PROJECT REPORT

TO: ENVIRONMENTAL EVALUATION COMMITTEE **AGENDA DATE: February 27, 2025**

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

PROJECT TYPE: Picacho Road Bridge Replacement IS#24-0037 SUPERVISOR DIST #5

LOCATION: Picacho Road Bridge APN: 056-600-011-000

Winterhaven, CA 92283 PARCEL SIZE: N/A

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

ZONE (existing) Native American (NAT AMER) 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

ENVIROMENTAL EVALUATION COMMITTEE DECISION: HEARING DATE: 02/27/2025

INITIAL STUDY: #24-0037

☐ NEGATIVE DECLARATION ☐ MITIGATED NEG. DECLARATION ☐ EIR

DEPARTMENTAL REPORTS / APPROVALS:

PUBLIC WORKS	☒ NONE	☐ ATTACHED
AG	☐ NONE	☒ ATTACHED
APCD	☐ NONE	☒ ATTACHED
E.H.S.	☒ NONE	☐ ATTACHED
FIRE / OES	☒ NONE	☐ ATTACHED
SHERIFF	☒ NONE	☐ ATTACHED
OTHER	Imperial Irrigation District (IID), CEO, Quechan Indian Tribe, CALTRANS	

REQUESTED ACTION:

(See Attached)

Planning & Development Services
801 MAIN STREET, EL CENTRO, CA, 92243 442-265-1736
(Jim Minnick, Director)

EEC ORIGINAL PKG

☐ NEGATIVE DECLARATION
☒ MITIGATED NEGATIVE DECLARATION

Initial Study & Environmental Analysis
For:

IMPERIAL COUNTY PROJECT NO. 6811
PICACHO ROAD BRIDGE REPLACEMENT PROJECT AT YUMA MAIN CANAL
INITIAL STUDY (IS) # 24-0037

Prepared By:

COUNTY OF IMPERIAL
Planning & Development Services Department
801 Main Street
El Centro, CA 92243
(442) 265-1736
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January 2025

EEC ORIGINAL PKG

TABLE OF CONTENTS

TABLES

Exhibits

APPENDICES

Acronyms and Abbreviations

AB	Assembly Bill
AFY	Acre-Feet Per Year
AQMP	Air Quality Management Plan
ARMR	Archaeological Resource Management Reports
ATSM	American Society for Testing and Materials
BLM	Bureau of Land Management
BMP	Best Management Practices
BOR	Bureau of Reclamation
CAAQS	California Ambient Air Quality Standards
CALFIRE	California Department of Forestry and Fire Protection
Cal-EPA	California Environmental Protection Agency
CalEEMod	California Emissions Estimator Model
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation, And Liability Act
CFR	Code of Federal Regulations
CH4	Methane
CNDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
CO	Carbon Monoxide
CO2	Carbon Dioxide
CO2e	Carbon Dioxide Equivalent
COSFM	California Office of the State Fire Marshall
CRHR	California Register of Historical Resources
CWA	Clean Water Act
CY	Cubic Yards
dB	Decibels
dBA	A-weighted Decibels
DOC	California Department of Conservation
DWR	Department of Water Resources
ESA	Environmental Site Assessment
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
FHSZ	Fire Hazard Severity Zone
FHWA	Federal Highway Administration
GHG	Greenhouse Gas
GWP	Global Warming Potential
HCP / NCCP	Habitat Conservation Plan / Natural Community Conservation Plan
HP	Horsepower
ICAPCD	Imperial County Air Pollution Control District
IID	Imperial Irrigation District
in/sec	Inches per second
IPCC	Intergovernmental Panel on Climate Change
Lbs	Pounds
Leq	Energy Equivalent or Energy Average Level

LID	Low Impact Development
Lmax	Maximum A-weighted Sound Level
LRA	Local Responsibility Area
LST	Localized Significance Thresholds
MBTA	Migratory Bird Treaty Act
MMRP	Mitigation Monitoring and Reporting Program
MRZ	Mineral Resources Zones
N2O	Nitrous Oxide
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NAV	Navigation
NO2	Nitrogen Dioxide
Nox	Nitrogen Oxide
NPDES	National Pollutant Discharge Elimination System
NWI	National Wetlands Inventory
O3	Ozone
O&M Plan	Operations and Maintenance Plan
PEIR	Programmatic Environmental Impact Report
PM	Particulate Matter
$PM_{2.5}$	2.5 Fine Particulate Matter
PM_{10}	Respirable Particulate Matter
PMM	Program Mitigation Measure
PPV	Peak Particle Velocity
RARE	Rare, Threatened, or Endangered Species
ROW	Right-of-Way
RWQCB	Regional Water Quality Control Board
SB	Senate Bill
SRA	State Responsibility Area
SWPPP	Stormwater Pollution Prevention Plan
TAC	Toxic Air Contaminant
TMDL	Total Maximum Daily Load
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
VHFHSZ	Very High Fire Hazard Severity Zone
VdB	Vibration Level in Decibels
VMT	Vehicle Miles Traveled
VOC	Volatile Organic Compounds
CDFW WL	CDFW Watchlist
YCWUA	Yuma County Water Users' Association

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 Picacho Road Bridge Replacement Project at Yuma Main Canal. (Refer to Exhibits A, B, and C).

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 Project will result in any potentially significant environmental impacts and, therefore, a Mitigated Negative Declaration is deemed as the appropriate document to provide necessary environmental evaluations and clearance as identified hereinafter.

This Initial Study and Mitigated 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 MITIGATED NEGATIVE DECLARATION

This Initial Study and Mitigated 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 Mitigated 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 & MITIGATED 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 potentially significant impact, potentially significant unless mitigation incorporated, less than significant impact or no impact.

PROJECT SUMMARY, LOCATION AND EVIRONMENTAL 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 Mitigated Negative Declaration.
V. REFERENCES lists bibliographical materials used in preparation of this document.

VI. MITIGATED NEGATIVE DECLARATION – COUNTY OF IMPERIAL

VII. FINDINGS

SECTION 4

VIII. RESPONSE TO COMMENTS (IF ANY)

IX. MITIGATION MONITORING & REPORTING PROGRAM (MMRP)

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. **Potentially Significant Unless 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 Mitigated 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 Mitigated 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**: Imperial County Project No. 6811, Picacho Road Bridge Replacement Project at Yuma Main Canal, Initial Study (IS) # 24-0037.

2. **Lead Agency**: Imperial County Planning & Development Services Department (ICPDS)

3. **Contact person and phone number**: Luis Bejarano, Planner I, (442) 265-1736

4. **Address**: 801 Main Street, El Centro CA, 92243

5. **E-mail**: luisbejarano@co.imperial.ca.us

6. **Project location**: The Picacho Road Bridge over the Yuma Main Canal is located along Picacho Road in Winterhaven, CA. The bridge lies within APN 056-600-011 with coordinates 32.7358 N, 114.6241 W. The existing bridge is approximately 95 feet in length and 29 feet wide and is used as a pathway leading into the Townsite of Winterhaven in Imperial County. The Project Site is approximately 0.3 miles south of Interstate 8 (I-8), 0.6 miles east of First Street, and approximately 6 miles southeast of Mexico. Specifically, the Project Site is located between Winterhaven Drive and Quechan Road and runs adjacent to the Union Pacific Railroad tracks. The immediate surrounding area consists of agricultural land. Surrounding areas also include industrial, commercial, warehouse, and residential lands. The nearest residential community is located approximately 0.2 miles to the south of the Project Site. The Project Site is located directly to the west of the Quechan Tribal Administration buildings which is intended to benefit from the bridge reconstruction. The Project Site is located within the Quechan Tribal territory and spans the Yuma Canal system owned by the Bureau of Reclamation (BOR). The canal is operated and maintained by the Yuma County Water Users' Association (YCWUA).

7. **Project sponsor's name and address**: Imperial County Public Works Department, 155 S. 11th Street, El Centro, CA 92243.

8. **General Plan designation**: Surrounding the proposed Project is the Fort Yuma Indian Reservation which is designated as Agriculture in the County's General Plan. The project area supports the Yuma Main Canal, the Seminole Water Canal (runs west from the Yuma Main Canal), and the Union Pacific Railroad (parallel to the bridge). The Bureau of Reclamation (BOR) owns the Yuma Main Canal. Imperial County has an easement and provides transportation for the population over the canal.

9. **Zoning**: The Fort Yuma Indian Reservation lands are zoned Native American.

10. **Description of project**: The proposed Project is located at Picacho Bridge over Yuma Main Canal (Picacho Road, Winterhaven, CA 32.7358 N, 114.6241 W and within APN 056-600-011) and is intended to replace the existing bridge leading into the Townsite of Winterhaven in Supervisorial District 1. The proposed Project presents a unique opportunity to construct a modern bridge that implements Best Management Practices (BMPs) concurrently with transportation amenities. Due to cracking and outliving its useful life, the existing wood bridge must be replaced to support commerce, access to the Quechan Reservation and the Bard community, and provide a safer crossing of the Yuma Main Canal. The bridge is owned by Imperial County and its National Bridge Inventory (NBI) number is 58C0028. The bridge crosses the Yuma Main Canal, which is a Bureau of Reclamation facility that is operated and maintained by their managing partner the Yuma County Water Users' Association.

Due to its deteriorating condition, it is proposed to replace the existing bridge with a new Precast Prestressed Concrete Girder Bridge that spans over the canal with no intermediate supports, to minimize disturbance to canal operations during construction and to avoid the inadvertent release of debris or fill into the canal. The roadway profile is proposed to be raised to approximately 5 feet-4 inches higher than the existing condition, achieving a minimum of 2 feet of vertical clearance over the existing canal bank elevation per the BOR's *Engineering and O&M Guidelines for Crossings*.

The replacement bridge will have a total width of 48'-11". This includes two vehicle lanes of 12', two 8' wide shoulders,

and a 6'-0" wide sidewalk on the north side of the bridge. A typical section is also shown below (Exhibit C, Bridge Design). The Yuma Main Canal is a man-made unlined irrigation main canal that flows in a southerly direction under the existing bridge.

11. **Surrounding land uses and setting**: The project is located along Picacho Rd. (S-24) 0.4- miles north of the Colorado River and California/Arizona border in Section 16 of Township 16 South, Range 22 East. The bridge crosses the Yuma Main Canal and serves as a route into the Townsite of Winterhaven. At 130 ft (40 m) above sea level, the project is located 0.4 miles north of the Colorado River. The Cargo Muchacho Mountains are 8.5 miles to the northwest, the Algodones Dunes are 13 miles to the west, and the Laguna and Gila Mountains are 11 miles to the east. The project is in the southeastern portion of the Colorado Desert Province and within the Lower Colorado/Gila River Valleys Ecoregion. Surrounding the proposed Project area are agricultural lands on the Fort Yuma Indian Reservation.

12. **Other public agencies whose approval is required** (e.g., permits, financing approval, or participation agreement.): Planning Commission

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 confidentially, 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.

The lead CEQA agency must begin the Assembly Bill (AB) 52 consultation process prior to the release of a ND, MND, or EIR. The AB 52 consultation process shall begin with the Lead Agency (ICPDS) providing written notification to California Native American Tribes who identify as being traditionally and culturally affiliated with the Proposed Project area. The written notification includes a brief description of the Proposed Project, including the location, the Lead Agency's contact information, and notification that the California Native American Tribe has 30 days to request consultation, per AB 52. Upon receipt of a written response from a California Native American Tribe requesting consultation, the Lead Agency and the California Native American Tribe(s) requesting consultation shall begin AB 52 consultation.

The proposed project occurs within the Fort Yuma Indian Reservation thus tribal consultation was undertaken with the Fort Yuma Quechan Tribe. A meeting was facilitated between the Bureau of Reclamation, Fort Yuma Quechan Historic Preservation Office (Quechan HPO), and NV5 to discuss requirements for conducting cultural resource projects on Tribal land in Spring 2021. Quechan HPO was granted for the completion of the California Historic Resources Information System search in Summer 2021. Quechan THPO staff did not indicate any concern about Traditional Cultural Places within the proposed project area. In October 2022, prior to conducting fieldwork, a Plan of Work for the cultural resource survey was provided to the Quechan THPO to present to the Tribal Council for approval. After receipt of approval, fieldwork was completed on October 12, 2022. (See Appendix C). The AB 52 consultation process was conducted by Imperial County Planning and Development Services between October 16, 2024, to November 15, 2024 and although no formal letter response was received by Tribes, the Quechan Indian Tribe did express interest via telephone conversation. If response comments are received from the Quechan Indian Tribe, or other Native American interests, such comments will be acknowledged by the County and will be incorporated within this Initial Study as appropriate.

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.

☐ Aesthetics	☒ Agriculture and Forestry Resources	☐ Air Quality
☒ Biological Resources	☒ Cultural Resources	☐ Energy
☒ Geology /Soils	☐ Greenhouse Gas Emissions	☒ Hazards & Hazardous Materials
☐ Hydrology / Water Quality	☐ Land Use / Planning	☐ Mineral Resources
☐ Noise	☐ Population / Housing	☐ Public Services
☐ Recreation	☐ Transportation	☐ Tribal Cultural Resources
☒ Utilities/Service Systems	☐ Wildfire	☒ 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.

EEC VOTES	YES	NO	ABSENT
PUBLIC WORKS	☐	☐	☒
ENVIRONMENTAL HEALTH SVCS	☒	☐	☐
OFFICE EMERGENCY SERVICES	☒	☐	☐
APCD	☒	☐	☐
AG	☒	☐	☐
SHERIFF DEPARTMENT	☒	☐	☐
ICPDS	☒	☐	☐

For
Jim Minnick, Director of Planning/EEC Chairman

2-27-2025
Date:

EEC ORIGINAL PKG

PROJECT SUMMARY

A. Project Location: The Picacho Road Bridge over the Yuma Main Canal is located along Picacho Road in Winterhaven, CA. The bridge lies within APN 056-600-011 with coordinates 32.7358 N, 114.6241 W. The existing bridge is approximately 95 feet in length and 29 feet wide and is used as a pathway leading into the Townsite of Winterhaven in Imperial County, (Exhibit A, Project Vicinity and Exhibit B, Project Location and Footprint). The Project Site is approximately 0.3 miles south of Interstate 8 (I-8), 0.6 miles east of First Street, and approximately 6 miles southeast of Mexico. Specifically, the Project Site is located between Winterhaven Drive and Quechan Road and runs adjacent to the Union Pacific Railroad tracks. The immediate surrounding area consists of agricultural land. Surrounding areas also include industrial, commercial, warehouse, and residential lands. The nearest residential community is located approximately 0.2 miles to the south of the Project Site. The Project Site is located directly to the west of the Quechan Tribal Administration buildings which is intended to benefit from the bridge reconstruction. The Project Site is located within the Quechan Tribal territory and spans the Yuma Canal system owned by the Bureau of Reclamation (BOR). The canal is operated and maintained by the Yuma County Water Users' Association (YCWUA).

B. Project Summary: The bridge is owned by Imperial County and its National Bridge Inventory (NBI) number is 58C0028. The bridge crosses the Yuma Main Canal, which is a Bureau of Reclamation facility that is operated and maintained by their managing partner the Yuma County Water Users' Association. The replacement bridge will have a total width of 48'-11". This includes two vehicle lanes of 12', two 8' wide shoulders, and a 6'-0" wide sidewalk on the north side of the bridge. A typical section is also shown below (Exhibit C, Bridge Design). The Yuma Main Canal is a man-made unlined irrigation main canal that flows in a southerly direction under the existing bridge.

The newly designed bridge will have a minimum freeboard of 2.31' above the high-water surface elevation of 140.74, received from YCWUA. This elevation is at the edge of the existing canal bank. As seen in the drawings provided, the freeboard is 2'-4" (2.33') from edge of the channel to the low girder elevation. A 50-ton crane will be utilized to remove portions of the bridge with all materials to be transported to an approved landfill. The original bridge pylons will be removed by crane; best management practices will be employed to minimize removal impacts and will not alter the streambed or employ dredging activities. As depicted in Exhibit C below, all construction activities will be contained within the area highlighted by the red boundary. The total construction work area is approximately 2.8 acres. Tree removal and removal of other vegetation along the canal will be necessary for the proposed Project. Existing vegetation will need to be cleared and grubbed prior to grading operations. Temporary construction easements will be needed to facilitate utility relocations and allow construction access. Construction is anticipated to last for a period of one year. All construction activities such as site preparation, grading, utility relocation, and site restoration would be contained within the construction work area.

C. Environmental Setting:
The project is located along Picacho Rd. (S-24) 0.4- miles north of the Colorado River and California/Arizona border in Section 16 of Township 16 South, Range 22 East (see Exhibit A and Exhibit B). The bridge crosses the Yuma Main Canal and serves as a route into the Townsite of Winterhaven. At 130 ft (40 m) above sea level, the project is located 0.4 miles north of the Colorado River. The Cargo Muchacho Mountains are 8.5 miles to the northwest, the Algodones Dunes are 13 miles to the west, and the Laguna and Gila Mountains are 11 miles to the east. The project is in the southeastern portion of the Colorado Desert Province and within the Lower Colorado/Gila River Valleys Ecoregion. Surrounding the proposed Project area are agricultural lands on the Fort Yuma Indian Reservation..

D. Analysis:
The County is the CEQA lead agency having authority to authorize the construction of the project. The County would obtain all necessary permits or licenses from the appropriate federal, state, and/or other local agencies having a permit authority. Surrounding the proposed Project area are agricultural lands on the Fort Yuma Indian Reservation, the Yuma Main Canal, the Seminole Water Canal (runs west from the Yuma Main Canal), and the Union Pacific Railroad (parallel to the bridge). The land the bridge is located on is designated as Agriculture by the County and Other Land by the California Department of Conservation (DOC). The Bureau of Reclamation (BOR) owns the Yuma Main Canal. Imperial County has an easement and provides transportation for the population over the canal. The Proposed Project would

construct a new improved bridge structure in place of the existing wood bridge where it crosses the Yuma Main Canal. The Proposed Project is consistent with both the Imperial County General Plan's land use designation of the Proposed Project site and the County's Land Use Ordinance. Therefore, the adoption of the CEQA Initial Study for the Proposed Project would be consistent with applicable County and State ordinances and regulations.

E. General Plan Consistency:

In addition to the analysis stated above, the project is found to be consistent, with the adoption of CEQA Initial Study for the proposed Picacho Bridge Replacement Project.

Exhibit A
Project Vicinity

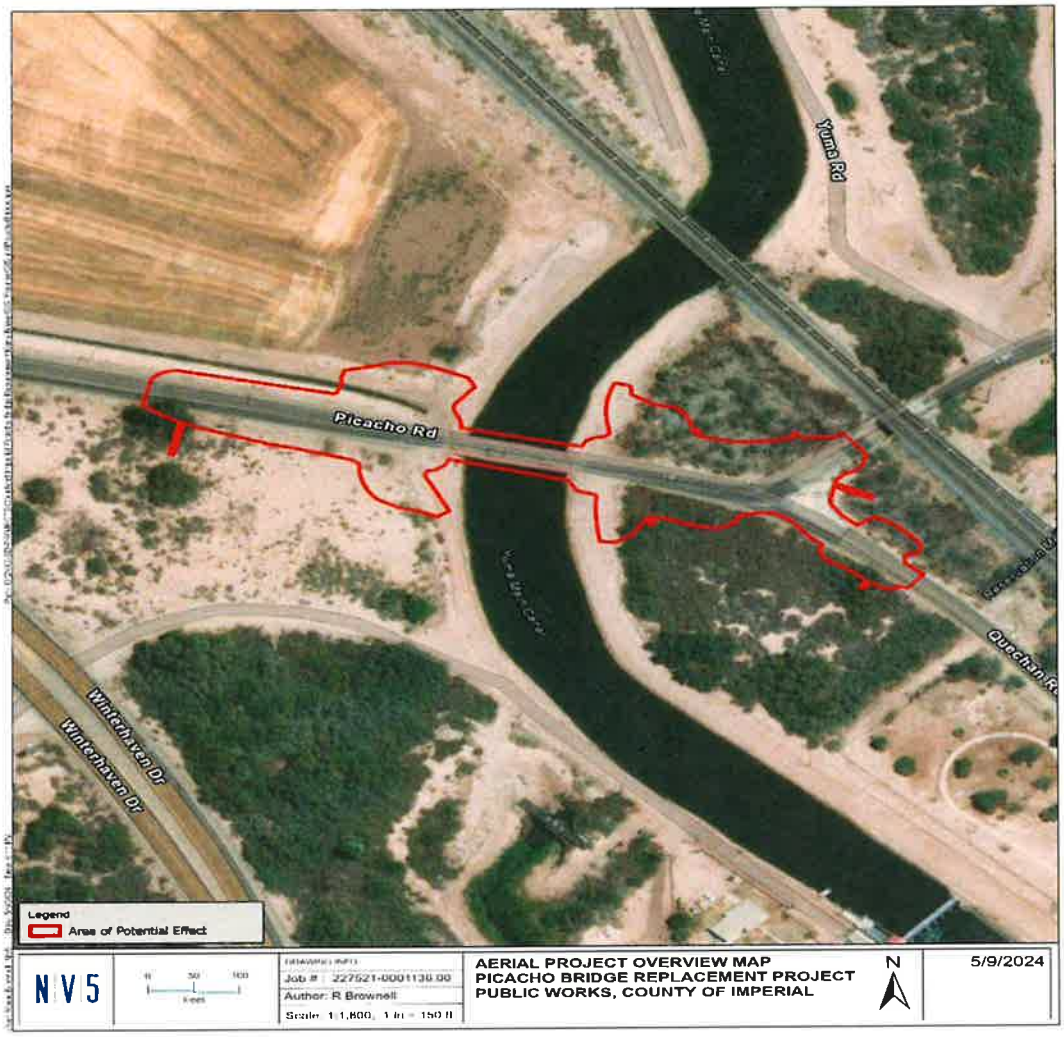

Exhibit B
Project Location and Footprint

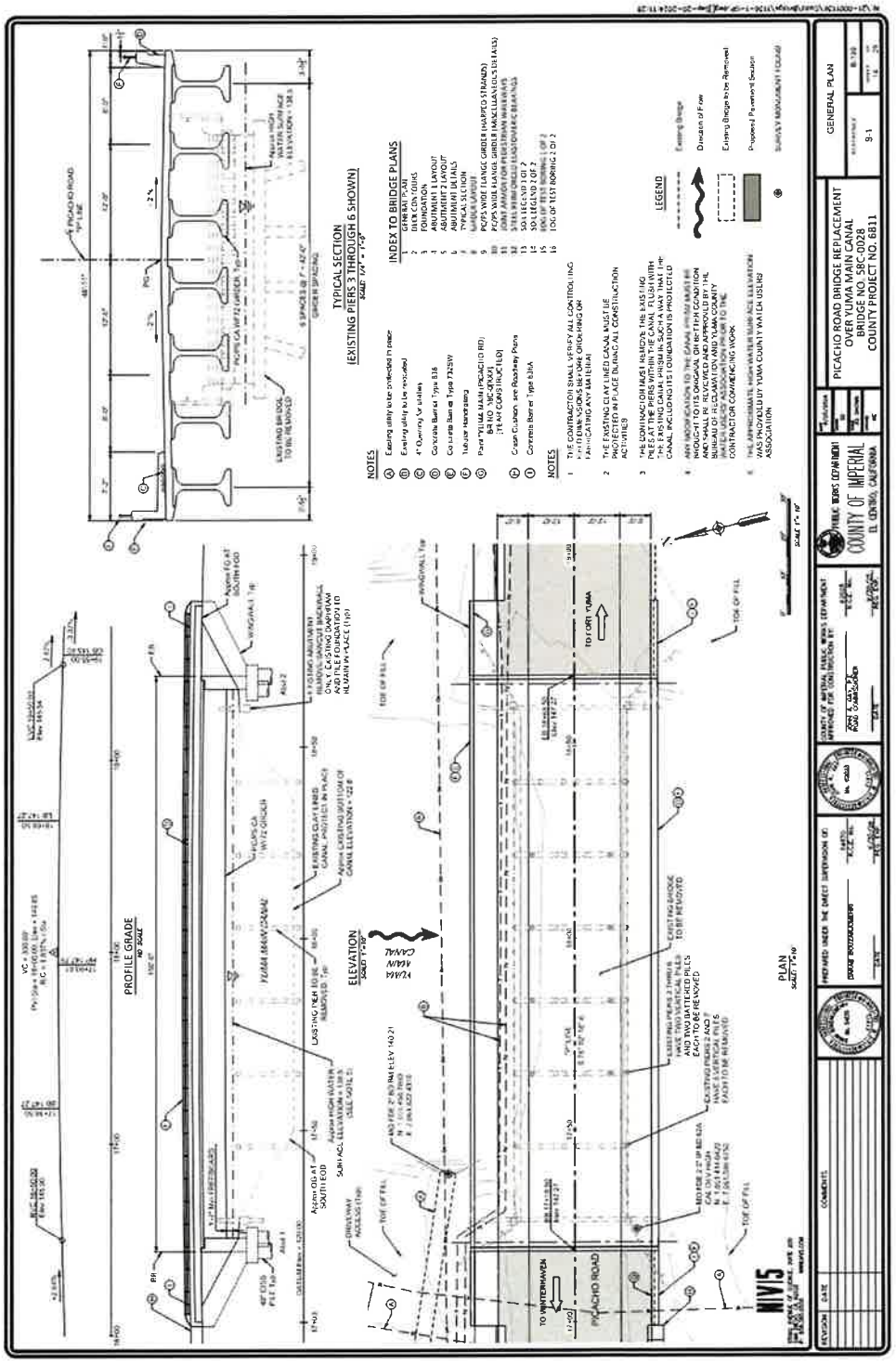

Exhibit C
Bridge Design

EEC ORIGINAL PKG

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)	Less Than Significant with Mitigation Incorporated (LTSMI)	Less Than Significant Impact (LTSI)	No Impact (NI)

I. *AESTHETICS*

The Project Site is in southeastern Imperial County on Fort Yuma Indian Reservation, near the unincorporated Townsite of Winterhaven, which predominantly is an agricultural community. The proposed Project will be located on Picacho Road in County ROW, on the site of an existing deteriorated wood bridge. The proposed Project crosses the Yuma Main Canal and runs parallel to the open-water Seminole Canal. The Yuma Main Canal and Seminole Canal are administered through the Yuma County Water Users' Association (YCWUA) in conjunction with the Bureau of Reclamation (Bureau of Reclamation 2022). The channels are manmade and supply water to irrigate farmland in the County. Views from the bridge are typical of farmland in all directions, including the open channels of water running west and north, the railroad, and Picacho Road to the west. The viewshed is compatible with the zoning of the land surrounding the proposed Project.

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) Scenic vistas are typically categorized as either panoramic views (visual access to a large geographic area) or focal views (visual access to a particular object, scene, setting, or feature of interest). The proposed Project will replace the existing bridge on Picacho Road. The proposed Project is located in southeastern Imperial County, Fort Yuma Indian Reservation, near the unincorporated Townsite of Winterhaven. The proposed Project Site is mainly utilized for agriculture and is characterized by land designated as Agriculture. The bridge is a transportation route across the Yuma Main Canal that supplies water to irrigate the surrounding farmland.

The proposed Project consists of replacing the existing bridge on Picacho Road. There is a potential during temporary construction for the proposed Project construction to impact the scenic vistas for signage, staging, etc. However, upon completion of temporary construction, in compliance with the General Plan, no permanent impact on scenic vistas from the proposed Project would occur. The new bridge will look similar to the existing bridge in scale and height. A less than significant impact would occur.

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

b) According to Caltrans' California State Scenic Highway System Map, no designated or eligible State Scenic highways are near the proposed Project Site (Caltrans 2018). The closest eligible highway is 80 miles west, on Interstate 8, of the proposed Project, and the closest designated highway is 120 miles northwest, on SR-78, of the proposed Project. Imperial County administers highways through the Caltrans California State Scenic Highway System (Imperial County 2008). The proposed Project would not damage scenic resources, including, but not limited to trees, rock outcroppings, and historic buildings along a State scenic highway. No impact would occur.

c)	In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point.) If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☒	☐

c) Agricultural farmlands, water canals, and railroads dominate the existing visual character of the Project Site and surroundings. The Project Site consists of the asphalt bridge on Picacho Road that crosses the Yuma main canal. Staging and storage of construction vehicles will take place within the existing right-of-way of Picacho Road between the bridge and Winterhaven Drive to accommodate the contractor's temporary facilities. The proposed Project proposes a replacement of the bridge on Picacho Road.

The farmland surrounding the proposed Project is considered to be scenic. During construction, views across the Project Site and surrounding areas would be affected by staging, grading, vehicles, and signage. However, the construction impact is planned to take one year and upon completion of the proposed Project, would not have a permanent effect on surrounding lands and the site will return to a similar footprint to the existing infrastructure (updated infrastructure). The effect on nonurbanized areas would be less than significant.

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

d) The proposed Project proposes nighttime construction that would require lighting. This lighting would be shielded to

	Potentially Significant Impact (PSI)	Less Than Significant with Mitigation Incorporated (LTSMI)	Less Than Significant Impact (LTSI)	No Impact (NI)

prevent spill-over to areas outside of the project's construction footprint. There is no existing permanent lighting that will need to be replaced on the bridge. No new source of permanent lighting or glare that would adversely affect day or nighttime views in the area for the proposed Project. There will be a temporary source of lighting during nighttime construction, and upon completion will return to a similar footprint. A less than significant impact would occur.

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) The proposed Project would be located within existing roadways and will extend outside of the County's Right-of-Way; acquisition of ROW will be required. It consists of the replacement of an existing bridge with a new and improved bridge structure to be reconstructed in the same alignment as the existing bridge over the Yuma Main Canal. The Project Site is located in a rural area of Imperial County that contains thousands of acres of farmland. The Project Site does not contain agricultural operations, practices, or farmland; however, it is located adjacent to a group of agricultural lands. NV5 reviewed California Department of Conservation's (CDOC) Farmland Mapping and Monitoring Program (FMMP) inventory, reports, maps, and imagery (CDOC 2004 and 2022a).

The California Important Farmland Finder showed that FMMP designated Unique Farmland is located adjacent to the Project Site. Unique Farmland is defined as farmland of lesser quality soils used for the production of the state's leading agricultural crops. This land is usually irrigated but may include non-irrigated orchards or vineyards as found in some climatic zones in California. The Unique Farmland is located immediately north of Picacho Road, west of Yuma Main Canal, and south of the Union Pacific Railroad. The portion of Unique Farmland that is within the Project Site is located north of Picacho Road and immediately west of the Yuma Main Canal access road. Also, during the construction phase, the proposed Project could result in minor temporary indirect impacts to the Unique Farmland located adjacent to the project footprint. This potential indirect impact area would be small and restricted in nature compared to the remaining Unique Farmland in the Project Site. Direct and indirect impacts on Unique Farmland would be considered less than significant because the impacts on the farmland would be temporary, small, isolated, and/or restricted in nature compared to the remaining Unique Farmland in the Project Site.

This farmland is not located within the project footprint and would not be directly impacted by the proposed Project; however, during the construction phase, the project could result in minor temporary indirect impacts to the Prime Farmland located adjacent to the project footprint. The potential indirect impact area would be small and restricted in nature compared to the remaining Prime Farmland in the project area. Impacts would not cause the conversion of those Prime Farmlands to non-agricultural use; therefore, they would be considered less than significant. However, the Imperial County General Plan, Objective 3.6, states that projects occurring adjacent to agricultural land must create an on-site buffer zone and shall favor protection of the maximum amount of farmland. Thus, Mitigation Measure AG-1 will be implemented to ensure that a less-than-significant impact would occur to the surrounding farmland.

MM AG-1: Create an on-site buffer zone surrounding the Project Site to ensure no indirect impacts would occur to surrounding agricultural lands. It is recommended the County will need to obtain a signed statement from adjacent property owners stating that no indirect impacts will occur to their property.

b)	Conflict with existing zoning for agricultural use, or a Williamson Act Contract?	☐	☒	☐	☐

b) NV5 reviewed the Imperial County General Plan and the Imperial County Land Use Zoning map application (Imperial County 2022b). The Project Site is within the Fort Yuma Indian Reservation and adjacent to agricultural land, however the proposed

	Potentially Significant Impact (PSI)	Less Than Significant with Mitigation Incorporated (LTSMI)	Less Than Significant Impact (LTSI)	No Impact (NI)

Project would not conflict with existing zoning for agriculture use or a Williamson Act Contract. The Project Site and surrounding area is zoned as "Native American." The proposed project is located adjacent to Unique Farmland, however, with the implementation of Mitigation Measure AG-1, impacts would be less than significant.

Review of the CDOC's California Williamson Act Enrollment Finder (CDOC 2022b) showed that Imperial County is a "non-participating or withdrawn" entity. Imperial County exited the Williamson Act program by non-renewing all contracts within the County. The Project Site is not located within or adjacent to land that is enrolled in a Williamson Act Contract; therefore, no impacts to lands under a Williamson Act Contract would occur.

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) The proposed Project is in land zoned as Native American and is located within the County ROW (Picacho Road). The proposed Project is not in any forest land or area zoned for Timberland production. The proposed Project would maintain the existing zoning and would not conflict with existing zoning for or cause the rezoning of forest land, timberland, or timberland-zoned Timberland Production. No impact would occur.

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

d) As stated in (c), the proposed Project will maintain its existing land use as a bridge for transportation, and no loss of forest land or conversion of forest land to non-forest use will occur within the Project Site. No impact would occur to forest land.

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) Please refer to the responses to thresholds (a) through (d) above. The Project Site and adjacent lands do not contain forest lands, therefore, no impacts to forest land would occur. The proposed Project is anticipated to impact Prime Farmland and Unique Farmland; however, with the implementation of Mitigation Measure AG-1, impacts related to conversion of Farmland to non-agricultural use would be less than significant .

III. *AIR QUALITY*

The Project Site is located in Imperial County which is part of the Salton Sea Air Basin (SSAB). According to ICAPCD, Imperial County extends into the southeastern corner of California and is bordered on the south by Mexico, on the east by Arizona, and north by Riverside County. The climatic conditions in Imperial County are based on the large-scale sinking and warming of air in the semipermanent tropical high-pressure zone of the eastern Pacific Ocean. The coastal mountains prevent intrusion of any cool, damp air found in California coastal areas. Winters are reported to be mild and dry with average daily temperatures ranging from 65°F- 75°F (18-24°C) and sometimes even maximum temperatures of 80°F. Imperial County has hot summers with temperatures ranging between 104°F- 115°F (40-46°C) and sometimes as high as 120°F. Imperial County has a flat terrain and due to its temperature differences created by solar heating, there are moderate winds and deep thermal convection. Due to its distance from the ocean and mountain highlands, Imperial County has limited precipitation. Rainfall from a heavy storm can exceed the entire annual total during a later drought condition. Humidity is also very low throughout the year, with an average of 28% in the summer and 52% in the winter. Wind statistics show that wind patterns are from west-northwest through southwest and a secondary flow maximum from the southwest area. The winds from the west and northwest occur from the fall through spring and come from the Los Angeles area. Half of the observed wind speeds measure less than 6.8 miles per hour (mph). However, during April and May there may be periodic high winds that can exceed 31 miles per hour (mph).

	Potentially Significant Impact (PSI)	Less Than Significant with Mitigation Incorporated (LTSMI)	Less Than Significant Impact (LTSI)	No Impact (NI)

Table 1: Significance Thresholds for Criteria Pollutants

ICAPCD Significance Thresholds for Criteria Pollutants			
Pollutant	*ICAPCD Construction Threshold (lbs/day)*	*ICAPCD Operational Threshold (lbs/day)*	*General Conformity de minimis Thresholds (tons/year)*
PM_{10}	*150*	*<150*	*N/A*
$PM_{2.5}$	*-*	*-*	*N/A*
ROG	*75*	*<55*	*100*
NOx	*100*	*<55*	*100*
CO	*550*	*<550*	*N/A*

N/A= not applicable since air basin is in attainment or unclassified.

Table 2: Air Quality Standards and Designations for Project Area within the Salton Sea Air Basin

Ambient Air Quality Standards & Designations					
Pollutants	*Average Time*	*State Standards*	*State Attainment Status*	*Federal Standards*	*Federal Attainment Status*
Ozone	*1-hr*	*0.09 ppm*	*N*	*None*	*-*
	8-hr	*0.070 ppm*	*N*	*0.070 ppm**	*N***
Particulate Matter (PM10)	*24-hr*	*50 ug/m^3*	*N*	*150 ug/m^3*	*U*
	Annual	*20 ug/m^3*	*N*	*None*	*-*
Fine Particulate Matter (PM2.5)	*24-hr*	*None*	*-*	*35 ug/m^3*	*U/A*
	Annual	*12 ug/m^3*	*A*	*12 ug/m^3*	*U/A*
Carbon Monoxide (CO)	*1-hr*	*20 ppm*	*A*	*35 ppm*	*U/A*
	8-hr	*9 ppm*	*A*	*9 ppm*	*U/A*
Nitrogen Dioxide (NO2)	*1-hr*	*0.18 ppm*	*A*	*100 ppm*	*U/A*
	Annual	*0.030 ppm*	*A*	*0.053 ppm (100 ug/m^3)*	*U/A*
Sulfur Dioxide (SO2)	*1-hr*	*0.25 ppm*	*A*	*0.075 ppm (196 ug/m^3)*	*A*
	24-hr	*0.04 ppm*	*A*	*0.14 ppm*	*A*
	Annual	*None*	*A*	*0.030 ppm*	*A*
Lead	*30-day average*	*1.5 ug/m^3*	*A*	*None*	*-*
	Calendar Quarter	*None*	*-*	*1.5 ug/m^3*	*U*
	Rolling 3-month average	*None*	*-*	*0.15 ug/m^3*	*U*
Hydrogen Sulfide	*1-hour*	*0.03ppm*	*U*	*None*	*-*
Visibility reducing Particles	*8-hour (10:00 to 18:00 PST)*	***	*U*	*None*	*-*
Sulfates	*24-hour*	*25 ug/m^3*	*A*	*None*	*-*

**U.S. EPA revised the 8-hour ozone standard from 0.075 to 0.070 ppm on October 1, 2015.*
***The attainment status is based on the 2008 8-hour ozone standard (0.075 ppm).*
U= Unclassified
A=Attainment
N=Nonattainment

	Potentially Significant Impact (PSI)	Less Than Significant with Mitigation Incorporated (LTSMI)	Less Than Significant Impact (LTSI)	No Impact (NI)

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

Would the Project:

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

a) The proposed Project is in the Salton Sea Air Basin (SSAB) and currently in non-attainment for the CAAQS for PM_{10} and Ozone, and for the NAAQS 8-hour ozone. All development within the SSAB, including the proposed Project, is subject to the Modified Air Quality Management Plan, which was adopted in 2010, and the 2018 State Implementation Plan for PM_{10}. The control strategies discussed in these air quality plans are based on regulatory controls aforementioned in the regulatory setting. The purpose of the proposed Project is to replace the existing deteriorating bridge with a new Precast Pre-stressed Concrete Girder Bridge. It would not induce population growth and as such, the proposed Project would not conflict with any applicable air quality plans. The minor amounts of emissions generated during operation from worker trips will not impede attainment of the NAAQS or CAAQS by the ICAPCD. As a result, this impact would be less than significant.

