitude 5.5 or more. The following briefly outlines seismic events that have significantly affected the Imperial Valley in the past 100 years.

- ▶ *El Centro Event:* May 19, 1940: A magnitude 6.9 earthquake ruptured the Imperial Fault with horizontal offsets up to 19 feet at the international border with Mexico. This earthquake triggered widespread liquefaction as evidenced by sand boils throughout the Imperial Valley.

- ▶ *Imperial Valley Event:* October 15, 1979. A magnitude 6.4 earthquake ruptured the Imperial Fault with horizontal offsets up to 2 feet and damage to buildings in El Centro, Imperial, and Calexico. This event triggered widespread liquefaction as evidenced by sand boils throughout the Valley. A magnitude 5.8 aftershock occurred along the Brawley Fault on that same evening causing severe damage to several unreinforced masonry buildings in Brawley.
- ▶ *Westmorland Event:* April 26, 1981. A magnitude 6.0 earthquake occurred 4 miles north of Westmorland triggering liquefaction in the epicentral region. Although there was no evidence of surface rupture associated with this event, canals and buildings were damaged. Liquefaction reportedly occurred in the Brawley Seismic Zone during magnitude 5+ events in 1930, 1950 and 1957.
- ▶ *Superstition Hills Events:* November 24, 1987. A magnitude 6.6 earthquake ruptured the Superstition Hills fault, causing 15 miles of surface rupture displaying a right lateral offset (maximum 26 inch offset). The earthquake triggered liquefaction in areas from the Salton Sea to Seeley. A magnitude 6.2 event occurred as a foreshock along the Elmore Ranch fault. The Elmore Ranch fault had not been recognized until this event.
- ▶ *El Mayor-Cucapah Event:* April 4, 2010. A magnitude 7.2M_w earthquake ruptured the Borrego and Pescadores faults south of Mexicali, Mexico. The Borrego and Pescadores faults exhibited approximately 60 miles of surface rupture with a dip-slip displacement of up to 250 cm (8 feet). Widespread liquefaction and lateral spreading occurred in the Mexicali and Imperial Valleys during this event.
- ▶ *Brawley Swarm Event:* August 26-28, 2012. An earthquake swarm with eleven (11) earthquakes above magnitude 4.0 (the largest being 5.5M_w) occurred approximately 2 miles northwest of Brawley, California. Although there was no evidence of surface rupture associated with this event, numerous structures in Brawley were damaged.

Table 3 lists the historical earthquakes that have occurred within a 100 km radius of the project site since 1900.

3.7 General Ground Motion Analysis

The project site is considered likely to be subjected to moderate to strong ground motion from earthquakes in the region. Ground motions are dependent primarily on the earthquake magnitude and distance to the seismogenic (rupture) zone.

Acceleration magnitudes also are dependent upon attenuation by rock and soil deposits, direction of rupture and type of fault; therefore, ground motions may vary considerably in the same general area.

CBC General Ground Motion Parameters: The 2016 CBC general ground motion parameters are based on the Risk-Targeted Maximum Considered Earthquake (MCE_R). The U.S. Geological Survey “U.S. Seismic Design Maps Web Application” (USGS, 2018) was used to obtain the site coefficients and adjusted maximum considered earthquake spectral response acceleration parameters. **The site soils have been classified as Site Class D (stiff soil profile).**

Design spectral response acceleration parameters are defined as the earthquake ground motions that are two-thirds ($2/3$) of the corresponding MCE_R ground motions. Design earthquake ground motion parameters are provided in Table 2. **A Risk Category II was determined using Table 1604A.5 and the Seismic Design Category is D since S_1 is less than $0.75g$.**

The Maximum Considered Earthquake Geometric Mean (MCE_G) peak ground acceleration ($PGAM$) value was determined from the “U.S. Seismic Design Maps Web Application” (USGS, 2018) for liquefaction and seismic settlement analysis in accordance with 2016 CBC Section 1803A.5.12 and CGS Note 48 ($PGAM = F_{PGA} * PGA$). **A $PGAM$ value of $0.50g$ has been determined for the project site.**

3.8 Seismic and Other Hazards

- ▶ **Groundshaking.** The primary seismic hazard at the project site is the potential for strong groundshaking during earthquakes along the San Andreas, Imperial, Elmore Ranch, Brawley Seismic Zone and Superstition Hills faults.
- ▶ **Surface Rupture.** The California Geological Survey (2016) has established Earthquake Fault Zones in accordance with the 1972 Alquist-Priolo Earthquake Fault Zone Act. The Earthquake Fault Zones consists of boundary zones surrounding well defined, active faults or fault segments. The project site does not lie within an A-P Earthquake Fault Zone; therefore, surface fault rupture is considered to be low at the project site.
- ▶ **Liquefaction.** Liquefaction is a potential design consideration because of underlying saturated sandy substrata. The potential for liquefaction at the site is discussed in more detail in Section 3.8.

Other Potential Geologic Hazards.

- ▶ **Landsliding.** The hazard of landsliding is unlikely due to the regional planar topography. No ancient landslides are shown on geologic maps of the region and no indications of landslides were observed during our site investigation.
- ▶ **Volcanic hazards.** The site is not located in proximity to any known volcanically active area and the risk of volcanic hazards is considered very low.
- ▶ **Tsunamis and seiches.** The site is not located near any large bodies of water, so the threat of tsunami, seiches, or other seismically-induced flooding is unlikely.
- ▶ **Flooding.** The project site is located in FEMA Flood Zone X, an area determined to be outside the 0.2% annual chance floodplain (FIRM Panel 06025C0725C).
- ▶ **Expansive soil.** In general, much of the near surface soils in the Imperial Valley consist of silty clays and clays which are moderate to highly expansive. The expansive soil conditions are discussed in more detail in Section 3.3.

3.9 Liquefaction

Liquefaction occurs when granular soil below the water table is subjected to vibratory motions, such as produced by earthquakes. With strong ground shaking, an increase in pore water pressure develops as the soil tends to reduce in volume. If the increase in pore water pressure is sufficient to reduce the vertical effective stress (suspending the soil particles in water), the soil strength decreases and the soil behaves as a liquid (similar to quicksand). Liquefaction can produce excessive settlement, ground rupture, lateral spreading, or failure of shallow bearing foundations. Four conditions are generally required for liquefaction to occur:

- (1) the soil must be saturated (relatively shallow groundwater);
- (2) the soil must be loosely packed (low to medium relative density);
- (3) the soil must be relatively cohesionless (not clayey); and
- (4) groundshaking of sufficient intensity must occur to function as a trigger mechanism.

All of these conditions exist to some degree at this site.

Methods of Analysis: Liquefaction potential at the project site was evaluated using the 1997 NCEER Liquefaction Workshop methods. The 1997 NCEER methods utilize direct SPT blow counts or CPT cone readings from site exploration and earthquake magnitude/PGA estimates from the seismic hazard analysis. The resistance to liquefaction is plotted on a chart of cyclic shear stress ratio (CSR) versus a corrected blow count $N_{1(60)}$ or Q_{CIN} . A PGA_M value of 0.50g was used in the analysis with an 8-foot groundwater depth and a threshold factor of safety (FS) of 1.3.

The computer program CLiq (Version 2.2.0.32, Geologismiki, 2017) was utilized for liquefaction assessment at the project site. The estimated settlements have been adjusted for transition zones between layers and the post liquefaction volumetric strain has been weighed with depth (Robertson, 2014 and Cetin et al., 2009). Computer printouts of the liquefaction analyses are provided in Appendix D.

The fines content of liquefiable sands and silts increases the liquefaction resistance in that more ground motion cycles are required to fully develop increased pore pressures. The CPT tip pressures (Q_c) were adjusted to an equivalent clean sand pressure (Q_{CINes}) in accordance with Robertson and Wride (1997).

The soil encountered at the points of exploration included saturated silts and silty sands that could liquefy during a Maximum Considered Earthquake. Liquefaction can occur within several isolated silt and sand layers between depths of 9 to 49 feet. The likely triggering mechanism for liquefaction appears to be strong groundshaking associated with the rupture of the San Andreas fault.

Liquefaction Induced Settlements: *Based on empirical relationships, total induced settlements are estimated to be about 1/2 inch should liquefaction occur.* The magnitude of potential liquefaction induced differential settlement is estimated at be two-thirds of the total potential settlement in accordance with California Special Publication 117; therefore, there is a potential for 1/4 inch of liquefaction induced differential settlement at the project site. The differential settlement based on seismic settlements is estimated at 1/2 inch over a distance of 100 feet. Foundations should be designed for a maximum deflection of $L/720$.

Because of the depth of the liquefiable layer, wide area subsidence of the soil overburden would be the expected effect of liquefaction rather than bearing capacity failure of the proposed structures.

Liquefaction Induced Ground Failure: Based on research from Ishihara (1985) and Youd and Garris (1995) small ground fissure or sand boil formation is unlikely because of the thickness of the overlying unliquefiable soil. Sand boils are conical piles of sand derived from the upward flow of groundwater caused by excess porewater pressures created during strong ground shaking. Sand boils are not inherently damaging by themselves, but are an indication that liquefaction occurred at depth (Jones, 2003). Liquefaction induced lateral spreading is not expected to occur at this site due to the planar topography. According to Youd (2005), if the liquefiable layer lies at a depth greater than about twice the height of a free face, lateral spread is not likely to develop. No slopes or free faces occur at this site.

Mitigation: Based on an estimate of less than ½ inch of liquefaction induced settlements, no mitigation is required at this project site.

Section 4

DESIGN CRITERIA**4.1 Site Preparation**

Clearing and Grubbing: All surface improvements, debris or vegetation including grass, trees, and weeds on the site at the time of construction should be removed from the construction area. Root balls should be completely excavated. Organic strippings should be stockpiled and not used as engineered fill. All trash, construction debris, concrete slabs, old pavement, landfill, and buried obstructions such as old foundations and utility lines exposed during rough grading should be traced to the limits of the foreign material by the grading contractor and removed under our supervision. Any excavations resulting from site clearing should be sloped to a bowl shape to the lowest depth of disturbance and backfilled under the observation of the geotechnical engineer's representative.

Building Pad Preparation: The exposed surface soil within the building pad/foundation areas should be removed to 36 inches below the building pad elevation or existing natural surface grade (whichever is lower) extending five feet beyond all exterior wall/column lines (including concreted areas adjacent to the building). Exposed subgrade should be scarified to a depth of 8 inches, uniformly moisture conditioned to 2 to 6% above optimum and recompacted to 87 to 92% of the maximum density determined in accordance with ASTM D1557 methods.

It is possible that wet sandy soils will pump under equipment loads. Light earthmoving and compaction equipment should be planned for compacting soil at depth.

The native soil is suitable for use as engineered fill provided it is free from concentrations of organic matter or other deleterious material. The fill soil should be uniformly moisture conditioned by discing and watering to the limits specified above, placed in maximum 8-inch lifts (loose), and compacted to the limits specified above. Clay soil should not be overcompacted because highly compacted soil will result in increased swelling. Imported fill soil (for foundations designed for expansive soil conditions) should have a Plasticity Index less than 15 and sulfates (SO₄) less than 1,000 ppm.

If foundation designs are to be utilized which do not include provisions for expansive soil, an engineered building support pad consisting of 2.5 feet of granular soil, placed in maximum 8-inch lifts (loose), compacted to a minimum of 90% of ASTM D1557 maximum density at 2% below to 4% above optimum moisture, should be placed below the bottom of the slab.

The native granular soil is suitable for use as compacted fill and utility trench backfill. The native soil should be placed in maximum 8 inch lifts (loose) and compacted to a minimum of 90% of ASTM D1557 maximum dry density at optimum moisture $\pm 2\%$.

Alternate methods for foundations which do not include provisions for expansive soil conditions, include utilizing non-expansive granular soil in the upper 2.5 feet below foundations. The imported soils should meet the USCS classifications of ML (non-plastic), SM, SP-SM, or SW-SM with a maximum rock size of 3 inches and no less than 5% passing the No. 200 sieve. The geotechnical engineer should approve imported fill soil sources before hauling material to the site. Imported fill should be placed in lifts no greater than 8 inches in loose thickness and compacted to a minimum of 90% of ASTM D1557 maximum dry density at optimum moisture $\pm 2\%$.

In areas other than the building pad which are to receive sidewalks or area concrete slabs, the ground surface should be presaturated to a minimum depth of 24 inches and then scarified to 8 inches, moisture conditioned to a minimum of 5% over optimum, and recompact to 85-90% of ASTM D1557 maximum density just prior to concrete placement.

Moisture Control and Drainage: If clayey silt soils are used at building pads (without 2.5 feet of granular, non-plastic soil), the moisture condition of the building pad should be maintained during trenching and utility installation until concrete is placed or should be rewetted by use of multiple applications of water with sprinklers before initiating delayed construction.

Adequate site drainage is essential to future performance of the project. Infiltration of excess irrigation water and stormwaters can adversely affect the performance of the subsurface soil at the site. Positive drainage should be maintained away from all structures (5% for 10 feet minimum across unpaved areas) to prevent ponding and subsequent saturation of the native clay soil. Gutters and downspouts should be used as a means to convey water away from foundations.

If landscape irrigation is allowed next to the building, drip irrigation systems or lined planter boxes should be used. The subgrade soil around the entire foundation should be maintained in a moist, but not saturated state, and not allowed to dry out. The developer should consider utilizing drip irrigation systems around the entire building perimeter to maintain soil moisture. Drainage should be maintained without ponding. Trees should be set back from foundations a minimum of 20 feet from the foundation.

Observation and Density Testing: All site preparation and fill placement should be continuously observed and tested by a representative of a qualified geotechnical engineering firm. Full-time observation services during the excavation and scarification process is necessary to detect undesirable materials or conditions and soft areas that may be encountered in the construction area. The geotechnical firm that provides observation and testing during construction shall assume the responsibility of "*geotechnical engineer of record*" and, as such, shall perform additional tests and investigation as necessary to satisfy themselves as to the site conditions and the geotechnical parameters for site development.

Auxiliary Structures Foundation Preparation: Auxiliary structures such as free standing or retaining walls should have footings extended to a minimum of 30 inches below grade. The existing soil beneath the structure foundation prepared in the manner described for the building pad except the preparation needed only to extend 18 inches below and beyond the footing.

4.2 Utility Trench Backfill

Utility Trench Backfill: Trench backfill for utilities should conform to the specifications shown on Plate D-1 (Appendix D), using either Type A, B or C backfill.

Type A backfill for HDPE pipe (above groundwater) consists of a 4 to 8 inch bed of $\frac{3}{8}$ -inch crushed rock below the pipe and pipezone backfill (to 12" above top of pipe) consisting of crusher fines (sand). Sewer pipes (SDR-35), water mains, and stormdrain pipes of other than HDPE pipe may use crusher fines for bedding. The crusher fines shall be compacted to a minimum of 95% of ASTM D1557 maximum density. Pipe deflection should be checked to not exceed 2% of pipe diameter. Native clay/silt soils may be used to backfill the remainder of the trench.

Soils used for trench backfill shall be compacted to a minimum of 90% of ASTM D1557 maximum density, except the top 12 inches shall be compacted to 95% (if granular trench backfill).

Type B backfill for HDPE pipe (shallow cover) requires 6 inches of 3/8-inch crushed rock as bedding and to springline of the pipe. Thereafter, sand/cement slurry (3 sack cement factor) should be used to 12 inches above the top of the pipe. Native clay and silt soils may be used in the remainder of the trench backfill as specified above.

Type C backfill for HDPE pipe (below or partially below groundwater) shall consist of a geotextile filter fabric encapsulating 3/8-inch crushed rock. The crushed rock thickness shall be 6 inches below and to the sides of the pipe and shall extend to 12 inches above the top of the pipe. The filter fabric shall cover the trench bottom, sidewalls and over the top of the crushed rock. Native clay and silt soils may be used in the remainder of the trench backfill as specified above.

Type C backfill must be used in wet soils and below groundwater for all buried utility pipelines. Where pipeline excavation are planned below the ground water surface, dewatering (by well points) is required to at least 24 inches below the trench bottom prior to excavation. Type A backfill may be used in the case of a dewatered trench condition in clay soils only.

On-site soil free of debris, vegetation, and other deleterious matter may be suitable for use as utility trench backfill above pipezone, but may be difficult to uniformly maintain at specified moistures and compact to the specified densities. Native backfill should only be placed and compacted after encapsulating buried pipes with suitable bedding and pipe envelope material.

Imported granular material is acceptable for backfill of utility trenches. Granular trench backfill used in building pad areas should be plugged with a solid (no clods or voids) 2-foot width of native clay soils at each end of the building foundation to prevent landscape water migration into the trench below the building.

Backfill soil of utility trenches within paved areas should be uniformly moisture conditioned to a minimum of 4% above optimum moisture, placed in layers not more than 6 inches in thickness and mechanically compacted to a minimum of 90% of the ASTM D1557 maximum dry density, except that the top 12 inches shall be compacted to 95% (if granular trench backfill).

4.3 Foundations and Settlements

Shallow spread footings are suitable to support the building provided they are structurally tied with grade-beams to continuous perimeter wall footings to resist differential movement associated with expansive soils and potential soil liquefaction at depth. Exterior footings shall be founded a minimum of 18 inches below the surface of the building support pad on a layer of properly prepared and compacted native soil or non-expansive granular fill as described in Section 4.1. Interior footings shall have a minimum embedment depth of 18 inches.

The foundations may be designed using an allowable soil bearing pressure of 1,500 psf for compacted native clay soil and 2,000 psf when foundations are supported on imported sands (extending a minimum of 1.0 feet below footings). The allowable soil pressure may be increased by 20% for each foot of embedment depth of the footings in excess of 18 inches and by one-third for short term loads induced by winds or seismic events. The maximum allowable soil pressure at increased embedment depths shall not exceed 3,000 psf (clays).

As an alternative to shallow spread foundations, flat plate structural mats or grade-beam reinforced foundations may be used to mitigate expansive soil heave and/or liquefaction related movement.

Flat Plate Structural Mats: Flat plate structural mats may be used to mitigate expansive soils at the project site. The structural mat shall have a double mat of steel (minimum No. 4's @ 12 inches O.C. each way – top and bottom) and a minimum thickness of 10 inches. Mat edges shall have a minimum edge footing of 12 inches width and 24 inches depth (below the building pad surface). Mats may be designed by CBC Chapter 18, Section 1808A.6.2 methods (*WRI/CRSI Design of Slab-on-Ground Foundations*).

Structural mats may be designed for a modulus of subgrade reaction (Ks) of 50 pci when placed on native soil or a subgrade modulus of 250 pci when placed on 2.5 feet of granular fill.

Mats shall overlay 2 inches of sand and a 10-mil polyethylene vapor retarder. The building support pad shall be moisture conditioned and recompact as specified in Section 4.1 of this report.

Grade-beam Reinforced Foundations: Structures with grade beam reinforced foundations placed on the native soils shall be designed for a Plasticity Index (PI) of 5 and have a maximum grade-beam spacing of 25 feet (CBC Chapter 18, Section 1808A.6.2 *WRI/CRSI Design of Slab-on-Ground Foundations*).

All exterior footings in native soils should be embedded a minimum of 18 inches below the building support pad or lowest adjacent final grade, whichever is deeper. Minimum embedment depth of interior slab stiffening elements for post-tensioned slabs should be at least 18 inches into the building support pad to account for variable environmental conditions. Interior and exterior embedment depths listed herein are minimum depths and greater depths/widths may be required by the structural engineer/designer and should be sufficient to limit differential movement to L/480 for center lift and L/720 for edge lift to comply with the current standards. Continuous wall footings should have a minimum width of 12 inches. Spread footings should have a minimum dimension of 24 inches and should be structurally tied to perimeter footings or grade beams. Concrete reinforcement and sizing for all footings should be provided by the structural engineer.

Resistance to horizontal loads will be developed by passive earth pressure on the sides of footings and frictional resistance developed along the bases of footings and concrete slabs. Passive resistance to lateral earth pressure may be calculated using an equivalent fluid pressure of 250 pcf (300 pcf for imported sands) to resist lateral loadings. The top one foot of embedment should not be considered in computing passive resistance unless the adjacent area is confined by a slab or pavement. An allowable friction coefficient of 0.25 (0.35 for imported sands) may also be used at the base of the footings to resist lateral loading.

Foundation movement under the estimated static (non-seismic) loadings and static site conditions are estimated to not exceed $\frac{3}{4}$ inch with differential movement of about two-thirds of total movement for the loading assumptions stated above when the subgrade preparation guidelines given above are followed. Seismically induced liquefaction settlement of the surrounding land mass and structure may be on the order of $\frac{1}{2}$ inch (total) and $\frac{1}{4}$ inch (differential).

4.4 Slabs-On-Grade

Structural Concrete: Structural concrete slabs are those slabs (foundations) that underlie structures or patio covers (shades). These slabs that are placed over native clay soil should be designed in accordance with Chapter 18 of the 2016 CBC and shall be a minimum of 5 inches thick. Floor slabs in the equipment bays (subjected to equipment loads) should be a minimum of 7 inches thick. Concrete floor slabs shall be monolithically placed with the footings (no cold joints) unless placed on 2.5 feet of granular fill.

American Concrete Institute (ACI) guidelines (ACI 302.1R-04 Chapter 3, Section 3.2.3) provide recommendations regarding the use of moisture barriers beneath concrete slabs. The concrete floor slabs should be underlain by a 10-mil polyethylene vapor retarder that works as a capillary break to reduce moisture migration into the slab section. All laps and seams should be overlapped 6-inches or as recommended by the manufacturer. The vapor retarder should be protected from puncture. The joints and penetrations should be sealed with the manufacturer's recommended adhesive, pressure-sensitive tape, or both. The vapor retarder should extend a minimum of 12 inches into the footing excavations. The vapor retarder should be covered by 4 inches of clean sand (Sand Equivalent SE>30) unless placed on 2.5 feet of granular fill, in which case, the vapor retarder may lie directly on the granular fill with 2 inches of clean sand cover.