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) PM_{10} and $PM_{2.5}$ emissions during all constructive phases will be minimized because the proposed Project will be required to implement the standard air quality and dust control measures of the ICAPCD Regulation VIII, including Rule 800 (General Requirements for Control of Fine Particulate Matter), Rule 801 (Construction and Earthmoving Activities), Rule 802 (Bulk Materials), Rule 803 (Carry- Out and Track- Out), Rule 804 (Open Areas), and Rule 805 (Paved and Unpaved Roads).

Construction of the Project is anticipated to commence at the beginning of 2024 and is estimated to occur over eight months. Construction phases include land clearing, grading and excavation, drainage, utilities and sub-grade, and paving. NOx and PM emissions will be generated from offroad construction equipment exhaust, soil disturbance as well as other criteria pollutant emissions from construction worker vehicles, transport vehicles for materials and supplies, removal of construction debris, and other on-road mobile sources. Emissions were estimated using CalEEMod Version 2022.1.1.19. Summaries of emission calculations and project assumptions are provided (Appendix A, Construction Details & CalEEMod Report).

Depending on the construction phase, project construction emissions may vary from day to day but will not exceed ICAPCD construction thresholds as summarized below in Table 3. Thus, project construction emissions will not contribute to an existing or projected air quality violation. As a result, this impact would be less than significant.

Table 3: Project Maximum Daily Construction Emissions (pounds/day)

	VOC	Nox	CO	SO_X	PM_{10}	$PM_{2.5}$
Maximum Daily Emissions (lb/day)	7.28	63.69	67.01	0.13	85.01	10.96
ICAPCD Significance Thresholds (lb/day)	75	100	550	150	150	55
Threshold Exceeded	**No**	**No**	**No**	**No**	**No**	**No**

Currently, at the proposed site, trucks are being detoured because of the weight restriction on the deteriorating bridge. As a result, there will not be an increase of motor vehicles traffic over the bridge or in the surrounding community. Any operational-related emissions may be generated by occasional worker visits for maintenance and repairs. These operational emissions will not exceed ICAPCD thresholds described in Table 1. Thus, project operations will not contribute to an existing or projected air quality violation. As a result, this impact would be less than significant.

	Potentially Significant Impact (PSI)	Less Than Significant with Mitigation Incorporated (LTSMI)	Less Than Significant Impact (LTSI)	No Impact (NI)
c) Expose sensitive receptors to substantial pollutants concentrations?	☐	☐	☒	☐

c) The nearest sensitive receptors are approximately 0.5 miles away from the Project Site. Sensitive receptors located along the project corridors include a Clinic and Quechan Tribal territory. During construction, diesel equipment may contribute to diesel particulate matter (DMP), which is a toxic air contaminant in California. However, according to the California Office of Environmental Health Hazard Assessment and their adoption of Air Toxics Hot Spots Program Guidance Manual used for risk assessments, the risks associated with exposure to substances with carcinogenic effects are based on a dose-response assessment of a lifetime of chronic exposure. This is characterized as 24 hours a day, 7 days per week, 365 days per year for a 70-year exposure. Nevertheless, equipment used in construction would emit temporary diesel exhaust concentrations are not considered substantial emissions and would be less than significant and minor. Similarly, traffic volumes would not increase and long-term operational impacts on sensitive receptors would be less than significant.

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

d) The proposed Project would not create objectionable odors affecting a substantial number of people. Project construction would result in the emission of diesel fumes and other odors typically associated with construction activities. Odors are highest near the source and would quickly dissipate off the site. Any odors associated with construction activities would be transient and would cease upon completion. The proposed Project is located in an area designated for agricultural use with minimal residences in the vicinity. Therefore, Project construction would not generate odors adversely affecting a substantial number of people, and impacts would be less than significant.

IV. *BIOLOGICAL RESOURCES*

This site is located within the Colorado Desert which is a subdivision of the larger Sonoran Desert and covers approximately 7 million acres. The desert encompasses Imperial County and includes parts of San Diego County, Riverside County, and a small part of San Bernardino County. This site is in Imperial County. This desert lies at a relatively low elevation, below 1,000 feet, with the lowest point of the desert floor is 275 feet below sea level at the Salton Sea; northeast of the site. The highest peaks of the Peninsular Ranges which reach elevations of nearly 10,000 feet are to the west of the site. The Colorado Desert's climate differs from other deserts. The region experiences greater summer daytime temperatures (up to 120°F) than higher elevation deserts and rarely experiences frost. In addition, the Colorado Desert experiences two rainy seasons per year usually in the winter and late summer in this portion. This area is within the agricultural portion that is irrigated by Colorado River water delivered through water conveyance structures maintained by the Bureau of Reclamation, Bard Water District and Yuma County Water Users. This Picacho Road Bridge spans the Yuma Main Canal which carries irrigation water to local farmers.

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?	☐	☒	☐	☐

a) The proposed Project does not impact or modify habitat that would have a substantial adverse effect of 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. The top of the bridge is asphalt, heavily travelled and is not biologically sensitive. In regard to special-status plant species, a search of the Sensitive Botanical and Zoological Species (CNDDB/CNPS) Yuma East and West Quadrangle, listed 10 botanical species within the Quadrangle searched. None would be expected to be found within the Project Site. In regard to special-status animal species, a search of Sensitive Botanical and Zoological Species (CNDDB/CNPS) Yuma East and West Quadrangle listed 37 zoological species within the Quadrangles searched. Of these, two species: Gila woodpecker (*Melanerpes uropygialis*) and Burrowing owl (*Athene cunicularia*) were noted. Burrowing owls could be expected outside the proposed Project setting but were not observed during survey (See Biological Resources Survey, Appendix B). Gila woodpeckers could be found roosting or nesting in palm trees present off site. Therefore, it is expected that less than significant impact would occur with mitigation measures Biol-1 and Biol-2 added.

MM BIO-1: Nesting surveys by qualified biologists during nesting season (February through August); preferably time construction during non-nesting season (September through January). Time nesting surveys within 3-5 days prior to start of construction for nesting birds and fourteen days prior to start of construction for burrowing owl. A biologist should be present at the start of groundbreaking activities.

	Potentially Significant Impact (PSI)	Less Than Significant with Mitigation Incorporated (LTSMI)	Less Than Significant Impact (LTSI)	No Impact (NI)

MM BIO-2: Worker environmental awareness training for nesting birds, Gila Woodpecker and Burrowing Owl (BUOW):

- **Biology and status;**
- **Protection measures designed to reduce potential impacts to the species, function of flagging designating authorized work areas;**
- **Reporting procedures to be used if a species is encountered in the field; and driving procedures and techniques, for commuting, and driving on, to the Project Site; and**
- **Identification of nesting birds and procedures to follow if nesting is suspected.**

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? ☐ ☐ ☒ ☐

b) The proposed Project does not have the potential to have significant impact on any riparian, or other sensitive natural community as identified in local or regional plans, policies or regulations. The proposed Project activities take place over and near the Yuma Main Canal. BMPs are set forth to ensure no work will occur in or come in contact with the water in the Yuma Main Canal. Areas outside of the project footprint will be designated as an "Environmentally Sensitive Area" (ESA) on project plans. No project-related activities will take place within the ESA-designated areas. It is expected less than significant impacts would occur from the proposed Project.

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? ☐ ☐ ☒ ☐

c) The proposed Project does not have the potential to have adverse effects on any wetlands. There is no proposed removal, filling, hydrological or any other activities in the proposed Project's description that would have an impact on any state or federal wetlands. BMPs are set forth to ensure no work will occur in or come in contact with the water in the Yuma Main Canal. Therefore, less than significant impact would occur.

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? ☐ ☒ ☐ ☐

d) The proposed Project includes the removal and construction of a bridge that spans over the Yuma main Canal on Picacho Road. No work is expected to occur in the water or impact the water in any way. Therefore, no fish species are expected to be impacted by the proposed Project. Additionally, the habitat is divided by Picacho Road (S24) which runs from I-8 to Bard, CA. Picacho Road can be accessed by wildlife. There are no known wildlife corridors or native wildlife nursery sites with the proposed Project, therefore, construction activities would not impede the use of native wildlife nursey sites with implementation of Mitigation Measure BIO-1, impacts would be less than significant impact with mitigation.

e) Conflict with any local policies or ordinance protecting biological resource, such as a tree preservation policy or ordinance? ☐ ☒ ☐ ☐

e) The proposed Project does not fall within an area that the County has designated having development restrictions or prohibitions to facilitate conservation of biological resources or other sensitive resources. Such Critical Habitat is designated to ensure the protection of the Desert pupfish, Razorback sucker, Desert tortoise, Peirson's milk-vetch, Peninsular bighorn sheep and Yellow-billed cuckoo. None of these species were observed within the Project Site during the biological survey performed (Attachment B). No additional species of concern listed as rare under the Conservation and Open Space Element Imperial County are expected to be impacted by the proposed Project. California Species of Special Concern are of particular conservation focus on Imperial County including the burrowing owl are expected to have less than significant impact with implementation of Mitigation Measure BIO-2. Less than significant impact with mitigation to biological resources are expected.

		Potentially Significant Impact (PSI)	Less Than Significant with Mitigation Incorporated (LTSMI)	Less Than Significant Impact (LTSI)	No Impact (NI)
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?	☐	☐	☐	☒

f) There are no proposed permanent or temporary impacts to the Yuma Main Canal as a result of the proposed Project. The proposed Project occurs outside of any area designated and an "Environmentally Sensitive Area" (ESA) on project plans. The proposed Project does not conflict with any adopted Habitat Conservation Plan (HCP), Natural Community Conservation Plan (NCCP), or other approved local, regional, or State HCP. The proposed Project does not conflict with the California Endangered Species Act (CESA). Less than significant impact is expected to occur.

V. *CULTURAL RESOURCES*

Would the project:

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

a) Picacho Road Bridge over Yuma Main Canal was constructed in 1925 and rehabilitated in 1947 and is a California Historic Bridge (California Historic Bridge Inventory). The existing bridge was put in place in 1947 and meets the age criteria to be considered as an above ground historic resource. However, previous evaluation has recommended this structure as not eligible for the National Register of Historic Places with the implementation of mitigation measures CUL-1 as recommended in the Cultural Report (See Cultural Report, Appendix C). The proposed Project will not cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5 with mitigation in place. There would be less than significant impact with mitigation.

MM CUL-1: In all phases of construction work an Inadvertent Discovery Plan should be developed and shared with staff on-site. If archaeological or cultural resources are encountered during project work, all work in the immediate vicinity of the find will be suspended until assessed by the qualified archaeologist and a treatment is determined.

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

b) The proposed Project will not likely cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5. The proposed Project area likely saw significant levels of precontact and historic activity due to its position in and adjacent to a road and bisected by a large canal. The entire Project Site has undergone significant ground disturbing activities related to construction activities (excavation, fill placement, dredging, etc.). For these reasons, the potential for the discovery of intact cultural resources is anticipated to be low. However, there is always a possibility of archaeological discovery, and it was anticipated that if found, cultural resources would most likely be pre-contact artifact scatters or isolates related to resource acquisition areas, historic artifacts related to canal construction and/or general household refuse related to historic-period dumps near the roadway. Therefore, with the implementation of mitigation measure CUL-1 there would be less than significant impact with mitigation.

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

c) There are no noted findings of human remains, including those interred outside of formal cemeteries. Additionally, no formal cemeteries occur within the proposed Project footprint. Should any human remains be found during construction, mitigation measure CUL-2 as recommended in the Cultural Report (See Appendix C) would be implemented. Therefore, impacts to human remains would be less than significant with mitigation.

MM CUL-2: Should human remains be encountered during ground disturbing activities; all work will cease, and the County Medical Examiner will be contacted.

VI. *ENERGY*

Energy for the Project Site is supplied by Imperial Irrigation District (IID). IID serves approximately 158,000 customers in an approximately 6,417-square-mile service area. IID controls more than 1,100 megawatts of energy from various resources.

	Potentially Significant Impact (PSI)	Less Than Significant with Mitigation Incorporated (LTSMI)	Less Than Significant Impact (LTSI)	No Impact (NI)
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) Construction of the proposed Project would require the use of energy in the form of gasoline and diesel for equipment and transportation of materials. However, the use of fuel for construction would not be on such a large scale that it would be wasteful or affect local or regional energy supplies. Energy used for short-term construction activities would improve infrastructure and reliability as a transportation route. As such, construction impacts would be less than significant due to their temporary nature. The electricity use would be relatively minimal compared to the overall electricity usage in the YCWUA service area and would not be considered wasteful, as the proposed Project would support compliance with them. Operation impacts would be less than significant.

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

b) No state or local plans for renewable energy or energy efficiency are applicable to the proposed Project. The proposed Project proposes the replacement of the existing bridge on Picacho Road. As discussed above, the proposed Project will consume energy during construction, but upon completion of the construction, it will return to a similar footprint (transportation infrastructure). There will be no energy consumption after construction or components that require renewable energy or energy efficiency, therefore no impact will occur.

VII. *GEOLOGY AND SOILS*

The proposed Project is located near the Townsite of Winterhaven in Imperial County. Imperial Valley is a broad, flat, alluvial area located between Southern California and the Colorado River. The regionally extensive faults trend that controls the topography is the San Andreas Fault. The San Andreas Fault is located approximately 80 miles northwest from the Project Site. The proposed Project area falls within the USGS Yuma West and East 7.5-minute quadrangles. In the vicinity of the proposed Project, the subsurface is composed of Quaternary-age alluvium/colluvium that is characterized as loosely consolidated deposits consisting of sand, silt, and clay. The proposed Project is located on Holtville Clay, Indio silt loam (0 to 1 percent slopes), Lagunita loamy sand, and Ripley silt loam.

Would the project:				
a) Directly or indirectly cause potential substantial adverse effects, including risk of loss, injury, or death involving:	☐	☒	☐	☐
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?	☐	☒	☐	☐

1) The proposed Project is located on the bridge on Picacho Road near the Townsite of Winterhaven. Despite the fact that the Project Site is within an active seismic area in southern California, the proposed Project Site has not been evaluated by the California Earthquake Hazards Zone Application for Alquist Priolo Fault Zones, Landslide Zones, or Liquefaction. It is unknown if the proposed Project is underlain by active, potentially active, or inactive faults, nor is the area within an Alquist-Priolo Earthquake Fault Zone. Due to the lack of information on fault zones, landslide zones, and liquefaction from the DOC, Mitigation Measure GEO-1 shall be implemented to determine if the Project Site encompasses soils or subsurface geology that results in hazards. With Mitigation Measure GEO-1 less than significant impact would occur relative to this issue.

MM GEO-1: Prior to earthmoving activities, a certified geotechnical engineer or equivalent, shall perform a final geotechnical evaluation of the soils. The evaluation will follow the requirements of California Building Code Title 24, Part 2, Chapter 18, Section 1803.1.1.2. related to expansive soils and soil conditions. The structural design, tests, inspections, soils and foundation standards will be in accordance with requirements from California Building Code Title 24, Part, 2, Chapter 16, 17, and 18. The final geotechnical evaluation shall include design recommendations to ensure that soil conditions do not pose a threat to the health and safety of people or structures, including threats from liquefaction, subsidence, lateral spreading, or collapse. The grading and improvement plan for each phase of the project shall be designed in accordance with the recommendations provided in the final geotechnical evaluation.

		Potentially Significant Impact (PSI)	Less Than Significant with Mitigation Incorporated (LTSMI)	Less Than Significant Impact (LTSI)	No Impact (NI)
2)	Strong Seismic ground shaking?	☐	☒	☐	☐

2) Despite the fact that the Project Site is within an active seismic area in southern California, the proposed Project Site has not been evaluated by the California Earthquake Hazards Zone Application for Alquist Priolo Fault Zones, Landslide Zones, or Liquefaction. It is unknown if the proposed Project is underlain by active, potentially active, or inactive faults, nor is the area within an Alquist-Priolo Earthquake Fault Zone. Given the regional faults of the proposed Project area, it could be subjected to potential seismic hazards including rupture, ground shaking, and ground failure. Due to the lack of information on fault zones, landslide zones, and liquefaction from the DOC, Mitigation Measure GEO-1 shall be implemented to determine if the Project Site encompasses soils or subsurface geology that results in hazards. With Mitigation Measure GEO-1 less than significant impact would occur relative to this issue.

3)	Seismic-related ground failure, including liquefaction and seiche/tsunami?	☐	☒	☐	☐

3) Seismically induced liquefaction of soils is a potential geologic hazard, given the proximity of the major fault zone. Liquefaction involves the sudden loss in strength of saturated, cohesionless soil caused by the build-up of pore water pressure during cyclic loadings, such as produced by an earthquake. Liquefaction can cause vertical and lateral ground displacements, slope instability, lateral spreading, and bearing failure. During strong ground shaking, soil grains may become more tightly packed due to the collapse of voids or pore spaces. This type of failure typically occurs in loose, granular, cohesionless soil and can occur in either wet or dry conditions. There could be potential for liquefaction at the surface, but it would require extreme wet or flood events. Due to the lack of information on fault zones, landslide zones, and liquefaction from the DOC, Mitigation Measure GEO-1 shall be implemented to determine if the Project Site encompasses soils or subsurface geology that results in hazards. With Mitigation Measure GEO-1 less than significant impact would occur relative to this issue.

4)	Landslides?	☐	☒	☐	☐

4) Given the flat topography (average slope of 4.3%) of the proposed Project area, there is no indication that landslides would affect the proposed Project. Due to the lack of information on fault zones, landslide zones, and liquefaction from the DOC, Mitigation Measure GEO-1 shall be implemented to determine if the Project Site encompasses soils or subsurface geology that results in hazards. With Mitigation Measure GEO-1 less than significant impact would occur relative to this issue.

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

b) The majority of soil disturbance would occur in previously disturbed areas, and ground disturbance would be limited. Disturbed soils would be exposed to erosion during construction as soils loosen and become susceptible to the effects of wind and precipitation events. However, the proposed Project is not expected to result in substantial soil erosion due to the current conditions of the Project Site and through the implementation of standard erosion control BMPs. Construction activities would result in temporary soil disturbance throughout the proposed Project Site due to excavation, but the Project Site will be restored to the current elevation and similar existing conditions upon completion. No erosion is anticipated to occur during normal operations and maintenance of the proposed Project. Because of these reasons, the construction and operation of the proposed Project would have a less than significant impact resulting from erosion or topsoil loss.

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?	☐	☒	☐	☐

c) As discussed above in (a), it is unknown if the proposed Project is located on soil or subsurface geology that could result in hazards. The proposed Project includes the enhancements and construction to the existing bridge and associated infrastructure, which includes an essential service. To evaluate subsurface foundation conditions the Project Site Mitigation Measure GEO-1 will be implemented, and any hazards corrected. With Mitigation Measure GEO-1, a less than significant would occur.

d)	Be located on expansive soil, as defined in the latest Uniform Building Code, creating substantial direct or indirect risk to life or property?	☐	☒	☐	☐

d) The Project Site has not been evaluated for expansive soils as defined in Table 18-1 B of the Uniform Building Code (1994).

	Potentially Significant Impact (PSI)	Less Than Significant with Mitigation Incorporated (LTSMI)	Less Than Significant Impact (LTSI)	No Impact (NI)

To determine and evaluate what lies beneath subsurface foundation conditions the Project Site Mitigation Measure GEO-1 will be implemented, and any hazards corrected. With Mitigation Measures GEO-1, a less than-significant impact will occur.

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

e) The proposed Project's bridge replacement would not include the construction of septic tanks or wastewater disposal systems. Portable toilets will be provided to workers on the Project during the construction phase. Therefore, the proposed Project would have no impact with regard to wastewater disposal systems.

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

f) The proposed Project would not directly or indirectly destroy a unique paleontological resource or site or unique geologic feature. Based on a review of a published geologic map (USGS Yuma West and East 7.5-minute quadrangles), the bridge is surrounded by Alluvial rock mapped as Older Alluvium (Qc) and Alluvium (Ql). This unit is not known to have paleontological resources. Therefore, less than significant impacts would occur.

VIII. *GREENHOUSE GAS EMISSION*

Emissions of Greenhouse Gases (GHGs) contributing to global climate change are attributable in large part to human activities associated with the industrial/manufacturing, utility, transportation, residential, and agricultural sectors. Therefore, the cumulative global emissions of GHGs contributing to global climate change can be attributed to every nation, region, and city, and virtually every individual on Earth. A project's GHG emissions are at a micro-scale relative to global emissions but could result in a cumulatively considerable incremental contribution to a significant cumulative macro-scale impact. Greenhouse gases include carbon dioxide (CO), methane (CH4), nitrous oxide (N2O), chlorofluorocarbons (CFCs), hydrofluorocarbons (HFCs), sulfur hexafluoride (SF6), ozone, and water vapor. For the purposes of this analysis, emissions of carbon dioxide, methane and nitrous oxide were evaluated because these gases are the primary contributors to global climate change for developmental projects such as the proposed site.

The total California GHG emissions in 2020 were approximately 369.2 million metric tons (MMT) of carbon dioxide equivalents (CO2e). The transportation sector remains the largest source of GHG emissions in the state of California at approximately 37% of the total emissions. Specifically, the largest groups that account for the highest GHG emissions in the transportation sector are passenger vehicles accounting for approximately 26% and heavy-duty vehicles accounting for about 9%. In addition, the industrial sector accounts for approximately 20%.

Would the project:

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

a) Emissions were estimated using CalEEMod Version 2022.1.1.19. Summaries of emission calculations and project assumptions are provided in Attachment A. While construction equipment would emit minor amounts of CH_4 and N_2O, the predominant GHG emissions during construction would be from CO_2. The majority of these CO_2 emissions would be from construction equipment being used at the proposed site. Table 4 shows the unmitigated estimated GHG emissions from construction activity from the proposed site.

Table 4: Construction GHG Emissions

Construction Phase	GHG Emissions 2023 (tonnes/Metric Tons) Per Phase				
	CO_2	CH_4	N_2O	R	$CO2_e$
Total Construction	661.63	0.03	0.006	0.06	664.27
Amortized Construction Emissions					22.13
SCAQMD Interim Threshold					3,000
Exceedance?					No

The persistence of GHG in the atmosphere defines the impact of the proposed site as long-term. The GHG emissions from construction are amortized over the next 30 years and added to operational emissions in order to estimate annual emissions. However, it is not anticipated that there will be a significant increase in vehicle miles traveled (VMT) because the project is

not adding capacity (e.g., additional lanes) to Picacho Road or creating a more direct route between two destinations. Thus, there will be a negligible increase in operational GHG emissions. The annual construction emissions are predicted to be approximately 22 tonnes per year including all operational emissions. As discussed in the *Regulatory Setting* of this analysis, SCAQMD states that proposed sites that generate GHG emissions below 3,000 tonnes CO_2e, it can be concluded that GHG emissions are not "cumulatively considerable". Based on the above, the proposed Project would not be considered to generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment. Therefore, the proposed Project's impacts related to GHG emissions would be less than significant.

b) Conflict with an applicable plan or policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases? ☐ ☐ ☒ ☐

b) Neither the ICAPCD nor the County of Imperial has adopted a climate change action plan, as such the only applicable plan for reducing GHGs is the California Air Resources Board's (CARB)'s *2017 Climate Change Scoping Plan* which indicates strategies for California's 2030 greenhouse gas target of reducing GHG emissions by 40% below 1990 levels by 2030. Table 5 shows the feasible mitigation measures for individual projects provided in the CARB's 2017 Scoping Plan.

Table 5: Consistency with CARB's 2017 Scoping Plan Measures for Individual Projects

Measures from Scoping Plan	Project Consistency
Enforce idling time restrictions for construction vehicles.	Consistent. All utilized off-road equipment will be registered with CARB and meet idling requirements.
Require construction vehicles to operate with the highest tier engines commercially available.	Consistent. The project will require all off-road equipment greater than 50 horsepower to utilize Tier 4 equipment when commercially available.
Divert and recycle construction and demolition waste and use locally sourced building materials with a high recycled material content to the greatest extent feasible.	Consistent. The project will adhere to Title 24 Part 11 requirements that require diversion of a minimum of 65% of construction waste from landfills.
Minimize tree removal and mitigate indirect GHG emissions increases that occur due to vegetation removal, loss of sequestration, and soil disturbance.	Consistent. Implementation of the project would result in landscaping that adds more vegetation to the project site where possible.
Utilize existing grid power for electric energy rather than operating temporary gasoline/diesel powered generators.	Consistent. Where possible electrical service will be utilized.
Increase use of electric and renewable fuel powered construction equipment and require renewable diesel fuel where commercially available.	Consistent. Alternative-fueled construction equipment will be used where possible.
Require diesel equipment fleets to be lower emitting than any current emissions standard.	Consistent. Alternative-fueled/lower emitting construction equipment will be used where possible.

Where feasible, the project would implement the CARB 2017 Scoping Plan Measures described above throughout the project's construction process to reduce GHG emissions. Additionally, where feasible, the project would implement ICAPCD measures described below for reducing criteria pollutant emissions from construction emissions which would also reduce GHG emissions:

- **Use of alternative fueled or catalyst equipped diesel construction equipment, including all off-road and portable diesel-powered equipment.**
- **Minimize idling time either by shutting equipment off when not in use or reducing the time of idling to 5 minutes as a maximum.**
- **Limit, to the extent feasible, the hours of operation of heavy-duty equipment and or the amount of equipment in use.**
- **Replace fossil fuel equipment with electrically driven equivalents (provided they are not run via a portable generator set)**

The above measures would be implemented as part of the construction permitting process for the proposed Project. Therefore, the proposed Project would not conflict with any applicable plan that reduces GHG emissions. Impacts would be less than significant.

	Potentially Significant Impact (PSI)	Less Than Significant with Mitigation Incorporated (LTSMI)	Less Than Significant Impact (LTSI)	No Impact (NI)

IX. *HAZARDS AND HAZARDOUS MATERIALS*

Hazardous substances are defined by federal and State regulations that aim to protect public health and the environment. Hazardous materials have certain chemical, physical, or infectious properties that cause them to be considered hazardous. Hazardous substances are defined in the federal Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Section 101(14), and also in the California Code of Regulations (CCR), Title 22, Chapter 11, Article 2, Section 66261, which provides the following definition: A hazardous material is a substance or combination of substances which, because of its quantity, concentration, or physical, chemical or infectious characteristics, may either (1) cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or (2) pose a substantial present or potential hazard to human health or environment when improperly treated, stored, transported or disposed of or otherwise managed. This section considers the potential for human health hazards or exposure of people to existing sources of potential health hazards from the proposed Project.

For this analysis, soil that is excavated from a site containing hazardous materials would be considered a hazardous waste if it exceeded specific California Code of Regulations (CCR) Title 22 criteria or criteria defined in CERCLA or other relevant federal regulations. Remediation (cleanup and safe removal/disposal) of hazardous wastes found at a site is required if excavation of these materials occurs; it may also be required if certain other activities occur. Even if soil or groundwater at a contaminated site do not have the characteristics required to be defined as hazardous wastes, remediation of the site may be required by regulatory agencies subject to jurisdictional authority. Cleanup requirements are determined on a case-by-case basis by the agency taking the lead jurisdiction. The proposed Project does not expect to generate any reportable quantities of hazardous materials. According to the DTSC ENVIROSTOR Mapping Tool, there are no active hazardous waste clean-up sites within 1,000 feet of the proposed Project.

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) Construction would involve the use of heavy equipment, which utilizes fuels and lubricants; however, the quantities involved would not create a significant hazard to the public or the environment and are considered temporary. During the construction, the old bridge would be disposed of to a local municipal waste facility. Municipal waste facilities or construction debris facilities cannot accept hazardous waste. It is unknown if the materials from the old bridge pose a hazard; therefore, the County would prepare and implement Mitigation Measure HAZ-1 which includes the County or construction contractor submitting a test and disposal plan for all wastes generated during demolition to the local municipal waste facility or debris facility. If the waste is deemed hazardous, it will be transported to a hazardous waste facility with a hazardous waste manifest. With Mitigation Measure HAZ-1, impacts from construction would be mitigated to less than significant levels.

MM HAZ-1: All construction contractors shall immediately stop all surface or subsurface activities in the event that potentially hazardous materials are encountered, such as an odor is identified, or considerably stained soil is visible. Contractors shall follow all applicable local, state, and federal regulations regarding the discovery, response, disposal, and remediation of hazardous materials encountered during the construction process. These requirements shall be included in the contractor's specifications. If any hazardous materials, waste sites, or vapor intrusion risks are identified prior to or during construction, a qualified professional, in consultation with appropriate regulatory agencies, will develop and implement a plan to remediate the contamination and properly dispose of the contaminated material. If material imports are proposed, the contractor shall furnish the County of Imperial or its representative with appropriate documentation certifying that the imported materials are free of contamination.

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 proposed Project would require the use of heavy equipment, such that a potential exists for the release of fuels and/or lubricants during construction and operation; however, the County or its contractor would have an approved Spill Prevention Countermeasure and Control (SPCC) Plan, which is a standard BMP as a special provision in the construction contract(s), to address any release that may occur. The SPCC Plan and BMPs would be included as part of the construction Stormwater Pollution and Prevention Plan (SWPPP) required for construction. Furthermore, in compliance with applicable laws and regulations, the County would prepare and implement Mitigation Measure HAZ-2 which includes a BMP Maintenance Plan with maintenance practices such as the periodic removal and replacement of surface soils and media that may accumulate constituents that could result in further migration of constituents to subsoils and groundwater.

MM HAZ-2: Imperial County shall prepare and implement maintenance practices that include periodic removal and replacement of surface soils and media that may accumulate constituents that could result in further migration of

	Potentially Significant Impact (PSI)	Less Than Significant with Mitigation Incorporated (LTSMI)	Less Than Significant Impact (LTSI)	No Impact (NI)

constituents to subsoils and groundwater. A BMP Maintenance Plan shall be prepared by Imperial County upon approval of the BMP projects that identify the frequency and procedures for removal and/or replacement of accumulated debris, surface soils, and/or media (to a depth where constituent concentrations do not represent a hazardous condition and/or have the potential to migrate further and impact groundwater) to avoid the accumulation of hazardous concentrations and the potential to migrate further to sub-soils and groundwater. The BMP Maintenance Plan may consist of a general maintenance guideline that applies to several types of smaller distributed BMPs. For smaller distributed BMPs on private property, these plans may consist of a maintenance covenant that includes requirements to avoid the accumulation of hazardous concentrations in these BMPs that may impact underlying subsoils and groundwater. Structural BMPs shall be designed to prevent the migration of constituents that may impact groundwater.

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) No schools are located within one-quarter mile of the proposed Project. The nearest school is Yuma High school, located approximately 1.2 miles south of the proposed Project. No impacts would occur.

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) The proposed Project is not a listed hazardous materials site pursuant to Government Code §65962.5 (Cortese List), and none of the proposed improvements would cause the Project Site to be listed as a hazardous materials site. Additionally, no sites were located within 1,000 feet of the proposed Project location.

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) No public airports are located within the vicinity of the proposed Project. The closest public airport is located approximately 5 miles from the proposed Project (Yuma International Airport). The proposed Project is not in an airport land use plan or within two miles of a public airport or public use airport. No impact would occur.

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

f) The proposed Project would not cause any changes that would impair the implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. Construction activities will primarily take place near the existing bridge. A detour route is currently used to avoid driving on the bridge due to its poor condition. Construction activities in the public right-of-way are considered temporary and will require a construction traffic control plan to minimize access disruptions. With the implementation of a traffic control plan, construction impacts would be less than significant. After the project is completed, the site will be returned to existing conditions and would not have an impact relative to emergency response plans or emergency evacuation plans.

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

g) The CALFIRE Fire Hazard Severity Zone (FHSZ) Maps identify areas with high and very high fire hazard severity categories. The proposed Project is located within an Urban Unzoned area (COSFM 2022). Although the construction equipment has the potential to ignite dry vegetation, the proposed Project would comply with federal and State regulations for construction fire safety, such as California Department of Transportation and California Vehicle Code requirements for spark arrestors on vehicles to minimize the risk of fire during construction. Impacts would be less than significant.

X. *HYDROLOGY AND WATER QUALITY*

The setting for the proposed Project is Picacho Bridge located near the Townsite of Winterhaven, CA. The Picacho Bridge spans the Yuma Main Canal which is owned by the BOR, and its waters are managed by their partners the YCWUA. The proposed Project will implement a Stormwater Pollution Prevention Plan (SWPPP) during demolition and construction to minimize impacts related to storm

	Potentially Significant Impact (PSI)	Less Than Significant with Mitigation Incorporated (LTSMI)	Less Than Significant Impact (LTSI)	No Impact (NI)

water quality and runoff. The County will ensure that no debris, including trash, siltation, or fill material, from construction activities enters the Yuma Main Canal which the bridge spans. The proposed Project is considered a Regulated project under the State's Phase II MS4 Permit, Order No. 2013-0001-DWQ, and is required to prepare a Storm Water Quality Management Plan (SWQMP) and implement permanent treatment control and source control BMPs that manage and treat stormwater runoff from Picacho Road and its intersection with Quechan Road. The SWQMP will be prepared by a Registered Civil Engineer and will describe all site control, source control, and treatment control BMPs that will be implemented by the proposed Project. No existing treatment control stormwater BMPs currently exist within the project footprint. Therefore, the project will result in a net improvement in the water quality of stormwater runoff compared to the existing condition.

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 will implement a Stormwater Pollution Prevention Plan (SWPPP) during demolition and construction to minimize impacts related to storm water quality and runoff. The County will ensure that no debris, including trash, siltation, or fill material, from construction activities enters the Yuma Main Canal which the bridge spans. The proposed Project is required to prepare a Storm Water Quality Management Plan (SWQMP) and implement permanent treatment control and source control BMPs that manage and treat stormwater runoff from Picacho Road and its intersection with Quechan Road. The SWQMP will describe all site control, source control, and treatment control BMPs that will be implemented by the proposed Project. No existing treatment control stormwater BMPs currently exist within the project footprint. Therefore, the project will result in a net improvement in the water quality of stormwater runoff compared to the existing condition. The project also does not require any ground water or inject any construction water into the ground. Therefore, impacts to surface or ground water quality would 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) The proposed Project would not use groundwater supplies or interfere substantially with groundwater recharge. Therefore, the proposed Project would have no impacts related to groundwater supplies or groundwater recharge.

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:	☐	☐	☒	☐

The proposed Project would be limited to Picacho Road Bridge and the surrounding ROW and would not significantly alter the current drainage patterns or significantly change the existing impervious area within the Project Site. Therefore, the proposed Project would have less than significant impacts related to existing drainage patterns, alteration of stream courses, or increases in impervious surfaces.

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

During project construction, erosion could occur as a result of grading, excavation, or other construction activities. Erosion would be minimized through the implementation of a Stormwater Pollution Prevention Plan (SWPPP) as required by the SWRCB's Construction General Permit with standard and project-specific stormwater BMPs such as limiting the amount of disturbed soil, preventing runoff from leaving the project site, minimizing track-out from the project site, and implementing erosion control and stormwater detention measures in advance of rainfall events. Additionally, no earthwork or other soil disturbance activities would occur in nearby waterways. The proposed Project is also required to prepare a Storm Water Quality Management Plan (SWQMP) and implement permanent treatment control and source control BMPs that manage and treat stormwater runoff from Picacho Road and its intersection with Quechan Road. The SWQMP will describe all site control, source control, and treatment control BMPs that will be implemented by the proposed Project. No existing treatment control stormwater BMPs currently exist within the project footprint. Therefore, the proposed Project would have less than significant impacts related to erosion or siltation on- or offsite.

	Potentially Significant Impact (PSI)	Less Than Significant with Mitigation Incorporated (LTSMI)	Less Than Significant Impact (LTSI)	No Impact (NI)
(ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	☐	☐	☒	☐

The proposed Project includes the replacement of an existing bridge with a new bridge with a similar alignment to the existing bridge and minor changes to the Picacho Road alignment and paved surfaces. The proposed Project would not substantially increase the amount of paved surfaces or the rate or amount of surface runoff that would result in flooding on- or offsite. The proposed Project would also implement a SWQMP and incorporate permanent site control and treatment control BMPs to control, dissipate, and treat stormwater runoff. Therefore, the proposed Project would have less than significant impacts related to the rate or amount of surface runoff.

(iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or;	☐	☐	☒	☐

The proposed Project includes the replacement of an existing bridge with a new bridge with a similar alignment to the existing bridge and minor changes to the Picacho Road alignment and paved surfaces. No significant increase in runoff water is expected to result from the proposed Project. The proposed Project would not create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems. The proposed Project would also implement a SWQMP and incorporate permanent site control and treatment control BMPs to control, dissipate, and treat stormwater runoff. Therefore, the proposed Project would have less than significant impacts related to runoff water, including polluted runoff.

(iv) impede or redirect flood flows?	☐	☐	☒	☐

The proposed Project includes the replacement of an existing bridge with a new bridge with a similar alignment to the existing bridge and minor changes to the Picacho Road alignment and paved surfaces. The Project Site is not within an area mapped as a Federal Emergency Management Agency (FEMA) Flood Hazard Zone. Therefore, the proposed Project would have less than significant impacts related to impeding or redirecting flood flows.

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

d) The Project Site is not within an area mapped as a FEMA Flood Hazard Zone. The Project Site is also not located in an area subject to potential inundation by seiches, tsunami, or mudflow. Although construction of the proposed Project will involve the use of fuels, paints, and other potential pollutants typically used in the construction process, the Project does not involve the permanent storage of any pollutants that could be released in a flood inundation event. Therefore, the project would have no impacts related to flood hazard, tsunami, or seiche zones or the release of pollutants due to project inundation.

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

e) The proposed Project would not result in conflicts or impacts to implementation of a water quality control plan or sustainable groundwater management plan. . The proposed Project is considered a Regulated project under the State's Phase II MS4 Permit, Order No. 2013-0001-DWQ and is required to prepare a SWQMP and implement permanent treatment control and source control BMPs that manage and treat stormwater runoff from Picacho Road and its intersection with Quechan Road. The SWQMP will be prepared by a Registered Civil Engineer and will describe all site control, source control, and treatment control BMPs that will be implemented by the proposed Project. No existing treatment control stormwater BMPs currently exist within the project footprint. Therefore, the project will result in a net improvement in the water quality of stormwater runoff compared to the existing condition. Impacts would be less than significant.

XI. *LAND USE AND PLANNING*

The proposed Project proposes the replacement of the existing bridge. After completing the bridge replacement, bridge and surface improvements would provide safer transportation infrastructure from Winterhaven (to the west) to the Fort Yuma Indian Reservation (to the east). The current land use and zoning will remain.

Surrounding the Project area are farms designated as agricultural lands in the County's General Plan, the Seminole Water Canal (runs west from the Yuma Main Canal), and the Union Pacific Railroad (parallel to the bridge). The land the bridge is located on is zoned as agricultural by the county and Other Land by the DOC. The BOR owns this parcel. Imperial County has an easement and provides

	Potentially Significant Impact (PSI)	Less Than Significant with Mitigation Incorporated (LTSMI)	Less Than Significant Impact (LTSI)	No Impact (NI)

transportation for the population over the water canal. The bridge is also under the jurisdiction of the YCWUA, Bard Water District, IID, Imperial County and BIA.

Would the project:

a)	Physically divide an established community?	☐	☐	☐	☒

a) The proposed Project is proposing the replacement and enhancement of the bridge on Picacho Road (County ROW) that crosses the Yuma Main Canal into the unincorporated Townsite of Winterhaven. The Project Site land is zoned as agriculture by the County and Other Land by the DOC. Surrounding the Project Site is land designated as Agriculture in the County's General Plan and Prime and Unique Farmland by the DOC. The bridge allows access from Winterhaven (west) to the Fort Yuma Indian Reservation (Quechan Drive-east).

The proposed Project provides transportation for the population from the west to the east. The Quechan people heavily utilize Picacho Road and the Quechan Tribe Comprehensive Plan (QTCP) anticipates the future replacement of the bridge. Therefore, the proposed Project is consistent with the QTCP. Project construction would include the closure of the bridge. During construction, Picacho Road between Winterhaven Drive and Quechan Road will be closed to traffic and a detour route will be made available. Detour travel times and lengths will be minimal during construction.

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 proposed Project is in compliance with the land use plan, policy, and regulations of the overseeing agencies. The Picacho bridge and Yuma Main Canal are owned by the BOR. The BOR has a contract which grants various agencies shared jurisdiction over the bridge. This contract gives jurisdiction to the YCWUA, Bard Water District, IID, Imperial County and BIA. None of these agencies have land use plans, policies, or regulations which conflict with the proposed Project. Therefore, no impact is suspected from the proposed Project.

XII. *MINERAL RESOURCES*

The State of California classifies mineral resource areas into Mineral Resources Zones (MRZ). The four-zone classifications (MRZs 1-4) indicate whether mineral resources (primarily sand and gravel) are known to be present or absent, or whether additional information is necessary. The County does not have any maps available to display the MRZs in the County. The CGS's Aggregate Sustainability in California Map does not display any present or future aggregate resources in the Project Site (CGS 2018). Therefore, no MRZs are located in the Project Site.

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) The proposed Project is located on Picacho Bridge which is located in the unincorporated area of Winterhaven in Imperial County. The Project Site is designated as Agriculture in the County's General Plan and Other Land by the DOC (see Section 3.1.2). The surrounding area of the bridge is zoned as agricultural land by the County and Prime and Unique Farmland by the DOC (see section 3.1.2). The proposed Project proposes the replacement of the existing bridge on Picacho Road.

Imperial County does not have any readily available maps displaying mineral resource zones in the County. However, the CGS's Aggregate Sustainability in California Map does not display any aggregate production areas, permitted reserves, or future aggregate production areas in the Project Site. Therefore, the proposed Project would not 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, and no impacts would occur.

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 discussed above, the proposed Project site is located on the Picacho Bridge which is located in the unincorporated area of Winterhaven in Imperial County. There are no locally important mineral resource recovery sites identified by the County or CGS. The land use for the site will remain as is with the proposed improvements and replacement of the transportation bridge. The proposed Project would not result in the loss of availability of a locally important mineral resource

	Potentially Significant Impact (PSI)	Less Than Significant with Mitigation Incorporated (LTSMI)	Less Than Significant Impact (LTSI)	No Impact (NI)

recovery site delineated on a local general plan, specific plan, or other land use plan and no impacts would occur.

XIII. ***NOISE***

The proposed Project is located in a rural agricultural area with scattered residences. Concentrated residential areas are present in Winterhaven, which is located to the northwest of the Project Site. Sensitive receptors in the Project Site would include Fort Yuma Health Care Clinic 0.4 miles east of the site, Abundant Life Church located 0.5 miles west of the site, rural residences and the residential areas in Winterhaven. Rural residences in the Project Site are no closer than 485 feet to the project boundary. The nearest concentrated neighborhood is 1900 feet from the project boundary.

Existing noise sources in the Project Site include agricultural equipment, vehicular traffic including highway traffic on I-8, and trains on the Union Pacific Railroad (UPRR). I-8 Kumeyaay Hwy runs east and west 0.3 miles south of the Project Site. The UPRR railroad tracks run northwest to southeast in general proximity to Picacho Road and Quechan Road east of the project Site. Typical sound levels for the existing noise sources found in the project area, normalized to a reference distance of 50 feet, are shown in Table 6 below.

Table 6: Existing Noise Sources in Project Site

Noise Source	*Sound Level at 50 ft*
Agricultural equipment	*67-82 dBA (Fretzer, et al. 2022)*
Light vehicular traffic	*56 dBA (Imperial County 2015)*
Highway traffic	*70-80 dBA (USDOT FHWA 2003)*
Train (horn at road crossings)	*116 dBA maximum (USDOT 2009)*
Train (locomotive and cars)	*83-91dBA (USDOT 2009)*

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) During the long-term operational phase, development of the proposed Project would not result in an increase in noise levels above the existing conditions in the Project Site.

During the proposed Project's short-term construction phase, operation of construction equipment would generate noise. Table 7 shows the typical average maximum noise level of the pieces of equipment expected to be used during project construction at a distance of 50 feet. Noise levels from equipment shown here increase or decrease with distance from the construction site at a rate of approximately 6 dBA per doubling of distance.

Table 7: Construction Equipment Noise Levels

Equipment	Maximum Noise Level (dBA) at 50 feet
Bulldozer	82
Boring machine	83
Backhoe	78
Concrete mixer truck	79
Excavator	81
Mud sucker	81
Skid steer loader	79
Jackhammer	89
Medium-duty truck (5 ton)	76
Air compressor	78
Pickup Truck	75

Source: 2011 FHWA Construction Noise Handbook, Table 9.1, actual measured sound levels, samples averaged

The nearest sensitive receptor is a house located 500 feet northeast of the Project Site. However, while all construction activities will be contained within the boundaries of the construction work area, the greatest construction noise is expected to occur at the bridge overpass, which is roughly 860 feet from this residence. Closer to the bridge overpass is another residence located 670 feet directly southeast of the bridge across the Yuma Main Canal. Therefore, it is expected that this residence would experience the greatest noise impact during the short-term construction phase. Exhibit D below demonstrates the respective locations of the nearest homes in relation to the Project Site.

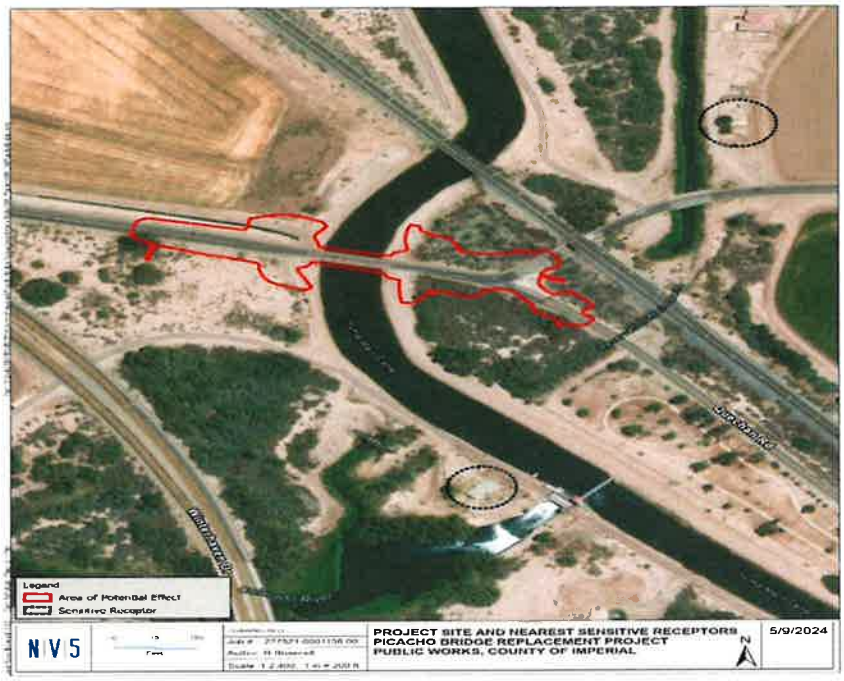

Exhibit D
Project Site and Nearest Sensitive Receptors

Given that 600 feet is 50 feet doubled 3.5 times over, the maximum anticipated noise level at the home southeast of the site would be over 21 dBA (3.5 times 6 dBA) lower than the maximum levels shown in Table 7, or approximately 68 dBA for the noisiest pieces of equipment. This level of noise, if it were to persist in one sensitive receptor location over a period of 8-hours, would be lower than the County's 75 dB Leq (8-hour) noise standard.

While unlikely, even if the noisiest piece of equipment were to be used at the most eastern portion of the Project Site and persist over an 8-hour period, the maximum anticipated noise level at the home east of the site would be less than 71dBA (3 times 6 dBA lower than the noisiest piece of equipment).

In addition, construction activities are expected to be limited to the hours of 7 a.m. to 7 p.m. Monday through Friday and 9 a.m. to 5 p.m. on Saturday. Therefore, noise impacts associated with construction would be less than significant.

b)	Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐

b) Vibration is sound radiated through the ground. Groundborne noise is the rumbling sound caused by vibration of building or structure surfaces. Typical outdoor sources of perceptible groundborne vibration are construction equipment and traffic on rough roads. During the long-term operational phase, development of the proposed Project would not result in groundborne vibration or noise levels in addition to the existing conditions in the Project Site. During the short-term construction phase, there may be relatively minor vibrations from the use of trucks or other equipment associated with construction activities. However, given the distance to the closest sensitive receptor (670 feet), this groundborne vibrations condition from construction equipment would be relatively minor, intermittent, short term and restricted to daytime hours.

	Potentially Significant Impact (PSI)	Less Than Significant with Mitigation Incorporated (LTSMI)	Less Than Significant Impact (LTSI)	No Impact (NI)

Therefore, impacts related to excessive groundborne vibrations are anticipated to be 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?	☐	☐	☐	☒

c) The proposed Project is not located in the vicinity of an airport land use plan nor within two miles of a public airport. The nearest airport is the Yuma International Airport located five miles southeast of the proposed Project. Therefore, the proposed Project would not expose people residing or working in the Project Site to excessive noise levels and no impact would occur.

XIV. *POPULATION AND HOUSING*

This section addresses potential impacts on the population and housing associated with the proposed Project's implementation and includes a description of the existing environment. The proposed Project is located in the unincorporated area of Winterhaven, in Imperial County. The proposed Project is located approximately 60 miles east of El Centro, CA. Housing in the unincorporated portion of Imperial County is covered in the Housing Element. Population size and housing units in Imperial County Housing Element 2021 to 2029 are identified in Table 8 and the demographic composition based on the data provided in the Imperial County Housing Element 2021-2029 is identified in Table 9.

Table 8: Imperial County Population Inventory

	Unincorporated Area*	Total County	Percentage Unincorporated
Population (2020)	37,778	174,528	22%
Housing Units (2020)	35,331	180,378	20%
Household Size (Average) (2019)	n/a	3.81	n/a

* Includes all unincorporated areas beyond just census-designated places
Sources: California DOF, City/County Population and Housing Estimates and 2015-2019 ACS (Imperial County 2022)

Table 9: Unincorporated Imperial County Demographic Composition

Race	Unincorporated Area Population*	Percentage
White alone	58,135	70.9%
Black of African American alone	4,505	2.1%
American Indian and Alaska Native alone	887	1.3%
Asian alone	1,475	0.6%
Native Hawaiian and Other Pacific Islander alone	132	0.2%
Some Other Race alone	11,692	22.8%
Two or More Races	3,242	2.1%
total	13,973	n/a
Hispanic or Latino	10,646	76.2%
Not Hispanic or Latino	3,327	23.8%

*Includes only census-designated places in unincorporated Imperial County.
Source: 2015-2019 ACS (Imperial County 2022)

	Potentially Significant Impact (PSI)	Less Than Significant with Mitigation Incorporated (LTSMI)	Less Than Significant Impact (LTSI)	No Impact (NI)
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)?	☐	☐	☐	☒

a) The proposed Project consists of a bridge replacement for more reliable transportation infrastructure, which would not induce population growth either directly or indirectly. The route is an important transportation route allowing access from the Fort Yuma Indian Reservation to downtown Winterhaven. There would be no impact.

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

b) The proposed Project proposes the replacement of the bridge located on Picacho Road. The proposed Project would not remove or construct housing or result in the displacement of housing available. The proposed project would result in no impacts on the displacement of existing or future housing, and a less than significant impact would occur.

XV. *PUBLIC SERVICES*

This section addresses potential impacts on the public services associated with the proposed Project's implementation and includes a description of the existing environment.

Fire

The Imperial County Fire Department (ICFD) and the Office of Emergency Services (ICOES) provide medical services (BLS/ALS), fire protection, aircraft fire rescue, technical rescue, and hazards materials and incidents responses for incorporated Imperial County and through contracts to the unincorporated parts of the County. The proposed Project area is served by ICFD Station 8 (518 Railroad Ave, Winterhaven, CA 92283), approximately 1 mile west of the Project Site.

Police

The Imperial County Sheriff's Office (ICSO) provides law enforcement services to the County's unincorporated communities and contract cities. The Project Area is served by the Imperial County Sheriff's Station (513 2nd Ave, Winterhaven, CA 92283), approximately 1 mile west of the Project Site.

The Fort Yuma Quechan Indian Tribe is served by their local Quechan Police Department consisting of two chiefs, two sergeants, nine full-time patrol officers, and six full-time emergency dispatchers. The Quechan Police Department (450 N Quechan Drive Winterhaven, CA 92283) is located approximately less than one-half mile east of the proposed Project.

Schools

The nearest school to the proposed Project site is San Pasqual Valley High School administered by San Pasqual Valley Unified School District (676 Baseline Rd, Winterhaven, CA 92283), approximately 2 miles northeast of the Project Site.

Parks

The proposed Project is located approximately less than a mile from the Quechan Walking Trail Park, providing amenities such as children's playground equipment, picnic tables, benches, an open field, and barbeque areas.

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:	☐	☐	☒	☐

The proposed Project will improve transportation infrastructure by replacing an existing bridge. Construction and operation of the proposed Project would not affect the area's population or induce population growth, as no habitable structures are proposed, and construction workers are anticipated to be from the local workforce.

	Potentially Significant Impact (PSI)	Less Than Significant with Mitigation Incorporated (LTSMI)	Less Than Significant Impact (LTSI)	No Impact (NI)
1) Fire Protection?	☐	☐	☒	☐

1) The bridge will not be constructed with flammable materials and will not require fire protection services when in operation. During construction, temporary lane closures and traffic detours along Picacho Road are expected and could adversely affect emergency service and response times during Project construction.

2) Police Protection?	☐	☐	☒	☐

2) The proposed Project would not create a need for new or altered fire or police protection facilities. During construction, temporary lane closures and traffic detours along Picacho Road are expected and could adversely affect emergency service and response times during Project construction.

3) Schools?	☐	☐	☐	☒

3) The nearest schools are at the San Pasqual Valley School District located approximately 1.75 miles northeast of the bridge. The project would not directly increase demand for public schools in the County. The project would not generate employment that would result in a considerable demand for school services. The project would not directly or indirectly induce population growth in the project area that would necessitate the need for new or expanded school services. The proposed Project would not have an effect on schools.

4) Parks?	☐	☐	☐	☒

4) The Quechan Walking Trail Park is located approximately ¼ mile southeast of the bridge. The implementation of the project will not directly or indirectly induce population growth that would create a need for new or expanded park services. The proposed Project would not have an impact on this park.

5) Other Public Facilities?	☐	☐	☐	☒

5) The public facilities include the Fort Yuma Health Care Center and Quechan Tribal Administration buildings are located approximately 0.4 miles southeast of the bridge and the community of Winterhaven is located approximately 0.55 miles west of the bridge. A traffic detour plan will be provided to ensure access between the west and east sides of the bridge. As the project would not directly or indirectly induce population growth, implementation of the project would not crate the need for new or expanded public facilities. The proposed Project would not have an impact on other Public Facilities.

XVI. *RECREATION*

The proposed Project is located on Picacho Bridge which is within County ROW (Picacho Road) and crosses the Yuma Main Canal. Picacho Bridge provides transportation infrastructure for the County. The proposed Project will be located on the bridge and will include the replacement of the bridge. The Quechan Walking Trail Park is approximately half a mile southeast of the proposed Project and is the closest local recreational park under the jurisdiction of the Fort Yuma Reservation. The proposed Project will not have an impact on this park.

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) The proposed Project is not likely to increase the use of existing neighborhoods, regional parks, or any other recreational facilities to the point that physical deterioration would occur or be accelerated. The Project proposes to replace the bridge that is already in place, therefore it is expected that once replaced no impact would occur regarding increase in recreations.

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) The proposed Project consists of the replacement and enhancement of the existing bridge on Picacho Road (County ROW). The proposed Project will not directly or indirectly incentivize the need for more recreational facilities or increase the use of existing parks. No impact is expected from the result of the proposed Project.

	Potentially Significant Impact (PSI)	Less Than Significant with Mitigation Incorporated (LTSMI)	Less Than Significant Impact (LTSI)	No Impact (NI)

XVII. ***TRANSPORTATION***

The proposed Project is located along Picacho Rd. (S-24) 0.4-miles north of the Colorado River and California/Arizona border in Section 16 of Township 16 South, Range 22 East. The bridge crosses the Yuma Main Canal and serves as a route into the Townsite of Winterhaven. The purpose of the proposed Project is to replace the heavily deteriorated 7-span timber bridge with a new single span structure.

Would the project:

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

a) During the construction of the new bridge along the same alignment as the existing bridge, proposed Project-related traffic would be temporary. Traffic during construction would include workers traveling to and from the Project Site, trucks hauling construction materials to the Project Site, and transporting material off-site. Though the proposed Project would generate construction traffic on the local roadway network and along this section of the road the construction traffic would be temporary and occur throughout the day, generally during non-peak hours. As such, the construction traffic would not generate a substantial impact to the surrounding roadways. Therefore, construction traffic would not be expected to conflict with a program plan, ordinance or policy addressing the circulation system, and impacts would be less than significant.

The County General Plan's Circulation and Scenic Highways Element was adopted in 2008, prior to the closure of the existing bridge. The Circulation and Scenic Highways Element was prepared in conjunction with the Southern California Association of Governments (SCAG) Regional Transportation Plan, "Destination 2030," and other related transportation planning documents (County of Imperial, 2008). The Circulation and Scenic Highways Element included projected street segment configurations and volumes throughout the County, including for Picacho Road, which is designated as a Major Collector Road. Thus, traffic along this section of Picacho and over the bridge was anticipated and accommodated for in the Circulation and Scenic Highways Element. As the new bridge would be within the same alignment and have the same number of lanes as the existing bridge, operation of the proposed Project is not anticipated to generate an increase in traffic beyond the traffic accommodated for in the County's General Plan. Therefore, the proposed Project would not conflict with a program plan, ordinance or policy addressing the circulation system, and operational impacts would be less than significant.

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

b) CEQA Guidelines 15064.3 states vehicle miles traveled (VMT) is the most appropriate measure of transportation impacts. CEQA Guidelines 15064.3 subdivision (b) provides several criteria for analyzing transportation impacts, including analyzing a project's VMT qualitatively when lead agencies may not be able to quantitatively estimate VMT for a project type. The proposed Project would replace an existing deteriorated bridge with a new bridge within the alignment of the existing bridge. The new bridge would have the same number of lanes (one [1] in each direction) as the existing bridge, but wider to compensate for foot and bicycle traffic. Additionally, the Governor's Office of Planning and Research (OPR) has developed a Technical Advisory on Evaluating Transportation Impacts in CEQA, which states replacement projects designed to improve the condition of existing transportation assets, including bridges, would not likely lead to a substantial or measurable increase in vehicle travel and, therefore, generally should not require an induced travel analysis (OPR; 2018). Thus, the proposed Project is anticipated to be consistent with CEQA Guidelines section 15064.3 subdivision (b) and impacts are expected to be less than significant.

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

c) The proposed Project would consist of the replacement of an existing severely deteriorated bridge with a new bridge designed to applicable County and AASHTO standards. As such, the proposed Project would not include a geometric design feature that would increase hazards or result in incompatible uses. The proposed Project would comply with the standards of Caltrans and ICFD. Additionally, the proposed Project would utilize standards as set out in the California Manual on Uniform Traffic Control Devices for operational traffic control devices as appropriate and would further incorporate traffic control measures that are designed to ensure the safety of all road users. Therefore, the proposed Project would result in less than significant impacts related to hazardous design features or incompatible uses.

		Potentially Significant Impact (PSI)	Less Than Significant with Mitigation Incorporated (LTSMI)	Less Than Significant Impact (LTSI)	No Impact (NI)
d)	Result in inadequate emergency access?	☐	☐	☒	☐

d) The proposed Project would be designed to applicable County and AASHTO standards and, as a result, provide adequate emergency access. The proposed Project would not reduce the number of traffic lanes or create physical barriers along Picacho Road. Therefore, the proposed Project would not include or create any physical barriers on roadways that would impede emergency access within the area or to the Project Site.

XVIII. *TRIBAL CULTURAL RESOURCES*

Would the project:

a)	Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place or object with cultural value to a California Native American tribe, and that is:				
	(i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as define in Public Resources Code Section 5020.1(k), or	☐	☒	☐	☐

(i) No listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k) were recorded in the Cultural Report (see Appendix C). The proposed Project is fully within the Fort Yuma Indian Reservation thus tribal consultation was undertaken with the Fort Yuma Quechan Tribe. A meeting was facilitated between the Bureau of Reclamation, Fort Yuma Quechan Historic Preservation Office, and NV5 to discuss requirements for conducting cultural resource projects on Tribal land in Spring 2021. Quechan HPO was granted for the completion of the California Historic Resources Information System search in Summer 2021. Quechan Tribal Historic Preservation Officer staff did not indicate any concern about Traditional Cultural Places within the Project Site. The proposed Project would result in less than significant impacts with the implementation of mitigation measure CUL-1 and CUL-2.

0	(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 is 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) There are no known resources in or near the Project Site that meet the criteria set forth in Public Resources Code Section 5024.1 to qualify for listing on the California Register of Historic Resources. The proposed Project would not cause significant impacts pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, less than significant impact would occur. The proposed Project would result in less than significant impacts with the implementation of mitigation measures CUL-1 and CUL-2.

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) No relocation or expansion of water, wastewater treatment or stormwater drainage, electric power, natural gas, or

		Potentially Significant Impact (PSI)	Less Than Significant with Mitigation Incorporated (LTSMI)	Less Than Significant Impact (LTSI)	No Impact (NI)
	telecommunications is proposed. There would be no impact.				
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 proposed Project will not generate any new permanent demands on existing water supplies. Minimal water use would be required during construction. Impacts would be less than significant.				
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 proposed Project will not add to wastewater demands. There would be no impact.				
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) The proposed Project will not add permanently to solid waste demands or generate excessive solid waste. Solid waste generation would occur during construction. Clean soil can be recycled, reused offsite, or reused as backfill thereby reducing the need to be disposed of at a landfill. In addition, through the implementation of Mitigation Measure UTIL-1, the County will encourage construction contractors to recycle construction materials and divert inert solids (asphalt, brick, concrete, dirt, fines, rock, sand, soil, and stone) from disposal in a landfill, where feasible, by including waste minimization goals in bid specifications. The proposed Project will adhere to regulations and policies pursuant to applicable State, local, and County relating to solid waste including the County's Solid Waste Ordinance (Imperial County Municipal Code, Chapter 8.72) for the disposal of the old bridge debris. The impacts would be less than significant with the implementation of Mitigation Measure UTIL-1				
	MM UTIL-1: Imperial County shall encourage construction contractors to recycle construction materials and divert inert solids (asphalt, brick, concrete, dirt, fines, rock, sand, soil, and stone) from disposal in a landfill where feasible. Implementing agencies shall incentivize construction contractors with waste minimization goals in bid specifications where feasible. Upon completion, the proposed Project will not add to solid waste demand or generate excessive solid waste. The proposed Project will comply with federal, state, and local regulations related to solid waste. Impacts would be less than significant with mitigation measures.				
e)	Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☒	☐	☐
	e) The proposed Project will not add permanently to solid waste demands or generate excessive solid waste. Solid waste generation would occur during construction and would include the demolition debris from the removal of the old bridge and associated paved road surfaces. Clean soil can be recycled, reused offsite, or reused as backfill, thereby reducing the need to be disposed of at a landfill. In addition, through the implementation of Mitigation Measure UTIL-1, the County will encourage construction contractors to recycle construction materials and divert inert solids (asphalt, brick, concrete, dirt, fines, rock, sand, soil, and stone) from disposal in a landfill, where feasible, by including waste minimization goals in bid specifications. The proposed Project will adhere to applicable County and state regulations and policies relating to solid waste handling and disposal, specifically the County's Solid Waste Ordinance (Imperial County Municipal Code, Chapter 8.72), . The impacts would be less than significant with the implementation of Mitigation Measure UTIL-1.				

XX. *WILDFIRE*

California Public Resources Code 4201-4204 directs CAL FIRE/State Fire Marshall to classify and map lands within SRAs into Fire Hazard Severity Zones (FHSZ) based on fuel loading, slope, fire weather, and other relevant factors present, including areas where winds have been identified as a major cause of wildfire spread. FHSZs fall into the following classifications: moderate, high, and very high. NV5 reviewed CAL FIRE's Fire Hazard Severity Zone Viewers (CAL FIRE 2022a and 2022b) and the CAL FIRE State Responsibility Area Fire Hazard Severity Zones map prepared for Imperial County (CAL FIRE 2022c) to see if the Project Site is located within a FHSZ. The viewer and map showed that the Project Site is not located within or adjacent to a designated FHSZ. More specifically, the Project Site is not located within or adjacent to a very high FHSZ.

	Potentially Significant Impact (PSI)	Less Than Significant with Mitigation Incorporated (LTSMI)	Less Than Significant Impact (LTSI)	No Impact (NI)

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) The California Board of Forestry and Fire Protection is tasked with classifying all lands within California for the purpose of determining the financial responsibility for wildfire protection and suppression. NV5 reviewed the State Responsibility Area Viewer (Board 2022) to see what specific wildfire prevention and suppression land classification the Project Site is located within. The viewer showed that the Project Site is located entirely within a Federal Responsibility Area. These are lands in the state where the federal government has the legal responsibility for providing fire protection; however, the County of Imperial has agreed to provide fire, medical, and other emergency services within the entire portion of the Fort Yuma Indian Reservation lying within Imperial County. The Project Site is not located within or adjacent to a State Responsibility Area (SRA).

The bridge is currently in poor condition and has safety concerns from age and outdated design standards. The bridge and roadway construction will adhere to industry accepted and standard construction designs and guidelines; it will comply with federal and state regulations for construction fire safety; and it will provide adequate emergency access. During construction, Picacho Road between Winterhaven Drive and Jackson Road will be closed to traffic and a detour route made available. The lane closures would be considered less than significant because they would be temporary and detour travel times and lengths will be minimal during construction. In addition, access to the parcels adjacent to the bridge will be maintained throughout construction with rerouting. Once completed, the new updated bridge and roadway would improve access for emergencies and evacuations for adjacent properties and the surrounding communities. The proposed Project would not reduce the number of traffic lanes or create physical barriers along Picacho Road that would impede access to or from the Project Site. Less than significant impacts are expected.

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) As described in response to threshold (a), the Project Site is not located within or adjacent to an SRA or lands classified as very high FHSZ. The proposed Project is a bridge replacement project, which would not contain project occupants. The Project Site is located in a rural area of Imperial County that contains thousands of acres of flat farmland. Fort Yuma Quechan Tribe Tribal Administration buildings are located approximately 0.4 miles southeast of the bridge over the Yuma Canal and the community of Winterhaven is located approximately 0.55 miles west of the bridge. The nearest residence is approximately 0.12 miles southeast of the bridge. The proposed Project is not anticipated to expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire. Therefore, no impacts are expected.

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) As described in response to threshold (a), the Project Site is not located within or adjacent to an SRA or lands classified as very high FHSZ. The proposed Project is a bridge replacement project that would not pose a risk of fire hazards or exacerbate the risk of fire. No roads, fuel breaks, emergency water sources, power lines, or other utilities will be installed, and the project would comply with federal and state regulations for construction fire safety. Therefore, no impacts are expected.

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) As described in response to threshold (a), the Project Site is not located within or adjacent to an SRA or lands classified as very high FHSZ. The Project Site is located in a flat area with no high or steep natural slopes. The Project Site is not located with a downstream area or an area with landslides. Fort Yuma Quechan Tribe Tribal Administration buildings are located approximately 0.4 miles southeast of the bridge over the Yuma Canal and the community of Winterhaven is located approximately 0.55 miles west of the bridge. The nearest residence is approximately 0.12 miles southeast of the bridge.

The bridge is currently in poor condition and has safety concerns from age and outdated design standards. The bridge and roadway construction will adhere to industry accepted and standard construction designs and guidelines and it will comply

with federal and state regulations for construction fire safety. Once completed, the new updated raised bridge and roadway would help to reduce flood risks. For these reasons described here within, the proposed Project is not anticipated to expose people or structures to significant risks as a result of runoff, post-fire slope instability, or drainage changes. Therefore, no impacts are expected.

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 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

	Potentially Significant Impact (PSI)	Less Than Significant with Mitigation Incorporated (LTSMI)	Less Than Significant Impact (LTSI)	No Impact (NI)

SECTION 3
III. MANDATORY FINDINGS OF SIGNIFICANCE

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

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?	☐	☐	☐	☐
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.)	☐	☐	☐	☐
c)	Does the project have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☐	☐

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
- Diana Robinson, Planning Division Manager
- Luis Bejarano, Planner I
- Imperial County Air Pollution Control District
- Department of Public Works
- Fire Department
- Ag Commissioner
- Environmental Health Services
- Sheriff's Office

B. OTHER AGENCIES/ORGANIZATIONS

NV5

- Amanda Beck.....Biologist
- Eric Fuss.....Biologist
- Marie Barret.....Biologist
- Courtney Armusewicz, MCP.....Transportation Planner
- Laura Murphy.....Civil Engineer
- Lauren Burokas.....Environmental Planner
- Scott Molloy.....Land Development Manager
- Rebecca Davey.....Environmental Specialist
- Karry Blake.....Environmental Scientist
- Cecile Felsher.....Senior Consultant
- Kiran Pallachulla .....Senior Water Resources Engineer

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

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VI. MITIGATED NEGATIVE DECLARATION – County of Imperial

The following Mitigated 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: Imperial County Project No. 6811, Picacho Road Bridge Replacement Project at Yuma Main Canal, Initial Study (IS) # 24-0037.

Project Applicant: Imperial County Public Works Department

Project Location: The Picacho Road Bridge over the Yuma Main Canal is located along Picacho Road in Winterhaven, CA. The bridge lies within APN 056-600-011 with coordinates 32.7358 N, 114.6241 W. The existing bridge is approximately 95 feet in length and 29 feet wide and is used as a pathway leading into the Townsite of Winterhaven in Imperial County. The Project Site is approximately 0.3 miles south of Interstate 8 (I-8), 0.6 miles east of First Street, and approximately 6 miles southeast of Mexico. Specifically, the Project Site is located between Winterhaven Drive and Quechan Road and runs adjacent to the Union Pacific Railroad tracks. The immediate surrounding area consists of agricultural land. Surrounding areas also include industrial, commercial, warehouse, and residential lands. The nearest residential community is located approximately 0.2 miles to the south of the Project Site. The Project Site is located directly to the west of the Quechan Tribal Administration buildings which is intended to benefit from the bridge reconstruction. The Project Site is located within the Quechan Tribal territory and spans the Yuma Canal system owned by the Bureau of Reclamation (BOR). The canal is operated and maintained by the Yuma County Water Users' Association (YCWUA).

Description of Project: The proposed Project is located at Picacho Bridge over Yuma Main Canal (Picacho Road, Winterhaven, CA 32.7358 N, 114.6241 W and within APN 056-600-011) and is intended to replace the existing bridge leading into the Townsite of Winterhaven in Supervisorial District 1. The proposed Project presents a unique opportunity to construct a modern bridge that implements Best Management Practices (BMPs) concurrently with transportation amenities. Due to cracking and outliving its useful life, the existing wood bridge must be replaced to support commerce, access to the Quechan Reservation and the Bard community, and provide a safer crossing of the Yuma Main Canal. The bridge is owned by Imperial County and its National Bridge Inventory (NBI) number is 58C0028. The bridge crosses the Yuma Main Canal, which is a Bureau of Reclamation facility that is operated and maintained by their managing partner the Yuma County Water Users' Association.

Due to its deteriorating condition, it is proposed to replace the existing bridge with a new Precast Prestressed Concrete Girder Bridge that spans over the canal with no intermediate supports, to minimize disturbance to canal operations during construction and to keep debris out of the canal as much as possible. The roadway profile is proposed to be raised to approximately 5 feet-4 inches higher than the existing condition, achieving a minimum of 2 feet of vertical clearance over the existing canal bank elevation per the BOR's *Engineering and O&M Guidelines for Crossings*.

The replacement bridge will have a total width of 48'-11". This includes two vehicle lanes of 12', two 8' wide shoulders, and a 6'-0" wide sidewalk on the north side of the bridge. A typical section is also shown below (Exhibit C, Bridge Design). The Yuma Main Canal is a man-made unlined irrigation main canal that flows in a southerly direction under the existing bridge

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 environment 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 MITIGATED NEGATIVE DECLARATION will be prepared.

If adopted, the Mitigated 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 Mitigated Negative Declaration during the review period.

2-27-2025 for
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 2/27/2025
Date

SECTION 4

EEC ORIGINAL PKG

VIII. RESPONSE TO COMMENTS

(ATTACH DOCUMENTS, IF ANY, HERE)

IX. MITIGATION MONITORING & REPORTING PROGRAM (MMRP)

(ATTACH DOCUMENTS, IF ANY, HERE)

IMPERIAL COUNTY PROJECT NO. 6811
PICACHO ROAD BRIDGE REPLACEMENT PROJECT AT YUMA MAIN CANAL
INITIAL STUDY (IS) # 24-0037

MITIGATION MONITORING AND REPORTING PROGRAM

Introduction

The Mitigation Monitoring and Reporting Program (MMRP) supplements the Initial Study/Mitigated Negative Declaration (IS/MND) for the proposed Picacho Road Bridge Replacement Project ("Project") by providing a mechanism by which all measures in the IS/MND are implemented. The MMRP will be adopted by the County of Imperial (County) Planning Commission in conjunction with the Project.

Purpose of the Mitigation Monitoring and Reporting Program

As the lead agency, the County is responsible for implementing the MMRP, which has been prepared in conformance with Section 21081.6 of the California Public Resources Code as identified below:

> (a) When making the findings required by paragraph (1) of subdivision (a) of Section 21081 or when adopting a mitigated negative declaration pursuant to paragraph (2) of subdivision (c) of Section 21080, the following requirements shall apply:
>
> > (1) The public agency shall adopt a reporting or monitoring program for the changes made to the project or conditions of project approval, adopted in order to mitigate or avoid significant effects on the environment. The reporting or monitoring program shall be designed to ensure compliance during project implementation. For those changes which have been required or incorporated into the project at the request of a responsible agency or a public agency having jurisdiction by law over natural resources affected by the project, that agency shall, if so requested by the lead agency or a responsible agency, prepare and submit a proposed reporting or monitoring program.
> >
> > (2) The lead agency shall specify the location and custodian of the documents or other material which constitute the record of proceedings upon which its decision is based.