Placing sand over the vapor retarder may increase moisture transmission through the slab, because it provides a reservoir for bleed water from the concrete to collect. The sand placed over the vapor retarder may also move and mound prior to concrete placement, resulting in an irregular slab thickness. For areas with moisture sensitive flooring materials, ACI recommends that concrete slabs be placed without a sand cover directly over the vapor retarder, provided that the concrete mix uses a low-water cement ratio and concrete curing methods are employed to compensate for release of bleed water through the top of the slab. The vapor retarder should have a minimum thickness of 15-mil (Stego-Wrap or equivalent).

Structural concrete slab reinforcement should consist of chaired rebar slab reinforcement (minimum of No. 3 bars at 16-inch centers, both horizontal directions) placed at slab mid-height to resist potential swell forces and cracking. Slab thickness and steel reinforcement are minimums only and should be verified by the structural engineer/designer knowing the actual project loadings.

All steel components of the foundation system should be protected from corrosion by maintaining a 3-inch minimum concrete cover of densely consolidated concrete at footings (by use of a vibrator). The construction joint between the foundation and any mowstrips/sidewalks placed adjacent to foundations should be sealed with a polyurethane based non-hardening sealant to prevent moisture migration between the joint. Epoxy coated embedded steel components (ASTM D3963/A934) or permanent waterproofing membranes placed at the exterior footing sidewall may also be used to mitigate the corrosion potential of concrete placed in contact with native soil.

Control joints should be provided in all concrete slabs-on-grade at a maximum spacing (in feet) of 2 to 3 times the slab thickness (in inches) as recommended by American Concrete Institute (ACI) guidelines. All joints should form approximately square patterns to reduce randomly oriented contraction cracks. Contraction joints in the slabs should be tooled at the time of the pour or sawcut ($\frac{1}{4}$ of slab depth) within 6 to 8 hours of concrete placement. Construction (cold) joints in foundations and area flatwork should either be thickened butt-joints with dowels or a thickened keyed-joint designed to resist vertical deflection at the joint. All joints in flatwork should be sealed to prevent moisture, vermin, or foreign material intrusion. Precautions should be taken to prevent curling of slabs in this arid desert region (refer to ACI guidelines).

Non-structural Concrete: All non-structural independent flatwork (sidewalks and uncovered patios) shall be a minimum of 4 inches thick and should be placed on a minimum of 2 inches of concrete sand or aggregate base, dowelled to the perimeter foundations where adjacent to the building to prevent separation and sloped 2% (sidewalks) or 1 to 2% (patios) away from the building. Patio slabs with shade structures shall have a perimeter footing (18-inch embedment depth) and shall have interior grade beams (12-inch minimum embedment depth) at 15 feet on center. Planters that trap water between sidewalks and foundations are not allowed.

A minimum of 24 inches of moisture conditioned (5% minimum above optimum) and 8 inches of compacted subgrade (85 to 90%) should underlie all independent flatwork. Flatwork which contains steel reinforcing (except wire mesh) should be underlain by a 10-mil (minimum) polyethylene separation sheet and at least a 2-inch sand cover. All flatwork should be jointed in square patterns and at irregularities in shape at a maximum spacing of 8 feet or the least width of the sidewalk.

4.5 Concrete Mixes and Corrosivity

Selected chemical analyses for corrosivity were conducted on bulk samples of the near surface soil from the project site (Plate C-4). The native soils were found to have S0 levels of sulfate ion concentration (25ppm). Sulfate ions in high concentrations can attack the cementitious material in concrete, causing weakening of the cement matrix and eventual deterioration by raveling. The following table provides American Concrete Institute (ACI) recommended cement types, water-cement ratio and minimum compressive strengths for concrete in contact with soils:

Table 4. Concrete Mix Design Criteria due to Soluble Sulfate Exposure

Sulfate Exposure Class	Water-soluble Sulfate (SO ₄) in soil, ppm	Cement Type	Maximum Water-Cement Ratio by weight	Minimum Strength f'c (psi)
S0	0-1,000	–	–	–
S1	1,000-2,000	II	0.50	4,000
S2	2,000-20,000	V	0.45	4,500
S3	Over 20,000	V (plus Pozzolon)	0.45	4,500

Note: From ACI 318-14 Table 19.3.1.1 and Table 19.3.2.1

A minimum of 6.0 sacks per cubic yard of concrete (4,000 psi) of Type V Portland Cement with a maximum water/cement ratio of 0.50 (by weight) should be used for concrete placed in contact with native soil on this project (sitework including sidewalks, hardscape, and foundations). Admixtures may be required to allow placement of this low water/cement ratio concrete. Thorough concrete consolidation and hard trowel finishes should be used due to the aggressive soil exposure.

The native soil has low levels of chloride ion concentration (80 ppm). Chloride ions can cause corrosion of reinforcing steel, anchor bolts and other buried metallic conduits. Resistivity determinations on the soil indicate severe potential for metal loss because of electrochemical corrosion processes.

Mitigation of the corrosion of steel can be achieved by using steel pipes coated with epoxy corrosion inhibitors, asphaltic and epoxy coatings, cathodic protection or by encapsulating the portion of the pipe lying above groundwater with a minimum of 3 inches of densely consolidated concrete. ***No metallic water pipes or conduits should be placed below foundations.***

Foundation designs shall provide a minimum concrete cover of three (3) inches around steel reinforcing or embedded components (anchor bolts, etc.) exposed to native soil or landscape water (to 18 inches above grade). If the 3-inch concrete edge distance cannot be achieved, all embedded steel components (anchor bolts, etc.) shall be epoxy coated for corrosion protection (in accordance with ASTM D3963/A934) or a corrosion inhibitor and a permanent waterproofing membrane shall be placed along the exterior face of the exterior footings. ***Hold-down straps should not be used at foundation edges due to corrosion of metal at its protrusion from the slab edge.*** Additionally, the concrete should be thoroughly vibrated at footings during placement to decrease the permeability of the concrete.

Exterior foundation faces exposed to native soils (without adjacent mowstrips, sidewalks, or patios) should be coated with a permanent waterproofing membrane to prevent salt migration into concrete.

Copper water piping (except for trap primers) should not be placed under floor slabs. All copper piping within 18 inches of ground surface shall be wrapped with two layers of 10 mil plumbers tape or sleeved with PVC piping to prevent contact with soil. The trap primer pipe shall be completely encapsulated in a PVC sleeve and Type K copper should be utilized if polyethylene tubing cannot be used. Pressurized waterlines are not allowed under the floor slab. Fire protection piping (risers) should be placed outside of the building foundation.

4.6 Excavations

All site excavations should conform to CalOSHA requirements for Type B soil. The contractor is solely responsible for the safety of workers entering trenches. Temporary excavations with depths of 4 feet or less may be cut nearly vertical for short duration. Excavations deeper than 4 feet will require shoring or slope inclinations in conformance to CAL/OSHA regulations for Type B soil. Surcharge loads of stockpiled soil or construction materials should be set back from the top of the slope a minimum distance equal to the height of the slope.

All permanent slopes should not be steeper than 3:1 to reduce wind and rain erosion. Protected slopes with ground cover may be as steep as 2:1. However, maintenance with motorized equipment may not be possible at this inclination.

4.7 Seismic Design

This site is located in the seismically active southern California area and the site structures are subject to strong ground shaking due to potential fault movements along the Brawley, Superstition Hills, and Imperial Faults. Engineered design and earthquake-resistant construction are the common solutions to increase safety and development of seismic areas. Designs should comply with the latest edition of the CBC for Site Class D using the seismic coefficients given in Section 3.6 and Table 2 of this report.

4.8 Pavements

Pavements should be designed according to the 2012 Caltrans Highway Design Manual or other acceptable methods. Traffic indices were not provided by the project engineer or owner; therefore, we have provided structural sections for several traffic indices for comparative evaluation. The public agency or design engineer should decide the appropriate traffic index for the site. Maintenance of proper drainage is necessary to prolong the service life of the pavements.

Based on the current Caltrans method, an R-value of 50 for the subgrade soil and assumed traffic indices, the following table provides our estimates for asphaltic concrete (AC) and Portland Cement Concrete (PCC) pavement sections.

Table 5. Pavement Structural Sections

R-Value of Subgrade Soil - 50

Design Method - Caltrans 2012

Traffic Index	Flexible Pavements		Rigid (PCC) Pavements	
	Asphaltic Concrete Thickness (in.)	Aggregate Base Thickness (in.)	Concrete Thickness (in.)	Aggregate Base Thickness (in.)
4.0	3.0	4.0	5.0	4.0
5.0	3.0	4.0	5.5	4.0
6.0	4.0	4.0	6.0	4.0
6.5	3.5	6.0	7.0	4.0
8.0	4.0	6.5	8.0	6.0

Notes:

- 1) Asphaltic concrete shall be Caltrans, Type B, ¾ inch maximum (½ inch maximum for parking areas), medium grading with PG70-10 asphalt concrete, compacted to a minimum of 95% of the Hveem density (CAL 308) or a minimum of 92% of the Maximum Theoretical Density (ASTM D2041).
- 2) Aggregate base shall conform to Caltrans Class 2 (¾ in. maximum), compacted to a minimum of 95% of ASTM D1557 maximum dry density.
- 3) Place pavements on 12 inches of moisture conditioned (minimum 4% above optimum if clays) native clay soil compacted to a minimum of 90% (95% if sand subgrade) of the maximum dry density determined by ASTM D1557. Prewetting of subgrade soils (to 3.5 feet) may be required depending on moisture of subgrade at time of aggregate base placement.
- 4) Portland cement concrete for pavements should have Type V cement, a minimum compressive strength of 4,500 psi at 28 days, and a maximum water-cement ratio of 0.45.
- 5) Typical Street Classifications (Imperial County).
 - Parking Areas: TI = 4.0
 - Cul-de-Sacs: TI = 5.0
 - Local Streets: TI = 6.0
 - Minor Collectors: TI = 6.5
 - Major Collectors: TI = 8.0

Section 5

LIMITATIONS AND ADDITIONAL SERVICES**5.1 Limitations**

The findings and professional opinions within this report are based on current information regarding the proposed Fire and Sheriff Substation located at 8071 Luxor Avenue in Niland, California. The conclusions and professional opinions of this report are invalid if:

- ▶ Structural loads change from those stated or the structures are relocated.
- ▶ The Additional Services section of this report is not followed.
- ▶ This report is used for adjacent or other property.
- ▶ Changes of grade or groundwater occur between the issuance of this report and construction other than those anticipated in this report.
- ▶ Any other change that materially alters the project from that proposed at the time this report was prepared.

Findings and professional opinions in this report are based on selected points of field exploration, geologic literature, laboratory testing, and our understanding of the proposed project. Our analysis of data and professional opinions presented herein are based on the assumption that soil conditions do not vary significantly from those found at specific exploratory locations. Variations in soil conditions can exist between and beyond the exploration points or groundwater elevations may change. If detected, these conditions may require additional studies, consultation, and possible design revisions.

This report contains information that may be useful in the preparation of contract specifications. However, the report is not worded in such a manner that we recommend its use as a construction specification document without proper modification. The use of information contained in this report for bidding purposes should be done at the contractor's option and risk.

This report was prepared according to the generally accepted *geotechnical engineering standards of practice* that existed in Imperial County at the time the report was prepared. No express or implied warranties are made in connection with our services. This report should be considered invalid for periods after two years from the report date without a review of the validity of the findings and professional opinions by our firm, because of potential changes in the Geotechnical Engineering Standards of Practice.

The client has responsibility to see that all parties to the project including, designer, contractor, and subcontractor are made aware of this entire report. The use of information contained in this report for bidding purposes should be done at the contractor's option and risk.

5.2 Additional Services

We recommend that a qualified geotechnical consultant be retained to provide the tests and observations services during construction. *The geotechnical engineering firm providing such tests and observations shall become the geotechnical engineer of record and assume responsibility for the project.*

The professional opinions presented in this report are based on the assumption that:

- ▶ Consultation during development of design and construction documents to check that the geotechnical professional opinions are appropriate for the proposed project and that the geotechnical professional opinions are properly interpreted and incorporated into the documents.
- ▶ Landmark Consultants will have the opportunity to review and comment on the plans and specifications for the project prior to the issuance of such for bidding.
- ▶ Observation, inspection, and testing by the geotechnical consultant of record during site clearing, grading, excavation, placement of fills, building pad and subgrade preparation, and backfilling of utility trenches.
- ▶ Observation of foundation excavations and reinforcing steel before concrete placement.
- ▶ Other consultation as necessary during design and construction.

We emphasize our review of the project plans and specifications to check for compatibility with our professional opinions and conclusions. Additional information concerning the scope and cost of these services can be obtained from our office.

TABLES

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Table 1
Summary of Characteristics of Closest Known Active Faults

Fault Name	Approximate Distance (miles)	Approximate Distance (km)	Maximum Moment Magnitude (Mw)	Fault Length (km)	Slip Rate (mm/yr)
Hot Springs *	12.7	20.3			
San Andreas - Coachella	17.1	27.4	7.2	96 ± 10	25 ± 5
Elmore Ranch	22.3	35.7	6.6	29 ± 3	1 ± 0.5
Blue Cut *	36.9	59.1			
Indio Hills *	39.3	63.0			
San Jacinto - Anza	39.6	63.4	7.2	91 ± 9	12 ± 6
Superstition Hills	40.0	64.0	6.6	23 ± 2	4 ± 2
Brawley *	40.1	64.2			
Imperial	40.6	64.9	7	62 ± 6	20 ± 5
San Jacinto - Borrego	43.2	69.1	6.6	29 ± 3	4 ± 2
Superstition Mountain	44.3	70.9	6.6	24 ± 2	5 ± 3
San Andreas - San Bernardino (South)	45.0	72.0	7.4	103 ± 10	30 ± 7
San Andreas - San Bernardino (North)	45.0	72.0	7.5	103 ± 10	24 ± 6
Pisgah Mtn. - Mesquite Lake	45.6	73.0	7.3	89 ± 9	0.6 ± 0.4
San Jacinto - Coyote Creek	46.4	74.2	6.8	41 ± 4	4 ± 2
Pinto Mtn.	47.9	76.7	7.2	74 ± 7	2.5 ± 2
Rico *	49.8	79.7			
Painted Gorge Wash*	50.6	80.9			
Eureka Peak	55.1	88.1	6.4	19 ± 2	0.6 ± 0.4
Yuha Well *	56.0	89.7			
Unnamed 1*	56.6	90.6			
Shell Beds	56.6	90.6			

* Note: Faults not included in CGS database.

**Table 2
2016 California Building Code (CBC) and ASCE 7-10 Seismic Parameters**

Soil Site Class:	D	<u>CBC Reference</u>
Latitude:	33.5288 N	Table 20.3-1
Longitude:	-115.5130 W	
Risk Category:	IV	
Seismic Design Category:	D	

Maximum Considered Earthquake (MCE) Ground Motion

Mapped MCE _R Short Period Spectral Response	S_s	1.500 g	Figure 1613.3.1(1)
Mapped MCE _R 1 second Spectral Response	S₁	0.557 g	Figure 1613.3.1(2)
Short Period (0.2 s) Site Coefficient	F_a	1.00	Table 1613.3.3(1)
Long Period (1.0 s) Site Coefficient	F_v	1.50	Table 1613.3.3(2)
MCE _R Spectral Response Acceleration Parameter (0.2 s)	S_{MS}	1.500 g	= F _a * S _s Equation 16-37
MCE _R Spectral Response Acceleration Parameter (1.0 s)	S_{M1}	0.836 g	= F _v * S ₁ Equation 16-38

Design Earthquake Ground Motion

Design Spectral Response Acceleration Parameter (0.2 s)	S_{DS}	1.000 g	= 2/3*S _{MS}	Equation 16-39
Design Spectral Response Acceleration Parameter (1.0 s)	S_{DI}	0.557 g	= 2/3*S _{M1}	Equation 16-40
Risk Coefficient at Short Periods (less than 0.2 s)	C_{RS}	1.103		ASCE Figure 22-17
Risk Coefficient at Long Periods (greater than 1.0 s)	C_{RI}	1.092		ASCE Figure 22-18
	T_L	8.00 sec		ASCE Figure 22-12
	T_O	0.11 sec	= 0.2*S _{DI} /S _{DS}	
	T_S	0.56 sec	= S _{DI} /S _{DS}	
Peak Ground Acceleration	PGA_M	0.50 g		ASCE Equation 11.8-1

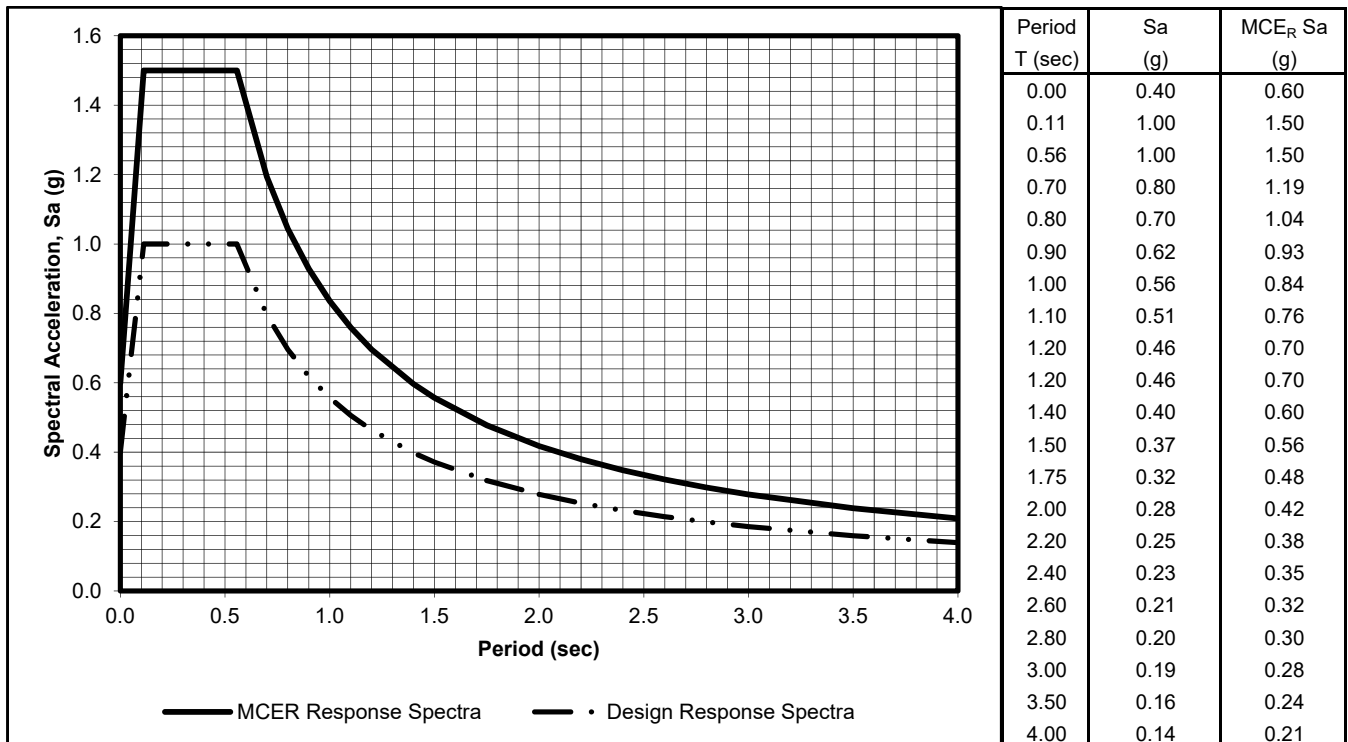


Table 3
U.S. Geological Survey Earthquake Data Base

File Created: November 28, 2018
 Circle Search: Earthquakes = 17
 Circle Center Point: Latitude: 33.5288N Longitude: 115.5130W
 Radius: 100.0 km
 Catalog Used: USGS
 Date Range: 1/1/1900 to 11/28/2018
 Magnitude Range: 5.5 to 9.0
 Data Selection: Historical Earthquake Data

Year	Month	Day	Time	Lat.	Long	Magnitude	Dist. (km)
2010	6	15	04:26:58.240Z	32.71	-115.91	5.7	98.8
1992	6	28	12:01:16.190Z	34.12	-116.32	5.7	99.5
1992	4	23	04:50:23.230Z	33.96	-116.32	6.1	88.4
1987	11	24	13:15:56.710Z	33.02	-115.85	6.6	65.2
1987	11	24	01:54:14.660Z	33.09	-115.79	6.2	55.2
1981	4	26	12:09:28.290Z	33.10	-115.62	5.8	49.2
1979	10	16	06:58:43.450Z	33.00	-115.56	5.8	59.1
1979	10	15	23:16:53.910Z	32.67	-115.36	6.4	96.8
1968	4	9	02:28:59.610Z	33.18	-116.10	6.6	67.1
1954	3	19	09:54:28.170Z	33.30	-116.08	6.4	58.5
1949	5	2	11:25:47.100Z	34.00	-115.70	5.7	55.0
1948	12	4	23:43:17.590Z	33.98	-116.33	6.0	90.9
1945	8	15	17:56:19.610Z	33.08	-115.63	5.8	50.8
1942	10	22	01:50:38.920Z	33.27	-115.57	5.6	29.7
1942	10	21	16:22:12.020Z	32.98	-115.79	6.6	66.5
1940	5	19	04:36:41.500Z	32.84	-115.38	6.9	77.1
1937	3	25	16:49:03.820Z	33.40	-116.25	6.0	69.8