The MMRP consists of mitigation measures that avoid, reduce, or fully mitigate potential environmental impacts. The mitigation measures have been identified and recommended through preparation of the IS/MND and drafted to meet the requirements of the California Environmental Quality Act (CEQA) Guidelines, Section 15097.

Mitigation Monitoring and Reporting Program Table

Project-specific mitigation measures are contained in the MMRP Table below. The table describes the specific mitigation measures, the responsible party that must comply with the mitigation measure, the regulatory agency having approval of and oversight over the mitigation measure, and the mitigation timeframe describing the timing and/or time range that applies to the mitigation measure. The MMRP will serve as the basis for scheduling the implementation of and compliance with all mitigation measures.

IMPERIAL COUNTY PROJECT NO. 6811
PICACHO ROAD BRIDGE REPLACEMENT PROJECT AT YUMA MAIN CANAL
INITIAL STUDY (IS) # 24-0037
MITIGATION MONITORING AND REPORTING PROGRAM

MITIGATION MEASURE	RESPONSIBLE PARTY	REGULATORY AGENCY	MITIGATION TIMEFRAME
SECTION II. AGRICULTURE AND FOREST RESOURCES			
MM AG-1: Create an on-site buffer zone surrounding the Project Site to ensure no indirect impacts would occur to surrounding agricultural lands. It is recommended the County will need to obtain a signed statement from adjacent property owners stating that no indirect impacts will occur to their property.	Imperial County	Imperial County	Prior to the Start of Construction
SECTION IV. BIOLOGICAL RESOURCES			
MM BIO-1: Nesting surveys by qualified biologists during nesting season (February through August); preferably time construction during non-nesting season (September through January). Time nesting surveys within 3-5 days prior to start of construction for nesting birds and fourteen days prior to start of construction for burrowing owl. A biologist should be present at the start of groundbreaking activities.	Imperial County, Project Biologist	Imperial County, California Department of Fish & Wildlife (CDFW), US Fish & Wildlife Service (USFWS)	February through August (Breeding Season), Prior to the Start of Construction
MM BIO-2: Worker environmental awareness training for nesting birds, Gila Woodpecker and Burrowing Owl (BUOW): • Biology and status; • Protection measures designed to reduce potential impacts to the species, function of flagging designating authorized work areas; • Reporting procedures to be used if a species is encountered in the field; and driving procedures and techniques, for commuting, and driving on, to the Project Site; • Identification of nesting birds and procedures to follow if nesting is suspected.	Imperial County, Project Biologist		Prior to the Start of Construction
SECTION V. CULTURAL RESOURCES			
MM CUL-1: In all phases of construction work an Inadvertent Discovery Plan should be developed and shared with staff on-site. If archaeological or cultural resources are encountered during project work, all work in the immediate vicinity of the find will be suspended until assessed by the qualified archaeologist and a treatment is determined.	Imperial County, Project Archaeologist	Imperial County, NAHC, and Quenchan Tribe	Prior to the Start of Construction, and Throughout Construction Process
MM CUL-2: Should human remains be encountered during ground disturbing activities; all work will cease, and the County Medical Examiner will be contacted.	Imperial County, County Medical Examiner, Project Archaeologist		Throughout Construction Process
SECTION VII. GEOLOGY AND SOILS			
MM GEO-1: Prior to earthmoving activities, a certified geotechnical engineer or equivalent, shall perform a final geotechnical evaluation of the soils. The evaluation will follow the requirements of California Building Code Title 24, Part 2, Chapter 18, Section 1803.1.1.2. related to expansive soils and soil conditions. The structural design, tests and inspections, and soils and foundation standards will be in accordance with requirements from California Building Code Title 24, Part, 2, Chapter 16, 17, and 18. The final geotechnical evaluation shall include design recommendations to ensure that soil conditions do not pose a threat to the health and safety of people or structures, including threats from liquefaction, subsidence, lateral spreading, or collapse. The grading and improvement plan for each phase of the project shall be designed in accordance with the recommendations provided in the final geotechnical evaluation.	Imperial County, Project Geotechnical Engineer or Equivalent	Imperial County	Prior to the Start of Construction

IMPERIAL COUNTY PROJECT NO. 6811
PICACHO ROAD BRIDGE REPLACEMENT PROJECT AT YUMA MAIN CANAL
INITIAL STUDY (IS) # 24-0037
MITIGATION MONITORING AND REPORTING PROGRAM

MITIGATION MEASURE	RESPONSIBLE PARTY	REGULATORY AGENCY	MITIGATION TIMEFRAME
SECTION IX. HAZARDS AND HAZARDOUS MATERIALS			
MM HAZ-1: If in-situ potentially hazardous materials are encountered, all construction in the vicinity of the encounter will be halted. All construction contractors shall immediately stop all surface or subsurface activities in the event that potentially hazardous materials are encountered, an odor is identified, or considerably stained soil is visible. Contractors shall follow all applicable local, state, and federal regulations regarding the discovery, response, disposal, and remediation of hazardous materials encountered during the construction process. These requirements shall be included in the contractor's specifications. If any hazardous materials, waste sites, or vapor intrusion risks are identified prior to or during construction, a qualified professional, in consultation with appropriate regulatory agencies, will develop and implement a plan to remediate the contamination and properly dispose of the contaminated material. If material imports are proposed, the contractor shall furnish the County of Imperial or its representative with appropriate documentation certifying that the imported materials are free of contamination.	Imperial County	Imperial County	Throughout Construction Process
MM HAZ-2: Implementing agencies shall prepare and implement maintenance practices that include periodic removal and replacement of surface soils and media that may accumulate constituents that could result in further migration of constituents to subsoils and groundwater. A BMP Maintenance Plan shall be prepared by Implementing Agencies upon approval of the BMP projects that identify the frequency and procedures for removal and/or replacement of accumulated debris, surface soils, and/or media (to a depth where constituent concentrations do not represent a hazardous condition and/or have the potential to migrate further and impact groundwater) to avoid the accumulation of hazardous concentrations and the potential to migrate further to sub-soils and groundwater. The BMP Maintenance Plan may consist of a general maintenance guideline that applies to several types of smaller distributed BMPs. For smaller distributed BMPs on private property, these plans may consist of a maintenance covenant that includes requirements to avoid the accumulation of hazardous concentrations in these BMPs that may impact underlying subsoils and groundwater. Structural BMPs shall be designed to prevent the migration of constituents that may impact groundwater.	Imperial County	Imperial County	Prior to the Start of Construction, and Throughout Construction Process
SECTION XIX. UTILITIES AND SERVICE SYSTEMS			
MM UTIL-1: Implementing agencies shall encourage construction contractors to recycle construction materials and divert inert solids (asphalt, brick, concrete, dirt, fines, rock, sand, soil, and stone) from disposal in a landfill where feasible. Implementing agencies shall incentivize construction contractors with waste minimization goals in bid specifications where feasible. Upon completion, the proposed Project will not add to solid waste demand or generate excessive solid waste. The proposed Project will comply with federal, state, and local regulations related to solid waste. Impacts would be less than significant with mitigation measures.	Imperial County	Imperial County	Throughout Construction Process

IS#24-0037

APPLICATION

EEC ORIGINAL PKG

Picacho Bridge Project Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Picacho Bridge Project
Construction Start Date	1/1/2024
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.40
Precipitation (days)	4.80
Location	32.735839, -114.624
County	Imperial
City	Unincorporated
Air District	Imperial County APCD
Air Basin	Salton Sea
TAZ	5614
EDFZ	19
Electric Utility	Imperial Irrigation District
Gas Utility	Southern California Gas
App Version	2022.1.1.19

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Bridge/Overpass Construction	0.30	Mile	0.04	0.00	—	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-2*	Limit Heavy-Duty Diesel Vehicle Idling
Construction	C-10-C	Water Unpaved Construction Roads

* Qualitative or supporting measure. Emission reductions not included in the mitigated emissions results.

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

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

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	8.64	7.28	63.7	67.0	0.12	2.89	82.1	85.0	2.66	8.30	11.0	—	14,334	14,334	0.58	0.14	3.18	14,394
Mit.	8.64	7.28	63.7	67.0	0.12	2.89	82.1	85.0	2.66	8.30	11.0	—	14,334	14,334	0.58	0.14	3.18	14,394
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	8.54	7.18	63.8	64.1	0.12	2.89	82.1	85.0	2.66	8.30	11.0	—	14,206	14,206	0.58	0.14	0.08	14,262
Mit.	8.54	7.18	63.8	64.1	0.12	2.89	82.1	85.0	2.66	8.30	11.0	—	14,206	14,206	0.58	0.14	0.08	14,262
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.35	1.98	17.8	17.9	0.04	0.78	21.5	22.3	0.72	2.18	2.89	—	3,996	3,996	0.16	0.04	0.38	4,012
Mit.	2.35	1.98	17.8	17.9	0.04	0.78	21.5	22.3	0.72	2.18	2.89	—	3,996	3,996	0.16	0.04	0.38	4,012

% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.43	0.36	3.25	3.26	0.01	0.14	3.93	4.07	0.13	0.40	0.53	—	662	662	0.03	0.01	0.06	664
Mit.	0.43	0.36	3.25	3.26	0.01	0.14	3.93	4.07	0.13	0.40	0.53	—	662	662	0.03	0.01	0.06	664
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Exceeds (Daily Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	—	75.0	100	550	—	—	—	150	—	—	—	—	—	—	—	—	—	—
Unmit.	—	No	No	No	—	—	—	No	—	—	—	—	—	—	—	—	—	—
Mit.	—	No	No	No	—	—	—	No	—	—	—	—	—	—	—	—	—	—
Exceeds (Average Daily)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	—	75.0	100	550	—	—	—	150	—	—	—	—	—	—	—	—	—	—
Unmit.	—	No	No	No	—	—	—	No	—	—	—	—	—	—	—	—	—	—
Mit.	—	No	No	No	—	—	—	No	—	—	—	—	—	—	—	—	—	—

2.2. Construction Emissions by Year, Unmitigated

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

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	8.64	7.28	63.7	67.0	0.12	2.89	82.1	85.0	2.66	8.30	11.0	—	14,334	14,334	0.58	0.14	3.18	14,394

Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	8.54	7.18	63.8	64.1	0.12	2.89	82.1	85.0	2.66	8.30	11.0	—	14,206	14,206	0.58	0.14	0.08	14,262
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	2.35	1.98	17.8	17.9	0.04	0.78	21.5	22.3	0.72	2.18	2.89	—	3,996	3,996	0.16	0.04	0.38	4,012
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.43	0.36	3.25	3.26	0.01	0.14	3.93	4.07	0.13	0.40	0.53	—	662	662	0.03	0.01	0.06	664

2.3. Construction Emissions by Year, Mitigated

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

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	8.64	7.28	63.7	67.0	0.12	2.89	82.1	85.0	2.66	8.30	11.0	—	14,334	14,334	0.58	0.14	3.18	14,394
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	8.54	7.18	63.8	64.1	0.12	2.89	82.1	85.0	2.66	8.30	11.0	—	14,206	14,206	0.58	0.14	0.08	14,262
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	2.35	1.98	17.8	17.9	0.04	0.78	21.5	22.3	0.72	2.18	2.89	—	3,996	3,996	0.16	0.04	0.38	4,012
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.43	0.36	3.25	3.26	0.01	0.14	3.93	4.07	0.13	0.40	0.53	—	662	662	0.03	0.01	0.06	664

3. Construction Emissions Details

3.1. Linear, Grubbing & Land Clearing (2024) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.63	0.53	4.53	4.54	0.01	0.27	—	0.27	0.25	—	0.25	—	632	632	0.03	0.01	—	634
Dust From Material Movemen	—	—	—	—	—	—	0.21	0.21	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.02	0.19	0.19	< 0.005	0.01	—	0.01	0.01	—	0.01	—	26.0	26.0	< 0.005	< 0.005	—	26.1
Dust From Materia Movemen	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.03	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	4.30	4.30	< 0.005	< 0.005	—	4.32
Dust From Material Movemen	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.06	0.54	0.00	0.00	10.3	10.3	0.00	1.04	1.04	—	99.7	99.7	0.01	< 0.005	0.01	101
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.42	0.42	0.00	0.04	0.04	—	4.40	4.40	< 0.005	< 0.005	0.01	4.46
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	0.08	0.08	0.00	0.01	0.01	—	0.73	0.73	< 0.005	< 0.005	< 0.005	0.74
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.2. Linear, Grubbing & Land Clearing (2024) - Mitigated

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

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

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.63	0.53	4.53	4.54	0.01	0.27	—	0.27	0.25	—	0.25	—	632	632	0.03	0.01	—	634
Dust From Material Movemen:	—	—	—	—	—	—	0.21	0.21	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.02	0.19	0.19	< 0.005	0.01	—	0.01	0.01	—	0.01	—	26.0	26.0	< 0.005	< 0.005	—	26.1
Dust From Material Movemen:	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.03	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	4.30	4.30	< 0.005	< 0.005	—	4.32
Dust From Material Movemen	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.06	0.54	0.00	0.00	10.3	10.3	0.00	1.04	1.04	—	99.7	99.7	0.01	< 0.005	0.01	101
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.42	0.42	0.00	0.04	0.04	—	4.40	4.40	< 0.005	< 0.005	0.01	4.46
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	0.08	0.08	0.00	0.01	0.01	—	0.73	0.73	< 0.005	< 0.005	< 0.005	0.74
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.3. Linear, Grading & Excavation (2024) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	8.20	6.89	63.3	60.3	0.12	2.89	—	2.89	2.66	—	2.66	—	13,476	13,476	0.55	0.11	—	13,522
Dust From Material Movement	—	—	—	—	—	—	2.48	2.48	—	0.27	0.27	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	8.20	6.89	63.3	60.3	0.12	2.89	—	2.89	2.66	—	2.66	—	13,476	13,476	0.55	0.11	—	13,522
Dust From Material Movemen:	—	—	—	—	—	—	2.48	2.48	—	0.27	0.27	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35	1.13	10.4	9.91	0.02	0.47	—	0.47	0.44	—	0.44	—	2,215	2,215	0.09	0.02	—	2,223
Dust From Material Movemen:	—	—	—	—	—	—	0.41	0.41	—	0.04	0.04	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.25	0.21	1.90	1.81	< 0.005	0.09	—	0.09	0.08	—	0.08	—	367	367	0.01	< 0.005	—	368
Dust From Material Movemen	—	—	—	—	—	—	0.07	0.07	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.43	0.39	0.37	6.70	0.00	0.00	72.1	72.1	0.00	7.28	7.28	—	826	826	0.03	0.03	3.09	838

Vendor	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	7.51	7.51	< 0.005	0.75	0.75	—	32.1	32.1	< 0.005	< 0.005	0.09	33.5
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.33	0.28	0.43	3.81	0.00	0.00	72.1	72.1	0.00	7.28	7.28	—	698	698	0.04	0.03	0.08	706
Vendor	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	7.51	7.51	< 0.005	0.75	0.75	—	32.1	32.1	< 0.005	< 0.005	< 0.005	33.4
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.05	0.07	0.79	0.00	0.00	11.7	11.7	0.00	1.18	1.18	—	123	123	0.01	< 0.005	0.22	125
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	1.22	1.22	< 0.005	0.12	0.12	—	5.27	5.27	< 0.005	< 0.005	0.01	5.50
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.14	0.00	0.00	2.14	2.14	0.00	0.22	0.22	—	20.4	20.4	< 0.005	< 0.005	0.04	20.7
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.22	0.22	< 0.005	0.02	0.02	—	0.87	0.87	< 0.005	< 0.005	< 0.005	0.91
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.4. Linear, Grading & Excavation (2024) - Mitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	8.20	6.89	63.3	60.3	0.12	2.89	—	2.89	2.66	—	2.66	—	13,476	13,476	0.55	0.11	—	13,522

Dust From Material Movemen:	—	—	—	—	—	—	2.48	2.48	—	0.27	0.27	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	8.20	6.89	63.3	60.3	0.12	2.89	—	2.89	2.66	—	2.66	—	13,476	13,476	0.55	0.11	—	13,522
Dust From Material Movemen:	—	—	—	—	—	—	2.48	2.48	—	0.27	0.27	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35	1.13	10.4	9.91	0.02	0.47	—	0.47	0.44	—	0.44	—	2,215	2,215	0.09	0.02	—	2,223
Dust From Material Movemen:	—	—	—	—	—	—	0.41	0.41	—	0.04	0.04	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.25	0.21	1.90	1.81	< 0.005	0.09	—	0.09	0.08	—	0.08	—	367	367	0.01	< 0.005	—	368
Dust From Material Movemen:	—	—	—	—	—	—	0.07	0.07	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.43	0.39	0.37	6.70	0.00	0.00	72.1	72.1	0.00	7.28	7.28	—	826	826	0.03	0.03	3.09	838
Vendor	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	7.51	7.51	< 0.005	0.75	0.75	—	32.1	32.1	< 0.005	< 0.005	0.09	33.5
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.33	0.28	0.43	3.81	0.00	0.00	72.1	72.1	0.00	7.28	7.28	—	698	698	0.04	0.03	0.08	706
Vendor	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	7.51	7.51	< 0.005	0.75	0.75	—	32.1	32.1	< 0.005	< 0.005	< 0.005	33.4
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.05	0.07	0.79	0.00	0.00	11.7	11.7	0.00	1.18	1.18	—	123	123	0.01	< 0.005	0.22	125
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	1.22	1.22	< 0.005	0.12	0.12	—	5.27	5.27	< 0.005	< 0.005	0.01	5.50
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.14	0.00	0.00	2.14	2.14	0.00	0.22	0.22	—	20.4	20.4	< 0.005	< 0.005	0.04	20.7
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.22	0.22	< 0.005	0.02	0.02	—	0.87	0.87	< 0.005	< 0.005	< 0.005	0.91
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Linear, Drainage, Utilities, & Sub-Grade (2024) - Unmitigated

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

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

Off-Road Equipment	5.68	4.76	46.1	40.5	0.09	1.89	—	1.89	1.74	—	1.74	—	10,049	10,049	0.41	0.08	—	10,083
Dust From Material Movemen	—	—	—	—	—	—	2.07	2.07	—	0.22	0.22	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.82	0.69	6.70	5.88	0.01	0.27	—	0.27	0.25	—	0.25	—	1,459	1,459	0.06	0.01	—	1,464
Dust From Material Movemen	—	—	—	—	—	—	0.30	0.30	—	0.03	0.03	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.13	1.22	1.07	< 0.005	0.05	—	0.05	0.05	—	0.05	—	242	242	0.01	< 0.005	—	242
Dust From Material Movemen	—	—	—	—	—	—	0.05	0.05	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.27	0.24	0.23	4.14	0.00	0.00	44.7	44.7	0.00	4.51	4.51	—	511	511	0.02	0.02	1.91	519

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.04	0.43	0.00	0.00	6.40	6.40	0.00	0.65	0.65	—	67.4	67.4	< 0.005	< 0.005	0.12	68.3
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.08	0.00	0.00	1.17	1.17	0.00	0.12	0.12	—	11.2	11.2	< 0.005	< 0.005	0.02	11.3
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.6. Linear, Drainage, Utilities, & Sub-Grade (2024) - Mitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	5.68	4.76	46.1	40.5	0.09	1.89	—	1.89	1.74	—	1.74	—	10,049	10,049	0.41	0.08	—	10,083
Dust From Material Movemen:	—	—	—	—	—	—	2.07	2.07	—	0.22	0.22	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.82	0.69	6.70	5.88	0.01	0.27	—	0.27	0.25	—	0.25	—	1,459	1,459	0.06	0.01	—	1,464
Dust From Material Movemen:	—	—	—	—	—	—	0.30	0.30	—	0.03	0.03	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.13	1.22	1.07	< 0.005	0.05	—	0.05	0.05	—	0.05	—	242	242	0.01	< 0.005	—	242
Dust From Material Movemen:	—	—	—	—	—	—	0.05	0.05	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.27	0.24	0.23	4.14	0.00	0.00	44.7	44.7	0.00	4.51	4.51	—	511	511	0.02	0.02	1.91	519
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.03	0.03	0.04	0.43	0.00	0.00	6.40	6.40	0.00	0.65	0.65	—	67.4	67.4	< 0.005	< 0.005	0.12	68.3
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.08	0.00	0.00	1.17	1.17	0.00	0.12	0.12	—	11.2	11.2	< 0.005	< 0.005	0.02	11.3
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Linear, Paving (2024) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.79	0.66	6.31	8.85	0.01	0.30	—	0.30	0.28	—	0.28	—	1,337	1,337	0.05	0.01	—	1,341
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.40	0.56	< 0.005	0.02	—	0.02	0.02	—	0.02	—	84.2	84.2	< 0.005	< 0.005	—	84.5
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.07	0.10	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	13.9	13.9	< 0.005	< 0.005	—	14.0

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.09	0.09	1.59	0.00	0.00	17.2	17.2	0.00	1.73	1.73	—	197	197	0.01	0.01	0.74	200
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	< 0.005	0.01	0.07	0.00	0.00	1.07	1.07	0.00	0.11	0.11	—	11.3	11.3	< 0.005	< 0.005	0.02	11.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	0.19	0.19	0.00	0.02	0.02	—	1.86	1.86	< 0.005	< 0.005	< 0.005	1.89
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.8. Linear, Paving (2024) - Mitigated

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

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

Off-Road Equipment	0.79	0.66	6.31	8.85	0.01	0.30	—	0.30	0.28	—	0.28	—	1,337	1,337	0.05	0.01	—	1,341
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.40	0.56	< 0.005	0.02	—	0.02	0.02	—	0.02	—	84.2	84.2	< 0.005	< 0.005	—	84.5
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.07	0.10	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	13.9	13.9	< 0.005	< 0.005	—	14.0
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.09	0.09	1.59	0.00	0.00	17.2	17.2	0.00	1.73	1.73	—	197	197	0.01	0.01	0.74	200
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	< 0.005	0.01	0.07	0.00	0.00	1.07	1.07	0.00	0.11	0.11	—	11.3	11.3	< 0.005	< 0.005	0.02	11.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	0.19	0.19	0.00	0.02	0.02	—	1.86	1.86	< 0.005	< 0.005	< 0.005	1.89
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

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

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

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

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

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

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

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

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

Sequest	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

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

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

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

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

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

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

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

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

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

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description

Linear, Grubbing & Land Clearing	Linear, Grubbing & Land Clearing	1/1/2024	1/22/2024	5.00	15.0	—
Linear, Grading & Excavation	Linear, Grading & Excavation	1/23/2024	4/16/2024	5.00	60.0	—
Linear, Drainage, Utilities, & Sub-Grade	Linear, Drainage, Utilities, & Sub-Grade	4/17/2024	6/30/2024	5.00	53.0	—
Linear, Paving	Linear, Paving	7/1/2024	8/2/2024	5.00	23.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Linear, Grubbing & Land Clearing	Signal Boards	Electric	Average	0.00	8.00	6.00	0.82
Linear, Grubbing & Land Clearing	Crawler Tractors	Diesel	Average	1.00	8.00	87.0	0.43
Linear, Grubbing & Land Clearing	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Linear, Grading & Excavation	Graders	Diesel	Average	2.00	8.00	148	0.41
Linear, Grading & Excavation	Excavators	Diesel	Average	4.00	8.00	36.0	0.38
Linear, Grading & Excavation	Crawler Tractors	Diesel	Average	2.00	8.00	87.0	0.43
Linear, Grading & Excavation	Cranes	Diesel	Average	1.00	8.00	367	0.29
Linear, Grading & Excavation	Rollers	Diesel	Average	3.00	8.00	36.0	0.38
Linear, Grading & Excavation	Rubber Tired Loaders	Diesel	Average	3.00	8.00	150	0.36
Linear, Grading & Excavation	Scrapers	Diesel	Average	4.00	8.00	423	0.48

Linear, Grading & Excavation	Tractors/Loaders/Backh	Diesel	Average	2.00	8.00	84.0	0.37
Linear, Grading & Excavation	Signal Boards	Electric	Average	0.00	8.00	6.00	0.82
Linear, Drainage, Utilities, & Sub-Grade	Signal Boards	Electric	Average	0.00	8.00	6.00	0.82
Linear, Drainage, Utilities, & Sub-Grade	Tractors/Loaders/Backh oes	Diesel	Average	2.00	8.00	84.0	0.37
Linear, Drainage, Utilities, & Sub-Grade	Scrapers	Diesel	Average	4.00	8.00	423	0.48
Linear, Drainage, Utilities, & Sub-Grade	Rough Terrain Forklifts	Diesel	Average	1.00	8.00	96.0	0.40
Linear, Drainage, Utilities, & Sub-Grade	Plate Compactors	Diesel	Average	1.00	8.00	8.00	0.43
Linear, Drainage, Utilities, & Sub-Grade	Pumps	Diesel	Average	1.00	8.00	11.0	0.74
Linear, Drainage, Utilities, & Sub-Grade	Air Compressors	Diesel	Average	1.00	8.00	37.0	0.48
Linear, Drainage, Utilities, & Sub-Grade	Graders	Diesel	Average	2.00	8.00	148	0.41
Linear, Drainage, Utilities, & Sub-Grade	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Linear, Paving	Rollers	Diesel	Average	1.00	8.00	36.0	0.38
Linear, Paving	Pavers	Diesel	Average	1.00	8.00	81.0	0.42
Linear, Paving	Paving Equipment	Diesel	Average	1.00	8.00	89.0	0.36
Linear, Paving	Tractors/Loaders/Backh oes	Diesel	Average	2.00	8.00	84.0	0.37
Linear, Paving	Signal Boards	Electric	Average	0.00	8.00	6.00	0.82

5.2.2. Mitigated

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

Linear, Grubbing & Land Clearing	Signal Boards	Electric	Average	0.00	8.00	6.00	0.82
Linear, Grubbing & Land Clearing	Crawler Tractors	Diesel	Average	1.00	8.00	87.0	0.43
Linear, Grubbing & Land Clearing	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Linear, Grading & Excavation	Graders	Diesel	Average	2.00	8.00	148	0.41
Linear, Grading & Excavation	Excavators	Diesel	Average	4.00	8.00	36.0	0.38
Linear, Grading & Excavation	Crawler Tractors	Diesel	Average	2.00	8.00	87.0	0.43
Linear, Grading & Excavation	Cranes	Diesel	Average	1.00	8.00	367	0.29
Linear, Grading & Excavation	Rollers	Diesel	Average	3.00	8.00	36.0	0.38
Linear, Grading & Excavation	Rubber Tired Loaders	Diesel	Average	3.00	8.00	150	0.36
Linear, Grading & Excavation	Scrapers	Diesel	Average	4.00	8.00	423	0.48
Linear, Grading & Excavation	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Linear, Grading & Excavation	Signal Boards	Electric	Average	0.00	8.00	6.00	0.82
Linear, Drainage, Utilities, & Sub-Grade	Signal Boards	Electric	Average	0.00	8.00	6.00	0.82
Linear, Drainage, Utilities, & Sub-Grade	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Linear, Drainage, Utilities, & Sub-Grade	Scrapers	Diesel	Average	4.00	8.00	423	0.48
Linear, Drainage, Utilities, & Sub-Grade	Rough Terrain Forklifts	Diesel	Average	1.00	8.00	96.0	0.40
Linear, Drainage, Utilities, & Sub-Grade	Plate Compactors	Diesel	Average	1.00	8.00	8.00	0.43

Linear, Drainage, Utilities, & Sub-Grade	Pumps	Diesel	Average	1.00	8.00	11.0	0.74
Linear, Drainage, Utilities, & Sub-Grade	Air Compressors	Diesel	Average	1.00	8.00	37.0	0.48
Linear, Drainage, Utilities, & Sub-Grade	Graders	Diesel	Average	2.00	8.00	148	0.41
Linear, Drainage, Utilities, & Sub-Grade	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Linear, Paving	Rollers	Diesel	Average	1.00	8.00	36.0	0.38
Linear, Paving	Pavers	Diesel	Average	1.00	8.00	81.0	0.42
Linear, Paving	Paving Equipment	Diesel	Average	1.00	8.00	89.0	0.36
Linear, Paving	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Linear, Paving	Signal Boards	Electric	Average	0.00	8.00	6.00	0.82

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Linear, Grubbing & Land Clearing	—	—	—	—
Linear, Grubbing & Land Clearing	Worker	7.50	18.5	LDA,LDT1,LDT2
Linear, Grubbing & Land Clearing	Vendor	0.00	10.2	HHDT,MHDT
Linear, Grubbing & Land Clearing	Hauling	0.00	20.0	HHDT
Linear, Grubbing & Land Clearing	Onsite truck	—	—	HHDT
Linear, Grading & Excavation	—	—	—	—
Linear, Grading & Excavation	Worker	52.5	18.5	LDA,LDT1,LDT2
Linear, Grading & Excavation	Vendor	1.00	10.2	HHDT,MHDT
Linear, Grading & Excavation	Hauling	0.00	20.0	HHDT
Linear, Grading & Excavation	Onsite truck	—	—	HHDT

Linear, Drainage, Utilities, & Sub-Grade	—	—	—	—
Linear, Drainage, Utilities, & Sub-Grade	Worker	32.5	18.5	LDA,LDT1,LDT2
Linear, Drainage, Utilities, & Sub-Grade	Vendor	0.00	10.2	HHDT,MHDT
Linear, Drainage, Utilities, & Sub-Grade	Hauling	0.00	20.0	HHDT
Linear, Drainage, Utilities, & Sub-Grade	Onsite truck	—	—	HHDT
Linear, Paving	—	—	—	—
Linear, Paving	Worker	12.5	18.5	LDA,LDT1,LDT2
Linear, Paving	Vendor	0.00	10.2	HHDT,MHDT
Linear, Paving	Hauling	0.00	20.0	HHDT
Linear, Paving	Onsite truck	—	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Linear, Grubbing & Land Clearing	—	—	—	—
Linear, Grubbing & Land Clearing	Worker	7.50	18.5	LDA,LDT1,LDT2
Linear, Grubbing & Land Clearing	Vendor	0.00	10.2	HHDT,MHDT
Linear, Grubbing & Land Clearing	Hauling	0.00	20.0	HHDT
Linear, Grubbing & Land Clearing	Onsite truck	—	—	HHDT
Linear, Grading & Excavation	—	—	—	—
Linear, Grading & Excavation	Worker	52.5	18.5	LDA,LDT1,LDT2
Linear, Grading & Excavation	Vendor	1.00	10.2	HHDT,MHDT
Linear, Grading & Excavation	Hauling	0.00	20.0	HHDT
Linear, Grading & Excavation	Onsite truck	—	—	HHDT
Linear, Drainage, Utilities, & Sub-Grade	—	—	—	—
Linear, Drainage, Utilities, & Sub-Grade	Worker	32.5	18.5	LDA,LDT1,LDT2
Linear, Drainage, Utilities, & Sub-Grade	Vendor	0.00	10.2	HHDT,MHDT
Linear, Drainage, Utilities, & Sub-Grade	Hauling	0.00	20.0	HHDT

Linear, Drainage, Utilities, & Sub-Grade	Onsite truck	—	—	HHDT
Linear, Paving	—	—	—	—
Linear, Paving	Worker	12.5	18.5	LDA,LDT1,LDT2
Linear, Paving	Vendor	0.00	10.2	HHDT,MHDT
Linear, Paving	Hauling	0.00	20.0	HHDT
Linear, Paving	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Control Strategies Applied	PM10 Reduction	PM2.5 Reduction
Apply dust suppressants to unpaved roads	84%	84%
Limit vehicle speeds on unpaved roads to 25 mph	44%	44%
Sweep paved roads once per month	9%	9%

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Linear, Grubbing & Land Clearing	—	—	0.04	0.00	—
Linear, Grading & Excavation	—	—	0.04	0.00	—
Linear, Drainage, Utilities, & Sub-Grade	—	—	0.04	0.00	—

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	2	61%	61%
Water Demolished Area	2	36%	36%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Bridge/Overpass Construction	0.04	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2024	0.00	457	0.03	< 0.005

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

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

5.18.2.2. Mitigated

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

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

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

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	37.6	annual days of extreme heat
Extreme Precipitation	0.60	annual days with precipitation above 20 mm
Sea Level Rise	0.00	meters of inundation depth
Wildfire	1.90	annual hectares burned

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

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

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	5	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	0	0	0	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

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

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	5	1	1	4
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A

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

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

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

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

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	50.6
AQ-PM	38.0
AQ-DPM	11.2
Drinking Water	31.1
Lead Risk Housing	31.5
Pesticides	82.2
Toxic Releases	61.4
Traffic	37.0
Effect Indicators	—
CleanUp Sites	0.00
Groundwater	30.9

Haz Waste Facilities/Generators	16.6
Impaired Water Bodies	43.8
Solid Waste	0.00
Sensitive Population	—
Asthma	9.57
Cardio-vascular	36.1
Low Birth Weights	—
Socioeconomic Factor Indicators	—
Education	76.0
Housing	25.7
Linguistic	68.4
Poverty	96.2
Unemployment	99.7

7.2. Healthy Places Index Scores

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

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	14.21788785
Employed	1.680995765
Median HI	5.800076992
Education	—
Bachelor's or higher	13.64044655
High school enrollment	6.313358142
Preschool enrollment	88.27152573
Transportation	—
Auto Access	6.557166688

Active commuting	33.31194662
Social	—
2-parent households	15.32144232
Voting	0.590273322
Neighborhood	—
Alcohol availability	74.90055178
Park access	23.94456564
Retail density	4.824842808
Supermarket access	16.04003593
Tree canopy	30.71987681
Housing	—
Homeownership	31.90042346
Housing habitability	45.04042089
Low-inc homeowner severe housing cost burden	92.78839985
Low-inc renter severe housing cost burden	91.89015783
Uncrowded housing	40.97266778
Health Outcomes	—
Insured adults	19.41485949
Arthritis	0.0
Asthma ER Admissions	83.7
High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0
Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	4.2

Cognitively Disabled	16.7
Physically Disabled	7.2
Heart Attack ER Admissions	44.5
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	19.6
Physical Health Not Good	0.0
Stroke	0.0
Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	31.0
Elderly	19.2
English Speaking	62.0
Foreign-born	6.5
Outdoor Workers	25.8
Climate Change Adaptive Capacity	—
Impervious Surface Cover	95.5
Traffic Density	2.1
Traffic Access	23.0
Other Indices	—
Hardship	90.5

Other Decision Support	—
2016 Voting	0.0

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	40.0
Healthy Places Index Score for Project Location (b)	3.00
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

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

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Construction: Trips and VMT	—
Construction: On-Road Fugitive Dust	Assumes travel is on 95% paved roads for worker trips.

(Minimal Impacts)

Picacho Road at Bridge Improvement Project

Imperial County, California north of the Township of Winterhaven and west of the City of Yuma, Arizona

Picacho Road Bridge

February 2023

Revised August, 2024

Prepared By and Certified as performed in accordance with established biological practices by:

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Biologist
Barrett's Biological Surveys
(760) 427 7006

26 August 2024

Summary

The Picacho Road at Yuma Main Canal Bridge Improvement Project ("project") involves emergency replacement to the existing Picacho Road bridge. Deficiencies have caused the bridge to be rated as structurally deficient. The purpose of the project is to provide safe passage for the commuters, residents, freight, and emergency responders over Yuma Main Canal at Picacho Road. The project, with avoidance, minimization and mitigation measures, would not cause adverse impacts to environment.

The project site is approximately ½ mile east of the town of Winterhaven, California, along the California/Arizona border. The project site is comprised of 2.8 acres and includes the Picacho Road bridge, the intersection of Picacho Road and Quechan Road, and adjacent right-of-way and offsite areas. General reconnaissance biological surveys of the project site were conducted on November 5, 2022, August 8, 2024 (AM/PM), and August 9, 2024.

No special-status plant and no special-status wildlife species were found to occur within the Biological Study Area. The project would not result in impacts to habitats/Natural Communities of Special Concern or endangered, threatened, or plant or animal species of concern. Bank swallows were observed in the project buffer zone, however, no nests were observed on site. No swallows or bats were observed nesting under the bridge. Pre-construction nesting bird surveys should be conducted during the nesting season (February through August) and worker environmental awareness training is recommended to minimize the potential for impacts to nesting birds from construction activities. Any invasive plant should be removed in a manner that will not spread seeds or root material. All equipment will be cleaned prior to being onsite. Worker environmental awareness training is recommended to minimize the potential for invasive plants to spread within and outside of the project site.

This report presents the findings of two general reconnaissance biological surveys. No jurisdiction delineation issues occur and no special-status plant or special-status wildlife species were found to occur within the Biological Study Area; migratory bird nesting can occur. Therefore, preconstruction surveys are recommended.

Table of Contents

1. Introduction

1.1 History

The project is located approximately 0.53 miles east of the Township of Winterhaven in Imperial County, at the crossing of Picacho Road (S24) and Yuma Main Canal. The original bridge was built in 1925 and has been in service for 96 years; 46 years past its functional design life. It was designed as a 5-span bridge, 19-foot spans, all timber superstructure and substructure. In 1931, the bridge was extended by adding a 19' span on each end with new R.C. abutments, and was also raised by 2 feet using a solid redwood cap. The Redwood timber superstructure was replaced and AC surfacing was used as a riding surface. In February of 1943, the inspection report noted multiple cracks in the AC surfacing, and also pointed out that "the bridge is taking a considerable amount of military traffic". Subsequent to that report, a heavy asphaltic mix blanket was placed over the entire deck. In 1944, the AC surfacing continued to have several cracks. In 1945, some deck patching done but not all. In 1946, more cracks were found; no repair was done due to anticipated re-decking of the entire bridge. In 1951, deck cracks were noted by an inspector. In 1955 considerable horizontal cracking was noted, but no recommendations were made. In 1956, cracking was progressing, probably due to reactive aggregate. One stringer was found to be broken and needed to be supplemented. These deficiencies have caused the bridge to be rated as structurally deficient.

Project Purpose and Need

The project is located approximately 0.28 miles north of Interstate 8 along Picacho Road where it crosses the Yuma Main Canal in Imperial County, California. The project site consists of 2.8 acres. Picacho Road (S24) is an essential farm to market road and directly connects to I-8 via the bridge and ensuring access to this route is critical. Due to cracking and outliving its useful life, the bridge must be replaced to support commerce, access to the Quechan Reservation and the Bard community.

Project Objectives include:

- Safety – Bridge, Railings, and Approaches need to be designed to current Standards
- Durability – 75-Year Design Life has been greatly exceeded
- Meeting all stakeholders' reasonable concerns to ensure a successful buildout

Picacho Road is a farm to market road and provides emergency services access to a rural community. Picacho Road is an east/west road that offers direct access to I-8 and Quechan Road which accesses Bard and Yuma for local commuters as well as farming. Replacing the bridge structure will improve safety for all commuters that either live, or work along that stretch of Picacho Road and for emergency response vehicles.

Project Timeline:

- Phase 1 – Prelim. Bridge Strategy Report and CEQA/NEPA Clearance
- Site Investigation
- Strategy Report/Type Selection Report

- Surveying Services and Geotechnical Investigations
- Detour / Traffic Evaluation
- Environmental Documentation
- Phase 2 – Final Design and Permitting
- Phase 3 – Bidding and Construction Support Services

The Picacho Road Bridge over the Yuma Main Canal and is located along Picacho Road in Winterhaven, CA. The existing bridge is approximately 95 feet in length and 29 feet wide and is used as a pathway leading into the Townsite of Winterhaven in Imperial County. The Project Site is approximately .3 miles south of Interstate 8 (I-8), 0.6 miles east of First Street, and approximately 6 miles southeast of Mexico. Specifically, the Project Site is located between Winterhaven Drive and Quechan Road and runs adjacent to the South Pacific Railroad tracks. The immediate surrounding area consists of agricultural land. Surrounding areas also include industrial, commercial, warehouse, and residential lands. The nearest residential community is located approximately 0.2 miles to the south of the Project Site. The Project Site is located directly to the west of the Quechan Tribal Administration buildings which is intended to benefit from the bridge reconstruction. The Project Site is located within the Quechan Tribal territory and spans the Yuma Canal system owned by the Bureau of Reclamation (BOR). The canal is operated and maintained by the Yuma County Water Users Association (YCWUA).

The bridge is owned by Imperial County and its National Bridge Inventory (NBI) number is 58C0028. The bridge crosses the Yuma Main Canal, which is a Bureau of Reclamation facility that is operated and maintained by their managing partner the Yuma County Water Users' Association. The replacement bridge will have a total width of 48'-11". This includes two vehicle lanes of 12', two 8' wide shoulders, and a 6'-0" wide sidewalk on the north side of the bridge.

All construction activities will be contained within the area highlighted by the red boundary (attached map). The total construction work area is approximately 2.8 acres. Tree removal and removal of other vegetation adjacent to the site will be necessary for the proposed Project. Existing vegetation will need to be cleared and grubbed prior to grading operations. Temporary construction easements will be needed to facilitate utility relocations and allow construction access. Construction is anticipated to last for a period of one year. All construction activities such as site preparation, grading, utility relocation, and site restoration would be contained within the construction work area.

This report addresses environmental documentation.

2. Study Methods

2.1 Regulatory Requirements

The primary regulations affecting biological resource impacts are discussed in this section. If construction of this project, or related activities associated with construction, impact federal- and/or state-listed species, the project may be subject to the California Endangered Species Act (CEPA) and the federal Endangered Species Act (ESA). If activities directly impact migratory birds or cause the destruction or abandonment of nests, the project would be subject to the

Migratory Bird Treaty Act. Additional regulations could also apply to the project. The following paragraphs provide a brief summary of the applicable provisions of these regulations.

2.1.1 Federal Endangered Species Act

The federal ESA provides protection for plants and animals listed as threatened or endangered by U.S. Wildlife and Forestry Service (USWFS) and the National Oceanic and Atmospheric Administration (NOAA) Marine Fisheries Service. Section 9 of the ESA (50 CFR 17.3) prohibits the take, possession, sale, or transport of any federal ESA-listed species. Take is defined as "to harass, harm, pursue, hunt, shoot, wound, kill, capture, collect, or attempt to engage in any such conduct" (16 U.S. Code [USC] Section 1532(19)). Federal regulation 50 CFR 17.3 further defines the term harm in the take definition to mean any act that actually kills or injures a federally listed species, including significant habitat modification or degradation. For plants, the federal ESA prohibits removing, possessing, maliciously damaging, or destroying any listed plant on areas under federal jurisdiction, and removing, cutting, digging up, damaging, or destroying any listed plant on non-federal land in knowing violation of state law (16 USC Section 1538(a)(2)(B)).

The federal ESA requires the federal government to designate critical habitat for any species listed under the federal ESA but also allows areas to be excluded from critical habitat (16 USC Section 1533(b)(2)). Critical habitat is a specific area(s) that is essential for the conservation of a threatened or endangered species and that may require special management and protection. Critical habitat may also include specific areas outside the geographical area occupied by the species if the agency determines that the area itself is essential for conservation.

Section 7 of the federal ESA requires federal agencies to consult with USFWS and/or NOAA Marine Fisheries Service for any federal activity that may affect any federally listed species or its critical habitat. Informal consultation may precede and obviate the need for formal consultation if USFWS and/or NOAA Marine Fisheries Service concur that the proposed agency action is not likely to adversely affect listed species. In the formal consultation process, USFWS and/or NOAA Marine Fisheries Service must issue a Biological Opinion as to the potential for effect to listed species. USFWS and/or NOAA Marine Fisheries Service may issue an incidental take permit, allowing take of the species that is incidental to an authorized activity, provided that the action will not jeopardize the continued existence of the species. Section 10(a) of the ESA provides for issuance of incidental take permits for private actions that have no federal involvement, through the development of a Habitat Conservation Plan (HCP).

2.1.2 Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) provides protection for migratory birds. Conditions for permits to "take" migratory birds (as defined in the MBTA) are set forth in 50 CFR Part 13 [General Permit Procedures] and 50 CFR Part 21 [Migratory Bird Permits]). Unless expressly authorized in the regulations or by permit, activities such as hunting, pursuing, capturing, killing, selling, and shipping migratory birds are prohibited. The MBTA allows USFWS to issue permits to qualified applicants for certain types of activities. This protection extends to all migratory birds, parts, nests, and eggs. The full list of species protected under this act is found in 50 CFR 10.13.

2.1.3 California Endangered Species Act

The California Endangered Species Act (CESA) provides protection for candidate plants and animal species as well as those listed as threatened or endangered by CDFW. CESA prohibits the take of any such species unless authorized; however, California case law has not interpreted habitat destruction, alone, as included in the state's definition of take. Take is defined in Section 86 of the Fish and Game Code as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill" (Cal. Fish and Game Code §86). CDFW administers the act and authorizes take through Section 2081 agreements, Section 2080.1 consistency determinations (for species that are also listed under the federal ESA) or NCCPs.

2.1.4 Porter-Cologne Water Quality Control Act, as amended

This act is administered by the State Water Resource Control Board (SWRCB) to protect water quality and is an avenue to implement CA responsibilities under the federal Clean Water Act. This act regulates discharge of waste into a water resource.

2.1.5 Clean Water Act, 1972 (CWA 33 U.S.C. 1251 et seq.)

This act regulates discharges into waters of the U.S. Army Corp of Engineers (ACOE) is given the responsibility to implement programs to prevent pollution.

2.2 Studies Required

2.2.1 Literature Search

Prior to conducting field surveys, a review of pertinent literature, regulatory requirements, special-status species lists and recorded occurrences was conducted to determine if the proposed bridge repairs are within the range of sensitive resources such as state and/or federal listed threatened and/or endangered species. Available literature was reviewed including the California Natural Diversity Database (CNDDB) for the Yuma East and Yuma West U.S. Geological Survey (USGS) 7.5-minute Topographic Quadrangle and previous Barrett's Biological Surveys (BBS) surveys.

Survey Methodologies

Glenna Barrett, Jacob Calanno and Jeremy Scheffler performed the biological assessment surveys within and adjacent (500 foot buffer where possible) to the Biological Study Area (BSA) on November 5, 2022 and August 8 (AM/PM) and August 9, 2024.

All proposed impact areas within the BSA were visited on foot where possible.

Personnel and Survey Dates

Glenna Barrett, Jacob Calanno and Jeremy Scheffler of Barrett's Biological Surveys performed the biological assessment survey on November 5, 2022 (52-55°F, 0-25% cloud cover, 0-8 mph; 0800-0900 (3 hours on site) and Glenna Barrett on August 8 (88-93°F, 0-15% cloud cover, 4-8 mph 0730-0845), August 8 (106°F, 0% cloud cover, 8-10 mph 1730-1845), August 9 (93-94°F, 30-75% cloud cover, 7-10 mph 1730-1845(3.5 hours)). Resumes are attached.

2.2.2 Limitations That May Influence Results

Due to a wet summer-fall, rain fall was sufficient to germinate seeds and therefore, botanical specimens were present.

This area is highly disturbed by vehicles during all seasons and typical damage was observed. Also, a portion of the vegetation had been burned.

3. Results: Environmental Setting

3.1 Description of the Existing Biological and Physical Conditions

3.1.1 Biological Study Area (BSA)

This site is located within the Colorado Desert which is a subdivision of the larger Sonoran Desert and covers approximately 7 million acres. The desert encompasses Imperial County and includes parts of San Diego County, Riverside County, and a small part of San Bernardino County. This site is in Imperial County.

This desert lies at a relatively low elevation, below 1,000 feet, with the lowest point of the desert floor is 275 feet below sea level at the Salton Sea; northeast of the site. The highest peaks of the Peninsular Ranges which reach elevations of nearly 10,000 feet are to the west of the site.

The Colorado Desert's climate differs from other deserts. The region experiences greater summer daytime temperatures (up to 120°F) than higher-elevation deserts and rarely experiences frost. In addition, the Colorado Desert experiences two rainy seasons per year usually in the winter and late summer in this portion. This area is within the agricultural portion that is irrigated by Colorado River water delivered through water conveyance structures maintained by the Bureau of Reclamation, Bard Water District and Yuma County Water Users. This ~~Pichaco~~ Picacho Road Bridge spans the Yuma Main Canal which carries irrigation water to local farmers.

3.1.2 Physical Conditions

The original bridge has degraded requiring replacement. If the bridge is closed, traffic will need to be detoured several miles to bypass the closed bridge.

FEMA Map Panel 06025C2275C maps the area as Zone X: Areas of 0.2% annual flood; areas of 1% annual chance flood will average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

The United States Department of Agriculture Web Soil Survey classified the approximate 2.4 acres in the project site as:

12 Holtville Clay (0.96 acres/34%)

Map Unit Setting

- *National map unit symbol:* 1sf1
- *Elevation:* 80 to 600 feet
- *Mean annual precipitation:* 5 to 10 inches

- *Mean annual air temperature:* 72 to 76 degrees F
- *Frost-free period:* 250 to 325 days
- *Farmland classification:* Prime farmland if irrigated and reclaimed of excess salts and sodium

Map Unit Composition

- *Holtville and similar soils:* 100 percent
- *Estimates are based on observations, descriptions, and transects of the mapunit.*

Description of Holtville Clay Setting

- *Landform:* Flood plains
- *Landform position (two-dimensional):* Summit
- *Landform position (three-dimensional):* Dip
- *Down-slope shape:* Linear
- *Across-slope shape:* Linear
- *Parent material:* Mixed alluvium

Typical profile

- *Ap - 0 to 13 inches:* clay
- *C1 - 13 to 23 inches:* clay
- *2C2 - 23 to 75 inches:* stratified silty clay loam

Properties and qualities

- *Slope:* 0 to 1 percent
- *Depth to restrictive feature:* More than 80 inches
- *Drainage class:* Well drained
- *Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to moderately high (0.06 to 0.20 in/hr)
- *Depth to water table:* More than 80 inches
- *Frequency of flooding:* None
- *Frequency of ponding:* None
- *Calcium carbonate, maximum content:* 15 percent
- *Maximum salinity:* Very slightly saline to strongly saline (2.0 to 32.0 mmhos/cm)
- *Sodium adsorption ratio, maximum:* 13.0
- *Available water supply, 0 to 60 inches:* Very high (about 12.2 inches)

- **13—Indio silt loam, 0 to 1 percent slopes (0.25 acres/9%)**
  - **Map Unit Setting**
    - *National map unit symbol:* 2tdtv
    - *Elevation:* 80 to 990 feet
    - *Mean annual precipitation:* 3 to 7 inches
    - *Mean annual air temperature:* 72 to 74 degrees F
    - *Frost-free period:* 260 to 350 days
    - *Farmland classification:* Prime farmland if irrigated and reclaimed of excess salts and sodium
  - **Map Unit Composition**
    - *Indio and similar soils:* 88 percent
    - *Minor components:* 12 percent

- *Estimates are based on observations, descriptions, and transects of the mapunit.*

- **Description of Indio Silt Loam**
  - **Setting**
    - *Landform:* Flood plains
    - *Landform position (two-dimensional):* Summit
    - *Landform position (three-dimensional):* Talf
    - *Down-slope shape:* Linear
    - *Across-slope shape:* Linear
    - *Parent material:* Mixed stream alluvium derived from igneous, metamorphic and sedimentary rock
  - **Typical profile**
    - *Ap - 0 to 12 inches:* silt loam
    - *C - 12 to 58 inches:* stratified very fine sandy loam to silt loam
    - *2C - 58 to 60 inches:* loamy sand
  - **Properties and qualities**
    - *Slope:* 0 to 1 percent
    - *Depth to restrictive feature:* More than 80 inches
    - *Drainage class:* Well drained
    - *Capacity of the most limiting layer to transmit water (Ksat):* Moderately high to high (0.57 to 1.98 in/hr)
    - *Depth to water table:* More than 80 inches
    - *Frequency of flooding:* Occasional, None
    - *Frequency of ponding:* None
    - *Calcium carbonate, maximum content:* 5 percent
    - *Maximum salinity:* Nonsaline to slightly saline (0.0 to 4.0 mmhos/cm)
    - *Sodium adsorption ratio, maximum:* 13.0
    - *Available water supply, 0 to 60 inches:* High (about 10.6 inches)

- **18—Lagunita loamy sand (0.19 acres/7%)**
  - **Map Unit Setting**
    - *National map unit symbol:* 1sf7
    - *Elevation:* 80 to 600 feet
    - *Mean annual precipitation:* 5 to 10 inches
    - *Mean annual air temperature:* 72 to 76 degrees F
    - *Frost-free period:* 250 to 325 days
    - *Farmland classification:* Not prime farmland
  - **Map Unit Composition**
    - *Lagunita and similar soils:* 100 percent
    - *Estimates are based on observations, descriptions, and transects of the mapunit.*
  - **Description of Lagunita**
    - **Setting**
      - *Landform:* Alluvial fans, flood plains, drainageways, terraces
      - *Landform position (two-dimensional):* Summit
      - *Landform position (three-dimensional):* Tread, dip
      - *Down-slope shape:* Linear
      - *Across-slope shape:* Linear

- *Parent material:* Recent mixed alluvium

- **Typical profile**
  - *A - 0 to 8 inches:* loamy sand
  - *C - 8 to 60 inches:* loamy sand
- **Properties and qualities**
  - *Slope:* 0 to 1 percent
  - *Depth to restrictive feature:* More than 80 inches
  - *Drainage class:* Somewhat excessively drained
  - *Capacity of the most limiting layer to transmit water (Ksat):* High to very high (5.95 to 19.98 in/hr)
  - *Depth to water table:* More than 80 inches
  - *Frequency of flooding:* None
  - *Frequency of ponding:* None
  - *Calcium carbonate, maximum content:* 5 percent
  - *Maximum salinity:* Nonsaline to slightly saline (0.0 to 4.0 mmhos/cm)
  - *Sodium adsorption ratio, maximum:* 30.0
  - *Available water supply, 0 to 60 inches:* Low (about 3.9 inches)

The area has 0.22 acres of water (8%) within a canal and 1.18 (42%) acres of right of way.

The area contains 1.21 acres of ground that would be considered prime farmground if irrigated and reclaimed of excess salts 0.19 acres of not prime farmground. The vegetation community found in these areas is ruderal vegetation such as saltcedar, Russian thistle and saltbush.

3.1.3 Biological Conditions in the Study Area

The top of the bridge is asphalt, heavily traveled and is not biologically sensitive. Areas within the BSA included ruderal vegetation. Underneath the bridge, within the Yuma Main Canal, sparse vegetation was observed. Approximately 0.93 acres were burned northeast of bridge with in the BSA. An agricultural crop of lettuce was observed to the north of the site in 2022. Currently the field is disked prior to planting. Tables 1 and 2 (below) list species observations within the buffer zone of the site.

Table 1: Vegetation Found in On Site or Vicinity (2022 and 2024)

Common name	Scientific name	Cal-IPC Rating*	Year Observed
Arrowweed	*Pluchea sericea*	None	2022/2024
Desert shaggy mane	*Podaxis pistillaris*	None	2022
Desert mallow	*Sphaeralcea ambigua*	None	2022
Mesquite	*Prosopis glandulosa*	None	2022/2024
Palm trees	*Washingtonia spp.*	None	2022
Palo verde	*Parkinsonia floridum*	None	2022/2024
Pigweed	*Chenopodium sp.*	None	2022
Russian thistle	*Salsola tragus*	Ca Noxious Weed Cal-IPC rating: Limited*	2022/2024

Common name	Scientific name	Cal-IPC Rating*	Year Observed
Saltbush	*Atriplex spp.*	*None*	*2022/2024*
Saltcedar	*Tamarix sp.*	*Ca Noxious Weed* *Cal-IPC rating: High* *	*2022/2024*
Spanish needle	*Palafoxia arida*	None	2022

*High – These species have severe ecological impacts on physical processes, plant and animal communities, and vegetation structure. Their reproductive biology and other attributes are conducive to moderate to high rates of dispersal and establishment. Most are widely distributed ecologically.
Limited – These species are invasive but their ecological impacts are minor on a statewide level or there was not enough information to justify a higher score. Their reproductive biology and other attributes result in low to moderate rates of invasiveness. Ecological amplitude and distribution are generally limited, but these species may be locally persistent and problematic

No vegetation was found that would be considered endangered, threatened or species of concern.

Table 2: Animals/Insects Found in Onsite or Vicinity

Common Name	Scientific Name	Year	Location
Aberts Towhee	*Melozone aberti*	2024	Onsite
Barn swallows	*Hirundo rustica*	2022	Offsite
Black phoebe	*Sayornis nigricans*	2022	Offsite
Black tailed gnatcatcher	*Polioptila melanura*	2024	Offsite
Eurasian collared dove	*Streptopelia decaocto*	2024	Onsite
Great tailed Grackle	*Quiscalus mexicanus*	2022	Onsite
House Finch	*Haemorhous mexicanus*	2024	Onsite
Mourning dove	*Zenaida macroura*	2024	Onsite

No animals were found onsite that would be considered endangered, threatened or species of concern. Bank swallows were observed in the buffer zone; no nests were observed on site. No swallows or bats were observed nesting under the bridge.

Habitat Connectivity

The habitat is divided by Picacho Road (S24) which runs from I-8 to Bard, CA. Picacho Road can be accessed by wildlife. This project will not change the existing connectivity.

3.2 Regional Species and Habitats/Natural Communities of Concern

3.2.1 Habitat/Natural Communities of Special Concern

There are no Habitat/Natural Communities of Special Concern found within the BSA.

Table 3: Vegetative Communities

Parcels	**Acreage**	**Description**	**Vegetative Communities**
Not known	2. 4	Weeds, invasive species (saltcedar)	Ruderal

3.2.2 Special-Status Plant Species

Appendix: Sensitive Botanical and Zoological Species (CNDDB/CNPS) Yuma East and West Quadrangle, November, 2022 and August, 2024 (attached) listed 10 botanical species within the Quadrangle searched. None would be expected within the BSA.

3.2.3 Special-Status Animal Species

Appendix: Sensitive Botanical and Zoological Species (CNDDB/CNPS) Yuma East and West Quadrangle November, 2022 and August, 2024 (attached) listed 37 zoological species within the Quadrangles searched. Of these, five species: black-tailed gnatcatcher (Polioptila melanura) were observed offsite; no appropriate nesting habitat was observed. Burrowing owl could be expected outside the ESA but were not observed during survey. Gila woodpeckers could be found roosting or nesting in palm trees present off site and out of the ESA. Bank swallows or Yuma ridgeway's rail would not be expected; no habitat was observed.

4. Results: Biological Resources, Discussion of Impacts & Mitigations

4.1 Habitats/Natural Communities of Special Concern

There are no habitats/Natural Communities of Special Concern.

4.2 Special-Status Plant Species

No special-status plant species are expected as there is no habitat to support them.

4.2.1 Discussion of Plant Species

Survey Results

No special species observed within the BSA during survey. Vegetation observed was mostly ruderal or invasive (saltcedar and Russian thistle) and would be expected to grow back rapidly if disturbed.

Project Impacts

None are expected.

Avoidance and Minimization Efforts/Compensatory Mitigation

A preconstruction burrowing owl and nesting bird survey should be conducted by a qualified biologist. These survey dates will vary and will be determined by species found. Most generally, raptor surveys will be between Jan and July; nesting birds and burrowing owls between February and August.

4.3 Special-Status Animal Species

Bank Swallow (Riparia riparia) listed as CDFW Threatened. Sexes similar in appearance, and plumage similar throughout year. Adult has grayish brown mantle , rump, and wing coverts, contrasting with darker brown remiges and rectrices; tertials entirely brown or brown with pale edgings; throat white, contrasting with distinct brown breast-band and grayish brown crown. Brown breast-band can extend to belly as sharp spike. Juveniles (hatch-year birds) are distinguished from adults by buff-edged or whitish upperparts, and buffy pink wash to throat. Slight notch in the medium-length tail is visible in the hand and while bird is perched. No sexual dimorphism; sexes are reliably distinguished by presence or absence of brood patch or cloacal protuberance. Presently breeds primarily in lowland areas along ocean coasts, rivers, streams, lakes, reservoirs, and wetlands (Cramp 1988, Turner and Rose 1989a, Am. Ornithol. Union American Ornithologists' Union 1998a). Vertical banks, cliffs, and bluffs in alluvial, friable soils characterize nesting-colony sites throughout North America. Nesting colonies also found in artificial sites such as sand and gravel quarries and road cuts. Historically, all colonies in North America were found in natural sites such as banks along rivers, streams, lakes, and coasts; today, many colonies are in human-made sites. Breeding habitat ephemeral; suitability of sites depends on erosion, which both creates new sites and destroys established ones. Also, prefers new, fresh banks without old burrows. Takes flying or jumping insects almost exclusively on the wing. Occasionally eats terrestrial and aquatic insects or larvae. Diet varies within and between years and sites, depending on local availability of insects. Rare consumption of vegetable matter appears to be accidental. Seen offsite; none observed in canal bank.

Black-tailed Gnatcatcher (Polioptila melanura) is a California Watch List species (CDFW Watch List Species: Watch list species are taxa that were previously SSCs but do not currently meet SSC criteria, and for which there is concern and a need for additional information to clarify status.). Small, long-tailed songbird similar in size to other gnatcatchers. Adult male, about 108 mm total length, 5.3 g mass; female, about 97 mm length, 5 g Sexually dimorphic in coloration. Adult male in breeding (Alternate) plumage distinguished by long, black, graduated tail, with outer web and terminal portion of inner webs of outermost 2 rectrices white (third outermost rectrix often tipped white); glossy bluish-black cap extending down to upper edge of lores and auriculars; white eye-ring (upper half less distinct in eastern [P. m. melanura] populations); deep neutral gray to deep slate gray or brownish upperparts; and grayish-white underparts. Breeding female lacks dark cap and has more brownish greater wing coverts, back, and rump than male does. In winter (Basic) plumage, both sexes have paler upperparts and male lacks black cap but has dark streak over eye. Habitat: honey mesquite, honey-screwbean mesquite, and screwbean mesquite-salt cedar along lower Colorado River, Yuma Co., AZ, plant species with higher proportion of foliage used more often. Additionally, average foraging height corresponded directly to foliage volume. In Yuma Co., seasonal shift in foraging behavior and substrate also corresponded to foliage volume. Observed offsite; no nests observed onsite.

Burrowing Owl (Athene cunicularia) is considered a California Department of Fish and Wildlife: Species of Special Concern. They are small raptors that nest in burrows that have been borrowed from other species or by the raptor in open grassland areas and water conveyance structures in Imperial County. Have adapted well in Imperial County using canals/drains/ditches to establish

burrows and foraging for insects in agricultural fields. Owls/burrows not found on site but could be found outside of BSA.

Gila Woodpecker (*Melanerpes uropygialis*) is listed as Federally and CDFW Endangered. Appearance: Bill black to grayish black with dark red to reddish hazel eyes. About 9.3 inches long with brownish green or bluish legs and feet. Black and white barring on back male has red cap on head. Buff-brown face, neck and breast with barred rump and central tail feathers. Habitat: Uncommon to resident in southern California along the Colorado River, and locally near Brawley. Occurs mostly in desert riparian and desert wash habitats. Cottonwoods and other desert riparian trees, shade trees, and date palms supply cover. None observed or heard; palm trees or other trees to roost or nest are available.

Yuma Ridgway's Rail (Rallus obsoletus yumanensis) is 15-16" (38-41 cm). Chicken-sized with a long, thin bill. Mostly olive brown on crown and back, warm cinnamon on face and breast, with gray and white barring on flanks. Juvenile is darker and duller. Typically secretive and rarely seen, most usually know the bird is around when it vocalizes and letting off a repetitive, sharp clapping. The Yuma race is a species found in the marshes of the lower Colorado River, the Salton Sea in California, the Ciénega de Santa Clara in Mexico, and the Gila River in Arizona. They prefer younger stands of cattail and bulrush, and eat crayfish, freshwater clams, and other invertebrates. California and federally endangered species. No cattails, dense vegetation or marshes for habitat found onsite.

4.3.1 Discussion of Animal Species

Survey Results

Burrowing owl, Gila woodpecker, or Yuma Ridgeway Rail, were not found within the BSA during the survey. No swallows or bats were observed nesting under bridge. Bank swallows were observed in 2022 offsite as were black-tailed gnatcatcher in 2024.

Project Impacts

No impacts are expected with avoidance and minimization efforts.

Avoidance and Minimization Efforts/Compensatory Mitigation

1. Nesting surveys by qualified biologists during nesting season (generally February through August); preferably time construction during non nesting season (generally September through January). Time nesting surveys within 3-5 days prior to start of construction for nesting birds and fourteen days prior to start of constrution for burrowing owl. A biologist should be present at start of ground breaking activities

2. Any invasive plant should be removed in a manner that will not spread seeds or root material. All equipment will be cleaned prior to being onsite.

3. Worker environmental awareness training for nesting birds, Gila Woodpecker and Burrowing Owl(BUOW) and invasive plants which will include the following aspects:

- Biology and status
- Protection measures designed to reduce potential impacts to the species, function of flagging designating authorized work areas;
- Reporting procedures to be used if a species is encountered in the field; and driving procedures and techniques, for commuting, and driving on, to the project site
- Identification of nesting birds and procedures to follow if nesting is suspected.

3. Areas outside of the project footprint will be designated as an "Environmentally Sensitive Area" (ESA) on project plans. No project-related activities will take place within the ESA-designated areas.

5. Conclusions & Regulatory Determination

5.1 Agency Coordination

There are no proposed permanent or temporary impacts to the Yuma Main Canal as a result of the project. The proposed bridge work will occur outside of the active channel and, thus, will not require permits from the California Department of Fish and Wildlife. The Yuma Main Canal, which is a man-made structure built wholly in uplands, is not within the jurisdiction of the U.S. Army Corps of Engineers and the California Regional Water Quality Control Board.

The original bridge pylons will be removed by crane; best management practices will be employed to minimize removal impacts and will not alter the streambed or employ dredging activities.

Table 4: Expected Impacts

Area	Endangered/threatened/ Species of Concern Habitat	Riparian Habitat	Wetlands	Wildlife Corridors	Local Ordinances	Waters of the U.S.
2.4 acres	None with avoidance/minimization/mitigation measures listed	No	No	No	No	No

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7. Appendix

Sensitive Botanical and Zoological Species (CNDDB/CNPS) Yuma Quadrangle (Nine Quad Search) November, 2022 and August, 2024

Biological Study Area Map

Photographs

FEMA map

Engineering Plans

Qualifications

SENSITIVE BOTANICAL AND ZOOLOGICAL SPECIES (CNDDB/CNPS) SPECIES

EEC ORIGINAL PKG

Yuma East and West Nine Quad
November 2022/August 2024

ZOOLOGICAL SPECIES		STATUS[1]	DESCRIPTION OF SPECIES	HABITAT	OBSERVATION/ SITE POTENTIAL
American badger	Taxidea taxus	SSC	Burrowing animals that feed on ground squirrels, rabbits, gophers and other small animals. Prefer grasslands, agricultural areas.	Found in drier open areas with friable soils	None seen; no burrows observed with badger characteristics. Not expected because of farming activities
Arizona Bells vireo	Vireo bellii arizonae	Endangered	V.b. arizonae is a small 4.0-4.75 inch (10-12 cm) bird with drab gray-green plumage above and white to yellow plumage below, with sides and flanks faintly washed with grayish olive-yellow. This bird has a white-eye ring and two pale wing bars, with the lower bar being prominent. The feet and bill are bluish-gray. It has a thickened bill, heavy legs and dark eyes.	Inhabits lowland riparian areas, with willows, mesquite and seepwillows. The vireo prefers dense, low, shrubby vegetation in riparian areas. Below 1066m (3500 ft). Lower sonoran zone in desert riparian communities.	No riparian communities
Arizona Myotis	Myotis occultus	SSC	Medium sized Myotis (total length = 80.0-97.0 mm [3.2-3.88 in.] and forearm length = 36.0-41.0 mm [1.44-1.64 in.]) with sleek glossy fur. Small ears (11.0-16.0 mm [0.44-0.64 in.]) and large feet (8.0-11.0 mm [0.32-0.44 in.]) are characteristic. Long hairs occur on the toes and extend beyond the tips of the claws. Color often bright, generally tawny, ochraceous, pale tan, or reddish-brown to dark brown. It is the only long-footed (i.e. hind foot length >8.0 mm [0.32 in.]) Myotis in Arizona with a gradually sloping forehead and the only Myotis in Arizona with only 1 small upper premolar behind the canine. In the rare individual with 2, it is on 1 side only or 1 is crowded out of alignment.	In summer in Arizona it is usually found in ponderosa pine and oak-pine woodland near water. However, it is also found along permanent water or in riparian forest in some desert areas such as along the lower Colorado and Verde rivers. In New Mexico it is considered to be resident around large permanent bodies of water and transient elsewhere. Vegetation zone is not thought to be an important influence there.	None observed under bridge; no roosting or nesting habitat

ZOOLOGICAL SPECIES		STATUS[1]	DESCRIPTION OF SPECIES	HABITAT	OBSERVATION/ SITE POTENTIAL
banded Gila monster	Heloderma suspectum cinctum	SSC	It has a stocky body with a large head and a short, fat tail. The skin consists of many round, bony scales, a feature that was common amongst the dinosaurs but is unusual in today's reptiles. Gila monsters have a striking bright pink and black coloration	They inhabit scrubland, succulent desert, and oak woodland, seeking shelter in burrows, thickets, and under rocks in locations with ready access to moisture.	No habitat
Burrowing Owl	Athene cunicularia	CDFG: SC Species of Concern	Small raptors that nest in burrows that have been borrowed from other species in open grassland areas. Have adapted well in Imperial County using canals/drains/ditches to establish burrows and foraging for insects in agricultural fields	Open, dry annual or perennial grasslands; deserts & scrublands	No owls or burrows found on site. Could be found around adjacent agricultural fields
California leaf-nosed bat	Macrotus californicus	SSC	The California leaf-nosed bat weighs between 12 and 20 grams, has a wingspan of over 30 centimeters and a body length of over 6 centimeters, and is brown in color. As its name implies, it has a triangular fleshy growth of skin, called a noseleaf, protruding above the nose	California leaf-nosed bats can be found in Sonoran and Mojave Desert scrub habitats in the Colorado River valley in southern California, Nevada and Arizona, and throughout western Mexico. It is non-migratory and does not hibernate.	No caves or abandoned mines in adjacent habitat; not expected.
Colorado Desert fringe-toed lizard	Uma notata	SSC	2 3/4 to 4 4/5 inches long from snout to vent (7 - 12.2 cm). (Stebbins 2003) The tail is about the same length as the body. Color is white, with a contrasting pattern of broken black lengthwise lines and round, eye-like spots	Sparsely-vegetated arid areas with fine wind-blown sand, including dunes, flats with sandy hummocks formed around the bases of vegetation, washes, and the banks of rivers. Needs fine, loose sand for burrowing.	No riparian communities, none expected
Colorado pikeminnow	Ptychocheilus lucius	State and ferderally endangered	It has an elongated body reminiscent of the pike. The cone-shaped and somewhat flattened head is elongated, forming nearly a quarter of the body length. Color grades from bright olive green on the back to a paler yellowish shade on the flanks, to white underneath. Young fish also have a dark spot on the caudal fin. Both the dorsal and anal fins typically have nine rays. The pharyngeal teeth are long and hooked	Their usual habitat is the backwaters of the turbulent and turbid rivers that make up the Colorado system.	No habitat; not part of the Colorado River; not expected

ZOOLOGICAL SPECIES		STATUS[5]	DESCRIPTION OF SPECIES	HABITAT	OBSERVATION/ SITE POTENTIAL
Crissal thrasher	Toxostoma crissale	SSC	A large thrasher found in the Southwestern United States to central Mexico. The bird grows to 32 cm (12.5 inches), and has a deeply curved bill. It can be found near water in dense underbrush, and in the low desert near canyon chaparral; seldom flies in the open.	Dense vegetation along streams/washes in mesquite/ willows/arroweed	No habitat; not expected
desert tortoise	Gopherus agassizii	state and ferderally threatened	The head of a desert tortoise is scaly, and the body has thick skin. Desert tortoises also have extremely long nails, which are used in digging through the desert sand to find shelter. The upper shell of a desert tortoise ranges in length from 15 to 36 centimeters, and its color varies from dull brown to a dull yellow.	Desert tortoises live in different habitats in different parts of their range. In the south, (northern Sinaloa and southern Sonora) they inhabit thornscrub and tropical deciduous forests, further north, this habitat gives way to foothills thornscrub and Sonoron desertscrub, and in the northenmost part of their range (California, Nevada, and Utah), Mohave desertscrub.	No habitat; not expected
elf owl	Micrathene whitneyi	Endangered	is a small grayish-brown owl about the size of a sparrow. It has pale yellow eyes highlighted by thin white "eyebrows" and a gray bill with a horn-colored tip.	found in the Southwestern United States, central Mexico, and the Baja California peninsula.The elf owl frequently inhabits woodpecker holes in saguaro cacti; it also nests in natural tree cavities.	No habitat; not expected
flat-tailed horned lizard	Phrynosoma mcallii	SSC	Closely related to Desert horned lizard (scat indistinguishable); only found in Imperial, Riverside County, Ca and Yuma area, Az. Small round lizard with distinguishing round spots on back. Diet of ants; needs sandy soil, shade bushes to survive.	Desert washes/sandy areas with vegetative cover. Diet of ants	No habitat; not expected
Gila woodpecker	Melanerpes uropygialis	Endangered	Bill black to grayish black with dark red to reddish hazel eyes. About 9.3 inches long with brownish green or bluish legs and feet. Black and white barring on back male has red cap on head. Buff-brown face, neck and breast with barred rump and central tail feathers.	Uncommon to resident in southern California along the Colorado River, and locally near Brawley. Occurs mostly in desert riparian and desert wash habitats. Cottonwoods and other desert riparian trees, shade trees, and date palms supply cover.	No habitat; not expected

ZOOLOGICAL SPECIES		STATUS[1]	DESCRIPTION OF SPECIES	HABITAT	OBSERVATION/ SITE POTENTIAL
gilded flicker	Colaptes chrysoides	Endangered	Golden-yellow underwings distinguish the gilded flicker from the northern flicker found within the same region, which has red underwings. It is a large-sized woodpecker (mean length of 29 cm (11 in).	of the Sonoran, Yuma, and eastern Colorado Desert regions of the southwestern United States and northwestern Mexico, including all of Baja California, except the extreme northwestern region.	No habitat; not expected
Le Contes thrasher	Toxostoma lecontei	SSC	A large songbird with a very long tail and a very long, curved bill. It has short, rounded wings and long, strong legs	LeConte's thrasher is a pale bird found in the southwestern United States and northwestern Mexico. It prefers to live in deserts with very little vegetation, where it blends in with the sandy soils.	No habitat; not expected
least bittern	Ixobrychus exilis	SSC	is a small heron, the smallest member of the family Ardeidae. Least bitterns are a small secretive marsh bird averaging 11 - 14 inches (28-36cm) in length with a wingspan of 16 - 18 inches (41-46cm).	Found in the Americas.Nests are shallow cups woven of dead cattails, bulrushes, or occasionally twigs and may have nearby vegetation bent overhead giving it the appearance of a handbasket. Nests are placed in tall, dense stands of emergent vegetation over water 4-30 inches deep (10 - 75 cm) and are typically only a few meters from a nearby opening.	No habitat; not expected
loggerhead shrike	Lanius ludovicianus	SSC	Loggerhead Shrikes are thick bodied songbirds. They have large, blocky heads and a thick bill with a small hook. The tail is fairly long and rounded.	Open country with scattered shrubs and trees is the typical habitat of Loggerhead Shrike, but the species can also be found in more heavily wooded habitats with large openings and in very short habitats with few or no trees.	Could be observed passing through area; sparse prey opportunities on site
lowland leopard frog	Lithobates yavapaiensis	SSC	Tan,gray-brown or light gray green to green above; yellow below. Vague upper lip stripe, tuberculate skin. Dark network on rear of thighs; yellow groin color often extends onto rear of belly and underside of legs. Male will exhibit a swollen and darkened thumb base	Find in desert grassland and in woodlands. Uses permanent water sources, stays near water. Breed Feb-April. Bullfrogs are predators	Extirpated in most areas because of presence of bullfrogs. Not expected
Lucys warbler	Leiothlypis luciae	SSC	The species' gray plumage is highlighted with rich cinnamon on the crown and rump. Lucy's Warblers nest in tree cavities—one of only two warbler species that do so (the other is the Prothonotary Warbler of the Southeast)	Lucy's Warbler nests in the driest habitat of any U.S. or Canada warbler: the mesquite bosques and riparian washes of the Desert Southwest. These scattered stands offer shade and insects, and Lucy's Warbler pairs may nest almost on top of each other when they find good patches of habitat.	No habitat; not expected