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FIGURES

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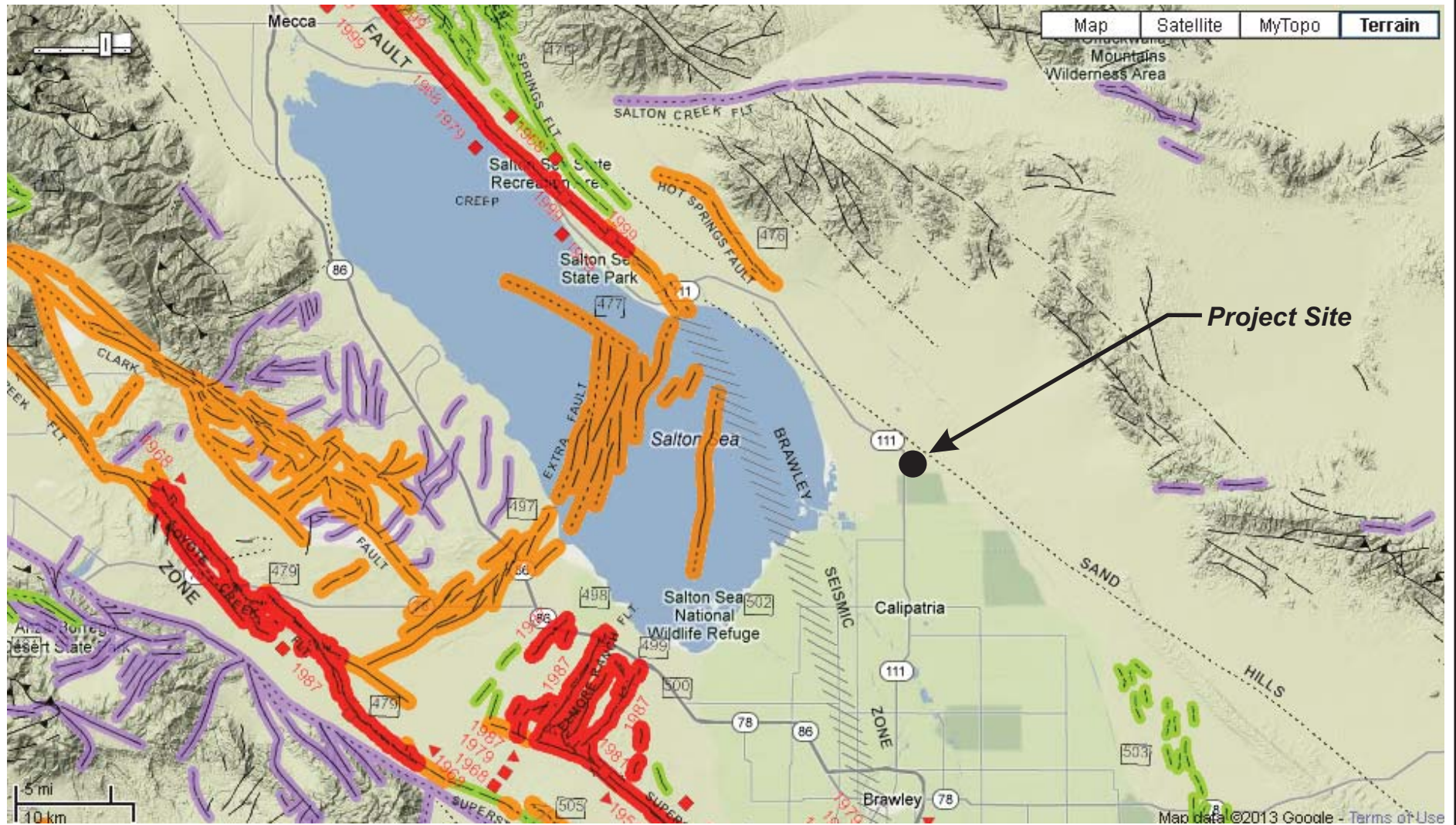
Source: California Geological Survey 2010 Fault Activity Map of California
<http://www.quake.ca.gov/gmaps/FAM/faultactivitymap.html#>

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Regional Fault Map

Figure 1



Source: California Geological Survey 2010 Fault Activity Map of California
<http://www.quake.ca.gov/gmaps/FAM/faultactivitymap.html#>

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Map of Local Faults

Figure 2

EXPLANATION

Fault traces on land are indicated by solid lines where well located, by dashed lines where approximately located or inferred, and by dotted lines where concealed by younger rocks or by lakes or bays. Fault traces are queried where continuation or existence is uncertain. Concealed faults in the Great Valley are based on maps of selected subsurface horizons, so locations shown are approximate and may indicate structural trend only. All offshore faults based on seismic reflection profile records are shown as solid lines where well defined, dashed where inferred, queried where uncertain.

FAULT CLASSIFICATION COLOR CODE (Indicating Recency of Movement)

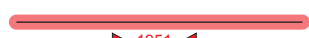


Fault along which historic (last 200 years) displacement has occurred and is associated with one or more of the following:

- (a) a recorded earthquake with surface rupture. (Also included are some well-defined surface breaks caused by ground shaking during earthquakes, e.g. extensive ground breakage, not on the White Wolf fault, caused by the Arvin-Tehachapi earthquake of 1952). The date of the associated earthquake is indicated. Where repeated surface ruptures on the same fault have occurred, only the date of the latest movement may be indicated, especially if earlier reports are not well documented as to location of ground breaks.
- (b) fault creep slippage - slow ground displacement usually without accompanying earthquakes.
- (c) displaced survey lines.



A triangle to the right or left of the date indicates termination point of observed surface displacement. Solid red triangle indicates known location of rupture termination point. Open black triangle indicates uncertain or estimated location of rupture termination point.



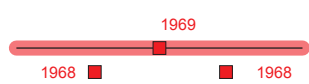
Date bracketed by triangles indicates local fault break.



No triangle by date indicates an intermediate point along fault break.



Fault that exhibits fault creep slippage. Hachures indicate linear extent of fault creep. Annotation (creep with leader) indicates representative locations where fault creep has been observed and recorded.



Square on fault indicates where fault creep slippage has occurred that has been triggered by an earthquake on some other fault. Date of causative earthquake indicated. Squares to right and left of date indicate terminal points between which triggered creep slippage has occurred (creep either continuous or intermittent between these end points).



Holocene fault displacement (during past 11,700 years) without historic record. Geomorphic evidence for Holocene faulting includes sag ponds, scarps showing little erosion, or the following features in Holocene age deposits: offset stream courses, linear scarps, shutter ridges, and triangular faceted spurs. Recency of faulting offshore is based on the interpreted age of the youngest strata displaced by faulting.



Late Quaternary fault displacement (during past 700,000 years). Geomorphic evidence similar to that described for Holocene faults except features are less distinct. Faulting may be younger, but lack of younger overlying deposits precludes more accurate age classification.



Quaternary fault (age undifferentiated). Most faults of this category show evidence of displacement sometime during the past 1.6 million years; possible exceptions are faults which displace rocks of undifferentiated Plio-Pleistocene age. Unnumbered Quaternary faults were based on Fault Map of California, 1975. See Bulletin 201, Appendix D for source data.



Pre-Quaternary fault (older than 1.6 million years) or fault without recognized Quaternary displacement. Some faults are shown in this category because the source of mapping used was of reconnaissance nature, or was not done with the object of dating fault displacements. Faults in this category are not necessarily inactive.

ADDITIONAL FAULT SYMBOLS



Bar and ball on downthrown side (relative or apparent).



Arrows along fault indicate relative or apparent direction of lateral movement.



Arrow on fault indicates direction of dip.



Low angle fault (barbs on upper plate). Fault surface generally dips less than 45° but locally may have been subsequently steepened. On offshore faults, barbs simply indicate a reverse fault regardless of steepness of dip.

OTHER SYMBOLS



Numbers refer to annotations listed in the appendices of the accompanying report. Annotations include fault name, age of fault displacement, and pertinent references including Earthquake Fault Zone maps where a fault has been zoned by the Alquist-Priolo Earthquake Fault Zoning Act. This Act requires the State Geologist to delineate zones to encompass faults with Holocene displacement.



Structural discontinuity (offshore) separating differing Neogene structural domains. May indicate discontinuities between basement rocks.



Brawley Seismic Zone, a linear zone of seismicity locally up to 10 km wide associated with the releasing step between the Imperial and San Andreas faults.

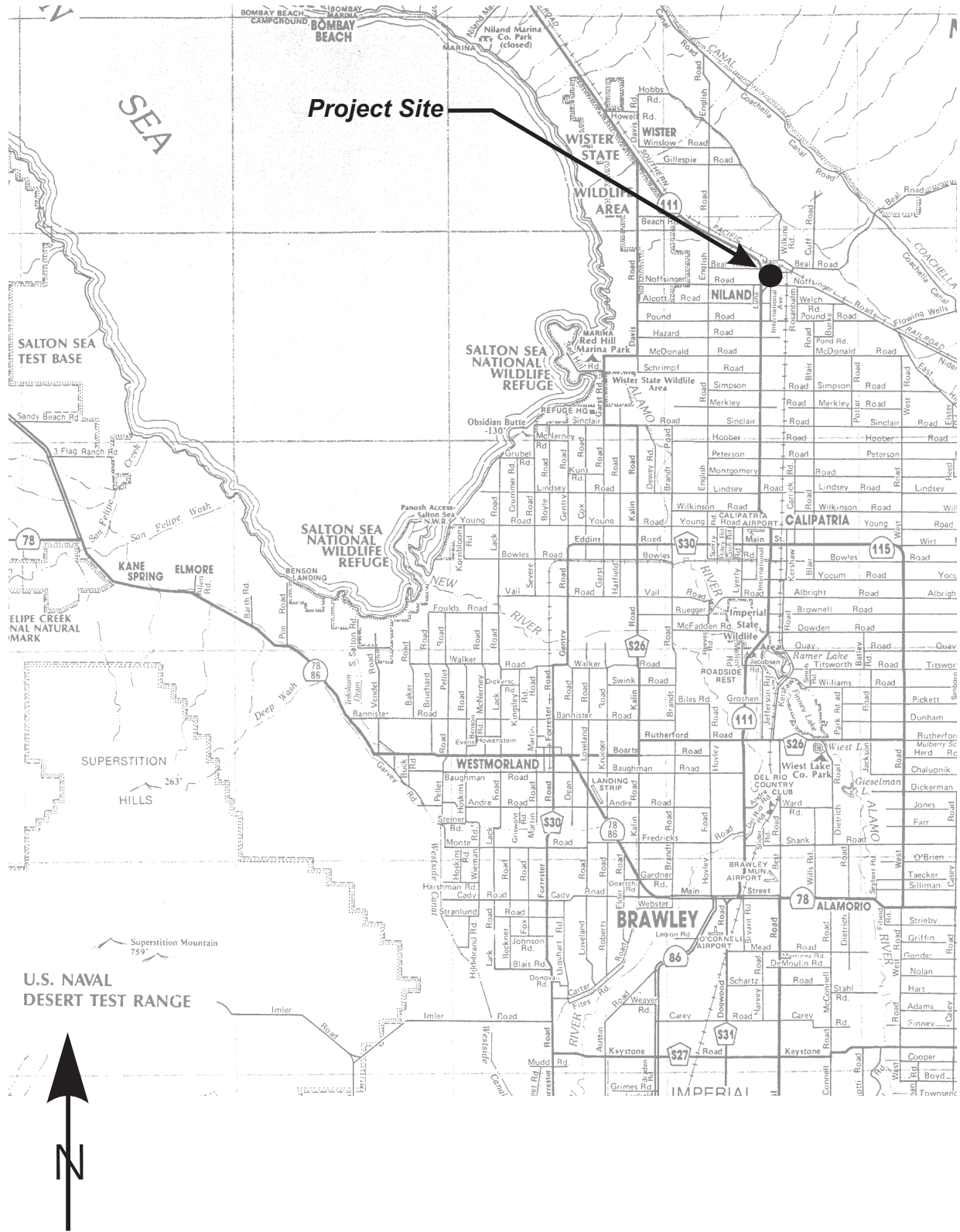
Geologic Time Scale	Years Before Present (Approx.)	Fault Symbol	Recency of Movement	DESCRIPTION	
				ON LAND	OFFSHORE
Quaternary	Historic			Displacement during historic time (e.g. San Andreas fault 1906). Includes areas of known fault creep.	
	Late Quaternary	Holocene			Displacement during Holocene time. Fault offsets seafloor sediments or strata of Holocene age.
		11,700			Faults showing evidence of displacement during late Quaternary time. Fault cuts strata of Late Pleistocene age.
	Early Quaternary	Pleistocene	700,000		
Pre-Quaternary	1,600,000*			Faults without recognized Quaternary displacement or showing evidence of no displacement during Quaternary time. Not necessarily inactive. Fault cuts strata of Pliocene or older age.	
	4.5 billion (Age of Earth)				

* Quaternary now recognized as extending to 2.6 Ma (Walker and Geissman, 2009). Quaternary faults in this map were established using the previous 1.6 Ma criterion.

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APPENDIX A

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Vicinity Map

**Plate
 A-1**



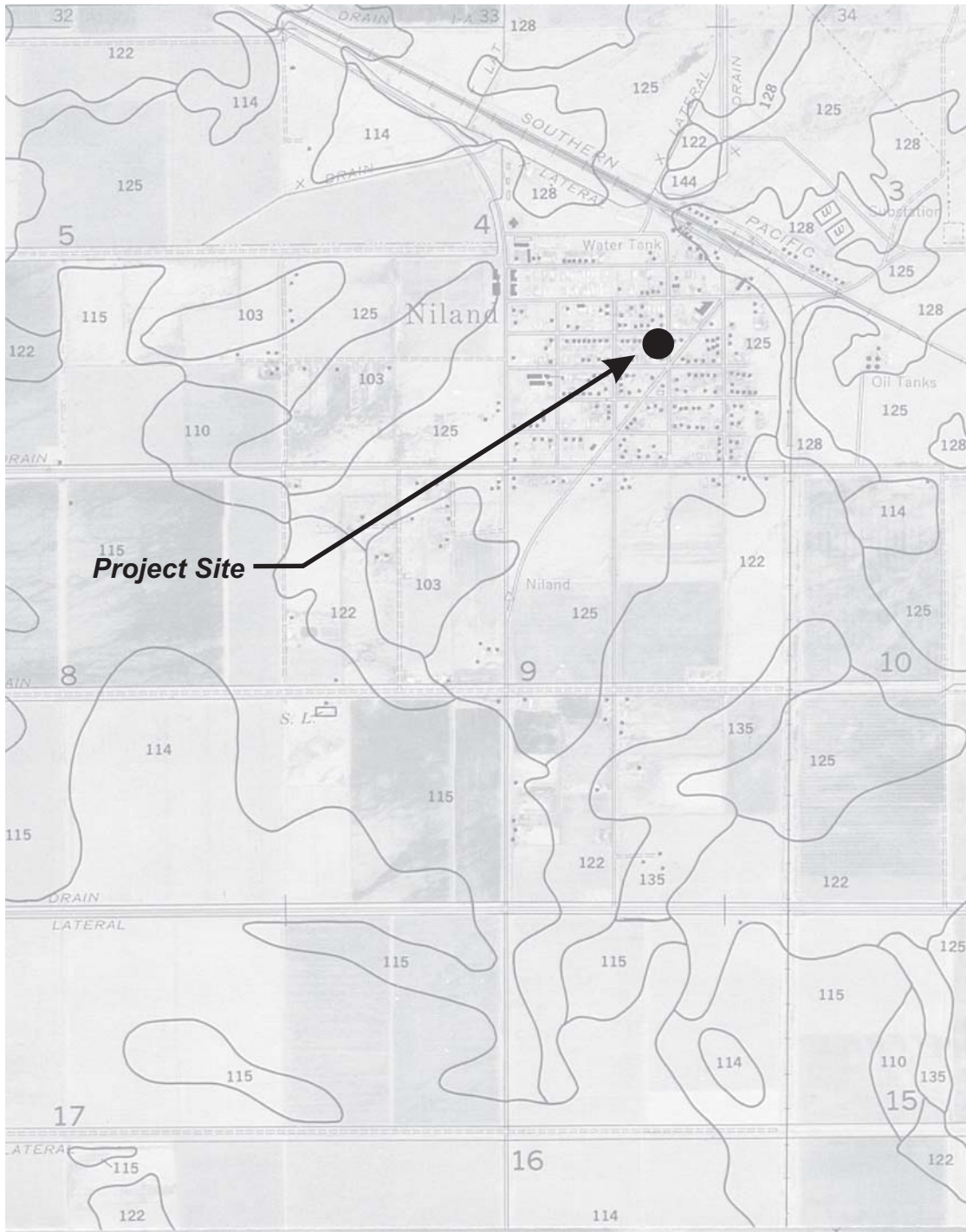
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Site and Exploration Plan

Plate
A-2



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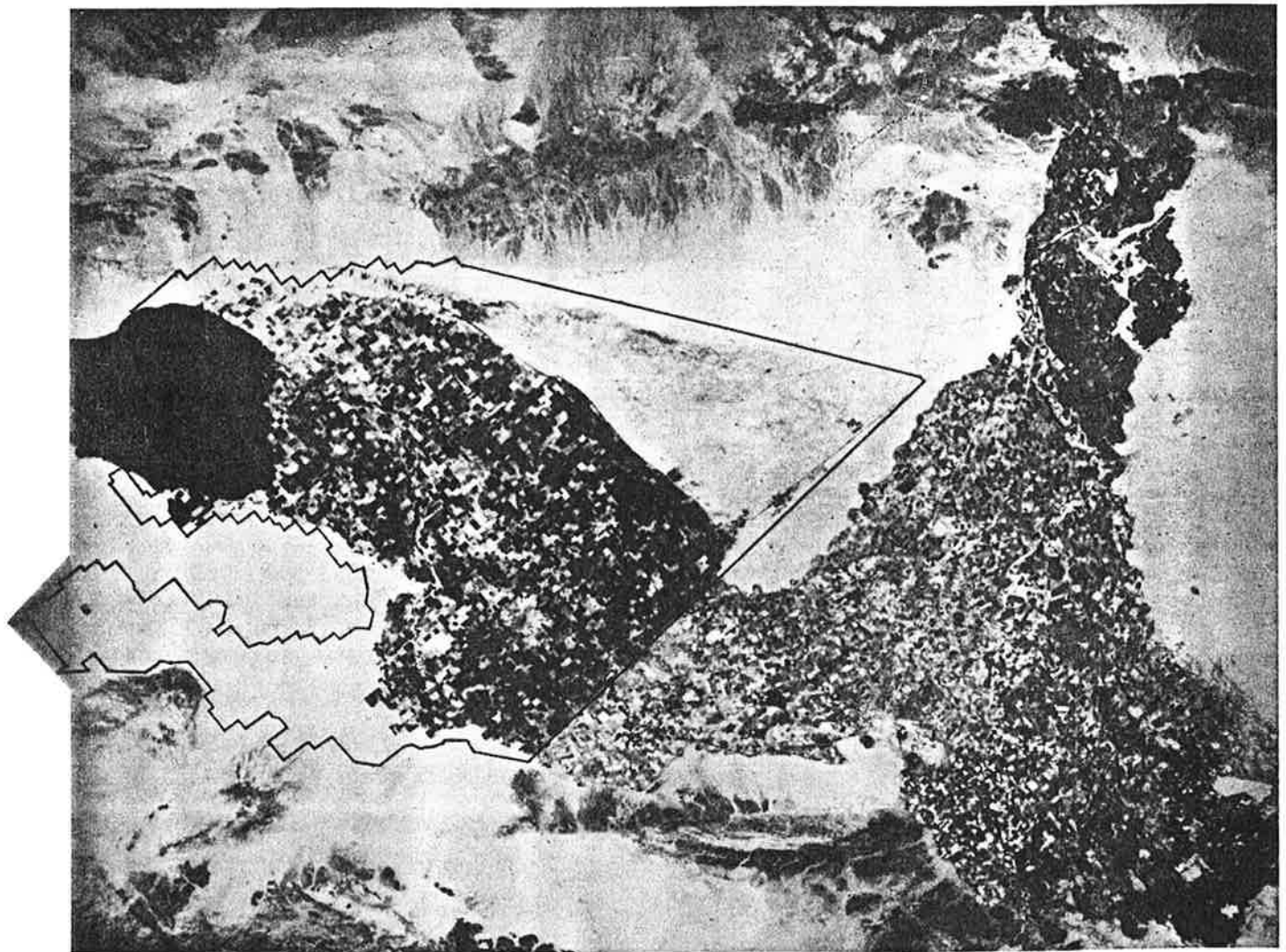
Soil Survey Map

Plate
A-3

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Soil Survey of

**IMPERIAL COUNTY
CALIFORNIA
IMPERIAL VALLEY AREA**



United States Department of Agriculture Soil Conservation Service
in cooperation with
University of California Agricultural Experiment Station
and
Imperial Irrigation District

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TABLE 11.--ENGINEERING INDEX PROPERTIES

[The symbol > means more than. Absence of an entry indicates that data were not estimated]