ZOOLOGICAL SPECIES		STATUS[1]	DESCRIPTION OF SPECIES	HABITAT	OBSERVATION/ SITE POTENTIAL
olive-sided flycatcher	Contopus cooperi	SSC	This husky, barrel-chested flycatcher is the largest of the pewees, with heavy grayish markings on the sides as if the bird is wearing a waistcoat.	The Olive-sided Flycatcher whistles an instantly recognizable quick, three beers! across its rugged habitat of coniferous mountain forests, bogs, and muskeg.	No habitat; not expected
pallid bat	Antrozous pallidus	SSC	Antrozous pallidus is a large (forearm 48?60 mm), pale bat with large ears, blunt snout (with ridge across the top), and a distinctive skunk?like odor. Pallid bats are gregarious, and often roost in colonies of between 20 and several hundred individuals	Pallid bats are typically found in arid or semi-arid habitats, often in mountainous or rocky areas near water. They are also found over open, sparsely vegetated grasslands.	No roosting habitat; may hunt over water; not expected to roost on site
razorback sucker	Xyrauchen texanus	State and ferderally endangered	One of the largest suckers in North America can grow to up to 13 pounds and lengths exceeding 3 feet. The razorback is brownish-green with a yellow to white-colored belly and has an abrupt, bony hump on its back shaped like an upside-down boat keel	Colorado River	No habitat; not expected
Sonoran Desert toad	Incilius alvarius	SSC	Large: 7.5 inches or more in length. Smooth, typically olive-green/brown skin, cranial crests, and prominent, elongated glands on both sides of the back of the head (parotoid glands) and on the hind legs. Young toads have small dark, orange-tipped spots on the back. Larger tadpoles are gray or brown with a rounded tail tip, and grow to about 2.25 inches	Sonoran Desert scrub, semi-desert grasslands. Can be tied to permanent water, such as major rivers or the edges of agriculture. May be found many miles from water, particularly during the summer monsoons. Can be found in rodent burrows or underground retreats.	Habitat not favorable; no rodent or burrows available on site
Sonoran mud turtle	Kinosternon sonoriense	SSC	Mud turtles lack an entoplastron (the near-circular plastral bone located along the midline, in between the forelimbs, and in between the epiplastra and hypoplastra). The kinosternid carapace is normally domed	ranges from north temperate to tropical habitats, and from rain forest to grasslands to desert. It includes totally aquatic to semi-terrestrial species,	Not seen; not expected water swift

ZOOLOGICAL SPECIES		STATUS[1]	DESCRIPTION OF SPECIES	HABITAT	OBSERVATION/ SITE POTENTIAL
Sonoran yellow warbler	Setophaga petechia sonorana	SSC	In summer, the buttery yellow males sing their sweet whistled song from willows, wet thickets, and roadsides across almost all of North America. The females and immatures aren't as bright, and lack the male's rich chestnut streaking, but their overall warm yellow tones, unmarked faces, and prominent black eyes help pick them out	Listen for Yellow Warblers singing when you're in wet woods, thickets, or streamsides—they're one of the most commonly heard warblers in spring and summer.	No habitat; not expected
southwestern willow flycatcher	Empidonax traillii extimus	State and ferderally endangered	Small; usually a little less than 6 inches in length, including tail. Conspicuous light-colored wingbars. Lacks the conspicuous pale eye-ring of many similar Empidonax species. Overall, body brownish-olive to gray-green above. Throat whitish, breast pale olive, and belly yellowish. Bill relatively large; lower mandible completely pale. The breeding range of extimus includes Arizona and adjacent states.	At low elevations, breeds principally in dense willow, cottonwood, and tamarisk thickets and in woodlands, along streams and rivers. Migrants may occur more widely. Prefers riparian willow/cottonwood but will use salt cedar thickets	No habitat; not expected
summer tanager	Piranga rubra	SSC	The only completely red bird in North America, the strawberry-colored male Summer Tanager is an eye-catching sight against the green leaves of the forest canopy. The mustard-yellow female is harder to spot, though both sexes have a very distinctive chuckling call note.	Look for them in open woodlands (particularly of oaks and other deciduous trees) where they are usually in the mid-canopy and above.	No habitat; not expected
Townsends big-eared bat	Corynorhinus townsendii	SSC	Townsend's big-eared bats are medium-sized bats with broad wings. They have two large, fleshy glands on either side of the muzzle. The snout is short with elongated nostril slits. Coloration varies from population to population, although all fur colors tend to be some hue of brown or gray	Their most typical habitat is arid western desert scrub and pine forest regions. These agile fliers venture out to forage only after dark, using their keen echolocation to hunt moths and other insects. In the spring and summer, females form maternity colonies in mines, caves, or buildings.	No roosting habitat; may hunt over water; not expected to roost on site

ZOOLOGICAL SPECIES		STATUS[1]	DESCRIPTION OF SPECIES	HABITAT	OBSERVATION/ SITE POTENTIAL
Vauxs swift	Chaetura vauxi	SSC	An aerialist of western forests, Vaux's Swift is a dark, tiny-bodied, narrow-winged bird much like the Chimney Swift of the eastern U.S. They spend most of the day in the air, taking small insects and spiders in rapid, twisting flight. They roost and even nest communally in hollow trees in mature evergreen forests (less often in chimneys).	Found in areas rich in flying insects, including forest openings, edges of waterways, and over burned areas.	Could be found foraging in areas adjacent to site during migration.
vermilion flycatcher	Pyrocephalus rubinus	SSC	Length: 5 inches The adult male has a Bright red cap, throat and underparts; with a Black eyeline, nape, back, wings, and tail The Immature male similar to female but has variable amount of red on underparts. The female and immature has Brown upperparts with White underparts with faint streaks on breast with an undertail coverts tinged pink The adult male Vermilion Flycatcher is very distinctive. The female and immatures are more nondescript but the streaking on the breast and pink tinge to the undertail coverts distinguish them from other flycatchers.	Frequents streams and ponds in arid areas; agricultural areas	Could be found foraging in areas adjacent to site; not expected onsite
western yellow-billed cuckoo	Coccyzus americanus occidentalis	Threatened and Endangered	Medium-sized cuckoo with gray-brown upperparts and white underparts. Eye-rings are pale yellow. Bill is mostly yellow. Wings are gray-brown with rufous primaries. Tail is long and has white-spotted black edges. Sexes are similar	Found in forest and open woodlands, especially in areas with dense undergrowth, such as parks, riparian woodlands, and thickets	No habitat; not expected
yellow warbler	Setophaga petechia	SSC	In summer, the buttery yellow males sing their sweet whistled song from willows, wet thickets, and roadsides across almost all of North America. The females and immatures aren't as bright, and lack the male's rich chestnut streaking, but their overall warm yellow tones, unmarked faces, and prominent black eyes help pick them out	Spend the breeding season in thickets and other disturbed or regrowing habitats, particularly along streams and wetlands. Found among willows but also live in the West where they may occur up to about 9,000 feet elevation. On their wintering grounds Yellow Warblers live in mangrove forests, dry scrub, marshes, and forests, typically in lowlands but occasionally up to 8,500 feet **elevation.**	Could be found foraging in areas adjacent to site; not expected onsite

ZOOLOGICAL SPECIES		STATUS[1]	DESCRIPTION OF SPECIES	HABITAT	OBSERVATION/ SITE POTENTIAL
yellow-breasted chat	Icteria virens	SSC	Yellow-breasted Chats are noticeably larger than all other warblers, reaching a length of 7.5 in (19 cm) and a wingspan of 9.75 in (24.8 cm). These birds have olive upperparts with white bellies and yellow throats and breasts; they also have long tails, thick heavy bills, large white eye-rings, and dark legs	The breeding habitats of this species are dense, brushy areas and hedgerows. The nests of these birds are cup-shaped, and are placed in thick shrubs. These birds eat insects and berries, and will forage in dense vegetation, occasionally gripping food with their feet.	No habitat; not expected
yellow-headed blackbird	Xanthocephalus xanthocephalus	SSC	Large, black, with a yellow head, a white patch on black wings; and a call that sounds like a rusty farm gate opening.	Perch out of view in cattails or reeds	No habitat, no cattails or reeds; not expected
Yuma hispid cotton rat	Sigmodon hispidus eremicus	SSC	A subspecies of Sigmodon hispidus of large size, long tail and hind feet, large skull, dorsum, including head, pale; sides pale ochraceous" (Hoffmeister 1986). Head and body 5"-8" (127-203mm). Tail 3.5"-6" (81-152mm). Weight 4-7oz. Skull has 16 teeth. 8-10 mammae.	Dense grassy areas such as fields and along roadside edges, brushy or weedy areas among weeds and cattails along the Colorado River and streams or ponds, in irrigated fields, and desert scrub (AGFD 1988).	No habitat; not expected
Yuma Ridgways rail	Rallus obsoletus yumanensis	Threatened and Endangered	A chickenlike marsh bird with a long, slightly drooping bill and an often upturned tail. Light brownish with dark streaks above. Rust-colored breast; bold, vertical gray and white bars on the flanks; white undertail coverts. Very shy.	Lives in freshwater and brackish marshes. Prefers dense cattails, bulrushes, and other aquatic vegetation. Nests in riverine wetlands near upland, in shallow sites dominated by mature vegetation, often in the base of a shrub. Prefers denser cover in winter than in summer.	No habitat, no cattails or reeds; not expected
Yuma ringtail	Bassariscus astutus yumanensis	FP	Small cat like animal	Ringtails utilize a variety of habitats. They prefer habitats with rocky outcroppings, canyons, or talus slopes and can be found in semi-arid country, deserts, chaparral, oak woodlands, pinyon pine woodlands, juniper woodlands and montane conifer forests	No habitat; not expected

PLANT SPECIES		STATUS[3]	DESCRIPTION OF SPECIES	HABITAT	OBSERVATION/ SITE POTENTIAL
giant spanish-needle	Palafoxia arida var. gigantea	CNPS 1B.2	The erect, slender stem grows 30–60 cm tall, branching in the lower half and is sparsely leaved. It is glandular and hairy on the upper parts. The glabrous, glandular leaves are lanceolate, 3–20 mm wide and 4–7.5 cm long, and are arranged alternately.	These are drought-tolerant, annual herbs growing on sandy plains, dunes, deserts (Mojave desert, Sonoran desert) and rangeland, native to North America and Mexico	No habitat; not expected
Eliassons woolly tidestromia	Tidestromia eliassoniana	2B.2	annual or subshrub perennial plants native to desert and semi-arid regions of the western United States, Mexico and tropical America	desert habitat	No habitat; not expected
saguaro	Carnegiea gigantea	2B.2	a tree-like cactus species in the monotypic genus Carnegiea that can grow to be over 12 meters (40 feet) tall. The saguaro is a columnar cactus that grows notable branches, usually referred to as arms. Over 50 arms may grow on one plant, with one specimen having 78 arms.	It is native to the Sonoran Desert in Arizona, the Mexican state of Sonora, and the Whipple Mountains and Imperial County areas of California.	No habitat; not expected
Wiggins croton	Croton wigginsii	2B.2	shrub approaches a meter-3 feet in height. Its sparse foliage is made up of long oval-shaped leaves covered in a coating of white hairs. It is dioecious, with male plants bearing staminate flowers with thready stamens and female plants bearing pistillate flowers composed of the rounded immature fruits	native to California, and also found in Baja California; Sonora, Mexico and Arizona Sand dunes	No habitat; not expected
Harwoods milk-vetch	Astragalus insularis var. harwoodii	2B.2	Annual; +- gray strigose. Stem: decumbent to ascending, 5--40 cm, slender. Leaf: 2--12 cm; leaflets (9)11--19(21), +- spaced, 4--20 mm, +- narrowly elliptic or oblong, tips generally notched. Inflorescence: among leaves; flowers 4--9, spaced, early spreading, then reflexed.	Sandy or gravelly areas; Elevation: < 500 m.	No habitat; not expected

PLANT SPECIES		STATUS[1]	DESCRIPTION OF SPECIES	HABITAT	OBSERVATION/ SITE POTENTIAL
narrow-leaf sandpaper-plant	Petalonyx linearis	2B.3	Plant 15--100 cm. Leaf: generally sessile, 10--25 mm, linear to narrowly (ob)lanceolate, obtuse to acute, entire to irregularly toothed. Inflorescence: 4--10 cm; outer bract 5--8 mm, ovate to +- round; inner bracts 3--4 mm, ovate, +- cordate, acute to notched, lobed; pedicels 1--2 mm. Flower: petals 2--5.5 mm, free, white; stamens 3--7 mm, +- exserted; style +- 3-6 mm	Sandy or rocky canyons, generally in creosote-bush scrub; Elevation: < 1000 m.	No habitat; not expected
mud nama	Nama stenocarpa	2B.2	Plant short-soft-silky-hairy and short-glandular-hairy; some hairs stiff, swollen at base. Stem: prostrate to ascending, 8--40 cm, branches many. Leaf: petiole 0(3) mm; 5--30 mm, oblanceolate, oblong, or spoon-shaped, base generally +- clasping stem, margins wavy, generally +- rolled under.	marshes and swampy valley wetlands Intermittently wet areas; Elevation: < 810 m.	No habitat; not expected
desert beardtongue	Penstemon pseudospectabilis ssp. pseudospectabilis	2B.2	The plant is generally a shrub growing to a maximum height of one meter, with many erect stems. The thin leaves are roughly oval with wide pointed tips and serrated edges. They are arranged oppositely in pairs and many pairs are completely fused at the bases about the stem, forming a disc.	Native to hot, arid locations; Gravelly or rocky places, usually mountain or high desert	No habitat; not expected

PLANT SPECIES		STATUS[1]	DESCRIPTION OF SPECIES	HABITAT	OBSERVATION/ SITE POTENTIAL
Arizona cottontop	Digitaria californica var. californica	2B.3	Cespitose perennial herb. Stem: generally erect, 40--100 cm. Leaf: sheath glabrous or long-hairy; ligule 1--6 mm, entire or ragged; blade generally 2--12 cm, 2--5 mm wide, glabrous to tomentose. Inflorescence: panicle-like with 4--10 appressed to ascending 1° branches (2° branches occasionally present); spikelets paired, unequally stalked. Spikelet: 3--4 mm (except hairs), lanceolate; lower glume 0.4--0.6 mm, translucent, veinless; upper glume 2.5--5.1 mm, 3-veined; lemma 2.5--5 mm, 3-5(7)-veined; upper glume, lower lemma densely hairy, hairs 1.5--5 mm, white to purple.	Rocky hillsides; Elevation: < 1500 m.	No habitat; not expected
roughstalk witch grass	Panicum hirticaule ssp. hirticaule	2B.1	Annual. Stem: 1--8 dm. Leaf: sheath 2--6 cm, axis glabrous to short-hairy; ligule membrane 0.5--2 mm, ciliate; blade 7--20 cm, 3--15 mm wide, upper surface generally sparsely short-hairy. Inflorescence: 5--20 cm, open; 1° branches 3--8 cm, glabrous; spikelets 1--2 per node, stalk 0.5--3 mm, generally appressed. Spikelet: +- 2.5--3 mm, +- 1 mm wide, lanceolate to ovate, green; axis between glumes and florets visible; lower glume + 1.5--2.5 mm, generally 5-veined, acute; lower floret sterile, lemma 7-veined, acuminate to acute, palea generally < lemma; upper floret 0.7--0.8 × lower floret, stipitate, with paired crescent-shaped scars, often enlarged.	Ecology: Sandy soils, open sites, creosote-bush scrub; Elevation: < 1400 m. Bioregional Distribution: D; Distribution Outside California: to Texas, South America. Flowering Time: Aug--Dec	No habitat; not expected

CNPS Species or Community Level	
G1 = Less than 6 viable element occurrences (EOs) OR less than 1,000 individuals OR less than 2,000 acres.	
G2 = 6-20 EOs OR 1,000-3,000 individuals OR 2,000-10,000 acres.	
G3 = 21-80 EOs OR 3,000-10,000 individuals OR 10,000-50,000 acres.	
G4 = Apparently secure; this rank is clearly lower than G3 but factors exist to cause some concern; i.e., there is some threat, or somewhat narrow habitat.	
G5 = Population or stand demonstrably secure to ineradicable due to being commonly found in the world.	
State Ranking	
The state rank (S-rank) is assigned much the same way as the global rank, except state ranks in California often also contain a threat designation attached to the S-rank.	The R-E-D Code contains information on Rarity, Endangerment, and Distribution, ranked as a 1, 2, or 3 for each value (as below). This code was originally known as the R-E-V-D Code (through the 3rd edition 1980), and the V (Vigor) was removed in the 4th edition (1984).
S1 = Less than 6 EOs OR less than 1,000 individuals OR less than 2,000 acres	**R - Rarity**
S1.1 = very threatened	1 – Rare, but found in sufficient numbers and distributed widely enough that the potential for extinction is low at this time
S1.2 = threatened	2 – Distributed in a limited number of occurrences, occasionally more if each occurrence is small
S1.3 = no current threats known	3 – Distributed in one to several highly restricted occurrences, or present in such small numbers that it is seldom reported
S2 = 6-20 EOs OR 1,000-3,000 individuals OR 2,000-10,000 acres	**E - Endangerment**
S2.1 = very threatened	1 – Not very endangered in California
S2.2 = threatened	2 – Fairly endangered in California
S2.3 = no current threats known	3 – Seriously endangered in California
S3 = 21-80 EOs or 3,000-10,000 individuals OR 10,000-50,000 acres	**D - Distribution**
S3.1 = very threatened	1 – More or less widespread outside California
S3.2 = threatened	2 – Rare outside California
S3.3 = no current threats known	3 – Endemic to California
S4 = Apparently secure within California; this rank is clearly lower than S3 but factors exist to cause some concern; i.e. there is some threat, or somewhat narrow habitat. NO THREAT RANK.	
S5 = Demonstrably secure to ineradicable in California. NO THREAT RANK.	

Sources: CDFW/CNDDB 2022/4, California Wildlife 2022/4; CNPS 2022/4;

USFWS, 2022/4

State/CDFW: 1Status: Federal: E =

E = Listed as an endangered species; or previously known as "rare, fully protected" Listed as an endangered species

BIOLOGICAL RESOURCES MAP

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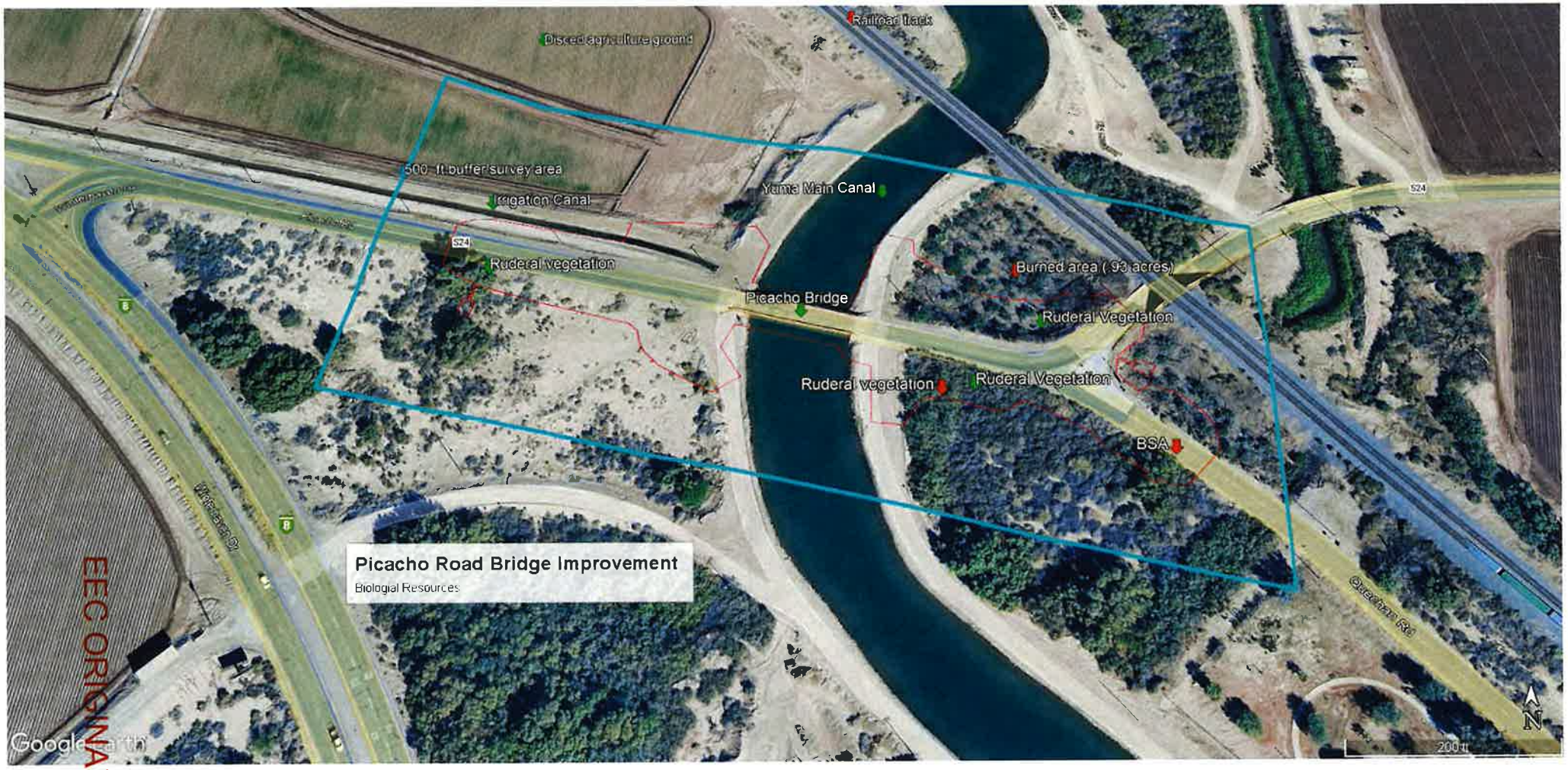

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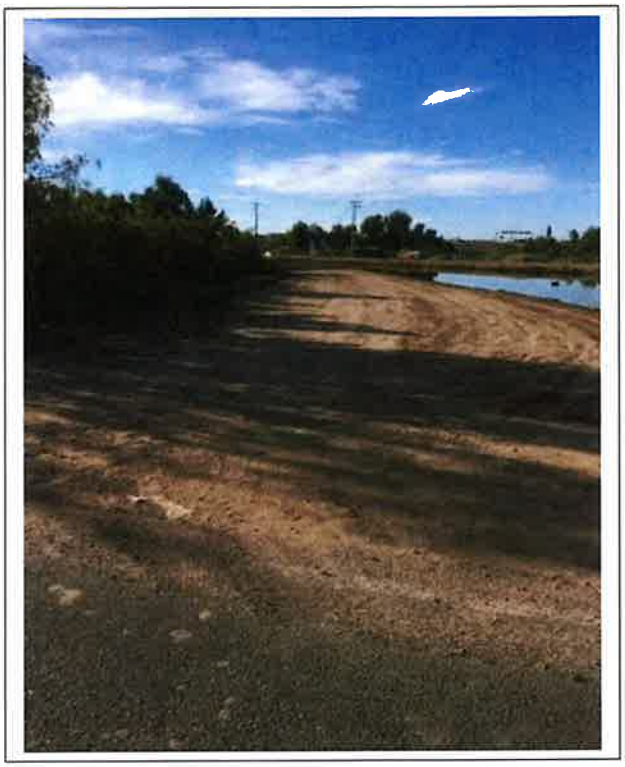
PHOTOGRAPHS

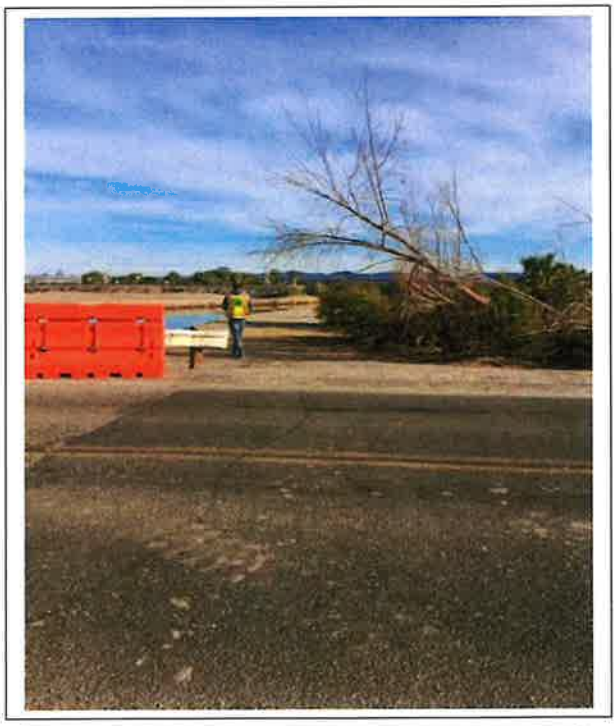
EEC ORIGINAL PKG

PHOTOGRAPHS 2022

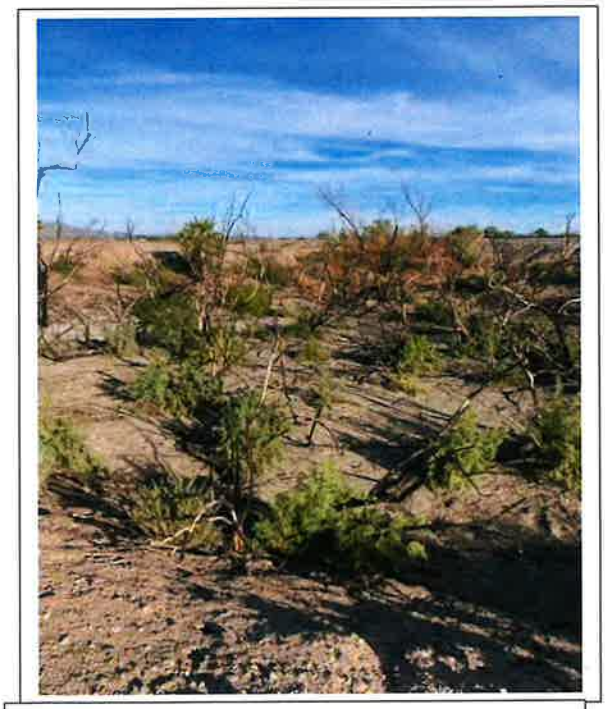


1. The east bank south of Picacho Road. was surveyed

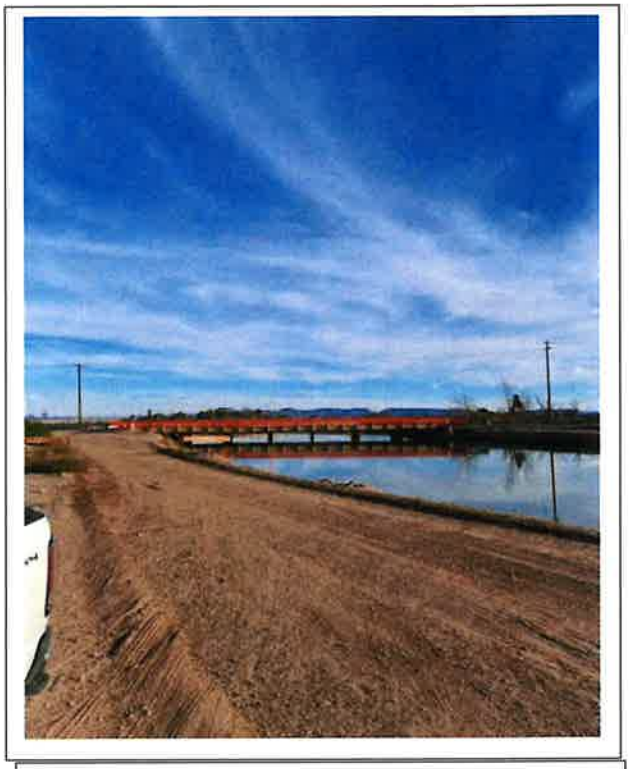
2. Saltcedars on site and adjacent to site were surveyed for nests; none found



3. North side of Picacho Road was surveyed

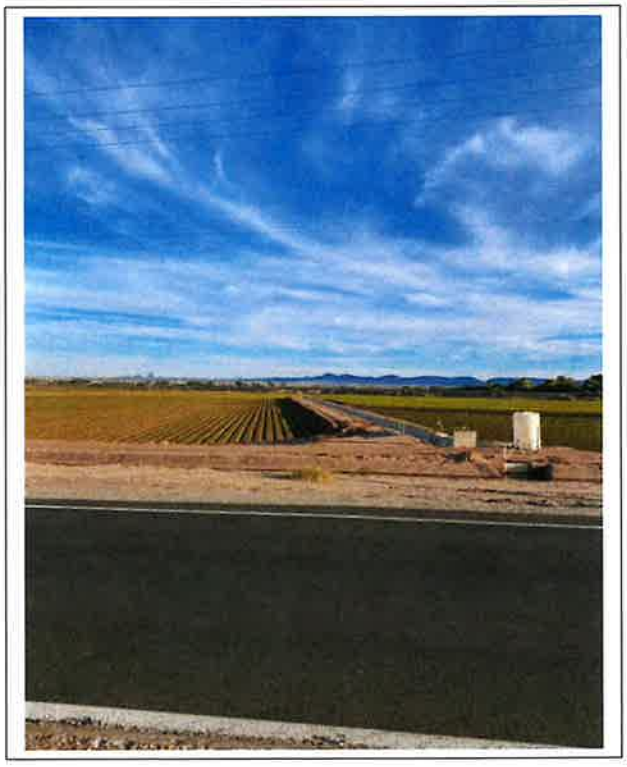


4. Burned area north of Picacho Road and east of Yuma Main Canal, approximately 0.93acre area with saltcedar regrowth

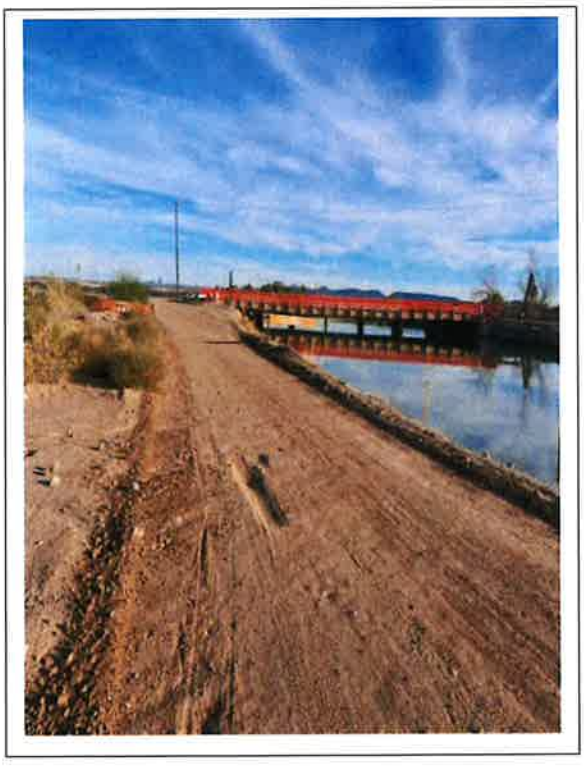


5. Bridge to be replaced; looking north sparse vegetation along banks of Yuma Main Canal

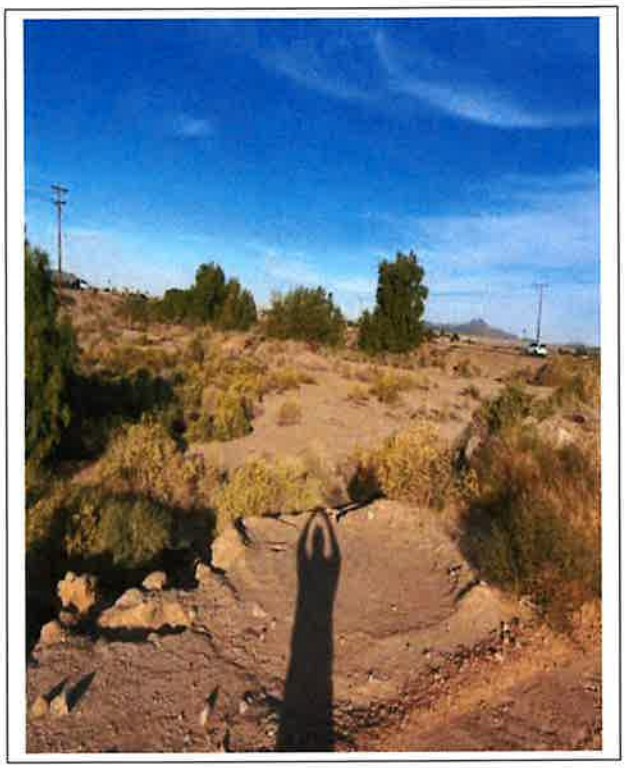
6. Desert shaggymane on site



7. Looking north from west end of site; crops off site in background

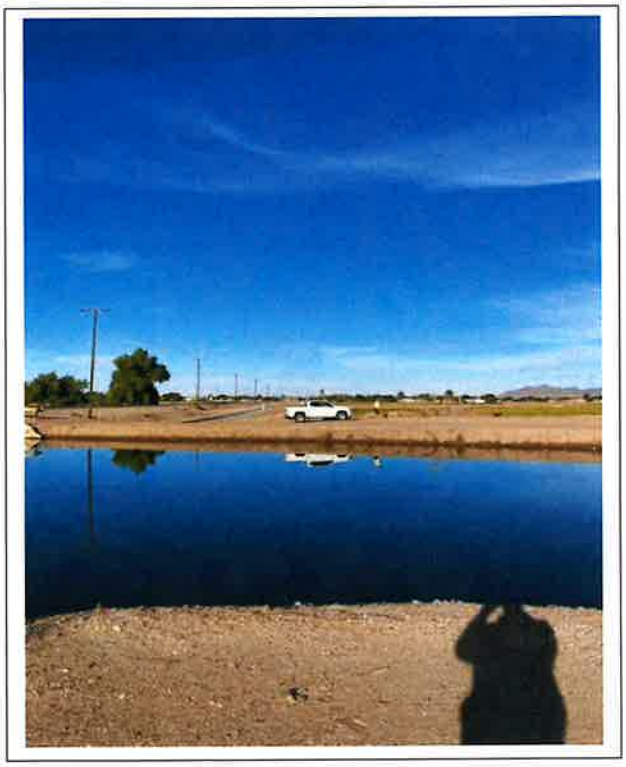


8. Facing north at bridge; ruderal vegetation to left



9. Facing west at bridge; ruderal vegetation and saltcedar on site

10. Facing south from north side of C St at bridge

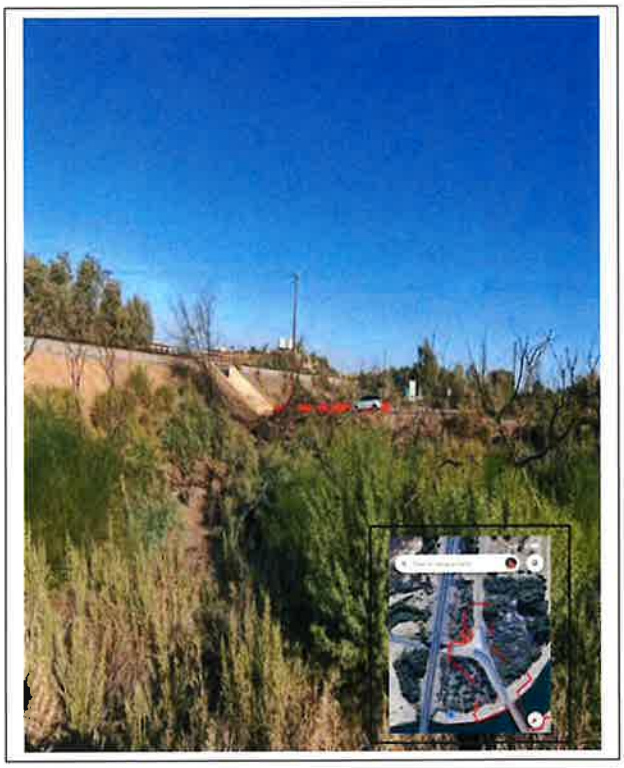


11. West at northeast end of site; no vegetation observed along Yuma Main Canal

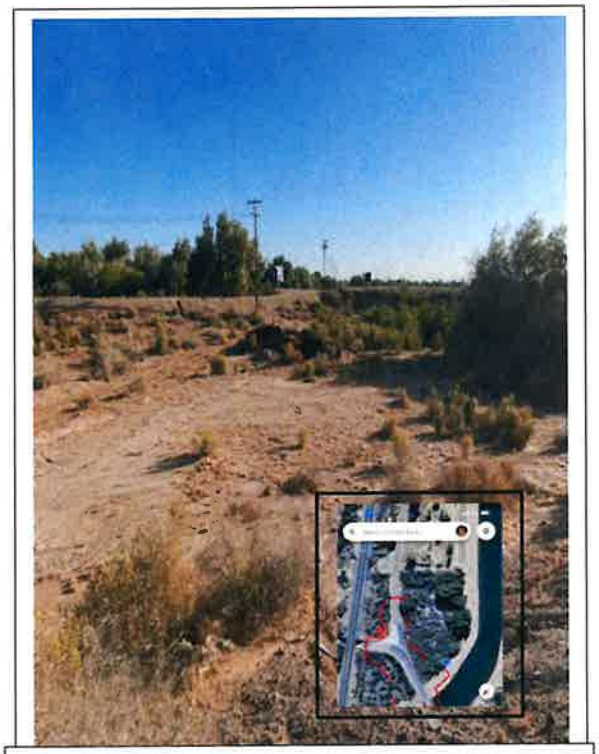
12. Typical ruderal vegetation found on site

EEC ORIGINAL PKG

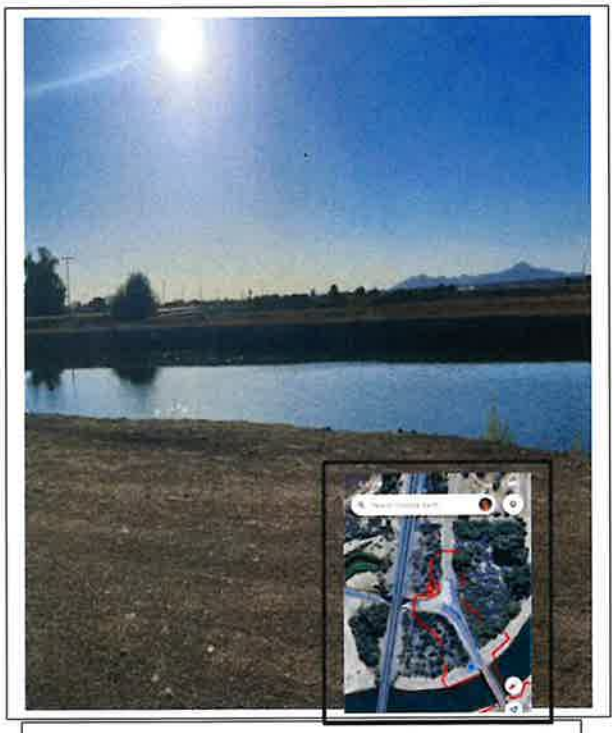
PHOTOGRAPHS 2024



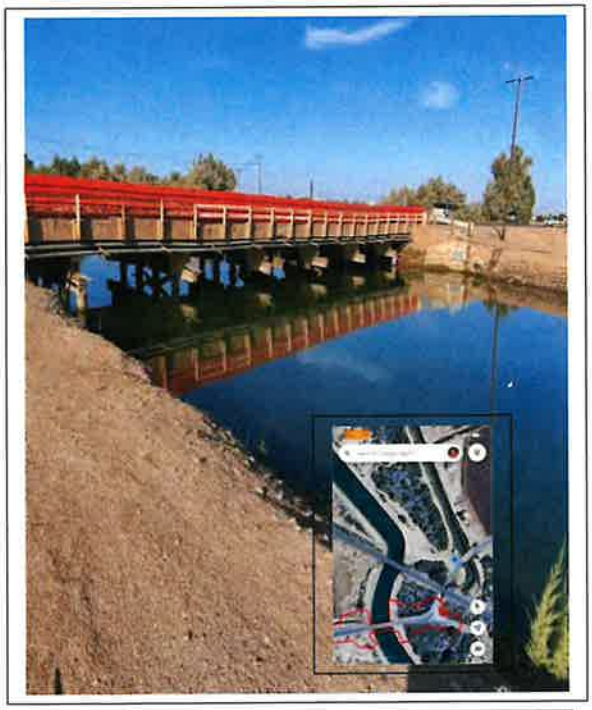
1. Facing south towards Picacho road at burned area in buffer zone 8/8



2. Buffer zone looking south to Picacho road. Not much vegetation, mostly arrowweed and saltbush 8/8



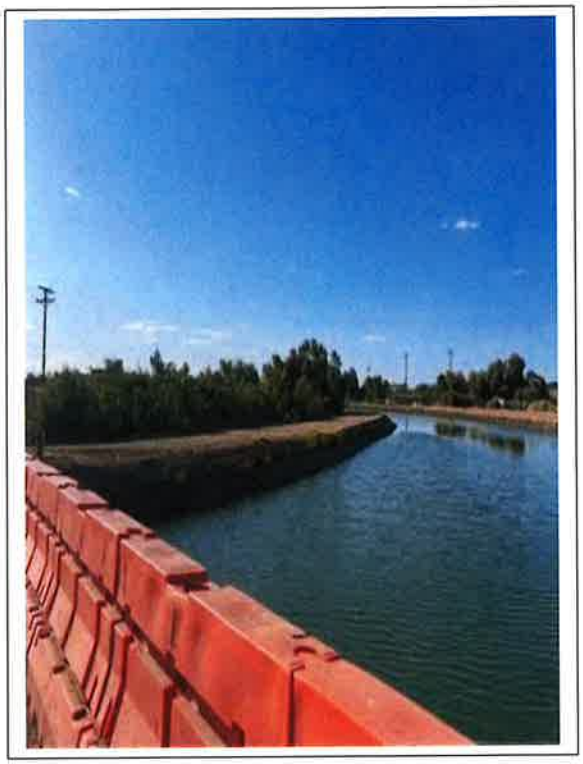
3. Facing west at buffer zone looking at canal and disced field. One mature saltcedar in background 8/8



4. Facing south at bridge from north side 8/8

EEC ORIGINAL PKG

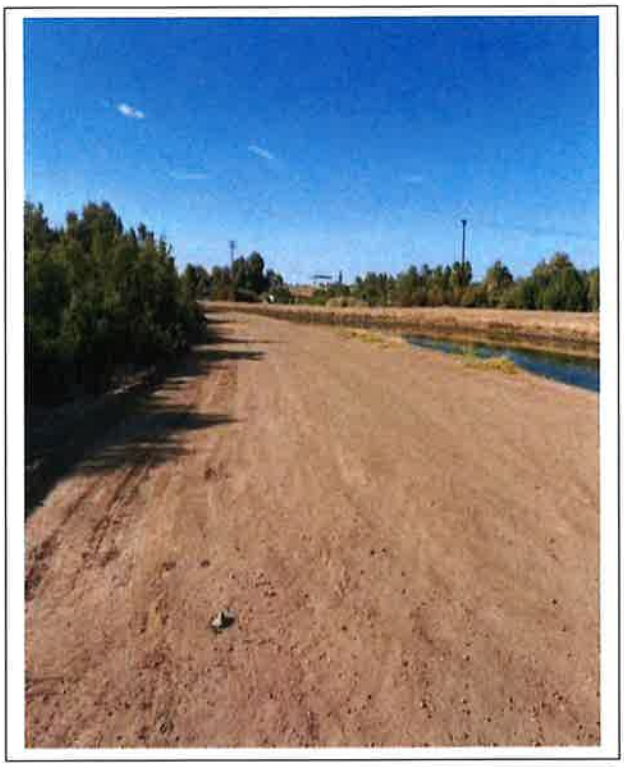
5. Facing south while on bridge 8/8



6. Facing east while standing on bridge 8/8

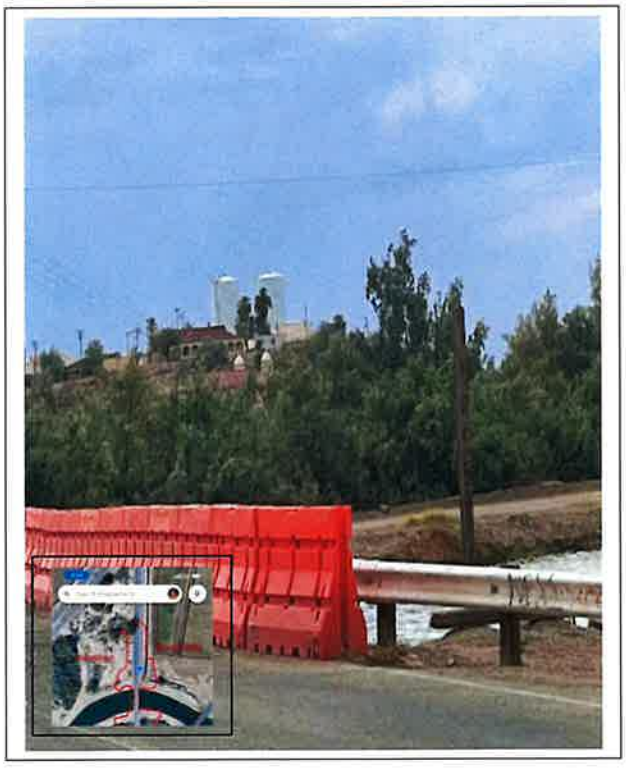
7. Facing west looking at Picacho bridge 8/8

8. Mourning doves perching on the bridge railing; no nests observed 8/8



9. Facing south from bridge; looking at a two roads between canal 8/8

10. Disced field to the north outside of buffer zone 8/9



11. Vacant lot with vegetation south of Picacho road 8/9

12. Vacant lot with over grown vegetation in buffer zone 8/9

EEC ORIGINAL PKG

FEMA MAP

EEC ORIGINAL PKG

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The community map repository should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations** (BFEs) and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevations shown on this map apply only landward of 0.0' NAVD 88. Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations shown in the Flood Insurance Study report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations tables should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the floodways were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The **projection** used in the preparation of this map was Universal Transverse Mercator (UTM) zone 11. The **horizontal datum** was NAD 83, GRS1980 spheroid. Differences in datum, spheroid, projection or UTM zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same **vertical datum**. Base flood elevations shown on this FIRM may be converted to the Imperial County datum in NAVD88 by adding 1000 feet. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at http://www.ngs.noaa.gov or contact the National Geodetic Survey at the following address:

NGS Information Services
NOAA, N/NGS12
National Geodetic Survey
SSMC-3, #9202
1315 East-West Highway
Silver Spring, MD 20910-3282

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at **(301) 713-3242**, or visit its website at http://www.ngs.noaa.gov.

Base map information shown on this FIRM was derived from U.S. Geological Survey Digital Orthophoto Quadrangles produced at a scale of 1:12,000 from photography dated 1992 or later.

This map reflects more detailed and up-to-date **stream channel configurations** than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data tables in the Flood Insurance Study report (which contains authoritative hydraulic data) may reflect stream channel distances that differ from what is shown on this map.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

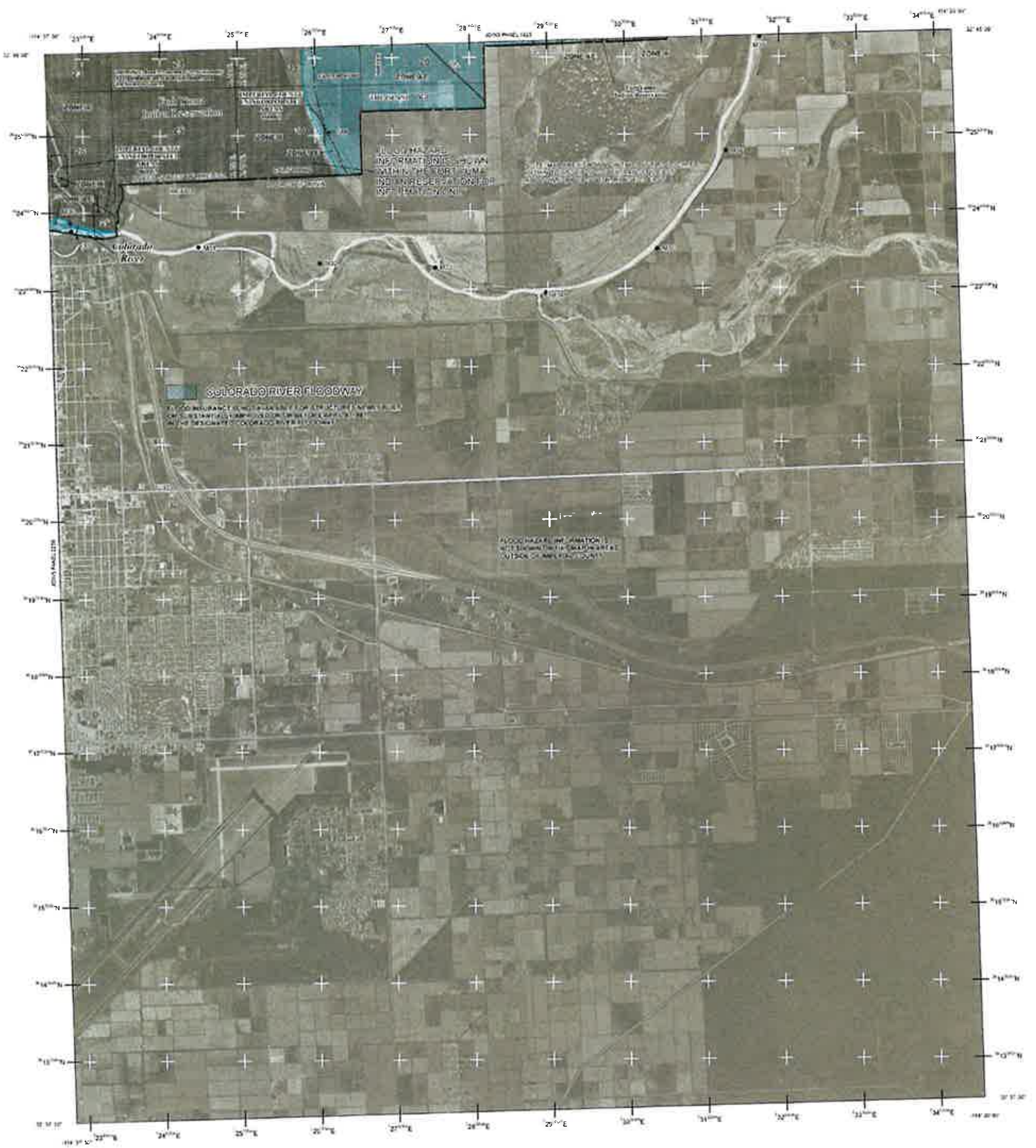
Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels; community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

Contact the **FEMA Map Service Center** at 1-800-358-9616 for information on available products associated with this FIRM. Available products may include previously issued Letters of Map Change, an accompanying Flood Insurance Study Report, and/or digital versions of this map. The FEMA Map Service Center may also be reached by Fax at 1-800-358-9620 and its website at http://www.msc.fema.gov.

If you have **questions about this map** or questions concerning the National Flood Insurance Program in general, please call **1-877-FEMA MAP** (1-877-336-2627) or visit the FEMA website at http://www.fema.gov.

WARNING: This levee, dike, or other structure has been provisionally accredited and mapped as providing protection from the 1-percent-annual-chance flood. To maintain accreditation, the levee owner or community is required to submit documentation necessary to comply with 44 CFR Section 65.10 by November 19, 2009. Because of the risk of overtopping or failure of the structure, communities should take proper precautions to protect lives and minimize damages in these areas, such as issuing an evacuation plan and encouraging property owners to purchase flood

EEC ORIGINAL PKG



LEGEND

SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE A	No base flood elevations determined.
ZONE AE	Base flood elevations determined.
ZONE AH	Flood depths of 1 to 3 feet (usually areas of ponding); base flood elevations determined.
ZONE AO	Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
ZONE AR	Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
ZONE A99	Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no base flood elevations determined.
ZONE V	Coastal flood zone with velocity hazard (wave action); no base flood elevations determined.
ZONE VE	Coastal flood zone with velocity hazard (wave action); base flood elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X	Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X	Areas determined to be outside the 0.2% annual chance floodplain.
ZONE D	Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

	1% annual chance floodplain boundary
	0.2% annual chance floodplain boundary
	Floodway boundary
	Zone D boundary
	CBRS and OPA boundary
	Boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.
513	Base Flood Elevation line and value; elevation in feet*
(EL 987)	Base Flood Elevation value where uniform within zone; elevation in feet*

*Referenced to the North American Vertical Datum of 1988

A — A	Cross section line
23 - - - - 23	Transect line
97°07'30", 32°22'30"	Geographic coordinates referenced to the North American Datum of 1983 (NAD 83)
4276000mN	1000-meter Universal Transverse Mercator grid values, zone 11
600000 FT	5000-foot grid ticks: California State Plane coordinate system, VI zone (FIPSZONE 0406), Lambert Conformal Conic
DX5510 ×	Bench mark (see explanation in Notes to Users section of this FIRM panel)
● M1.5	River Mile

MAP REPOSITORY
Refer to listing of Map Repositories on Map Index

EFFECTIVE DATE OF COUNTYWIDE
FLOOD INSURANCE RATE MAP
September 26, 2008

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 2000'

1000 0 2000 4000 FEET

600 0 600 1200 METERS

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 2275C

FIRM
FLOOD INSURANCE RATE MAP
IMPERIAL COUNTY, CALIFORNIA
AND INCORPORATED AREAS

PANEL 2275 OF 2300
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
IMPERIAL COUNTY UNINCORPORATED AREAS	060065	2275	C

Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.

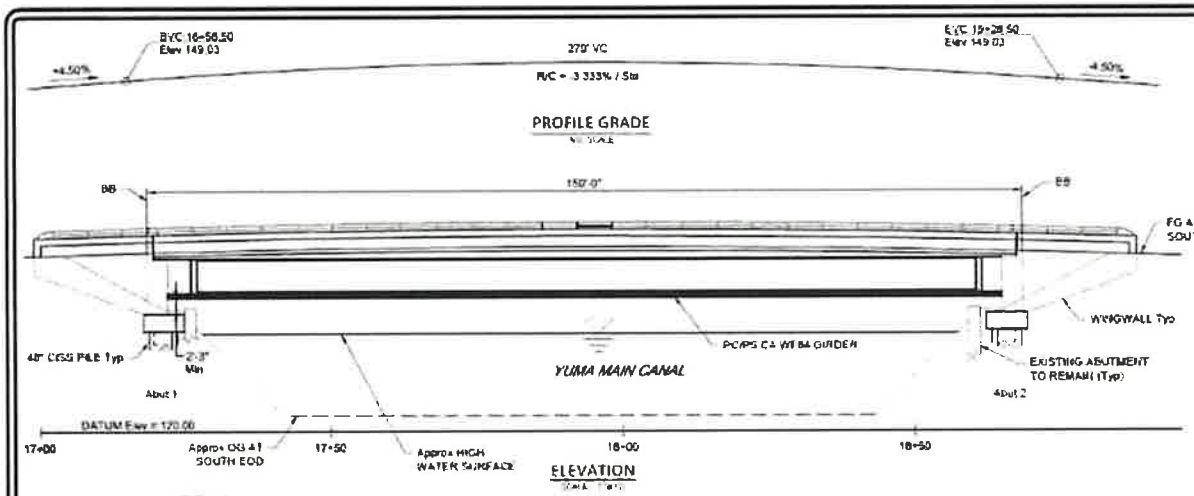
MAP NUMBER
06025C2275C

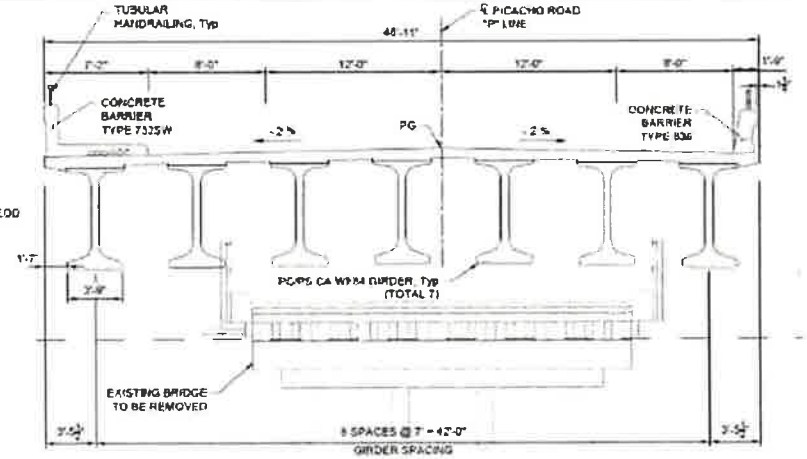
EFFECTIVE DATE
SEPTEMBER 26, 2008

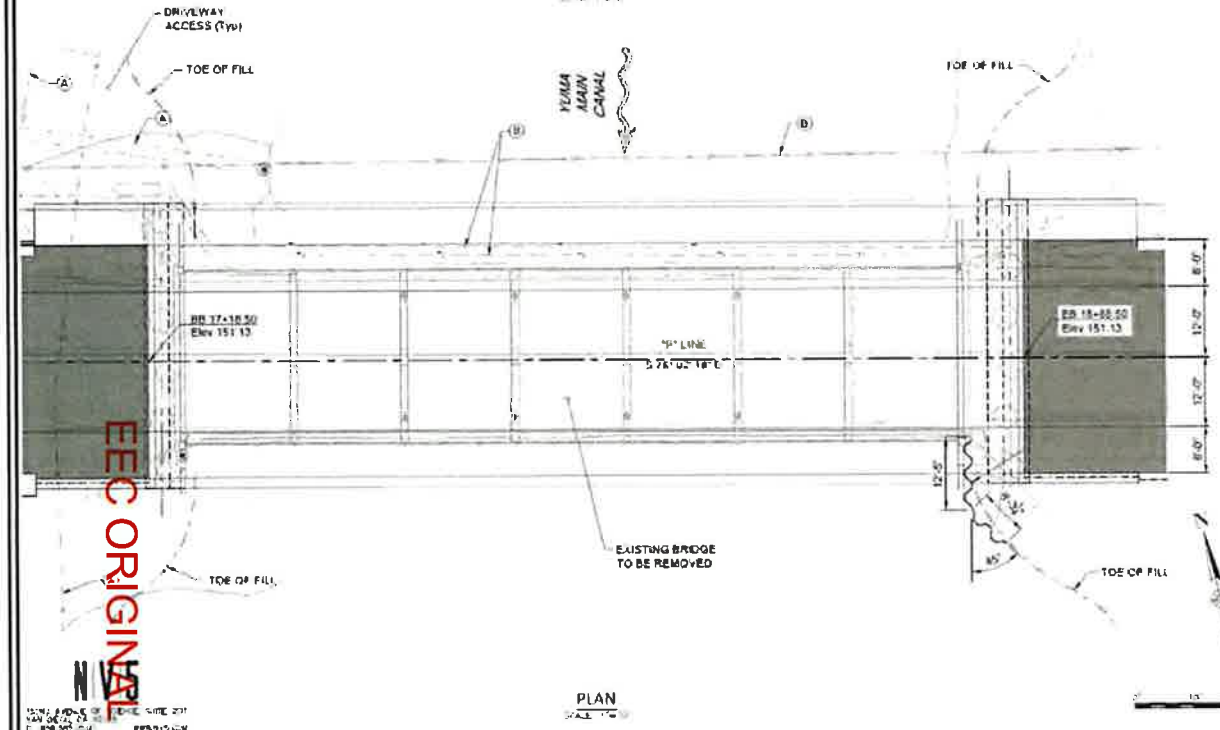
Federal Emergency Management Agency

ENGINEERING PLANS

EEC ORIGINAL PKG







NOTES

(A) Existing utility to be protected in place

(B) Existing utility to be relocated

INDEX TO BRIDGE PLANS

LEGEND

- Existing Bridge
- Direction of Flow
- Existing Bridge to be Removed
- Sheet Piling

EEC ORIGINAL PKG

PREPARED UNDER THE DIRECT SUPERVISION OF

COUNTY OF IMPERIAL

PICACHO ROAD BRIDGE
OVER YUMA MAIN CANAL
BRIDGE NO. 58C-0028

GENERAL PLAN

QUALIFICATIONS

EEC ORIGINAL PKG

GLENNA MARIE BARRETT

PO Box 636 Imperial, California 92251 (760) 425-0688
glennabarrett@outlook.com

PROFILE

Organized and focused individual, adept at implementing multifaceted projects while working alone or as an integral part of a team .Skilled in client/employee communications ,report preparation ,program analyses and development. Cost conscious ,safety oriented and empathetic .A strong communicator with excellent interpersonal skills ,which allows development of rapport with individuals on all levels . A sound professional attitude ,strong work ethic and pride in personal performance.

WORK EXPERIENCE

Senior Biologist Barrett's Biological Surveys, Imperial County, CA April 2016-currently.
Principal Biological Consultant, Barrett Enterprises. Imperial, CA December 2001 - currently. Compile information and complete local, state, and federal government forms; such as conditional use permits, reclamation plan applications, Financial Assurance Cost Estimates, zone changes, CEQA, Environmental Evaluation Committee responses, and 501 (c)(3) tax exemption applications. Act as liaison between local businesses and local, state, and federal government agencies. Certified to survey for Flat-Tailed Horned Lizards in California and Arizona. Certified to survey for the Desert Tortoise.

Kruger- Environmental Compliance Coordinator (ECC) for Seville Solar Complex for a 626-acre solar farm in Imperial County, CA. Compiled and submitted data and reports for APCD such as equipment lists and man hours, water hours for dust suppression; Planning reports such as weekly monitoring reports and scheduling with the third party monitor for work on BLM land; Assisted in writing the Emergency Response Action Plan; CDFW quarterly reports for the Incidental Take Permit for the Flat Tail Horned Lizard (FTHL), CNDDB reports, FTHL Observation Data Sheets, site tours and any other information required by CDFW; Agriculture Commissioner's Office quarterly reports; provided the hazardous reporting information for the CERS online reporting system; assisted writing the FTHL ITP; trained new hires; contacted various local businesses for different on-call services; also provided any updates for plans and schedules necessary throughout the life of the project; etc. (January 2015- March 2016).

Grant writing experience: Awarded two grants for BUOW educational programs for $15,000 each from Imperial Valley Community Foundation. Awarded $35,700 for a total of $75,000 with matching funds to establish the Imperial Valley Small Business Development Center with the Imperial Reginal Alliance. Awarded $450,000 from the California Public Utilities Commission for a broadband connectivity initiative in Imperial County with Imperial Reginal Alliance and Imperial Valley Economic Development Corporation (IVEDC).

FIELD EXPERIENCE

Ms. Barrett has done the field work and contributed to the required reports for the following projects:

- **8ME-Burrowing Owl/MBTA/Avian Mortality Monitoring and training for the Mount Signal Solar Projects** in Calexico, CA (April 2010-2022)
- **Salton Sea Species Conservation Habitat Project** - Imperial County, CA: Nov 2020 -July 2022 monitoring construction for desert pupfish, Ridgway Rails and other species. Found both species on site and consulted with agencies for protective measures.
- **Burrtec- FTHL/MBTA Surveys** in Salton City, CA: Team leader for eight people to complete a pre-construction site sweep for 320 acres in Imperial County. 2014-2022
- **Applied Biological Consulting- Approved Biological Monitor on DPV2**: The 500kV transmission line traverses approximately 153 mi from Bythe, CA to Menifee in Riverside County, CA. Crossing private, state and Federal lands, such as the Bureau of Land Management [BLM],

U.S. Forest Service [USFS]. Desert tortoise, nesting birds, fringe toed lizard, flat tailed lizard (November 2011 to May 31, 2013)

- **Chandi Group,** Conduct Habitat Assessment Survey (as outlined in Western Riverside Multispecies Habitat Conservation Plan: Burrowing Owl/Narrow Endemic Species) within the City of Jurupa Valley, Riverside County, 2015

EDUCATION AND TRAINING

Received Bachelor of Science in Business Administration with a focus on Management, along with Economics and Leadership minors, December 2000. Humboldt State University, Arcata, CA.

Special Status/listed species observed/ identified, surveyed, monitored and/or relocated: Mohave desert tortoise, Coachella valley milkvetch, Desert kit fox, Mountain lion, Coachella valley fringe toed lizard, Mohave fringe toed lizard, Stephen's kangaroo rat, Mohave ground squirrel, Coast horned lizard, Flat-Tail Horned lizard, Burrowing Owl.

Extensive knowledge in southwestern United States, non-migratory and migratory avian biology and ecology. Strong knowledge of common Flora and Fauna communities associated with Southern California and surrounding environs. CEQA, NEPA, California Endangered Species Act (CESA) and Federal Endangered Species Act (ESA) knowledge gained through work experience. I have excellent analytical skills, multi-tasking and writing abilities. My past work experience has provided me with many years of hands on experience working with and managing others to find practical solutions to solve problems and achieve common goals.

CERTIFICATIONS/ WORKSHOPS

- Desert Pupfish Training CA Department of Fish and Wildlife Sharon Keeney, Summer/Fall 2019-21
- Introduction to Plant Identification CA Native Plant Society June. 2019
- FTHL Workshop, 2008 El Centro BLM office.
- Yuma Clapper Rail Training Colorado River Yuma Bird Festival AZ Game and Fish 2008
- USFW Desert Tortoise Egg Handling Desert Tortoise Council Survey Techniques Workshop Certificate, 2008 and 2010.
- Anza Borrego State Park Wildflower Identification Workshop, 2010.
- Southwest Willow Flycatcher Workshop Kernville, CA, 2010.
- SCE TRTP Construction Monitoring Training Class and WEAP Redlands, CA 2011.
- DPV2 Construction Monitoring Training Class and WEAP Santa Ana, CA 2011.
- Helicopter flight trained on DPV2, 2012.
- Certified to handle/ move venomous snakes on DPV2, 2012.
- Bat monitoring with Ms. Pat Brown BLM El Centro, CA Office, 2010.
- Salton Sea International Bird Festival 2007 Coordinator
- Mountain Plover/ Long-billed Curlew surveys, L.A. Museum of Natural History
- Presented at the Fourth Annual BUOW Symposium in Pasco, Washington, 2014.
- Board Member- Colorado River Citizens Forum, 2014-2016.
- BUOW Educational outreach grantee from IVCF, interacting with IID, IVROP, ICFB, Ag Commissioner's Office, 2015.
- Friends of the Sonny Bono National Wildlife Refuge, Member 2015

Jacob Calanno
Post Office Box 458
Niland, California 92257
760-550-4214

SPECIALTIES: Biological Surveys and Monitoring, Mechanical Process Applications, Field operations.

EDUCATION: Imperial Valley College, Imperial, Ca. - Municipal Water and Waste Water Treatment; Licensing pending.

COMPUTER SKILLS: Basic computer skills, Lab View for Engineers.

CERTIFIED SPECIALIZED TRAINING:
Environmental Review & Compliance for Natural Gas Facilities Seminar- June 5-7, 2012
Desert tortoise Surveying, Monitoring and Handling Techniques Certificate Nov. 5-6, 2012
Flat Tail Horn Lizard Training- June 20, 2012
Introduction to Plant Identification, CA Native Plant Society, June, 2019
Desert Pupfish Training CA Department of Fish and Wildlife, Sharon Keeney, Summer Fall 2019
40 Hour Hazwoper Feb. 8, 2013
CALIFORNIA OSHA TITLE-2011
Confine Space Training, 2005
Lockout/Tagout , 2005
Respirator Training, 2005
Operators Safety Training, 2005
Foreman Field Crew Supervisory and Operations Training, 2005

SUMMARY: Biological surveyor and Monitor/ Field Operations Crew Foreman/Operations Technician
For the past ten years I have been specifically working on biological surveys and monitoring including burrowing owl, flat tail horned lizard, desert tortoise and migratory birds. I have 15 years' experience in the environmental remediation industry. My area of expertise is in biological monitoring, remedial mechanical applications, equipment, operations and maintenance programs.
Training and hands on experience working in the field with endangered species:
Desert Tortoise and the Flat Tail Horned Lizard, Desert Pupfish, Ridgway Rail followed compliance policy and procedure when encountering endangered species. This training was received while working on specific projects such as:

WORK EXPERIENCE:

2012-18 Barrett's Biological Surveys
Salton Sea Species Conservation Habitat Project: Imperial, CA: Nov 2020 -current monitoring construction for desert pupfish, Ridgway Rails and other species. Found both species on site and consulted with agencies for protective measures. 8 hrs/day/5 days per week
Project Salton City Burrtec Landfill: 320 acre clearance and provided FTHL training to construction crew(42 hrs)
Project AECOM/IID Burrowing Owl habitat surveys June, 2015
Project Imperial County Public Works Desert Tortoise/MBTA monitoring: 195.7 hours at Walters Camp, near Palo Verde, CA
Project Mesquite Mine: 30 acre desert tortoise clearance; fence installation monitoring (25 hrs)
Project Oat Mine: FTHL monitoring (186 hrs)
Project CalTrans: FTHL monitoring (50 hrs)
Project: Arms and Dudes Film Project FTHL/MBTA monitoring (181 hours)
Project Niland Wastewater Project BUOW/Biological surveys (5 days)

Project: Hell's Kitchen MBTA Nesting Bird/Burrowing Owl Surveys (5 days)
BLM, El Centro, CA office: Volunteer Bat Surveys with Pat Brown (20 hours)
CDFW, Avian Carcass Collection Volunteer (5 hours)

2005 to 2010 Volper, LLC, Burbank, Ca.
Provided field supervision of construction
Responsibilities include plan and coordinate field construction and activities, field reports and tracking hours.
Manager/Grower

2003 to 2005 Cape Environmental, Irvine, California
Field Operations Supervisor/Sr. Operations Technician
Provided technical equipment applications support on various environmental remediation projects.
Responsibilities included; construction, planning and field supervision for the installation, operation and maintenance of ground water remediation equipment.

2000 to 2003 Foster Wheeler Environmental, San Diego, California
Field Operation Supervisor/Sr. Operations Technician
Provided technical equipment applications support on various environmental remediation projects.
Responsibilities included; construction, planning and field supervision for the installation, operation and maintenance of ground water remediation equipment.

REFERENCES:

Mr. Fredrick Rivera
IR Manager,
Naval Air Facility - El Centro
760-339-2226

Marie Barrett
2035 Forrester Rd
El Centro, CA 92243
760 427 7006

Ed Cooney
Engineering Technician
FEAD/PW Bldg.504 NAF El Centro, CA 92243
760-339-2469

Jeremy Scheffler
310 N H Street
Imperial, CA 92251
jscheffler29@gmail.com
760-457-5154

INTRO:

I am a recent graduate from CSU Chico, and I majored in Environmental Science. I pride myself on my problem-solving abilities and my capacity to view situations through different perspectives to find a solution.

EDUCATION:

August 2016- May 2020	***California State University, Chico*** Undergraduate, Senior GPA: 3.04 Environmental Science: Atmosphere & Climate Pathway Minor: Sustainability
August 2012- June 2016	***Imperial High School, Imperial, CA*** Diploma, June 2016 GPA: 3.4

SKILLS:

-Experience with tools	-Experience with groups to complete assignments
-Knowledge of Plant and Insects	-Experience with inspection of ag commodities
-Experience creating/presenting reports	-Familiarity with ArcGIS software
-Analyzing Data	-Communication (Written & Verbal)

EXPERIENCE:

January 2022-Present	**Wildlife Biologist**, Imperial County, Westmorland, CA monitored construction areas at Salton Sea Species Conservation Habitat Project. Identified nests and established buffer zones. Searched for/identified tree and ground nesting birds and notified lead biologist and helped establish buffers. Monitored to protect buffer zones. Identified various avian species. Observed burrowing owls/burrows, killdeer/black-tailed gnatcatcher/dove/stilt nests/eggs; 100 hrs.
June-Sept, 2022	**Wildlife Biologist**, Imperial County, Niland, CA monitored construction areas at ORMAT Wister Solar Project. Gained knowledge of mechanics of construction monitoring. Identified various avian species and determined buffer zones. 25 hrs.
Nov, 22-Oct,23	**Wildlife Biologist**, Imperial County, Niland, CA monitored solar farm for bird carcasses. Surveyed solar farm with a second biologist to determine any bird mortality and completed a format so that a statistical analysis could be performed
April 11/18/Nov 5,2021	***Wildlife Biologist***, Imperial County, Niland, CA Under guidance of Barrett's Biological Surveys biologist Marie and Glenna Barrett, performed transects on 100 acres observing for desert tortoise, Harwoods' milkvetch and American badger preconstruction surveys prior to solar project

	construction. Found milkvetch plants, assisted collecting plant samples; observed raven nest, performed transect surveys. 20 hours.
April 2, 2021	***Wildlife Biologist,*** Imperial County, Winterhaven, CA Under guidance of Barrett's Biological Surveys biologists Marie and Glenna Barrett, Barrett's Biological Surveys performed a pedestrian nesting bird survey on a linear project of 1mile. Found nesting egrets in a rookery. 2 hours.
March 1 - Current (2021)	***Agriculture Biologist,*** **Imperial County, El Centro, CA** -Enforce compliance of CCR and CFAC -Inspect and investigate pesticide use and incidents -Sample and ship specimens to lab for ID
September 21 - February 16 (2021)	***Agriculture Technician,*** **CDFA, Winterhaven, CA** -Enforce CA Food and Ag Code -Inspect Ag commodities for invasive pests -Input necessary data into computer
January 24 – May 15 (2020)	***Teaching Assistant/ Grader,*** **Shane Mayor, CSU Chico** -Teaching Assistant for the Weather Class -Assist Students With Help on Course Material -Grade Assignments and Tests

RELEVANT COURSE WORK:

-Ecology (Fall 2018)	-Evolutionary Biology (Sp. 2018)
-Earth System Science (Sp. 2019)	-Water & Soils (Fall 2017)
-Sustainability Issues (Fall 2019)	-Senior Seminar in Environmental Science (Sp. 2020)

ACHIEVEMENTS:

Spring 2020	***Sustainability Leadership*****, Certificate,** CSU Chico
Spring 2020	***Dean's Honor List,*** **Certificate,** CSU Chico
Fall 2019	***Dean's Honor List,*** **Certificate**, CSU Chico

County:	Imperial
Legal Location:	T16S, R22E: Sect. 26 San Bernardino Meridian
USGS Quads:	Yuma West, AZ, and Yuma East, AZ
Project Type:	Pedestrian survey
Project Acres:	4.38
Acres Surveyed:	3.07
NV5 Project No.:	227521-00001136.00

Date: August 27, 2024

To: John Gay, Director of Public Works
County of Imperial
155 S. 11th Street
El Centro, CA 92243

From: Karry L. Blake, MA, RPA, Principal Archaeologist
NV5, Inc.
9450 SW Commerce Circle, Suite 300
Wilsonville, Oregon 97070

Subject: Cultural Resources Survey for the proposed Picacho Bridge Replacement over Yuma Main Canal Replacement Project, Bridge No. 58C-28, County Project No. 6811, County of Imperial, California

Dear Mr. Gay,

The following letter summarizes the results of the cultural resources survey conducted for the proposed Picacho Bridge over Yuma Main Canal Replacement Project.