Soil name and map symbol	Depth	USDA texture	Classification		Frag-ments > 3 inches	Percentage passing sieve number--				Liquid limit	Plas-ticity index
			Unified	AASHTO		4	10	40	200		
	In				Pct					Pct	
100-----	0-13	Loamy fine sand	SM	A-2	0	100	100	75-85	10-30	---	NP
Antho	13-60	Sandy loam, fine sandy loam.	SM	A-2, A-4	0	90-100	75-95	50-60	15-40	---	NP
101*:											
Antho-----	0-8	Loamy fine sand	SM	A-2	0	100	100	75-85	10-30	---	NP
	8-60	Sandy loam, fine sandy loam.	SM	A-2, A-4	0	90-100	75-95	50-60	15-40	---	NP
Superstition-----	0-6	Fine sand-----	SM	A-2	0	100	95-100	70-85	15-25	---	NP
	6-60	Loamy fine sand, fine sand, sand.	SM	A-2	0	100	95-100	70-85	15-25	---	NP
102*.											
Badland											
103-----	0-10	Gravelly sand---	SP, SP-SM	A-1, A-2	0-5	60-90	50-85	30-55	0-10	---	NP
Carsitas	10-60	Gravelly sand, gravelly coarse sand, sand.	SP, SP-SM	A-1	0-5	60-90	50-85	25-50	0-10	---	NP
104*											
Fluvaquents											
105-----	0-13	Clay loam-----	CL	A-6	0	100	100	90-100	70-95	35-45	15-30
Glenbar	13-60	Clay loam, silty clay loam.	CL	A-6	0	100	100	90-100	70-95	35-45	15-30
106-----	0-13	Clay loam-----	CL	A-6, A-7	0	100	100	90-100	70-95	35-45	15-25
Glenbar	13-60	Clay loam, silty clay loam.	CL	A-6, A-7	0	100	100	90-100	70-95	35-45	15-25
107*-----	0-13	Loam-----	ML, CL-ML, CL	A-4	0	100	100	100	70-80	20-30	NP-10
Glenbar	13-60	Clay loam, silty clay loam.	CL	A-6, A-7	0	100	100	95-100	75-95	35-45	15-30
108-----	0-14	Loam-----	ML	A-4	0	100	100	85-100	55-95	25-35	NP-10
Holtville	14-22	Clay, silty clay	CL, CH	A-7	0	100	100	95-100	85-95	40-65	20-35
	22-60	Silt loam, very fine sandy loam.	ML	A-4	0	100	100	95-100	65-85	25-35	NP-10
109-----	0-17	Silty clay-----	CL, CH	A-7	0	100	100	95-100	85-95	40-65	20-35
Holtville	17-24	Clay, silty clay	CL, CH	A-7	0	100	100	95-100	85-95	40-65	20-35
	24-35	Silt loam, very fine sandy loam.	ML	A-4	0	100	100	95-100	65-85	25-35	NP-10
	35-60	Loamy very fine sand, loamy fine sand.	SM, ML	A-2, A-4	0	100	100	75-100	20-55	---	NP
110-----	0-17	Silty clay-----	CH, CL	A-7	0	100	100	95-100	85-95	40-65	20-35
Holtville	17-24	Clay, silty clay	CH, CL	A-7	0	100	100	95-100	85-95	40-65	20-35
	24-35	Silt loam, very fine sandy loam.	ML	A-4	0	100	100	95-100	55-85	25-35	NP-10
	35-60	Loamy very fine sand, loamy fine sand.	SM, ML	A-2, A-4	0	100	100	75-100	20-55	---	NP

See footnote at end of table.

TABLE 11.--ENGINEERING INDEX PROPERTIES--Continued

Soil name and map symbol	Depth	USDA texture	Classification		Frag-ments > 3 inches	Percentage passing sieve number--				Liquid limit	Plas-ticity index
			Unified	AASHTO		4	10	40	200		
	In				Pct					Pct	
111*: Holtville-----	0-10	Silty clay loam	CL, CH	A-7	0	100	100	95-100	85-95	40-65	20-35
	10-22	Clay, silty clay	CL, CH	A-7	0	100	100	95-100	85-95	40-65	20-35
	22-60	Silt loam, very fine sandy loam.	ML	A-4	0	100	100	95-100	65-85	25-35	NP-10
Imperial-----	0-12	Silty clay loam	CL	A-7	0	100	100	100	85-95	40-50	10-20
	12-60	Silty clay loam, silty clay, clay.	CH	A-7	0	100	100	100	85-95	50-70	25-45
112-----	0-12	Silty clay-----	CH	A-7	0	100	100	100	85-95	50-70	25-45
Imperial	12-60	Silty clay loam, silty clay, clay.	CH	A-7	0	100	100	100	85-95	50-70	25-45
113-----	0-12	Silty clay-----	CH	A-7	0	100	100	100	85-95	50-70	25-45
Imperial	12-60	Silty clay, clay, silty clay loam.	CH	A-7	0	100	100	100	85-95	50-70	25-45
114-----	0-12	Silty clay-----	CH	A-7	0	100	100	100	85-95	50-70	25-45
Imperial	12-60	Silty clay loam, silty clay, clay.	CH	A-7	0	100	100	100	85-95	50-70	25-45
115*: Imperial-----	0-12	Silty clay loam	CL	A-7	0	100	100	100	85-95	40-50	10-20
	12-60	Silty clay loam, silty clay, clay.	CH	A-7	0	100	100	100	85-95	50-70	25-45
Glenbar-----	0-13	Silty clay loam	CL	A-6, A-7	0	100	100	90-100	70-95	35-45	15-25
	13-60	Clay loam, silty clay loam.	CL	A-6, A-7	0	100	100	90-100	70-95	35-45	15-25
116*: Imperial-----	0-13	Silty clay loam	CL	A-7	0	100	100	100	85-95	40-50	10-20
	13-60	Silty clay loam, silty clay, clay.	CH	A-7	0	100	100	100	85-95	50-70	25-45
Glenbar-----	0-13	Silty clay loam	CL	A-6, A-7	0	100	100	90-100	70-95	35-45	15-25
	13-60	Clay loam, silty clay loam.	CL	A-6	0	100	100	90-100	70-95	35-45	15-30
117, 118----- Indio	0-12	Loam-----	ML	A-4	0	95-100	95-100	85-100	75-90	20-30	NP-5
	12-72	Stratified loamy very fine sand to silt loam.	ML	A-4	0	95-100	95-100	85-100	75-90	20-30	NP-5
119*: Indio-----	0-12	Loam-----	ML	A-4	0	95-100	95-100	85-100	75-90	20-30	NP-5
	12-72	Stratified loamy very fine sand to silt loam.	ML	A-4	0	95-100	95-100	85-100	75-90	20-30	NP-5
Vint-----	0-10	Loamy fine sand	SM	A-2	0	95-100	95-100	70-80	25-35	---	NP
	10-60	Loamy sand, loamy fine sand.	SM	A-2	0	95-100	95-100	70-80	20-30	---	NP
120*----- Laveen	0-12	Loam-----	ML, CL-ML	A-4	0	100	95-100	75-85	55-65	20-30	NP-10
	12-60	Loam, very fine sandy loam.	ML, CL-ML	A-4	0	95-100	85-95	70-80	55-65	15-25	NP-10

See footnote at end of table.

TABLE 11.--ENGINEERING INDEX PROPERTIES--Continued

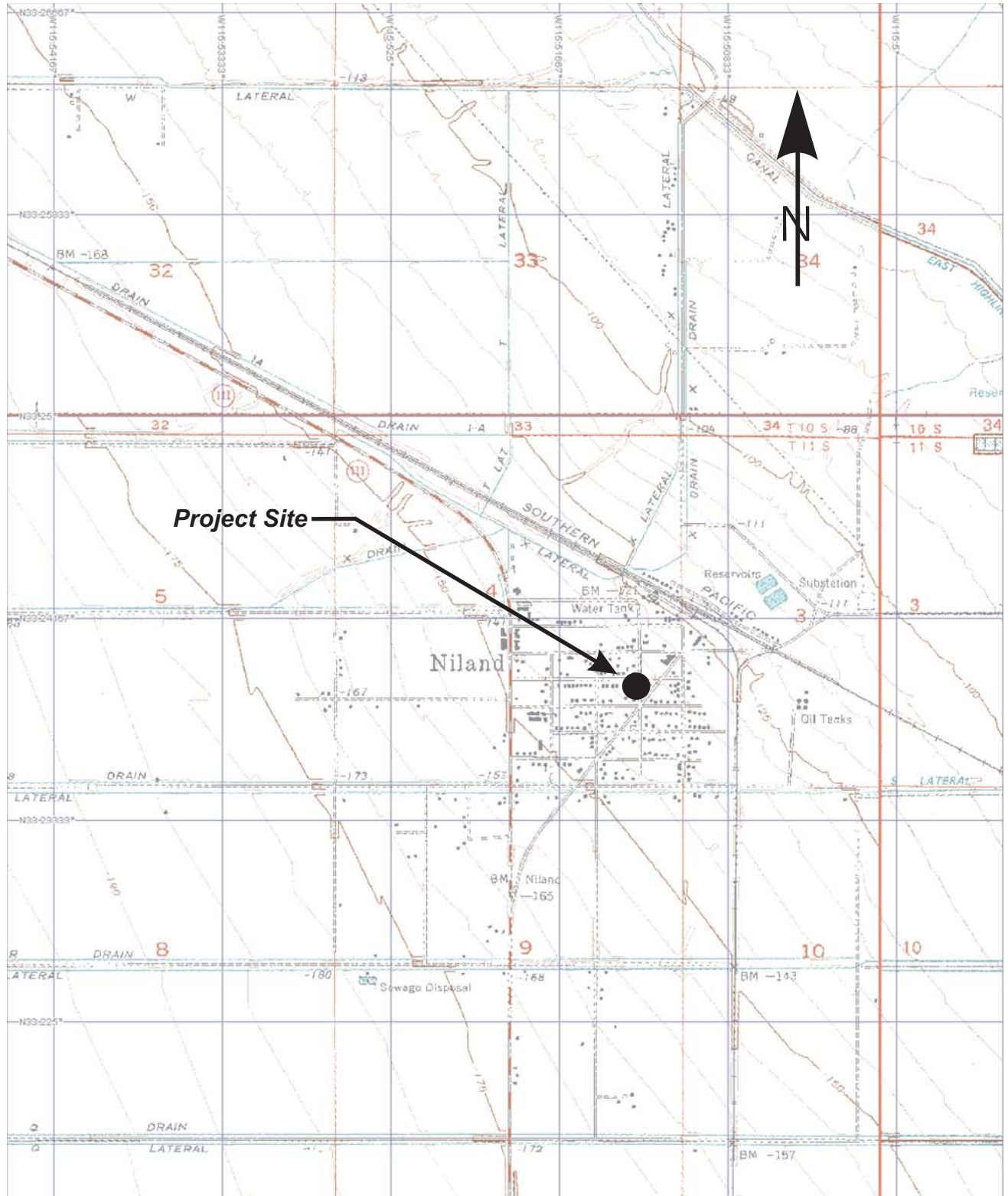
Soil name and map symbol	Depth In	USDA texture	Classification		Frag- ments > 3 inches Pct	Percentage passing sieve number--				Liquid limit Pet	Plas- ticity index
			Unified	AASHTO		4	10	40	200		
121----- Meloland	0-12	Fine sand-----	SM, SP-SM	A-2, A-3	0	95-100	90-100	75-100	5-30	---	NP
	12-26	Stratified loamy fine sand to silt loam.	ML	A-4	0	100	100	90-100	50-65	25-35	NP-10
	26-71	Clay, silty clay, silty clay loam.	CL, CH	A-7	0	100	100	95-100	85-95	40-65	20-40
122----- Meloland	0-12	Very fine sandy loam.	ML	A-4	0	95-100	95-100	95-100	55-85	25-35	NP-10
	12-26	Stratified loamy fine sand to silt loam.	ML	A-4	0	100	100	90-100	50-70	25-35	NP-10
	26-71	Clay, silty clay, silty clay loam.	CH, CL	A-7	0	100	100	95-100	85-95	40-65	20-40
123*: Meloland-----	0-12	Loam-----	ML	A-4	0	95-100	95-100	95-100	55-85	25-35	NP-10
	12-26	Stratified loamy fine sand to silt loam.	ML	A-4	0	100	100	90-100	50-70	25-35	NP-10
	26-38	Clay, silty clay, silty clay loam.	CH, CL	A-7	0	100	100	95-100	85-95	40-65	20-40
	38-60	Stratified silt loam to loamy fine sand.	SM, ML	A-4	0	100	100	75-100	35-55	25-35	NP-10
Holtville-----	0-12	Loam-----	ML	A-4	0	100	100	85-100	55-95	25-35	NP-10
	12-24	Clay, silty clay	CH, CL	A-7	0	100	100	95-100	85-95	40-65	20-35
	24-36	Silt loam, very fine sandy loam.	ML	A-4	0	100	100	95-100	55-85	25-35	NP-10
	36-60	Loamy very fine sand, loamy fine sand.	SM, ML	A-2, A-4	0	100	100	75-100	20-55	---	NP
124, 125----- Niland	0-23	Gravelly sand---	SM, SP-SM	A-2, A-3	0	90-100	70-95	50-65	5-25	---	NP
	23-60	Silty clay, clay, clay loam.	CL, CH	A-7	0	100	100	85-100	80-95	40-65	20-40
126----- Niland	0-23	Fine sand-----	SM, SP-SM	A-2, A-3	0	90-100	90-100	50-65	5-25	---	NP
	23-60	Silty clay-----	CL, CH	A-7	0	100	100	85-100	80-95	40-65	20-40
127----- Niland	0-23	Loamy fine sand	SM	A-2	0	90-100	90-100	50-65	15-30	---	NP
	23-60	Silty clay-----	CL, CH	A-7	0	100	100	85-100	80-95	40-65	20-40
128*: Niland-----	0-23	Gravelly sand---	SM, SP-SM	A-2, A-3	0	90-100	70-95	50-65	5-25	---	NP
	23-60	Silty clay, clay, clay loam.	CL, CH	A-7	0	100	100	85-100	80-100	40-65	20-40
Imperial-----	0-12	Silty clay-----	CH	A-7	0	100	100	100	85-95	50-70	25-45
	12-60	Silty clay loam, silty clay, clay.	CH	A-7	0	100	100	100	85-95	50-70	25-45
129*: Pits											
130, 131----- Rositas	0-27	Sand-----	SP-SM	A-3, A-1, A-2	0	100	80-100	40-70	5-15	---	NP
	27-60	Sand, fine sand, loamy sand.	SM, SP-SM	A-3, A-2, A-1	0	100	80-100	40-85	5-30	---	NP

See footnote at end of table.

TABLE 11.--ENGINEERING INDEX PROPERTIES--Continued

Soil name and map symbol	Depth	USDA texture	Classification		Frag-ments > 3 inches	Percentage passing sieve number--				Liquid limit	Plas-ticity index
			Unified	AASHTO		4	10	40	200		
	In				Pct					Pct	
132, 133, 134, 135-Rositas	0-9	Fine sand-----	SM	A-3, A-2	0	100	80-100	50-80	10-25	---	NP
	9-60	Sand, fine sand, loamy sand.	SM, SP-SM	A-3, A-2, A-1	0	100	80-100	40-85	5-30	---	NP
136-----Rositas	0-4	Loamy fine sand	SM	A-1, A-2	0	100	80-100	40-85	10-35	---	NP
	4-60	Sand, fine sand, loamy sand.	SM, SP-SM	A-3, A-2, A-1	0	100	80-100	40-85	5-30	---	NP
137-----Rositas	0-12	Silt loam-----	ML	A-4	0	100	100	90-100	70-90	20-30	NP-5
	12-60	Sand, fine sand, loamy sand.	SM, SP-SM	A-3, A-2, A-1	0	100	80-100	40-85	5-30	---	NP
138*: Rositas-----	0-4	Loamy fine sand	SM	A-1, A-2	0	100	80-100	40-85	10-35	---	NP
	4-60	Sand, fine sand, loamy sand.	SM, SP-SM	A-3, A-2, A-1	0	100	80-100	40-85	5-30	---	NP
Superstition-----	0-6	Loamy fine sand	SM	A-2	0	100	95-100	70-85	15-25	---	NP
	6-60	Loamy fine sand, fine sand, sand.	SM	A-2	0	100	95-100	70-85	15-25	---	NP
139-----Superstition	0-6	Loamy fine sand	SM	A-2	0	100	95-100	70-85	15-25	---	NP
	6-60	Loamy fine sand, fine sand, sand.	SM	A-2	0	100	95-100	70-85	15-25	---	NP
140*: Torriorthents											
Rock outcrop											
141*: Torriorthents											
Orthids											
142-----Vint	0-10	Loamy very fine sand.	SM, ML	A-4	0	100	100	85-95	40-65	15-25	NP-5
	10-60	Loamy fine sand	SM	A-2	0	95-100	95-100	70-80	20-30	---	NP
143-----Vint	0-12	Fine sandy loam	ML, CL-ML, SM, SM-SC	A-4	0	100	100	75-85	45-55	15-25	NP-5
	12-60	Loamy sand, loamy fine sand.	SM	A-2	0	95-100	95-100	70-80	20-30	---	NP
144*: Vint-----	0-10	Very fine sandy loam.	SM, ML	A-4	0	100	100	85-95	40-65	15-25	NP-5
	10-40	Loamy fine sand	SM	A-2	0	95-100	95-100	70-80	20-30	---	NP
	40-60	Silty clay-----	CL, CH	A-7	0	100	100	95-100	85-95	40-65	20-35
Indio-----	0-12	Very fine sandy loam.	ML	A-4	0	95-100	95-100	85-100	75-90	20-30	NP-5
	12-40	Stratified loamy very fine sand to silt loam.	ML	A-4	0	95-100	95-100	85-100	75-90	20-30	NP-5
	40-72	Silty clay-----	CL, CH	A-7	0	100	100	95-100	85-95	40-65	20-35

* See description of the map unit for composition and behavior characteristics of the map unit.



LANDMARK

Geo-Engineers and Geologists

Project No.: LE18204

Topographic Map

Plate
A-4

APPENDIX B

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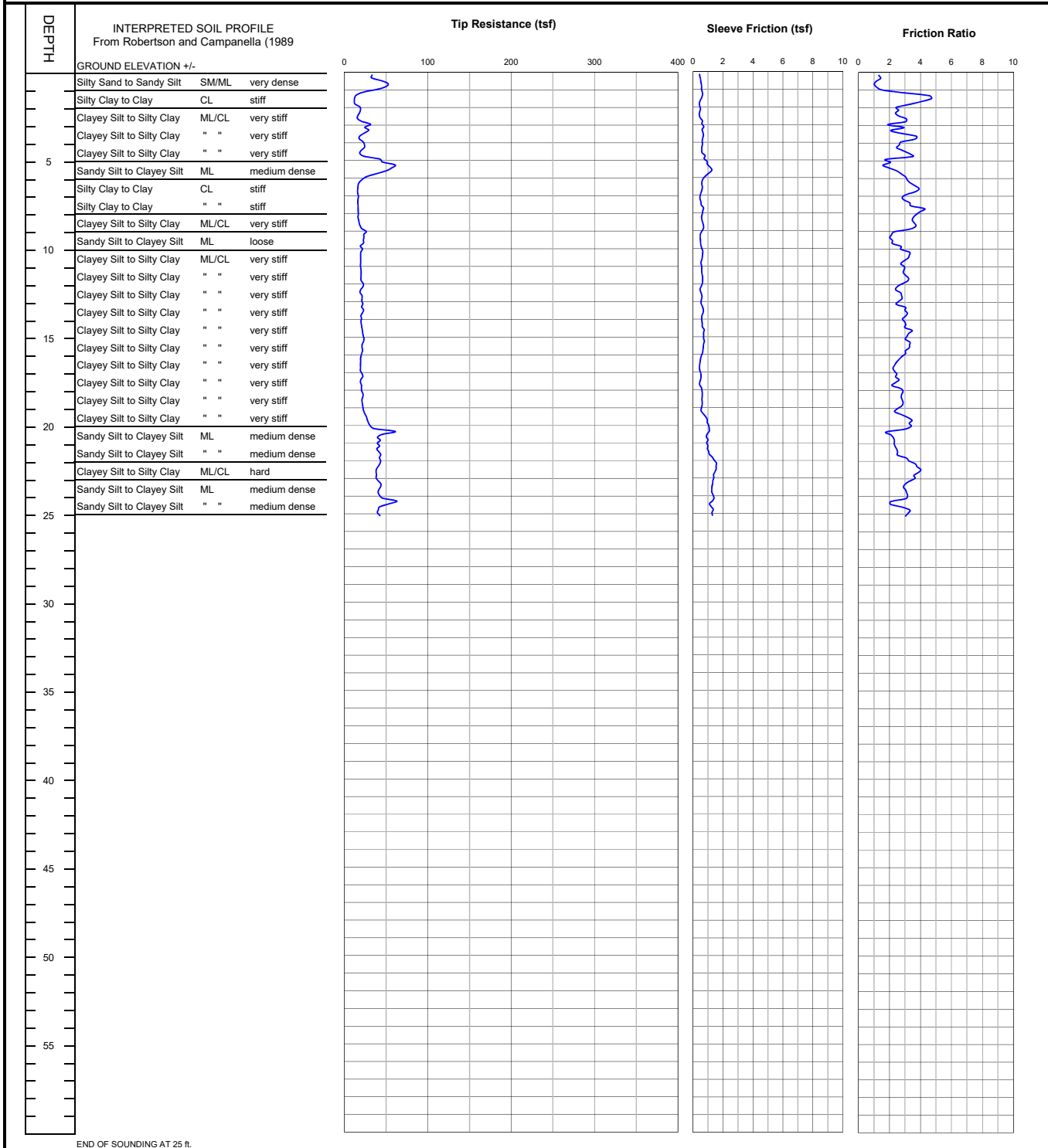
CLIENT: The Holt Group
PROJECT: Niland Fire & Sheriff Substation - Niland, CA

CONE PENETROMETER: Middle Earth Geotesting Truck Mounted Electric
 Cone with 23 ton reaction weight

LOCATION: See Site and Boring Location Plan

DATE: 11/15/2018

CONE SOUNDING DATA CPT-1



END OF SOUNDING AT 25 ft.

Project No.
LE18206



PLATE
B-1

LANDMARK CONSULTANTS, INC.
CONE PENETROMETER INTERPRETATION (based on Robertson & Campanella, 1989, refer to Key to CPT logs)

Project: Niland Fire & Sheriff Substation - Niland, CA

Project No: LE18206

Date: 11/15/2018

CONE SOUNDING: CPT-1		Phi Correlation: 0 0-Schm(78),1-R&C(83),2-PHT(74)												
Est. GWT (ft): 8														
Base Depth (m)	Base Depth (ft)	Avg Tip Qc, tsf	Avg Friction Ratio, %	Soil Classification	USCS	Density or Consistency	Est. Density (pcf)	SPT N(60)	Norm. Qc1n	Est. % Fines	Rel. Dens. Dr (%)	Nk: Phi (deg.)	17 Su (tsf)	OCR
0.15	0.5	36.87	1.30	Silty Sand to Sandy Silt	SM/ML	very dense	115	8	69.7	35	105	43		
0.30	1.0	46.83	1.22	Silty Sand to Sandy Silt	SM/ML	very dense	115	10	88.5	30	96	41		
0.45	1.5	15.75	4.07	Clay	CL/CH	stiff	125	13		85			0.92	>10
0.60	2.0	14.33	3.28	Silty Clay to Clay	CL	stiff	125	8		80			0.84	>10
0.75	2.5	17.81	2.52	Clayey Silt to Silty Clay	ML/CL	very stiff	120	7		70			1.04	>10
0.93	3.0	22.54	2.67	Clayey Silt to Silty Clay	ML/CL	very stiff	120	9		65			1.32	>10
1.08	3.5	25.85	2.59	Clayey Silt to Silty Clay	ML/CL	very stiff	120	10		60			1.51	>10
1.23	4.0	19.53	3.37	Clayey Silt to Silty Clay	ML/CL	very stiff	120	8		75			1.14	>10
1.38	4.5	22.70	2.67	Clayey Silt to Silty Clay	ML/CL	very stiff	120	9		65			1.32	>10
1.53	5.0	27.97	2.85	Clayey Silt to Silty Clay	ML/CL	very stiff	120	11		60			1.63	>10
1.68	5.5	53.40	2.04	Silty Sand to Sandy Silt	SM/ML	dense	115	12	92.6	35	70	38		
1.83	6.0	29.08	2.98	Clayey Silt to Silty Clay	ML/CL	very stiff	120	12		60			1.69	>10
1.98	6.5	16.78	3.61	Silty Clay to Clay	CL	stiff	125	10		80			0.96	>10
2.13	7.0	16.19	3.24	Clayey Silt to Silty Clay	ML/CL	stiff	120	6		80			0.93	>10
2.28	7.5	16.16	3.21	Clayey Silt to Silty Clay	ML/CL	stiff	120	6		80			0.92	>10
2.45	8.0	16.51	3.99	Silty Clay to Clay	CL	stiff	125	9		85			0.94	>10
2.60	8.5	16.93	3.54	Silty Clay to Clay	CL	stiff	125	10		80			0.97	>10
2.75	9.0	21.93	3.12	Clayey Silt to Silty Clay	ML/CL	very stiff	120	9		70			1.26	>10
2.90	9.5	23.11	2.12	Sandy Silt to Clayey Silt	ML	loose	115	7	31.5	60	38	33		
3.05	10.0	21.19	2.55	Clayey Silt to Silty Clay	ML/CL	very stiff	120	8		65			1.22	>10
3.20	10.5	19.53	3.26	Clayey Silt to Silty Clay	ML/CL	very stiff	120	8		75			1.12	>10
3.35	11.0	19.35	2.88	Clayey Silt to Silty Clay	ML/CL	very stiff	120	8		75			1.11	>10
3.50	11.5	19.96	2.96	Clayey Silt to Silty Clay	ML/CL	very stiff	120	8		75			1.14	>10
3.65	12.0	20.84	3.05	Clayey Silt to Silty Clay	ML/CL	very stiff	120	8		75			1.19	>10
3.80	12.5	20.17	2.54	Clayey Silt to Silty Clay	ML/CL	very stiff	120	8		70			1.15	>10
3.95	13.0	20.97	2.72	Clayey Silt to Silty Clay	ML/CL	very stiff	120	8		75			1.20	>10
4.13	13.5	21.87	2.82	Clayey Silt to Silty Clay	ML/CL	very stiff	120	9		75			1.25	>10
4.28	14.0	20.65	3.02	Clayey Silt to Silty Clay	ML/CL	very stiff	120	8		80			1.18	>10
4.43	14.5	20.26	3.01	Clayey Silt to Silty Clay	ML/CL	very stiff	120	8		80			1.15	>10
4.58	15.0	21.95	3.28	Clayey Silt to Silty Clay	ML/CL	very stiff	120	9		80			1.25	>10
4.73	15.5	22.48	3.21	Clayey Silt to Silty Clay	ML/CL	very stiff	120	9		80			1.28	>10
4.88	16.0	20.86	3.03	Clayey Silt to Silty Clay	ML/CL	very stiff	120	8		80			1.19	>10
5.03	16.5	19.28	2.46	Clayey Silt to Silty Clay	ML/CL	very stiff	120	8		80			1.09	>10
5.18	17.0	19.82	2.34	Clayey Silt to Silty Clay	ML/CL	very stiff	120	8		80			1.12	>10
5.33	17.5	20.36	2.46	Clayey Silt to Silty Clay	ML/CL	very stiff	120	8		80			1.15	>10
5.48	18.0	20.49	2.59	Clayey Silt to Silty Clay	ML/CL	very stiff	120	8		80			1.16	>10
5.65	18.5	21.78	2.79	Clayey Silt to Silty Clay	ML/CL	very stiff	120	9		80			1.24	>10
5.80	19.0	21.76	2.73	Clayey Silt to Silty Clay	ML/CL	very stiff	120	9		80			1.23	>10
5.95	19.5	24.81	2.76	Clayey Silt to Silty Clay	ML/CL	very stiff	120	10		75			1.41	>10
6.10	20.0	28.99	3.38	Clayey Silt to Silty Clay	ML/CL	very stiff	120	12		80			1.66	>10
6.25	20.5	47.24	2.30	Sandy Silt to Clayey Silt	ML	medium dense	115	13	50.5	55	52	35		
6.40	21.0	40.72	2.29	Sandy Silt to Clayey Silt	ML	medium dense	115	12	43.2	60	48	35		
6.55	21.5	40.75	2.45	Sandy Silt to Clayey Silt	ML	medium dense	115	12	42.9	60	48	35		
6.70	22.0	42.91	2.96	Sandy Silt to Clayey Silt	ML	medium dense	115	12	44.9	65	49	35		
6.85	22.5	40.56	3.83	Clayey Silt to Silty Clay	ML/CL	hard	120	16		75			2.33	>10
7.00	23.0	38.12	3.69	Clayey Silt to Silty Clay	ML/CL	hard	120	15		75			2.19	>10
7.18	23.5	42.46	3.07	Sandy Silt to Clayey Silt	ML	medium dense	115	12	43.3	65	48	35		
7.33	24.0	41.27	3.11	Clayey Silt to Silty Clay	ML/CL	hard	120	17		70			2.37	>10
7.48	24.5	53.82	2.41	Sandy Silt to Clayey Silt	ML	medium dense	115	15	54.1	55	54	36		
7.63	25.0	40.79	3.13	Clayey Silt to Silty Clay	ML/CL	hard	120	16		70			2.34	>10

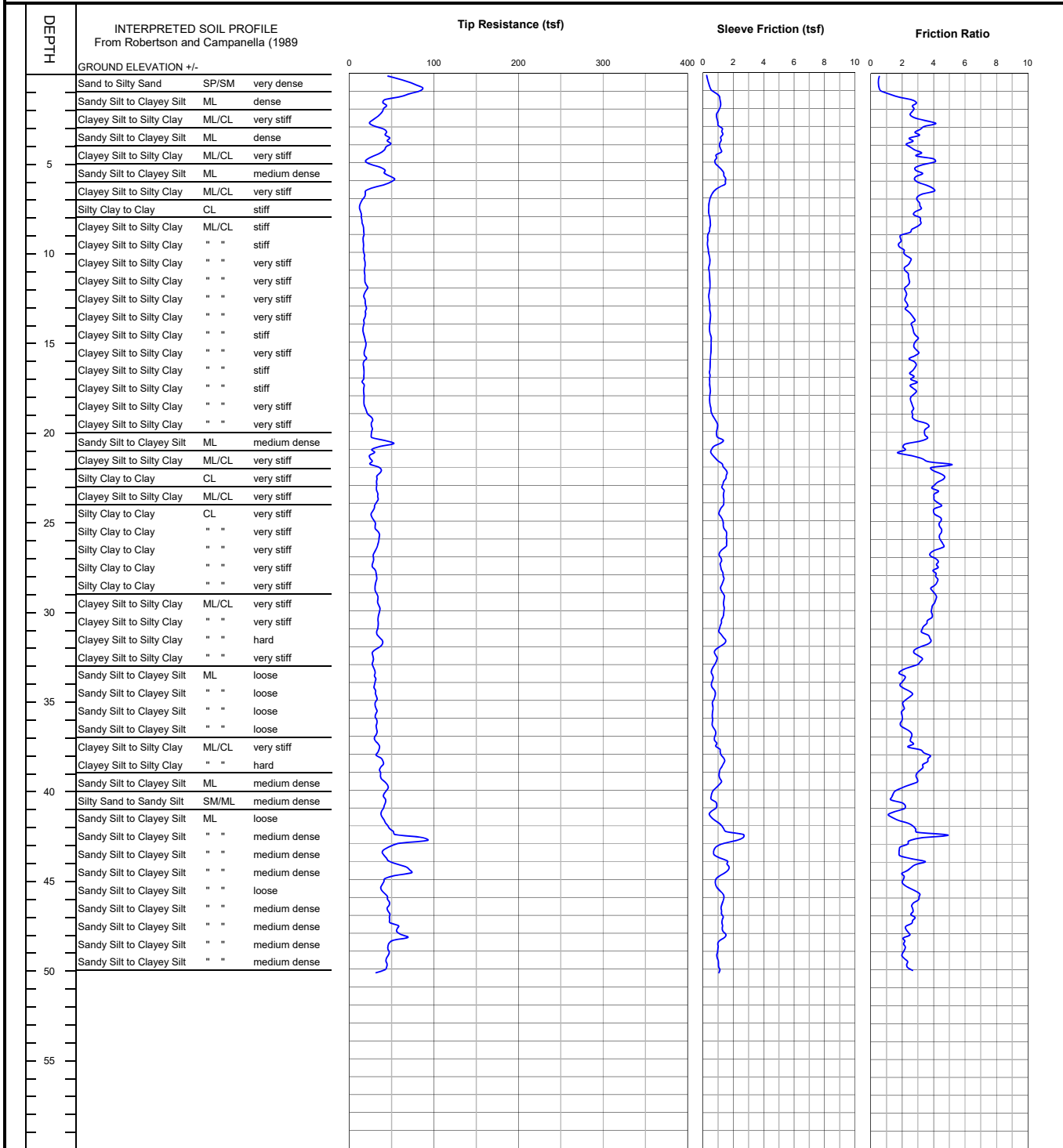
CLIENT: The Holt Group
PROJECT: Niland Fire & Sheriff Substation - Niland, CA

CONE PENETROMETER: Middle Earth Geotesting Truck Mounted Electric
 Cone with 23 ton reaction weight

LOCATION: See Site and Boring Location Plan

DATE: 11/15/2018

CONE SOUNDING DATA CPT-2



END OF SOUNDING AT 50 ft.

Project No.
LE18206



PLATE
B-2

LANDMARK CONSULTANTS, INC.
CONE PENETROMETER INTERPRETATION (based on Robertson & Campanella, 1989, refer to Key to CPT logs)

Project: Niland Fire & Sheriff Substation - Niland, CA

Project No: LE18206

Date: 11/15/2018

CONE SOUNDING: CPT-2		Phi Correlation: 0 0-Schm(78),1-R&C(83),2-PHT(74)												
Est. GWT (ft): 8														
Base Depth (m)	Base Depth (ft)	Avg Tip Qc, tsf	Avg Friction Ratio, %	Soil Classification	USCS	Density or Consistency	Est. Density (pcf)	SPT N(60)	Norm. Qc1n	Est. % Fines	Rel. Dens. Dr (%)	Nk: Phi (deg.)	17 Su (tsf)	OCR
0.15	0.5	58.18	0.50	Sand to Silty Sand	SP/SM	very dense	115	11	110.0	15	118	45		
0.30	1.0	83.16	0.56	Sand to Silty Sand	SP/SM	very dense	115	15	157.2	10	113	44		
0.45	1.5	57.83	1.87	Silty Sand to Sandy Silt	SM/ML	very dense	115	13	109.3	35	94	41		
0.60	2.0	41.36	2.77	Sandy Silt to Clayey Silt	ML	dense	115	12	78.2	50	79	39		
0.75	2.5	35.92	2.63	Sandy Silt to Clayey Silt	ML	dense	115	10	67.9	50	72	38		
0.93	3.0	26.80	3.67	Clayey Silt to Silty Clay	ML/CL	very stiff	120	11		65			1.57	>10
1.08	3.5	42.29	3.02	Sandy Silt to Clayey Silt	ML	dense	115	12	79.9	50	71	38		
1.23	4.0	47.17	2.46	Sandy Silt to Clayey Silt	ML	dense	115	13	89.2	45	72	38		
1.38	4.5	40.93	2.85	Sandy Silt to Clayey Silt	ML	medium dense	115	12	77.4	50	66	37		
1.53	5.0	23.88	3.66	Clayey Silt to Silty Clay	ML/CL	very stiff	120	10		70			1.39	>10
1.68	5.5	36.28	3.08	Clayey Silt to Silty Clay	ML/CL	hard	120	15		55			2.12	>10
1.83	6.0	50.03	2.89	Sandy Silt to Clayey Silt	ML	medium dense	115	14	84.1	45	67	37		
1.98	6.5	29.06	3.84	Clayey Silt to Silty Clay	ML/CL	very stiff	120	12		65			1.69	>10
2.13	7.0	17.49	3.06	Clayey Silt to Silty Clay	ML/CL	very stiff	120	7		75			1.01	>10
2.28	7.5	12.59	3.15	Silty Clay to Clay	CL	stiff	125	7		85			0.72	>10
2.45	8.0	13.81	2.90	Clayey Silt to Silty Clay	ML/CL	stiff	120	6		80			0.79	>10
2.60	8.5	15.45	3.10	Clayey Silt to Silty Clay	ML/CL	stiff	120	6		80			0.88	>10
2.75	9.0	17.04	2.34	Clayey Silt to Silty Clay	ML/CL	stiff	120	7		70			0.97	>10
2.90	9.5	16.42	1.86	Clayey Silt to Silty Clay	ML/CL	stiff	120	7		65			0.94	>10
3.05	10.0	16.72	2.02	Clayey Silt to Silty Clay	ML/CL	stiff	120	7		65			0.95	>10
3.20	10.5	17.94	2.45	Clayey Silt to Silty Clay	ML/CL	very stiff	120	7		70			1.02	>10
3.35	11.0	18.21	2.24	Clayey Silt to Silty Clay	ML/CL	very stiff	120	7		70			1.04	>10
3.50	11.5	18.19	2.40	Clayey Silt to Silty Clay	ML/CL	very stiff	120	7		70			1.04	>10
3.65	12.0	20.04	2.32	Clayey Silt to Silty Clay	ML/CL	very stiff	120	8		70			1.15	>10
3.80	12.5	18.13	2.24	Clayey Silt to Silty Clay	ML/CL	very stiff	120	7		70			1.03	>10
3.95	13.0	18.83	2.27	Clayey Silt to Silty Clay	ML/CL	very stiff	120	8		70			1.07	>10
4.13	13.5	19.42	2.40	Clayey Silt to Silty Clay	ML/CL	very stiff	120	8		75			1.11	>10
4.28	14.0	17.62	2.70	Clayey Silt to Silty Clay	ML/CL	stiff	120	7		80			1.00	>10
4.43	14.5	16.28	2.69	Clayey Silt to Silty Clay	ML/CL	stiff	120	7		85			0.92	>10
4.58	15.0	18.01	2.91	Clayey Silt to Silty Clay	ML/CL	very stiff	120	7		85			1.02	>10
4.73	15.5	19.10	2.80	Clayey Silt to Silty Clay	ML/CL	very stiff	120	8		80			1.08	>10
4.88	16.0	18.23	2.77	Clayey Silt to Silty Clay	ML/CL	very stiff	120	7		85			1.03	>10
5.03	16.5	16.84	2.79	Clayey Silt to Silty Clay	ML/CL	stiff	120	7		85			0.95	>10
5.18	17.0	17.13	2.59	Clayey Silt to Silty Clay	ML/CL	stiff	120	7		85			0.97	>10
5.33	17.5	16.54	2.72	Clayey Silt to Silty Clay	ML/CL	stiff	120	7		90			0.93	>10
5.48	18.0	17.10	2.74	Clayey Silt to Silty Clay	ML/CL	stiff	120	7		90			0.96	>10
5.65	18.5	17.33	2.59	Clayey Silt to Silty Clay	ML/CL	stiff	120	7		85			0.98	>10
5.80	19.0	20.39	2.67	Clayey Silt to Silty Clay	ML/CL	very stiff	120	8		85			1.15	>10
5.95	19.5	26.52	3.03	Clayey Silt to Silty Clay	ML/CL	very stiff	120	11		75			1.51	>10
6.10	20.0	26.51	3.53	Clayey Silt to Silty Clay	ML/CL	very stiff	120	11		80			1.51	>10
6.25	20.5	31.77	3.41	Clayey Silt to Silty Clay	ML/CL	very stiff	120	13		75			1.82	>10
6.40	21.0	38.30	2.14	Sandy Silt to Clayey Silt	ML	medium dense	115	11	40.9	60	46	34		
6.55	21.5	26.06	2.54	Sandy Silt to Clayey Silt	ML	loose	115	7	27.6	75	34	33		
6.70	22.0	28.70	4.22	Silty Clay to Clay	CL	very stiff	125	16		85			1.64	>10
6.85	22.5	35.50	4.36	Silty Clay to Clay	CL	hard	125	20		80			2.04	>10
7.00	23.0	32.38	4.30	Silty Clay to Clay	CL	very stiff	125	19		85			1.85	>10
7.18	23.5	32.62	4.08	Silty Clay to Clay	CL	very stiff	125	19		85			1.87	>10
7.33	24.0	33.17	4.11	Silty Clay to Clay	CL	very stiff	125	19		85			1.90	>10
7.48	24.5	28.98	4.18	Silty Clay to Clay	CL	very stiff	125	17		90			1.65	>10
7.63	25.0	26.95	4.34	Silty Clay to Clay	CL	very stiff	125	15		95			1.53	>10
7.78	25.5	30.66	4.41	Silty Clay to Clay	CL	very stiff	125	18		90			1.75	>10
7.93	26.0	34.95	4.42	Silty Clay to Clay	CL	very stiff	125	20		85			2.00	>10
8.08	26.5	33.33	4.46	Silty Clay to Clay	CL	very stiff	125	19		90			1.90	>10
8.23	27.0	28.75	3.91	Clayey Silt to Silty Clay	ML/CL	very stiff	120	12		90			1.63	>10
8.38	27.5	27.63	4.26	Silty Clay to Clay	CL	very stiff	125	16		95			1.57	>10
8.53	28.0	31.44	4.08	Silty Clay to Clay	CL	very stiff	125	18		90			1.79	>10
8.68	28.5	31.48	4.19	Silty Clay to Clay	CL	very stiff	125	18		90			1.79	>10
8.85	29.0	30.99	3.95	Silty Clay to Clay	CL	very stiff	125	18		90			1.76	>10
9.00	29.5	33.62	4.13	Silty Clay to Clay	CL	very stiff	125	19		90			1.91	>10
9.15	30.0	35.56	3.88	Clayey Silt to Silty Clay	ML/CL	hard	120	14		85			2.03	>10
9.30	30.5	34.24	3.80	Clayey Silt to Silty Clay	ML/CL	very stiff	120	14		90			1.95	>10
9.45	31.0	33.85	3.40	Clayey Silt to Silty Clay	ML/CL	very stiff	120	14		85			1.92	>10
9.60	31.5	33.61	3.55	Clayey Silt to Silty Clay	ML/CL	very stiff	120	13		85			1.91	>10
9.75	32.0	38.35	3.54	Clayey Silt to Silty Clay	ML/CL	hard	120	15		85			2.19	>10
9.90	32.5	28.64	2.86	Clayey Silt to Silty Clay	ML/CL	very stiff	120	11		90			1.62	>10
10.05	33.0	27.85	3.14	Clayey Silt to Silty Clay	ML/CL	very stiff	120	11		95			1.57	>10
10.20	33.5	29.53	2.05	Sandy Silt to Clayey Silt	ML	loose	115	8	26.2	80	33	33		
10.38	34.0	30.46	2.10	Sandy Silt to Clayey Silt	ML	loose	115	9	26.8	80	34	33		
10.53	34.5	29.96	2.13	Sandy Silt to Clayey Silt	ML	loose	115	9	26.2	80	33	33		
10.68	35.0	31.83	2.45	Sandy Silt to Clayey Silt	ML	loose	115	9	27.7	80	35	33		
10.83	35.5	30.80	2.08	Sandy Silt to Clayey Silt	ML	loose	115	9	26.7	80	33	33		
10.98	36.0	31.50	1.98	Sandy Silt to Clayey Silt	ML	loose	115	9	27.2	80	34	33		
11.13	36.5	32.21	2.02	Sandy Silt to Clayey Silt	ML	loose	115	9	27.6	80	35	33		
11.28	37.0	31.39	2.57	Sandy Silt to Clayey Silt	ML	loose	115	9	26.8	85	34	33		
11.43	37.5	33.22	2.53	Sandy Silt to Clayey Silt	ML	loose	115	9	28.2	85	35	33		
11.58	38.0	33.46	3.45	Clayey Silt to Silty Clay	ML/CL	very stiff	120	13		90			1.89	>10
11.73	38.5	39.11	3.52	Clayey Silt to Silty Clay	ML/CL	hard	120	16		85			2.22	>10

LANDMARK CONSULTANTS, INC.

CONE PENETROMETER INTERPRETATION (based on Robertson & Campanella, 1989, refer to Key to CPT logs)

Project: Niland Fire & Sheriff Substation - Niland, CA

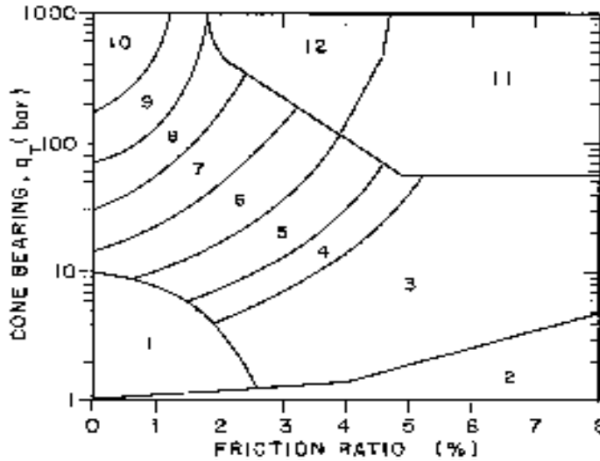
Project No: LE18206

Date: 11/15/2018

CONE SOUNDING: CPT-2		Phi Correlation: 0 0-Schm(78),1-R&C(83),2-PHT(74)													
Est. GWT (ft): 8															
Base Depth (m)	Base Depth (ft)	Avg Tip Qc, tsf	Avg Friction Ratio, %	Soil Classification	USCS	Density or Consistency	Est. Density (pcf)	SPT N(60)	Norm. Qc1n	Est. % Fines	Rel. Dens. Dr (%)	Nk: Phi (deg.)	Su (tsf)	OCR	
11.88	39.0	36.62	3.12	Clayey Silt to Silty Clay	ML/CL	hard	120	15		85			2.07	>10	
12.05	39.5	38.72	2.93	Sandy Silt to Clayey Silt	ML	loose	115	11	32.2	85	39	33			
12.20	40.0	44.90	1.97	Sandy Silt to Clayey Silt	ML	medium dense	115	13	37.2	70	43	34			
12.35	40.5	41.41	1.35	Silty Sand to Sandy Silt	SM/ML	medium dense	115	9	34.1	60	41	34			
12.50	41.0	41.51	2.10	Sandy Silt to Clayey Silt	ML	medium dense	115	12	34.0	75	41	34			
12.65	41.5	38.05	1.34	Silty Sand to Sandy Silt	SM/ML	loose	115	8	31.1	65	38	33			
12.80	42.0	43.02	2.29	Sandy Silt to Clayey Silt	ML	medium dense	115	12	34.9	75	41	34			
12.95	42.5	51.23	3.57	Clayey Silt to Silty Clay	ML/CL	hard	120	20		80			2.93	>10	
13.10	43.0	78.94	2.62	Sandy Silt to Clayey Silt	ML	medium dense	115	23	63.5	60	59	36			
13.25	43.5	42.98	1.83	Silty Sand to Sandy Silt	SM/ML	medium dense	115	10	34.4	70	41	34			
13.40	44.0	43.68	2.63	Sandy Silt to Clayey Silt	ML	medium dense	115	12	34.8	80	41	34			
13.58	44.5	64.56	2.59	Sandy Silt to Clayey Silt	ML	medium dense	115	18	51.3	65	53	35			
13.73	45.0	56.13	2.06	Sandy Silt to Clayey Silt	ML	medium dense	115	16	44.4	65	48	35			
13.88	45.5	38.91	2.20	Sandy Silt to Clayey Silt	ML	loose	115	11	30.6	80	38	33			
14.03	46.0	41.54	3.01	Sandy Silt to Clayey Silt	ML	loose	115	12	32.6	85	39	34			
14.18	46.5	46.49	2.79	Sandy Silt to Clayey Silt	ML	medium dense	115	13	36.3	80	43	34			
14.33	47.0	46.38	2.68	Sandy Silt to Clayey Silt	ML	medium dense	115	13	36.0	80	42	34			
14.48	47.5	51.18	2.50	Sandy Silt to Clayey Silt	ML	medium dense	115	15	39.6	75	45	34			
14.63	48.0	57.85	2.36	Sandy Silt to Clayey Silt	ML	medium dense	115	17	44.6	70	49	35			
14.78	48.5	55.81	2.10	Sandy Silt to Clayey Silt	ML	medium dense	115	16	42.8	65	47	35			
14.93	49.0	46.12	2.13	Sandy Silt to Clayey Silt	ML	medium dense	115	13	35.3	75	42	34			
15.10	49.5	44.41	2.16	Sandy Silt to Clayey Silt	ML	medium dense	115	13	33.8	75	40	34			
15.25	50.0	43.56	2.43	Sandy Silt to Clayey Silt	ML	loose	115	12	33.0	80	40	34			

Simplified Soil Classification Chart

After Robertson & Campanella (1989)



Geotechnical Parameters from CPT Data:

Equivalent SPT N(60) blow count = $Q_c / (Q_c/N \text{ Ratio})$

$N1(60) = C_n \cdot N(60)$ Normalized SPT blow count

$C_n = 1 / (p'_{o'})^{0.5} < 1.6$ max. from Liao & Whitman (1986)

$p'_{o'}$ = effective overburden pressure (tsf) using unit densities given below and estimated groundwater table.

Dr = Relative density (%) from Jamiolkowski et. al. (1986) relationship
 $= -98 + 68 \cdot \log(Q_c / p'_{o'})^{0.5}$ where $Q_c, p'_{o'}$ in tonne/sqm

Note: 1 tonne/sqm = 0.1024 tsf, 1 bar = 1.0443 tsf

Φ = Friction Angle estimated from either:

1. Robertson & Campanella (1983) chart:

$$\Phi = 5.3 + 24 \cdot (\log(Q_c / p'_{o'})) + 3 \cdot (\log(Q_c / p'_{o'}))^2$$

2. Peck, Hansen & Thornburn (1974) N-Phi Correlation

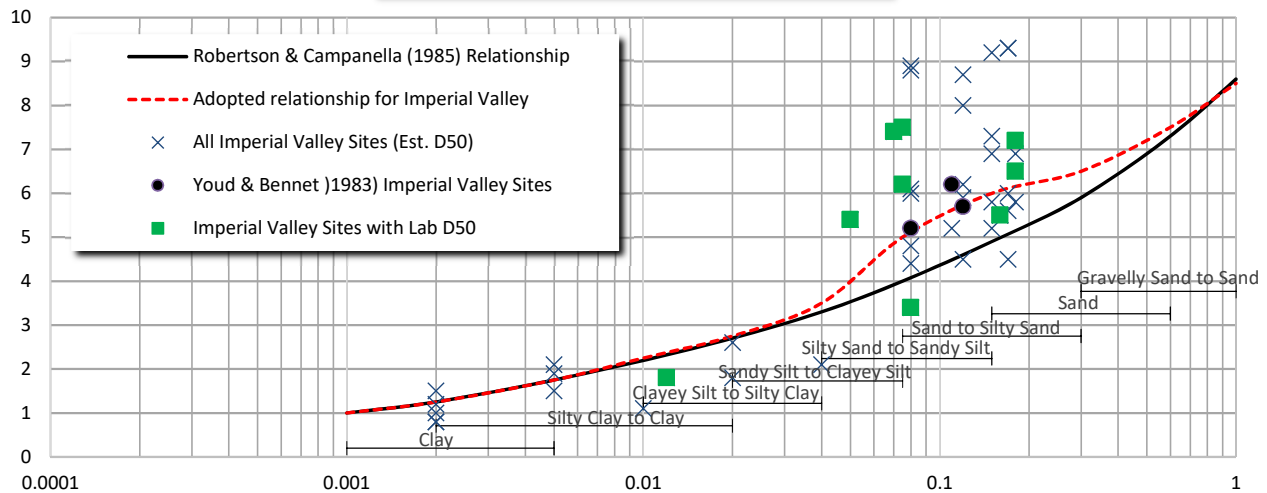
3. Schmertman (1978) chart [$\Phi = 28 + 0.14 \cdot Dr$ for fine uniform sands]

S_u = undrained shear strength (tsf)

$$= (Q_c - p'_{o'}) / N_k \text{ where } N_k \text{ varies from 10 to 22, 17 for OC clays}$$

OCR = Overconsolidation Ratio estimated from Schmertman (1978) chart using $S_u / p'_{o'}$ ratio and estimated normal consolidated $S_u / p'_{o'}$

Variation of Q_c/N Ratio with Grain Size



Note: Assumed Properties and Adopted Q_c/N Ratio based on correlations from Imperial Valley, California soils

Table of Soil Types and Assumed Properties

Zone	Soil Classification	UCS	Density (pcf)	R&C Q_c/N	Adopted Q_c/N	Est. PI	Fines (%)	D50 (mm)	S_u (tsf)	Consistency
1	Sensitive fine grained	ML	120	2	2	NP-15	65-100	0.02	0-0.13	very soft
2	Organic Material	OL/OH	120	1	1	--	--	--	0.13-25	soft
3	Clay	CL/CH	125	1	1.25	25-40+	90-100	0.002	0.25-0.5	firm
4	Silty Clay to Clay	CL	125	1.5	2	15-40	90-100	0.01	0.5-1.0	stiff
5	Clayey Silt to Silty Clay	ML/CL	120	2	2.75	25-May	90-100	0.02	1.0-2.0	very stiff
6	Sandy Silt to Clayey Silt	ML	115	2.5	3.5	NP-10	65-100	0.04	>2.0	hard
7	Silty Sand to Sandy Silt	SM/ML	115	3	5	NP	35-75	0.075		
8	Sand to Silty Sand	SP/SM	115	4	6	NP	May-35	0.15		
9	Sand	SP	110	5	6.5	NP	0-5	0.3		
10	Gravelly Sand to Sand	SW	115	6	7.5	NP	0-5	0.6		
11	Overconsolidated Soil	--	120	1	1	NP	90-100	0.01		
12	Sand to Clayey Sand	SP/SC	115	2	2	NP-5	--	--		

Dr (%)	Relative Density
0-15	very loose
15-35	loose
35-65	medium dense
65-85	dense
>85	very dense



Project No: LE18206

Key to CPT Interpretation of Logs

Plate B-3

APPENDIX C

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LANDMARK CONSULTANTS, INC.

CLIENT: The Holt Group

PROJECT: Niland Fire & Sheriff Substation - Niland, CA

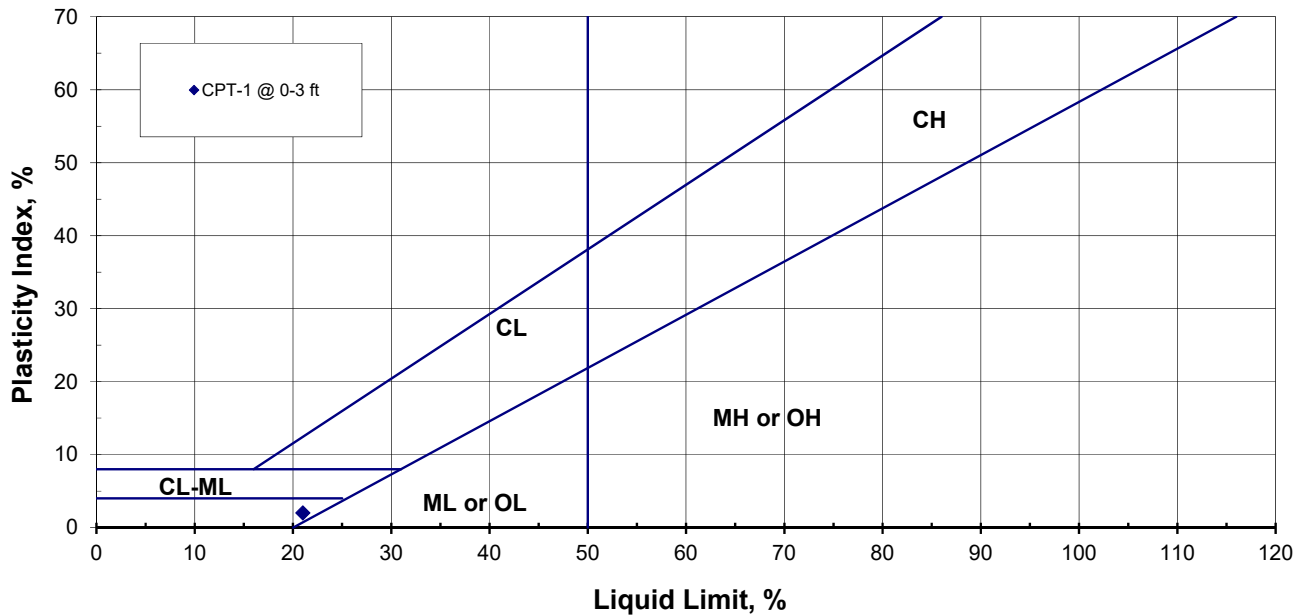
JOB No.: LE18206

DATE: 11/26/18

ATTERBERG LIMITS (ASTM D4318)

Sample Location	Sample Depth (ft)	Liquid Limit (LL)	Plastic Limit (PL)	Plasticity Index (PI)	USCS Classification
CPT-1	0-3	21	19	2	SM-ML

PLASTICITY CHART



Project No.: LE18206

Atterberg Limits
Test Results

Plate
C-2

LANDMARK CONSULTANTS, INC.

CLIENT: The Holt Group
PROJECT: Niland Fire & Sheriff Substation - Niland, CA
JOB NO: LE18206
DATE: 11/28/2018

EXPANSION INDEX TEST (UBC 29-2 & ASTM D4829)

Sample Location & Depth (ft)	Initial Moisture (%)	Compacted		Volumetric Swell (%)	Expansion Index (EI)	Expansive Potential
		Dry Density (pcf)	Final Moisture (%)			
CPT-1 0-3 ft.	9.9	111.0	15.4	0.5	6	Very Low

UBC CLASSIFICATION

0-20	Very Low
20-50	Low
50-90	Medium
90-130	High
130+	Very High

LANDMARK
Geo-Engineers and Geologists
Project No.: LE18206

**Expansion Index
Test Results**

**Plate
C-3**

LANDMARK CONSULTANTS, INC.

CLIENT: The Holt Group
PROJECT: Niland Fire & Sheriff Substation - Niland, CA
JOB No.: LE18206
DATE: 11/26/18

CHEMICAL ANALYSIS

Boring:	CPT-1	
Sample Depth, ft:	0-3	Caltrans Method
pH:	8.9	643
Electrical Conductivity (mmhos):	0.52	424
Resistivity (ohm-cm):	1700	643
Chloride (Cl), ppm:	80	422
Sulfate (SO₄), ppm:	25	417

General Guidelines for Soil Corrosivity

Material Affected	Chemical Agent	Range of Values	Degree of Corrosivity
Concrete	Soluble Sulfates (ppm)	0 - 1,000	Low
		1,000 - 2,000	Moderate
		2,000 - 20,000	Severe
		> 20,000	Very Severe
Normal Grade Steel	Soluble Chlorides (ppm)	0 - 200	Low
		200 - 700	Moderate
		700 - 1,500	Severe
		> 1,500	Very Severe
Normal Grade Steel	Resistivity (ohm-cm)	1 - 1,000	Very Severe
		1,000 - 2,000	Severe
		2,000 - 10,000	Moderate
		> 10,000	Low



Project No.: LE18206

Selected Chemical Test Results

Plate C-4

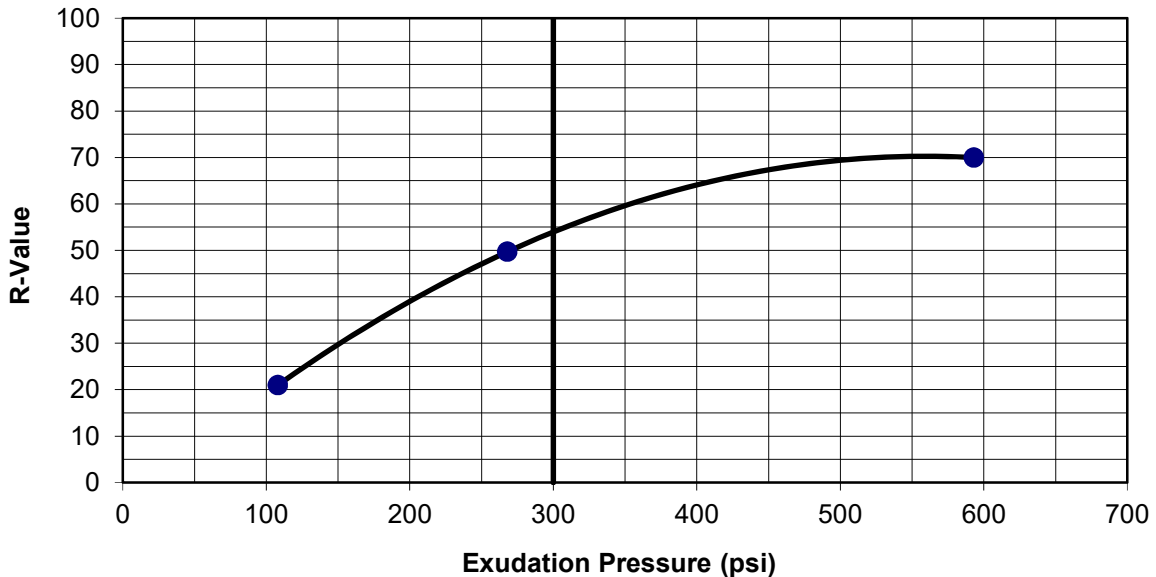
LANDMARK CONSULTANTS, INC.

Client: The Holt Group
Project: Niland Fire & Sheriff Substation - Niland, CA
Project No.: LE18206
Date: 11/16/2018 **Lab No.:** EC18-854

R-Value By Exudation Pressure (ASTM D2844/CAL 301)

Description: Sandy Silt/Silty Sand (ML-SM)
Sample Location: CPT-1
Sample Depth: 0-3 ft.

Sample	A	B	C
Moisture Content, %:	10.8%	11.7%	12.5%
Dry Density, pcf:	120.4	122.1	118.8
Compaction foot pressure, psi:	250	250	250
Specimen Height, in.:	2.45	2.47	2.50
Stabilometer, Ph @ 1000 lb:	20	32	47
Stabilometer, Ph @ 2000 lb:	33	55	98
Displacement:	3.93	4.50	5.75
Expansion pressure, psf:	0	0	0
Exudation pressure, psi:	593	268	108
Equilibrium R Value:	70	50	21
	R-Value	54	



LANDMARK

Geo-Engineers and Geologists

Project No.: LE18206

R-Value Test

Plate

C-5

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APPENDIX D

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LIQUEFACTION ANALYSIS REPORT

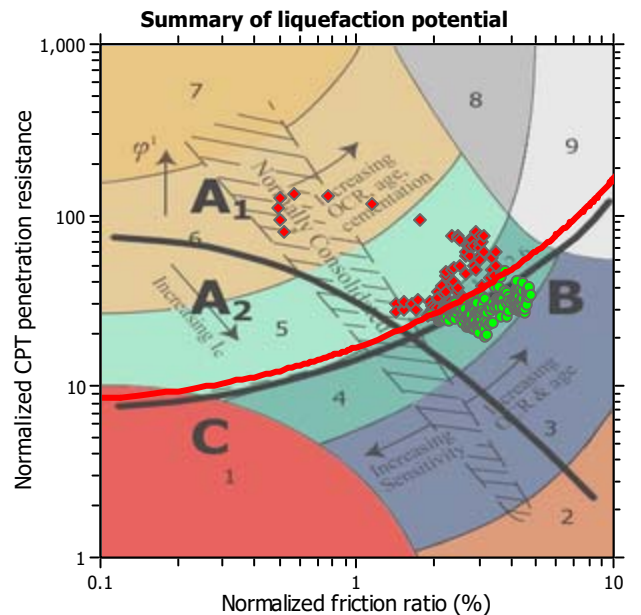
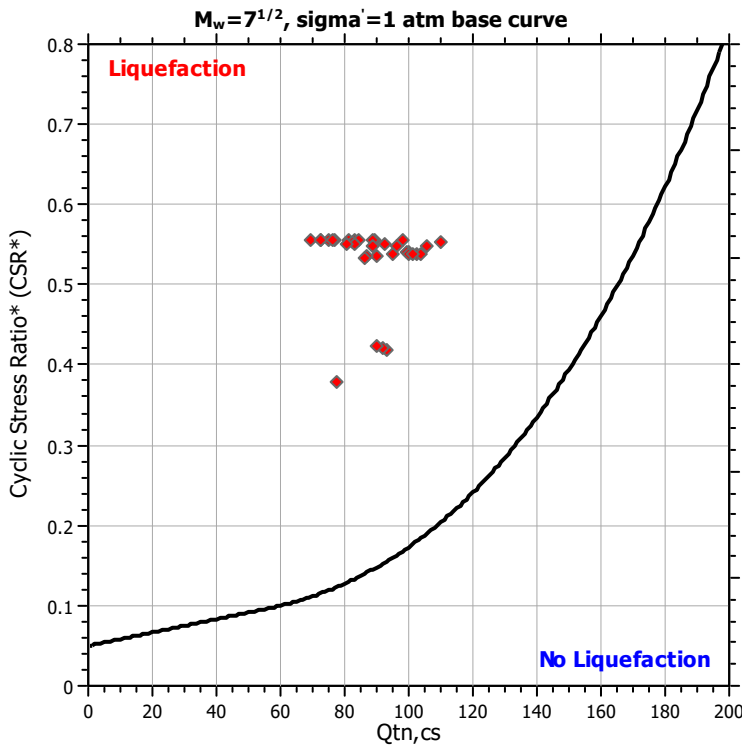
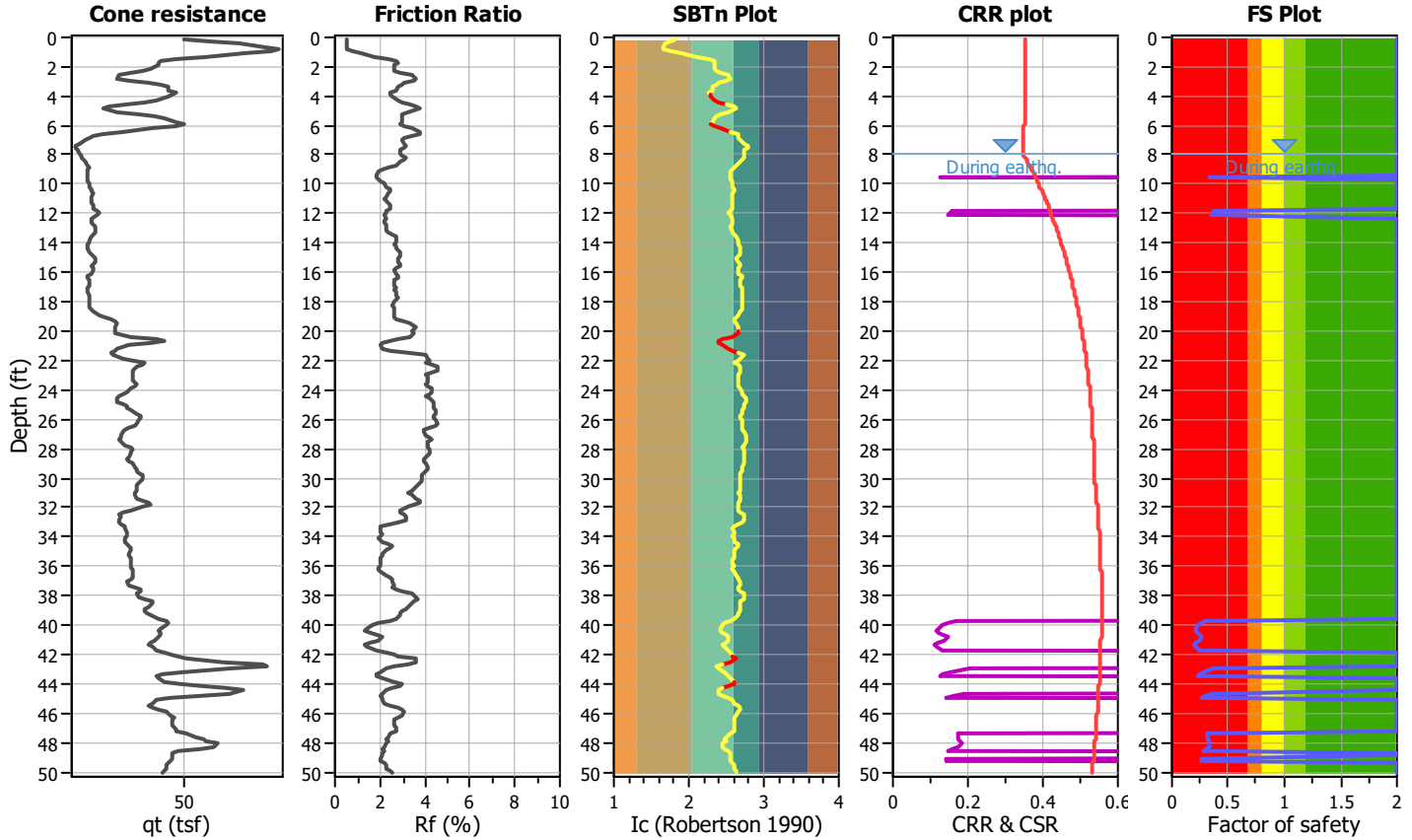
Project title : Niland Fire & Sheriff Substation

Location : Niland, CA

CPT file : CPT-02

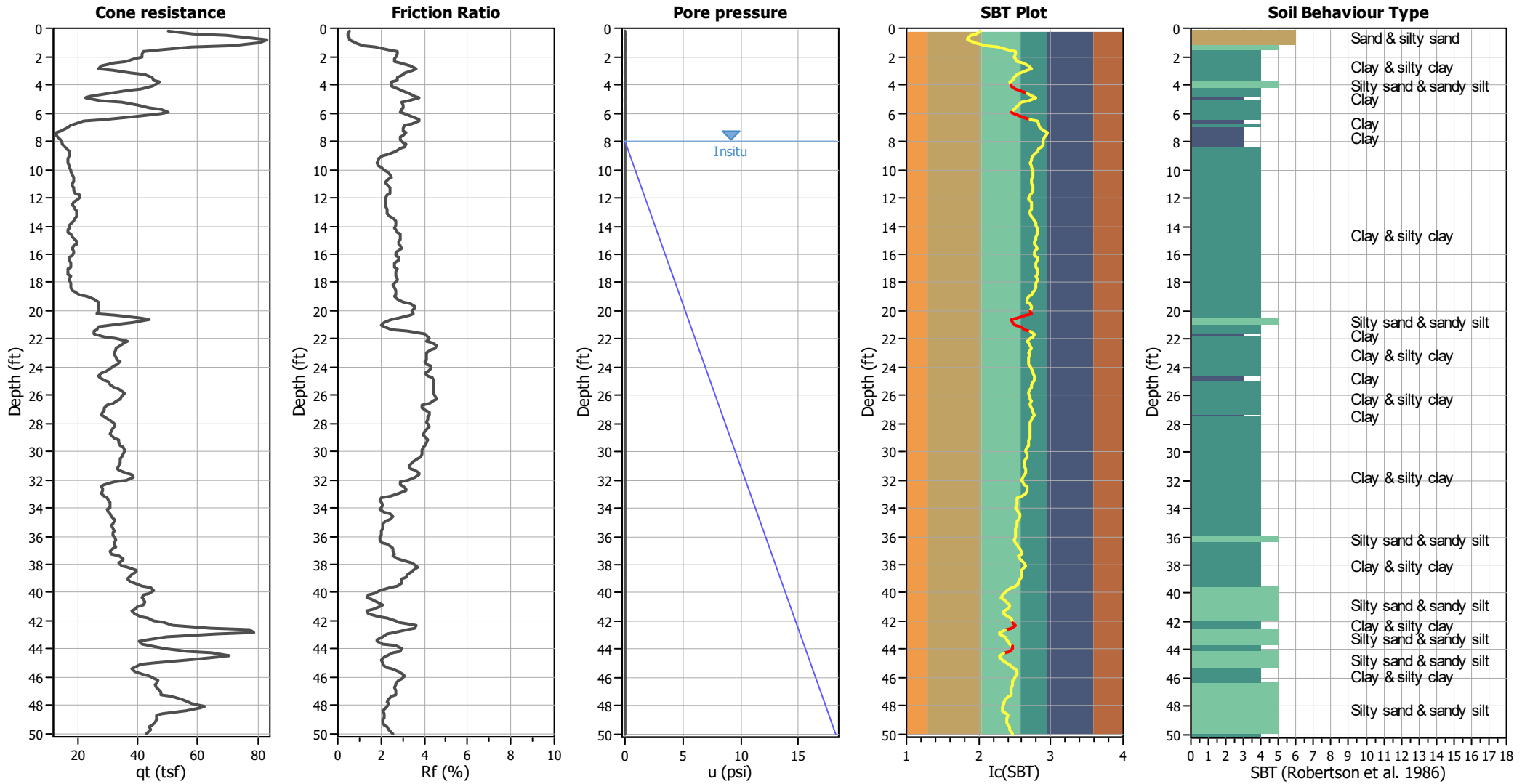
Input parameters and analysis data

Analysis method:	NCEER (1998)	G.W.T. (in-situ):	8.00 ft	Use fill:	No	Clay like behavior applied:	Sands only
Fines correction method:	NCEER (1998)	G.W.T. (earthq.):	8.00 ft	Fill height:	N/A	Limit depth applied:	No
Points to test:	Based on Ic value	Average results interval:	3	Fill weight:	N/A	Limit depth:	N/A
Earthquake magnitude M_w :	7.00	Ic cut-off value:	2.55	Trans. detect. applied:	Yes	MSF method:	Method based
Peak ground acceleration:	0.50	Unit weight calculation:	Based on SBT	K_0 applied:	Yes		



Zone A₁: Cyclic liquefaction likely depending on size and duration of cyclic loading
 Zone A₂: Cyclic liquefaction and strength loss likely depending on loading and ground geometry
 Zone B: Liquefaction and post-earthquake strength loss unlikely, check cyclic softening
 Zone C: Cyclic liquefaction and strength loss possible depending on soil plasticity, brittleness/sensitivity, strain to peak undrained strength and ground geometry

CPT basic interpretation plots



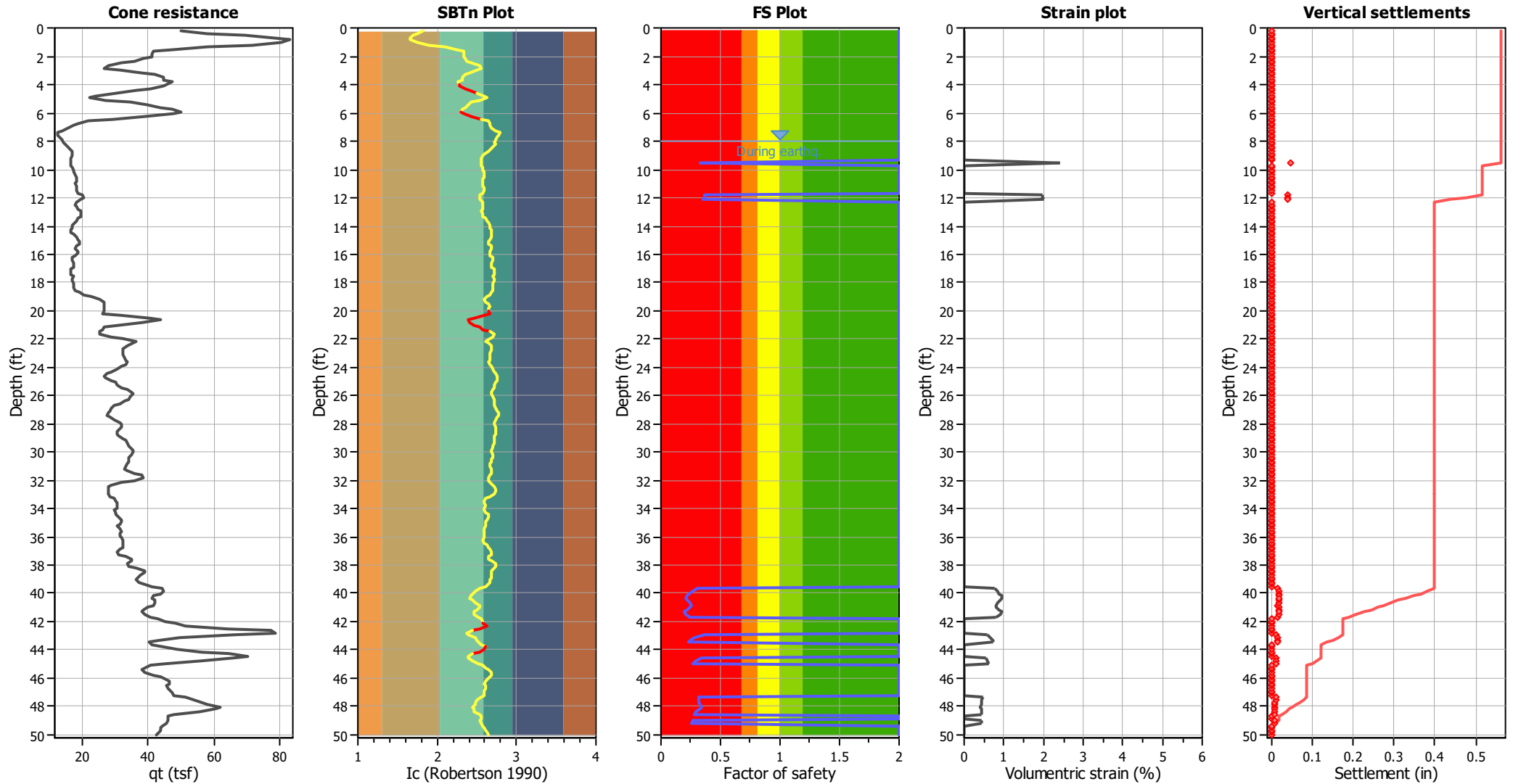
Input parameters and analysis data

Analysis method:	NCEER (1998)	Depth to water table (erthq.):	8.00 ft	Fill weight:	N/A
Fines correction method:	NCEER (1998)	Average results interval:	3	Transition detect. applied:	Yes
Points to test:	Based on Ic value	Ic cut-off value:	2.55	K _v applied:	Yes
Earthquake magnitude M _w :	7.00	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.50	Use fill:	No	Limit depth applied:	No
Depth to water table (insitu):	8.00 ft	Fill height:	N/A	Limit depth:	N/A

SBT legend

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

Estimation of post-earthquake settlements



Abbreviations

- qt: Total cone resistance (cone resistance q_c corrected for pore water effects)
- I_c : Soil Behaviour Type Index
- FS: Calculated Factor of Safety against liquefaction
- Volumetric strain: Post-liquefaction volumetric strain

:: Post-earthquake settlement due to soil liquefaction ::											
Depth (ft)	Q _{tn,cs}	FS	e _v (%)	DF	Settlement (in)	Depth (ft)	Q _{tn,cs}	FS	e _v (%)	DF	Settlement (in)
8.04	93.54	2.00	0.00	0.86	0.00	8.20	96.66	2.00	0.00	0.86	0.00
8.37	97.69	2.00	0.00	0.86	0.00	8.53	96.25	2.00	0.00	0.86	0.00
8.69	93.90	2.00	0.00	0.85	0.00	8.86	88.06	2.00	0.00	0.85	0.00
9.02	83.25	2.00	0.00	0.85	0.00	9.19	79.11	2.00	0.00	0.84	0.00
9.35	77.91	2.00	0.00	0.84	0.00	9.51	77.78	0.33	2.41	0.84	0.05
9.68	79.07	2.00	0.00	0.84	0.00	9.84	81.44	2.00	0.00	0.83	0.00
10.01	85.10	2.00	0.00	0.83	0.00	10.17	88.56	2.00	0.00	0.83	0.00
10.33	91.87	2.00	0.00	0.82	0.00	10.50	92.98	2.00	0.00	0.82	0.00
10.66	90.86	2.00	0.00	0.82	0.00	10.83	88.43	2.00	0.00	0.82	0.00
10.99	87.96	2.00	0.00	0.81	0.00	11.15	89.63	2.00	0.00	0.81	0.00
11.32	91.53	2.00	0.00	0.81	0.00	11.48	92.35	2.00	0.00	0.81	0.00
11.65	93.05	2.00	0.00	0.80	0.00	11.81	93.21	0.37	1.98	0.80	0.04
11.98	92.09	0.36	1.99	0.80	0.04	12.14	90.25	0.35	2.02	0.79	0.04
12.30	88.11	2.00	0.00	0.79	0.00	12.47	87.11	2.00	0.00	0.79	0.00
12.63	87.46	2.00	0.00	0.79	0.00	12.80	89.38	2.00	0.00	0.78	0.00
12.96	90.18	2.00	0.00	0.78	0.00	13.12	90.90	2.00	0.00	0.78	0.00
13.29	92.30	2.00	0.00	0.77	0.00	13.45	94.58	2.00	0.00	0.77	0.00
13.62	95.77	2.00	0.00	0.77	0.00	13.78	94.50	2.00	0.00	0.77	0.00
13.94	92.77	2.00	0.00	0.76	0.00	14.11	91.23	2.00	0.00	0.76	0.00
14.27	91.16	2.00	0.00	0.76	0.00	14.44	92.59	2.00	0.00	0.76	0.00
14.60	95.69	2.00	0.00	0.75	0.00	14.76	97.93	2.00	0.00	0.75	0.00
14.93	98.68	2.00	0.00	0.75	0.00	15.09	97.65	2.00	0.00	0.74	0.00
15.26	97.33	2.00	0.00	0.74	0.00	15.42	97.56	2.00	0.00	0.74	0.00
15.58	96.85	2.00	0.00	0.74	0.00	15.75	94.92	2.00	0.00	0.73	0.00
15.91	92.93	2.00	0.00	0.73	0.00	16.08	92.27	2.00	0.00	0.73	0.00
16.24	92.40	2.00	0.00	0.72	0.00	16.40	91.66	2.00	0.00	0.72	0.00
16.57	89.71	2.00	0.00	0.72	0.00	16.73	89.34	2.00	0.00	0.72	0.00
16.90	88.33	2.00	0.00	0.71	0.00	17.06	89.33	2.00	0.00	0.71	0.00
17.22	88.05	2.00	0.00	0.71	0.00	17.39	88.74	2.00	0.00	0.71	0.00
17.55	89.55	2.00	0.00	0.70	0.00	17.72	90.50	2.00	0.00	0.70	0.00
17.88	89.80	2.00	0.00	0.70	0.00	18.04	87.79	2.00	0.00	0.69	0.00
18.21	86.82	2.00	0.00	0.69	0.00	18.37	87.34	2.00	0.00	0.69	0.00
18.54	89.48	2.00	0.00	0.69	0.00	18.70	91.08	2.00	0.00	0.68	0.00
18.86	93.35	2.00	0.00	0.68	0.00	19.03	96.36	2.00	0.00	0.68	0.00
19.19	101.83	2.00	0.00	0.67	0.00	19.36	109.23	2.00	0.00	0.67	0.00
19.52	115.69	2.00	0.00	0.67	0.00	19.69	118.87	2.00	0.00	0.67	0.00
19.85	118.00	2.00	0.00	0.66	0.00	20.01	116.15	2.00	0.00	0.66	0.00
20.18	116.62	2.00	0.00	0.66	0.00	20.34	122.64	2.00	0.00	0.66	0.00
20.51	122.84	2.00	0.00	0.65	0.00	20.67	116.95	2.00	0.00	0.65	0.00
20.83	102.97	2.00	0.00	0.65	0.00	21.00	90.73	2.00	0.00	0.64	0.00
21.16	89.67	2.00	0.00	0.64	0.00	21.33	95.66	2.00	0.00	0.64	0.00
21.49	107.79	2.00	0.00	0.64	0.00	21.65	121.81	2.00	0.00	0.63	0.00
21.82	130.20	2.00	0.00	0.63	0.00	21.98	137.54	2.00	0.00	0.63	0.00
22.15	140.94	2.00	0.00	0.62	0.00	22.31	144.73	2.00	0.00	0.62	0.00
22.47	145.69	2.00	0.00	0.62	0.00	22.64	142.06	2.00	0.00	0.62	0.00
22.80	137.79	2.00	0.00	0.61	0.00	22.97	132.69	2.00	0.00	0.61	0.00
23.13	132.90	2.00	0.00	0.61	0.00	23.29	133.23	2.00	0.00	0.61	0.00
23.46	134.59	2.00	0.00	0.60	0.00	23.62	133.71	2.00	0.00	0.60	0.00

:: Post-earthquake settlement due to soil liquefaction :: (continued)											
Depth (ft)	Q _{tn,cs}	FS	e _v (%)	DF	Settlement (in)	Depth (ft)	Q _{tn,cs}	FS	e _v (%)	DF	Settlement (in)
23.79	133.95	2.00	0.00	0.60	0.00	23.95	134.44	2.00	0.00	0.59	0.00
24.11	131.72	2.00	0.00	0.59	0.00	24.28	127.29	2.00	0.00	0.59	0.00
24.44	122.05	2.00	0.00	0.59	0.00	24.61	122.07	2.00	0.00	0.58	0.00
24.77	125.21	2.00	0.00	0.58	0.00	24.93	129.44	2.00	0.00	0.58	0.00
25.10	131.33	2.00	0.00	0.57	0.00	25.26	132.46	2.00	0.00	0.57	0.00
25.43	135.03	2.00	0.00	0.57	0.00	25.59	137.67	2.00	0.00	0.57	0.00
25.75	139.16	2.00	0.00	0.56	0.00	25.92	139.28	2.00	0.00	0.56	0.00
26.08	139.25	2.00	0.00	0.56	0.00	26.25	139.32	2.00	0.00	0.56	0.00
26.41	135.13	2.00	0.00	0.55	0.00	26.57	128.17	2.00	0.00	0.55	0.00
26.74	120.33	2.00	0.00	0.55	0.00	26.90	118.56	2.00	0.00	0.54	0.00
27.07	120.40	2.00	0.00	0.54	0.00	27.23	121.58	2.00	0.00	0.54	0.00
27.40	121.31	2.00	0.00	0.54	0.00	27.56	120.53	2.00	0.00	0.53	0.00
27.72	122.80	2.00	0.00	0.53	0.00	27.89	124.48	2.00	0.00	0.53	0.00
28.05	126.93	2.00	0.00	0.52	0.00	28.22	126.91	2.00	0.00	0.52	0.00
28.38	125.66	2.00	0.00	0.52	0.00	28.54	121.86	2.00	0.00	0.52	0.00
28.71	119.63	2.00	0.00	0.51	0.00	28.87	120.35	2.00	0.00	0.51	0.00
29.04	124.02	2.00	0.00	0.51	0.00	29.20	126.46	2.00	0.00	0.51	0.00
29.36	126.68	2.00	0.00	0.50	0.00	29.53	125.43	2.00	0.00	0.50	0.00
29.69	125.07	2.00	0.00	0.50	0.00	29.86	124.85	2.00	0.00	0.49	0.00
30.02	124.65	2.00	0.00	0.49	0.00	30.18	123.47	2.00	0.00	0.49	0.00
30.35	120.94	2.00	0.00	0.49	0.00	30.51	118.42	2.00	0.00	0.48	0.00
30.68	115.16	2.00	0.00	0.48	0.00	30.84	112.86	2.00	0.00	0.48	0.00
31.00	109.93	2.00	0.00	0.47	0.00	31.17	110.94	2.00	0.00	0.47	0.00
31.33	114.73	2.00	0.00	0.47	0.00	31.50	121.03	2.00	0.00	0.47	0.00
31.66	123.59	2.00	0.00	0.46	0.00	31.82	120.24	2.00	0.00	0.46	0.00
31.99	110.86	2.00	0.00	0.46	0.00	32.15	100.29	2.00	0.00	0.46	0.00
32.32	95.38	2.00	0.00	0.45	0.00	32.48	96.90	2.00	0.00	0.45	0.00
32.64	99.17	2.00	0.00	0.45	0.00	32.81	98.51	2.00	0.00	0.44	0.00
32.97	93.47	2.00	0.00	0.44	0.00	33.14	87.16	2.00	0.00	0.44	0.00
33.30	81.35	2.00	0.00	0.44	0.00	33.46	80.40	2.00	0.00	0.43	0.00
33.63	81.95	2.00	0.00	0.43	0.00	33.79	82.95	2.00	0.00	0.43	0.00
33.96	80.90	2.00	0.00	0.42	0.00	34.12	79.68	2.00	0.00	0.42	0.00
34.28	82.83	2.00	0.00	0.42	0.00	34.45	87.98	2.00	0.00	0.42	0.00
34.61	91.13	2.00	0.00	0.41	0.00	34.78	90.23	2.00	0.00	0.41	0.00
34.94	86.38	2.00	0.00	0.41	0.00	35.10	83.27	2.00	0.00	0.41	0.00
35.27	82.12	2.00	0.00	0.40	0.00	35.43	82.19	2.00	0.00	0.40	0.00
35.60	81.74	2.00	0.00	0.40	0.00	35.76	80.68	2.00	0.00	0.39	0.00
35.93	80.64	2.00	0.00	0.39	0.00	36.09	80.35	2.00	0.00	0.39	0.00
36.25	80.14	2.00	0.00	0.39	0.00	36.42	81.86	2.00	0.00	0.38	0.00
36.58	86.04	2.00	0.00	0.38	0.00	36.75	89.95	2.00	0.00	0.38	0.00
36.91	90.54	2.00	0.00	0.37	0.00	37.07	89.44	2.00	0.00	0.37	0.00
37.24	90.66	2.00	0.00	0.37	0.00	37.40	91.50	2.00	0.00	0.37	0.00
37.57	96.89	2.00	0.00	0.36	0.00	37.73	100.46	2.00	0.00	0.36	0.00
37.89	106.41	2.00	0.00	0.36	0.00	38.06	109.81	2.00	0.00	0.35	0.00
38.22	113.45	2.00	0.00	0.35	0.00	38.39	114.34	2.00	0.00	0.35	0.00
38.55	112.46	2.00	0.00	0.35	0.00	38.71	107.95	2.00	0.00	0.34	0.00
38.88	104.33	2.00	0.00	0.34	0.00	39.04	101.43	2.00	0.00	0.34	0.00
39.21	101.25	2.00	0.00	0.34	0.00	39.37	102.87	2.00	0.00	0.33	0.00

:: Post-earthquake settlement due to soil liquefaction :: (continued)											
Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)
39.53	102.27	2.00	0.00	0.33	0.00	39.70	97.98	0.30	0.78	0.33	0.02
39.86	89.17	0.26	0.83	0.32	0.02	40.03	81.11	0.23	0.89	0.32	0.02
40.19	75.04	0.21	0.94	0.32	0.02	40.35	72.46	0.21	0.96	0.32	0.02
40.52	77.12	0.22	0.91	0.31	0.02	40.68	83.39	0.24	0.84	0.31	0.02
40.85	88.73	0.26	0.79	0.31	0.02	41.01	84.51	0.25	0.82	0.30	0.02
41.17	75.94	0.22	0.88	0.30	0.02	41.34	69.66	0.20	0.94	0.30	0.02
41.50	72.27	0.21	0.90	0.30	0.02	41.67	82.79	0.24	0.80	0.29	0.02
41.83	93.56	2.00	0.00	0.29	0.00	41.99	102.40	2.00	0.00	0.29	0.00
42.16	108.42	2.00	0.00	0.29	0.00	42.32	125.81	2.00	0.00	0.28	0.00
42.49	137.42	2.00	0.00	0.28	0.00	42.65	142.30	2.00	0.00	0.28	0.00
42.81	128.72	2.00	0.00	0.27	0.00	42.98	110.03	0.37	0.59	0.27	0.01
43.14	92.49	0.28	0.67	0.27	0.01	43.31	82.96	0.24	0.72	0.27	0.01
43.47	80.68	0.23	0.73	0.26	0.01	43.64	86.57	2.00	0.00	0.26	0.00
43.80	99.64	2.00	0.00	0.26	0.00	43.96	109.60	2.00	0.00	0.25	0.00
44.13	115.26	2.00	0.00	0.25	0.00	44.29	114.44	2.00	0.00	0.25	0.00
44.46	112.20	2.00	0.00	0.25	0.00	44.62	105.43	0.34	0.55	0.24	0.01
44.78	96.09	0.30	0.58	0.24	0.01	44.95	88.59	0.26	0.61	0.24	0.01
45.11	84.89	2.00	0.00	0.24	0.00	45.28	85.84	2.00	0.00	0.23	0.00
45.44	90.21	2.00	0.00	0.23	0.00	45.60	96.77	2.00	0.00	0.23	0.00
45.77	102.53	2.00	0.00	0.22	0.00	45.93	105.62	2.00	0.00	0.22	0.00
46.10	105.02	2.00	0.00	0.22	0.00	46.26	102.74	2.00	0.00	0.22	0.00
46.42	100.30	2.00	0.00	0.21	0.00	46.59	99.43	2.00	0.00	0.21	0.00
46.75	99.20	2.00	0.00	0.21	0.00	46.92	100.83	2.00	0.00	0.20	0.00
47.08	101.13	2.00	0.00	0.20	0.00	47.24	101.39	2.00	0.00	0.20	0.00
47.41	100.05	0.32	0.46	0.20	0.01	47.57	99.40	0.32	0.45	0.19	0.01
47.74	99.93	0.32	0.45	0.19	0.01	47.90	102.40	0.33	0.43	0.19	0.01
48.06	103.66	0.34	0.42	0.19	0.01	48.23	101.10	0.33	0.42	0.18	0.01
48.39	94.85	0.30	0.44	0.18	0.01	48.56	90.24	0.28	0.45	0.18	0.01
48.72	88.57	2.00	0.00	0.17	0.00	48.88	88.21	2.00	0.00	0.17	0.00
49.05	86.79	0.26	0.44	0.17	0.01	49.21	86.29	0.26	0.44	0.17	0.01
49.38	87.21	2.00	0.00	0.16	0.00	49.54	88.74	2.00	0.00	0.16	0.00
49.70	89.92	2.00	0.00	0.16	0.00	49.87	91.33	2.00	0.00	0.15	0.00
50.03	92.76	2.00	0.00	0.15	0.00						

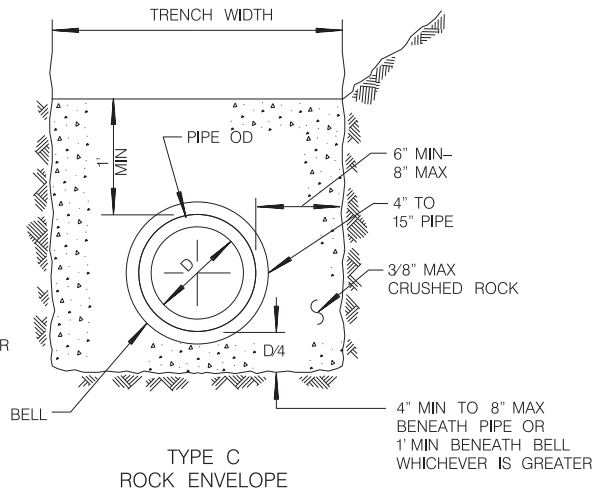
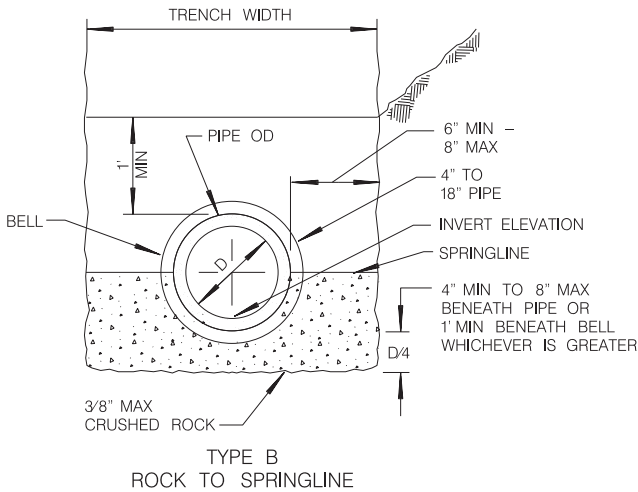
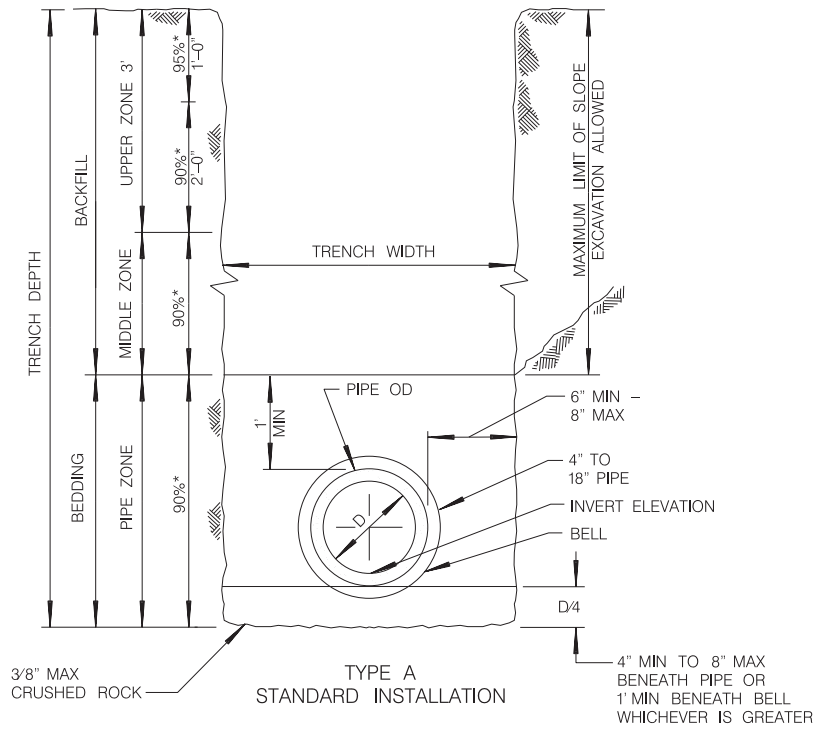
Total estimated settlement: 0.56

Abbreviations

$Q_{tn,cs}$:	Equivalent clean sand normalized cone resistance
FS:	Factor of safety against liquefaction
e_v (%):	Post-liquefaction volumetric strain
DF:	e_v depth weighting factor
Settlement:	Calculated settlement

APPENDIX E

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NOTES

1. FOR TRENCH RESURFACING IN IMPROVED STREETS, SEE STANDARD DRAWINGS SDG-107 AND SDG-108.
2. (*) INDICATES MINIMUM RELATIVE COMPACTION.
3. MINIMUM DEPTH OF COVER FROM THE TOP OF PIPE TO FINISH GRADE FOR PVC SDR 35 SEWER MAIN SHALL BE 5'. FOR SHALLOWER DEPTH, SPECIAL DESIGN IS REQUIRED. SEE SDS-101.
4. SEE TYPE A INSTALLATION FOR DETAILS NOT SHOWN FOR TYPES B AND C.
5. FOR PIPE SIZE ENCASMENT LARGER THAN 15", MAXIMUM SIDE WALL CLEARANCE SHALL BE 12" OR AS SHOWN ON THE PLANS.
6. 6" METAL TAPE SHALL BE INSTALLED ABOVE PIPE 4" BELOW TRENCH CAP AND 12" BELOW FINISH GRADE IN UNIMPROVED STREETS.
7. 1" SAND CUSHION OR A 6" MINIMUM SAND CUSHION WITH 1" NEOPRENE PAD SHALL BE PLACED FOR CROSSINGS UTILITIES WHEN VERTICAL CLEARANCE IS 1' OR LESS. THE NEOPRENE PAD SHALL BE PLACED ON THE MOST FRAGILE UTILITY.

From: City of San Diego Standard Drawing SDS-110 (2016)

LANDMARK
Geo-Engineers and Geologists
Project No.: LE18206

**Pipe Bedding and Trench Backfill
Recommendations**

**Plate
E-1**

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APPENDIX F

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ATTACHMENT I

PHOTOS OF EXISTING
FIRE SUBSTATION 7 &
SHERIFF SUBSTATION

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Imperial County Fire Department
Niland Substation



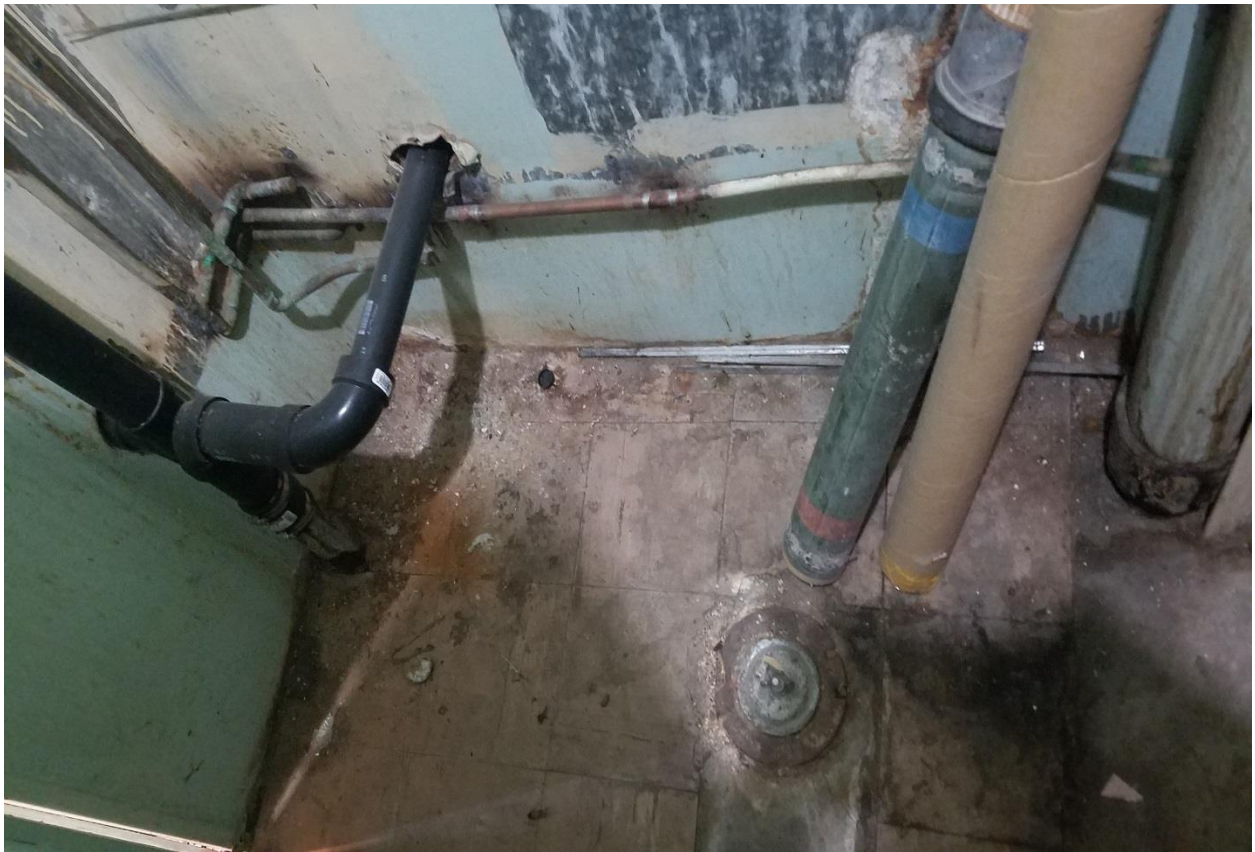


































Imperial County Sheriff's Office
Niland Substation











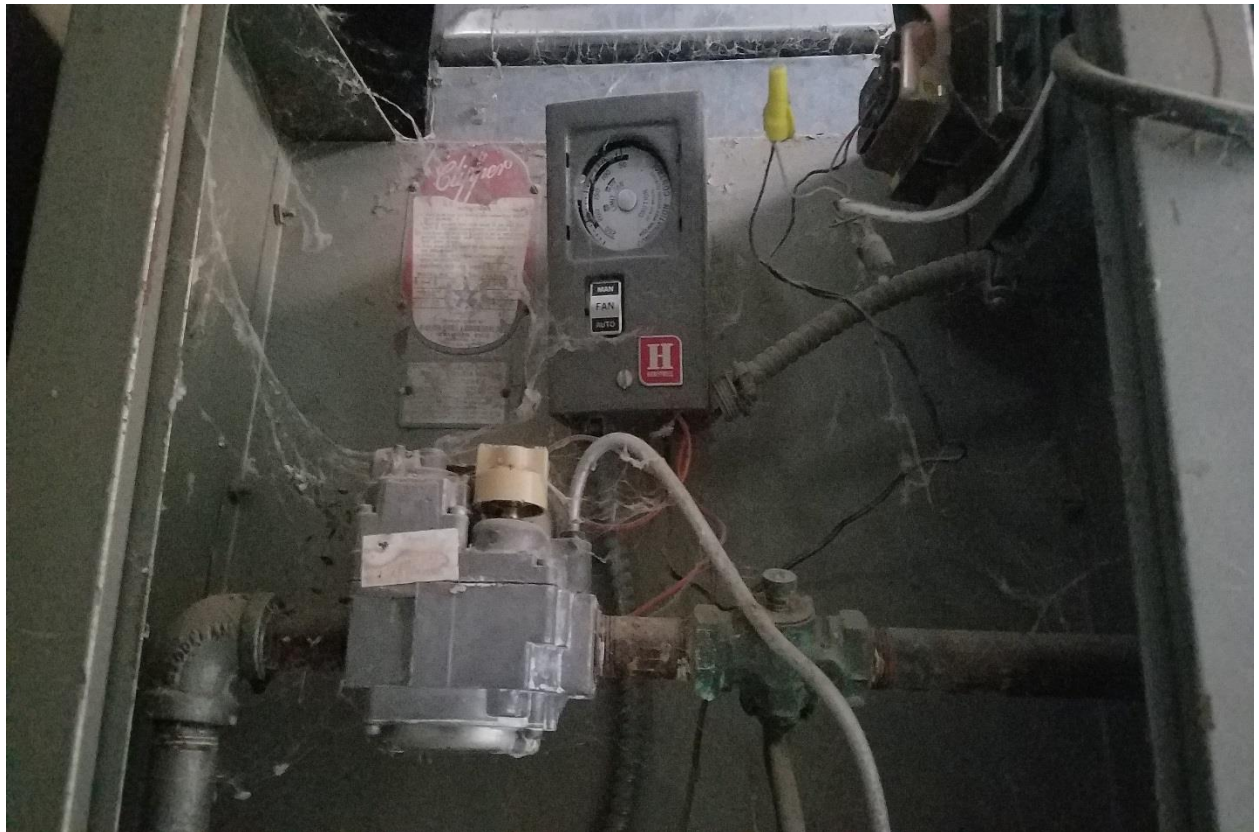












DO NOT
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