Project Description

The County of Imperial, California (County) contracted NV5 to conduct a cultural resources survey and evaluation of the built environment for the proposed Picacho Bridge (CalTrans Bridge No. 58C-28) over Yuma Main Canal Replacement Project (project). The project is located along Picacho Rd. (S-24) 0.4-miles north of the Colorado River and California/Arizona border in Section 16 of Township 16 South, Range 22 East (Figure 1). The bridge spans the Yuma Main Canal and serves as a route into the Townsite of Winterhaven. The purpose of the proposed project is to replace the heavily deteriorated 7-span timber bridge with a new single span structure. Picacho Road Bridge was originally constructed in 1925 and was modified in 1935 and 1947. The original construction consisted of five (5) 19-foot spans supported by timber stringers with minor improvements over the years. The bridge is currently in poor condition and has safety concerns from age and outdated design standards. The proposed Project will replace the Picacho Road Bridge with a structure that reflects current bridge design standards. It is proposed to replace the existing bridge with a new Precast Prestressed Concrete Girder Bridge that spans over the canal with no intermediate supports, to minimize disturbance to canal operations during construction and to keep debris out of the canal as much as possible. Additionally, only the updated pile caps will be removed, but the original piles and pile caps will remain in place.

The Area of Potential Effect (APE) measures 4.38 acres and covers all areas of potential ground disturbing activities including those related to construction work for the bridge replacement, any repaving and/or improvement of existing roads, and staging areas. The APE has been updated since the original survey in October 2022. The changes from the original APE and the proposed staging areas can be seen in Figure 2. Construction of the bridge will involve excavation for and construction of concrete abutments situated on 48-inch diameter cast-in-steel-shell (CISS) concrete pile foundations. Excavation depths will reach a maximum of 10 feet from the existing roadway profile at the bridge abutments. Other temporary work

includes removal of the existing abutments, falsework erection and removal, and installation of scour countermeasures at the abutments. New curb, gutter and sidewalk will be constructed on the north side of Picacho Road. Existing vegetation will need to be cleared and grubbed prior to grading operations. A temporary staging yard would be located within the existing Count right-of-way of Picacho Road between the bridge and Winterhaven Drive to accommodate the contractor's temporary facilities (see Figure 2 for the County right-of-way/staging area).

A cultural resources survey and evaluation of the built environment were conducted by NV5 Principal Archaeologist, Karry Blake, on October 12, 2022. No archaeological resources were identified during the survey. The built features including the bridge and Yuma Main Canal were examined and documented.

Regulatory Context

The County of Imperial anticipates receiving federal grant money from the Bridge Investment Program administered by the Federal Highway Administration (FHWA) for the Picacho Bridge project. In addition, the project is located in the County of Imperial on the Fort Yuma Indian Reservation and land withdrawn to the Bureau of Reclamation. Based on this combination of funding and jurisdictions, the project is subject to both State and Federal regulations. This includes the California Environmental Quality Act (CEQA). CEQA concerns two classes of cultural resources: "historical resources," which are defined in Public Resources Code Section 21084.1 and CEQA Guidelines Section 15064.5 and "unique archaeological resources," which are defined in Public Resources Code Section 21083. Through its federal nexus, the project must comply with Section 106 of the National Historic Preservation Act (as amended 54 USC 300101, formerly cited as 16 USC 470) and other applicable tribal state and federal regulations including the National Environmental Policy Act of 1969 (42 USC 4321; 42 USC 4331-4335)); the Archaeological Resources Protection Act (ARPA) of 1978 (16 USC 470aa-mm)); the American Indian Religious Freedom Act (AIRFA) of 1978 (42 USC 1996, 1996a); and the Native American Graves Protection and Repatriation Act (NAGPRA) (25 USC 3001-3013).

The Bureau of Reclamation will act as the lead federal agency for Section 106 compliance.

Tribal Consultation

The proposed project is fully within the Fort Yuma Indian Reservation thus tribal consultation was undertaken with the Fort Yuma Quechan Tribe. A meeting was facilitated between the Bureau of Reclamation, Fort Yuma Quechan Historic Preservation Office (Quechan HPO), and NV5 to discuss requirements for conducting cultural resource projects on Tribal land in Spring 2021. Quechan HPO was granted for the completion of the California Historic Resources Information System search in Summer 2021. Quechan THPO staff did not indicate any concern about Traditional Cultural Places within the proposed project area. In October 2022, prior to conducting fieldwork, a Plan of Work for the cultural resource survey was provided to the Quechan THPO to present to the Tribal Council for approval. After receipt of approval, fieldwork was completed on October 12, 2022. The lead federal agency (Bureau of Reclamation) will conduct government-to-government consultation with the Fort Yuma Quechan Indian Tribe on the report's findings.

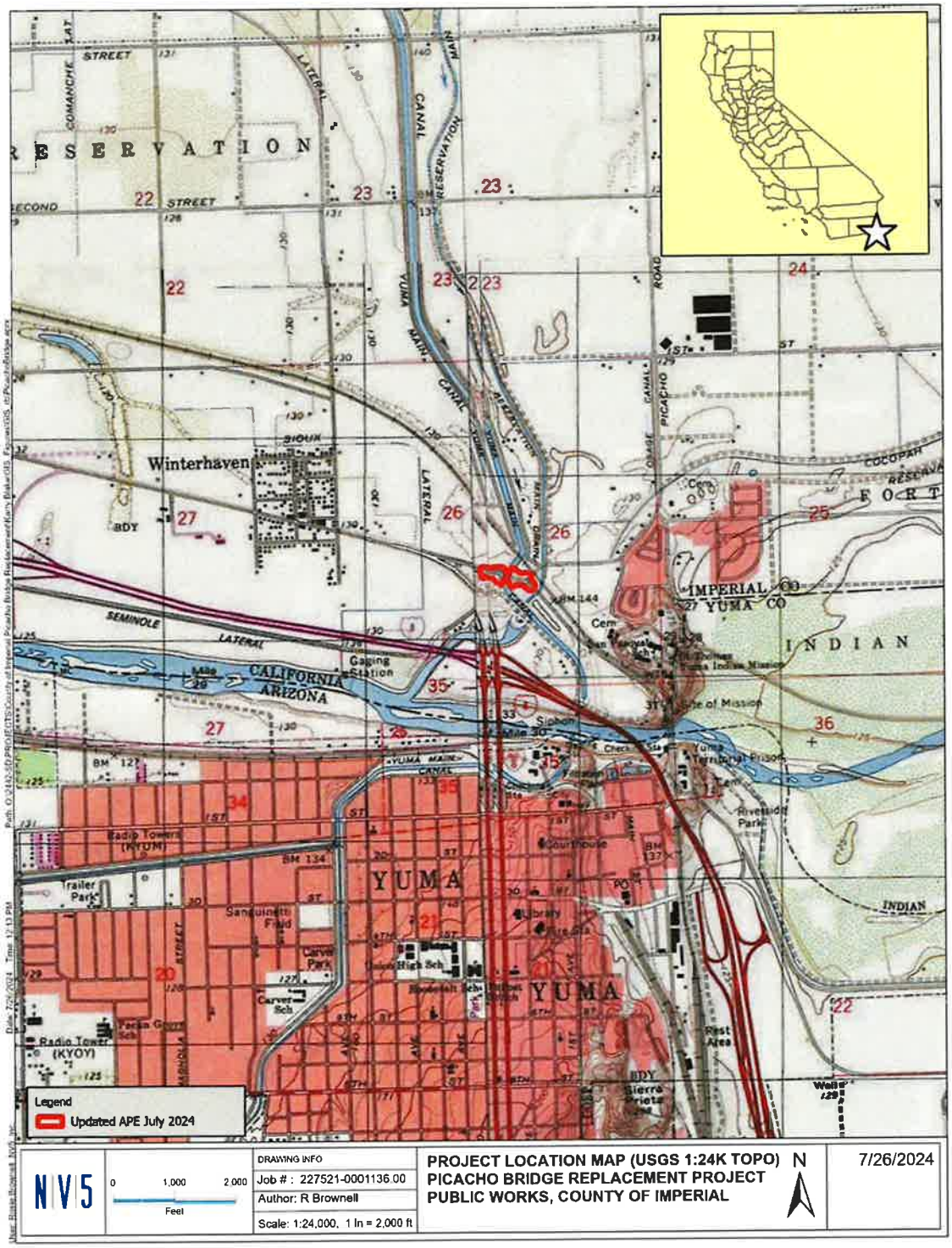


Figure 1: Project Location Map: Yuma East, AZ 1994 (ed. 1998) and Yuma West, AZ 1997 (ed. 2003), USGS 7.5' Series Quadrangles (1:24,000 Scale)

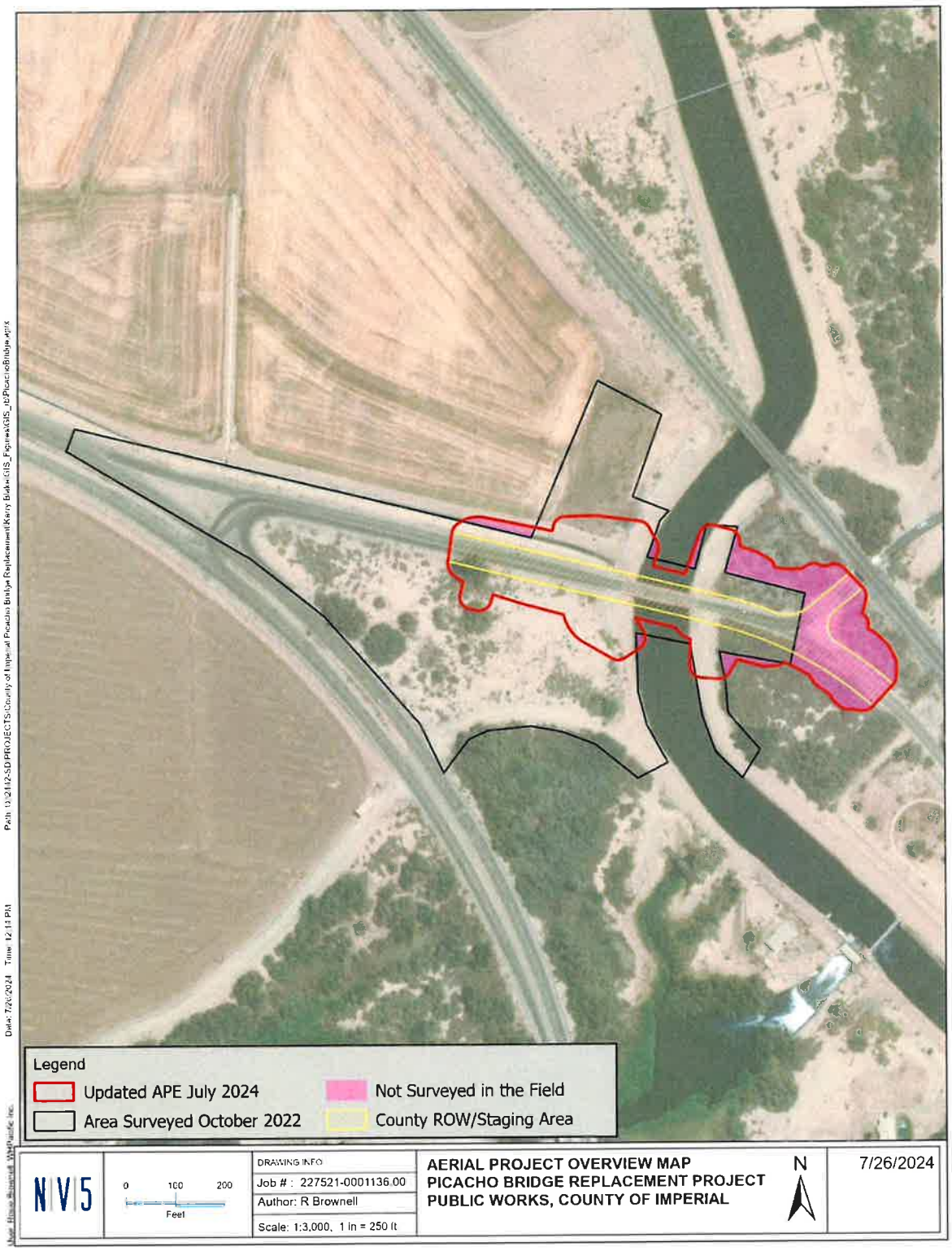


Figure 2: Aerial Overview of the APE

Environmental Setting

At 130 ft (40 m) above sea level, the project is located 0.4 miles north of the Colorado River. The Cargo Muchacho Mountains are 8.5 miles to the northwest, the Algodones Dunes are 13 miles to the west, and the Laguna and Gila Mountains are 11 miles to the east. The project is in the southeastern portion of the Colorado Desert Province and within the Lower Colorado/Gila River Valleys Ecoregion (Griffith et al. 2016; Norris and Web 1976).

The Colorado Desert Province is roughly bounded by the eastern Transverse Ranges to the north, the Colorado River to the east, the Peninsular Ranges to the west, and the Mexican border to the south. The province is characterized by low elevation ranging from approximately 130 ft (40 m) to 350 ft (107 m) above sea level distinguishing it from the higher elevation Mojave Desert Province to the north. The oldest exposed rocks are Precambrian crystalline gneisses, anorthosites, and schists found in the Chocolate, Cargo Muchacho, Palo Verde, Orocopia, Chuckwalla, and Little Chuckwalla mountains (Norris and Web 1976). One of the main features of the province is the Salton Basin dividing the Imperial Valley to the south and the Coachella Valley to the north. The center of the basin is the bed of historic Lake Cahuilla, a freshwater lake that went through many periods of filling and drying up over thousands of years finally drying up for the last time in the first half of the 18th century (Rockwell 2022). In 1905 the Colorado River jumped existing levees near the U.S./Mexico border and over the course of 18 months the entire volume of the river flowed into the Salton Basin forming the Salton Sea measuring 45 miles long, 17 miles wide, and 83 feet deep (National Audubon Society 2022).

The Lower Colorado/Gila River Valleys Ecoregion is located in low elevation corridors along the Colorado and lower Gila Rivers. Much of the landscape has been altered by invasive tamarisks now covering riverbanks which would normally have cottonwoods, willows, and mesquite. Upland areas are dominated by creosote bush and white bursage. A large amount of the land in this Ecoregion is under industrial-scale agricultural production including alfalfa, wheat, barley, lettuce, cotton, citrus, and melons (Griffith et al. 2016).

Soils in the project area are mapped by the National Resource Conservation Service (NRCS) as Holtville Clay in much of the western extent of the project area, Lagunita loamy sand in the north central portion, and Indio Silt Loam roughly encompassing the area between the canal and 100 ft to the west. Indio silt loam also covers the entire area on the east side of the canal. Holtville clay is mixed alluvium found on flood plains. It is more than 80 inches in depth to a restrictive feature and it is classified as prime farmland if irrigated and reclaimed of excess salts and sodium. Lagunita loamy sand is formed from recent mixed alluvium and is found on alluvial fans, flood plains, drainageways, and terraces. It is more than 80 inches in depth to a restrictive feature and it is classified as not prime farmland. Indio silt loam is mixed stream alluvium derived from igneous, metamorphic, and sedimentary rock. It is found on flood plains and is more than 80 inches in depth to a restrictive feature. It is classified as prime farmland if irrigated and reclaimed of excess salts and sodium (NRCS 2022).

Archaeological Overview

The precontact archaeological record of the Southern California can be divided into the following periods: the Terminal Pleistocene and Early Holocene (ca. 13,000 BC to 7000 BP), the Middle Holocene (ca. 7000 BP to 3500 BP), and the Late Holocene (ca. 3500 BP to Euro-American influence and contact in the mid-

18th to early-19th centuries) (Byrd and Raab 2007; Rick et al. 2005). As Sutton et al. (2010) note, the Colorado Desert itself is in an extreme environment and ecological conditions greatly affect its habitability. For example, trends in moisture levels likely influenced occupation strategies that may have left large pieces of desert abandoned or rarely visited during the drier periods. However, in relation to the project area, the Colorado River likely remained a vital point of water and food resources during both wet and dry periods and could have been occupied even during any period. Groups had large territories with shifting boundaries and often shared resources with other groups.

The region has a long history of known human occupation and the oldest evidence comes from the Channel Islands. Human remains found on Santa Rosa Island known as the "Arlington Springs Woman" date to 13,000 BP. The site at Daisy Cave (SMI-261) on San Miguel Island, one of the oldest known sites in California, has evidence of long-term occupation with archaeological material dating back to ca. 10,500 BP. (Erlandson et al. 1996; Glassow et al. 2010). Other sites on the Channel Islands have provided evidence of early human occupation and include intact shell midden deposits, basketry, and cordage. Clovis-style projectile points have also been found in the Mojave Desert, but due to limited finds, only sparse information has been gleaned about Paleo-Indian groups in the immediate area. It is inferred that they were highly mobile and lived in small groups in temporary camps near permanent water sources (Sutton 2010).

In the early Holocene, evidence emerges for the "Lake Mojave Period" between approximately 10,000 BP and 7,000 BP. This period is characterized by leaf-shaped knives, small leaf-shaped points, "Lake Mohave" and "Silver Lake" points, abundant scrapers, engraving tool, crescents, and a lack of groundstone implements (Warren 1967). The lack of groundstone could suggest a low-reliance on plant foods with groups relying more on a foraging-based strategy in relatively small social units. Sites do include a relatively high diversity of raw lithic materials and non-local material such as shell beads suggest that groups had wide spheres of interaction either through trade or travel (Sutton et al. 2010). However, the Late Pleistocene and Early Holocene offer scarce evidence for human presence in the Colorado Desert specifically, which is likely not due to a lack of human presence, but due to high mobility, small group size, instability of landforms such as the Colorado River Valley and simply, a lack of archaeological investigations in the area (Schaefer and Laylander 2010).

Archaeology of the Middle Holocene, ranging from approximately 7000 BP to 3500 BP, is characterized by a decrease in raw material diversity and an increase in groundstone use, possibly indicating an increase on plant food reliance. In addition, larger sites have been observed that correlate closely with water sources and contain substantial middens. This evidence could be related to larger groups using a collector-like settlement strategy based on centralized site locations in favorable locations used as bases for logistical forays into surrounding resource patches (Schaefer and Laylander 2010).

The Late Holocene, beginning in approximately 3500 BP and ending at European contact, is comprised of several distinct periods (called complexes) characterized by diagnostic projectile points and different site characteristics. The first of these complexes, the Gypsum Complex (2000 BC to AD 200), has few sites in the area and does not differ substantially from the previous periods. But the following complex, the Rose Spring Complex (AD 200 to 1100), is marked by a dramatic change in cultural systems with the arrival of bow and arrow technology. New technology brought an increase in population at least partially due to improved resource acquisition strategies including evidence of agricultural practices beginning around 700 AD. Archaeological evidence for the complex includes wikiups and pit houses suggestive of more intensive occupation. In addition, artifact assemblages diversify with the addition of knives, drills, pipes, bone awls, groundstone, marine shell ornaments and large quantities of obsidian. During the Rose Spring Complex, Patayans, ancestors of the Yavapai and Yuman peoples, made the first known ceramics known in the Colorado Desert (Sutton et al. 2010).

Ethnographic Background and Post Contact History

The projected is in the traditional territory of the Quechan (also known as Yuma) people. The Quechan people lived in a series of settlements or rancherias north and south of the Colorado River and Gila River confluence. People moved settlements through the year in response to river conditions and seasonal flooding. Traditional lodging included ramadas, dome-shaped arrowweed shelters during the farming season, and rancheria leaders and their families typically lived in three sided earthen shelters framed with posts and horizontal slats between which arrowweed was stuffed (Bee 1983).

Foraged and cultivated plant foods provided much of the Quechan diet. Foraged drought-resistant mesquite and screw bean seeds and pods were always important staples and particularly essential during drought or harvest failures. Crops planted in a seasonal rotation in post-flood silt deposits along the rivers included teparies, maize, watermelons, black-eyed beans, pumpkins, muskmelons, winter wheat, and wild grasses. Important material culture included mortars and pestles for processing plant foods, digging sticks, and bows and arrows (Bee 1983).

Estimates put the Quechan population at 4,000 on the eve of Euro-American contact. Hernando de Alarcón's Spanish company was recorded in Quechan territory as early as 1540 and may have been the first direct European contact with the tribe (Bee 1983). A Jesuit priest, Father Eusebio Francisco Kino visited in 1698 and in 1780 a Franciscan, Padre Fransico Garcé established two missions in Quechan territory. Within a year of the missions' establishment, the Quechan reclaimed control of their territory and maintained control until the mid-1850s (Waldman 1999). This contrasted with the establishment of 21 other missions between San Diego and San Francisco that succeeded in enforcing mass conversions of other tribes many of whom became laborers forced to work for missions or landowners. Although Spanish priests persisted in attempting to convert the Quechan, the Quechan did not suffer the same degree of cultural erasure as those peoples subjected to life under the missions (Bee 1983). However, diseases brought in by the Spanish and other Euro-Americans still decimated regional populations (Bean and Smith 1978).

The position of Quechan territory at the confluence of two major rivers made it a strategic and active area for soldiers and settlers moving through the area in the eighteenth and nineteenth centuries. In the mid-nineteenth century large numbers of Euro-American settlers began to pass through the area on their way into California. In 1852 Fort Yuma was built on a bluff near the confluence with the purpose of protecting settlers and other traffic through the area. By the late nineteenth century, the number of Euro-American settlers in the area continued to increase and settlers began to take the fertile river bottomlands traditionally farmed by the Quechan. The Fort Yuma Reservation was created by the federal government in 1883 and the tribe formally signed away most of its land under pressure in 1886 with the agreement only allowing for five acres per person living at the time. The rest of the land was sold at auction (the legality of this whole process was challenged for years by the tribe). Finally, after lengthy negotiations with the Department of the Interior, 25,000 acres of the original 1884 reservation were restored to the tribe in 1978 based on the government not meeting the original conditions (Bee 1983 and Waldman 1999). The tribe has been able to acquire additional land over the years and the Fort Yuma Quechan Indian Tribe reservation covers 45,000 acres and has over 3,200 enrolled members. Agriculture is the primary land use on the reservation (Fort Yuma Quechan Tribe 2022).

Records Research and Literature Review

NV5 archaeologist, Karry L. Blake, requested a records search of the APE and adjacent area from the California Historical Resources Information System (CHRIS). The search results were received from the South-Central Coastal Information center June 2021. This kind of search allows for predictions to be made regarding the occurrence and frequency of archaeological sites in areas that have not been previously identified. Results include an inventory of 20 surveys previously conducted within ¼-mile of the APE including nine surveys that cross the current APE. The surveys were conducted for a variety of projects including fiber optic and other utility lines, home sites, railroad work, bridge work, road construction, and water/sewer line projects. CHRIS provided copies of shapefiles showing survey and resource locations and copies of seven of the twenty survey reports cited in the results (Table 1). Two of those were surveys previously conducted in the APE (Maxon 1984 and von Werlhof 1996); no copies of site records were received.

In addition, historic maps including a General Land Office plat dating to 1854, 1857, and 1889, and USGS Topographic maps dating to 1952 and 1965 were examined for any pertinent cultural information. The 1857 plat shows a road with a northeast-southwest path in the vicinity of the project area, but no other development is clear in the General Land Office plats. By the 1952 topographic map, the Yuma Main Canal and Picacho Road are visible. The Yuma Main Canal is a historic linear resource constructed in 1912 and evaluated as eligible to the NRHP. Bridge 58C-28 on Picacho Road over the Yuma Main Canal was constructed in 1925 and rehabilitated in 1947. It was determined not eligible to the NRHP. The canal and bridge will be discussed further in the results section below.

Table 1: Previous Cultural Resource Investigations within ¼-mile of the Project Area

CHRIS ID	Report Title and Reference
00447	*Archaeological Resources of the Fort Yuma Indian Reservation Portion of Yuma Crossing National Historic Landmark in Imperial County, California and Yuma County, Arizona*
	Stone, Lyle M. 1990
00598	*Proposed Yuma Division Dredge Spoil*
	Maxon 1984
00609	*Archaeological Survey of the Yuma Division Colorado River Front Work and Levee System*
	Prescott College Archaeological Survey 1973
00667	*Archaeological Survey, Yuma County, Arizona, Colorado River International Salinity Control Project*
	Gumerman and Weed 1973
00686	*Archaeological Survey of Two Segments of the Interstate 8 Right-of-Way, Imperial County, California*
	McDonald and Victorino 1997
00813	*From Yuma Lift Station to Quechan Community Center, An Engineering Project Funded by An Environmental Protection Agency Borders 21 Program*
	von Werlhof 2002
00851	*Archaeological Investigations of Picacho Road and Yuma Main Canal Bridge, No. 58C0028*
	von Werlhof 1996

Expected Resource Types

Although the location of the APE is likely in an area that saw significant levels of precontact and historic activity, its position in and adjacent to a road and bisected by a large canal means the that likely the entire APE has undergone significant ground disturbing activities related to construction activities (excavation, fill placement, dredging, etc.). For these reasons, the potential for the discovery of intact cultural resources was anticipated to be low. However, there is always a possibility of archaeological discovery, and it was anticipated that if found, cultural resources would most likely be pre-contact artifact scatters or isolates related to resource acquisition areas, historic artifacts related to canal construction and/or general household refuse related to historic-period dumps near the roadway.

Field Methods

Fieldwork was performed by NV5 Principal archaeologist, Karry L. Blake, on October 12, 2022. The archaeologist was provided with USGS topographic quadrangle maps and high-resolution aerial photographs depicting the APE. In addition, GIS shapefiles of the APE were uploaded to handheld FieldMaps application supported by a Juniper Geode device with sub-meter accuracy used to record the locations of survey transects, roads, and other features encountered during the field investigations. The project area was walked in parallel north-south transects spaced no more than 10 meters apart. Surface visibility averaged roughly 95 percent with areas of up to 100 percent visibility and some as low as 50 percent. No artifacts or cultural features were encountered during the pedestrian survey.

Results

Archaeological Pedestrian Survey

The project APE is heavily disturbed and filled with materials resulting from dredging the Yuma Main Canal (Figures 3 to 6). Southwest of the bridge the APE is primarily dredge materials with associated aquatic snails mixed in the sandy silt. Dredge materials deposited in this area have been periodically leveled to allow for the placement of additional materials around the margins of this space. These dredge spoils are located primarily in the southwest portion of the APE, but older spoils are in the northeast and southeast. Intact surfaces include areas in the northern half of the project area. Modern trash was frequently encountered throughout the APE. No cultural resources were encountered during this survey.

Update Regarding 2024 APE Change

The final APE has shifted from the original area surveyed in 2022. Although the original APE includes most of the revised version, there are a few areas along the eastern and northern portions of the APE that were not subject to pedestrian survey (please review Figure 2 for the details). Approximately 3.07 acres of the total 4.38 acres APE were surveyed. When Ms. Blake was onsite in October 2022, she noted that the eastern portion of the APE (including the adjacent unsurveyed portions) had been built up with dredged materials and therefore showed little likelihood of intact cultural deposits. As the new additions to the APE are capped with dredge materials, NV5 does not recommend additional an archaeological survey of the APE.

Figure 3: Overview of the southwest portion of the APE, view to the northwest

Figure 4: Overview of the northwest area of APE, view to the north

Figure 5: Overview of the northeast area of the APE, view to the southeast

Figure 6: Eroding dredge deposits found around the margins of the southwest portion of the APE

Historic Architectural Survey

Yuma Main Canal

The **Yuma Main Canal is a historic property** as it is part of the Yuma Project or Yuma Irrigation Project (YIP) which has been determined eligible for inclusion on the NRHP. The YIP was recommended National Register of Historic Places (NRHP) by Pfaff et al.'s (1999) report under Criteria A and C. The YIP was created by the United States Reclamation Service as a way of transferring water from the Colorado River to communities on both sides of the river: in Imperial County, California and Yuma County, Arizona (Pfaff et al. 1999). The YIP was originally divided into three administrative units, one of which, the Reservation Division, encompassed lands lying north and west of the Colorado River in California within the boundaries of the Quechan Indian Reservation which includes the current APE. The YIP originally included one diversion dam, ten primary canals measuring approximately 60 miles in length and approximately 218 miles of laterals. Surveys for the project began in 1903 and construction began in 1905. Project components included a dam to control and divert river water into adjoining canals. The Yuma Main Canal (sometimes referred to as the California Main Canal), is the largest canal of the YIP. It travels over 10 miles from the end of Laguna Dam southwest and south to the northern bank of the Colorado River where it crosses under

the river through an inverted siphon then travels west through Yuma before bifurcating into the East and West Main canals. The Yuma Main Canal was constructed in three sections starting in 1909 and completed in 1912 (Pfaff et al. 1999; Stene 1996).

Figure 7: Overview of Yuma Main Canal and Picacho Bridge access road, view to the south-southeast

Picacho Road Bridge over Yuma Main Canal (CalTrans Bridge No. 58C-28)

Picacho Road Bridge over Yuma Main Canal was constructed in 1925 and rehabilitated in 1947 (California Historic Bridge Inventory). It was previously determined not eligible for the NRHP (CalTrans 2019). An inspection of the bridge indicated that the bridge remains unchanged. It is a timber structure with an asphalt deck.

Figure 8: South side of the Picacho Bridge taken from the eastern end of the bridge, view to the west

Conclusions and Recommendations

Imperial County proposes to replace the failing bridge over the Yuma Main Canal along Picacho Road with a new structure. A cultural resources survey was conducted in compliance with CEQA and Section 106 requirements. No archaeological resources were encountered. Two historic resources were observed: the Picacho Road Bridge over Yuman Main Canal and the Yuma Main Canal.

Picacho Road Bridge over Yuma Main Canal (CalTrans Bridge No. 58C-28)

The existing bridge was put in place in 1947 and meets the age criteria to be considered as an above ground historic resource. Previous evaluation has recommended this structure as *not eligible* for the NRHP. NV5 concurs with this recommendation. It is the recommendation of NV5 that the construction of the proposed facilities will have **No Adverse Effect** upon any cultural resources. NV5 recommends that no further archaeological work is needed, and project development should proceed as planned.

Yuma Main Canal

The Yuma Main Canal is a historic property and will continue to convey its significance and maintain its integrity, therefore NV5 recommends a finding of N**o Adverse Effect** on this historic property. Work on the bridge has been planned to minimize disturbance to canal operations during construction and to keep debris out of the canal as much as possible. Additionally, the original piles and pile caps will remain in place.

Development always presents the potential to expose previously undetected subsurface cultural resources during construction. If this should occur, all construction should cease, and a qualified archaeologist should be consulted. The protocols of an Inadvertent Discovery Plan (Appendix A) should be implemented. If human remains are encountered during excavation or other ground disturbing activities, work in and around the remains must halt and the Imperial County coroner notified and provisions of NAGPRA followed.

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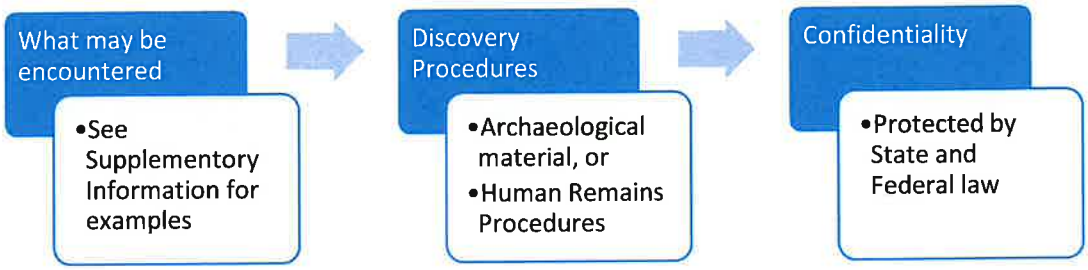
Appendix A: Archaeological Inadvertent Discovery Plan (IDP)

Picacho Bridge Replacement over Yuma Main Canal Replacement Project, Bridge No. 58C-28, County Project No. 6811

How to use this document



Archaeology consists of the physical remains of the activities of people in the past. This IDP should be followed should any suspected archaeological sites, objects, or human remains are found. These are protected under Federal and State laws and their disturbance can result in criminal penalties.

This document pertains to the work of the Contractor, including any and all individuals, organizations, or companies associated with Picacho Bridge Replacement over Yuma Main Canal Replacement Project.

What may be encountered

Archaeology can be found during any ground-disturbing activity. If encountered all excavation and work in the area MUST STOP. Archaeological objects vary and can include evidence or remnants of historic-era and precontact activities by humans. Archaeological objects can include but are not limited to:

- ***Stone flakes, arrowheads, stone tools, bone or wooden tools, baskets, beads.***
- *Historic building materials such as* ***nails, glass, metal*** *such as cans, barrel rings, farm implements,* ***ceramics, bottles, marbles, beads.***
- *Layers of* ***discolored earth*** *resulting from hearth fire*
- *Structural remains such as* ***foundations***
- ***Shell*** *Middens*
- ***Carved or engraved stone*** *and/or metal* ***coffin fittings, coffin wood***
- ***Human skeletal remains*** *and/or* ***bone fragments*** *which may be whole or fragmented.*

For photographic examples of artifacts, please see the attached images (Human remains not included).

If there is an inadvertent discovery of any archaeological objects, see procedures below.

If in doubt call it in.

Discovery Procedures: What to do if you find something

1. *Stop ALL work in the vicinity of the find*
2. *Secure and protect area of inadvertent discovery with 30 meter/100 foot buffer—work may continue outside of this buffer*
3. *Notify Project Manager and Agency Official*
4. *Project Manager will need to contact a professional archaeologist to assess the find.*
5. *If an archaeologist determines the find is an archaeological site or object,* ***the stipulations of 36 CFR 800.13(b) for Post-review discoveries without prior planning, will apply.***
6. *For post-review discoveries, contact the California SHPO* ***and the Bureau of Reclamation, Yuma Area Office, Environmental Planning Group (928) 343-8100.***

Human Remains Procedures

1. *If it is believed the find may be human remains, stop ALL work.*
2. *Secure and protect area of inadvertent discovery with 30 meter/100 foot buffer, then work may continue outside of this buffer with caution.*
3. *Cover remains from view and protect them from damage or exposure, restrict access, and leave in place until directed otherwise.* ***Do not take photographs. Do not speak to the media.***
4. *If human remains are encountered,* ***immediately notify the Bureau of Reclamation, Yuma Area Office, Environmental Planning Group (928) 343-8100. Also*** *notify:*
    - *Project Manager*
    - *County of Imperial*
    - *Imperial County Coroner* ***DO NOT CALL 911***
    - *Office of Historic Preservation (OHP)*
    - *Native American Heritage Commission (NAHC)*
    - *Appropriate Native American Tribes*
5. *If human remains are encountered and determined not to be a crime scene by the local Police Department and Imperial County Coroner,* ***the procedures in 43 CFR 10.5 for Discovery of human remains or cultural items on Federal or Tribal lands, will be followed.***
6. *Do not resume any work in the buffered area until a plan is developed and carried out between the Coroner, OHP, NAHC, and appropriate Native American Tribes or descendent groups and you are directed that work may proceed.*
7. *If human remains are encountered,* ***immediately notify the Bureau of Reclamation, Yuma Area Office, Environmental Planning Group (928) 343-8100.***

Contact Information

- Project Manager, Katherine Morrison*: 562-787-3877*
- County of Imperial, John Gay, Director of Public Works: *442-265-1818*
- Archaeologist: *to be identified at project implementation*
- Imperial County Coroner *: 760-339-6302*
- California Office of Historic Preservation (OHP)

- State Historic Preservation Officer (SHPO), Julianne Polanco: *916-445-7000*
- Deputy SHPO, Tribal Liaison, Jody L. Brown, *916-445-7000*

- NAHC, Andrew Green: *916-573-1072/916-373-3710*
- Appropriate Tribes and Descendent Groups (to be determined after OHP and NAHC consultation)

Confidentiality

The Picacho Bridge Replacement over Yuma Main Canal Replacement Project employees shall make their best efforts, in accordance with federal and state law, to ensure that its personnel and contractors keep the discovery confidential. The media, or any third-party member or members of the public are **not** to be contacted or have information regarding the discovery. Prior to any release, the responsible agencies and Tribes/Descendent Groups shall concur on the amount of information, if any, to be released to the public.

To protect fragile, vulnerable, or threatened sites, the National Historic Preservation Act, as amended (Section 304 [16 U.S.C. 470s-3]), and California State Health and Safety Code, Section 7050.5, and PRC Section 5097.98 establishes that the location of archaeological sites, both on land and underwater, shall be confidential.

Stone flakes

Stone tool fragments

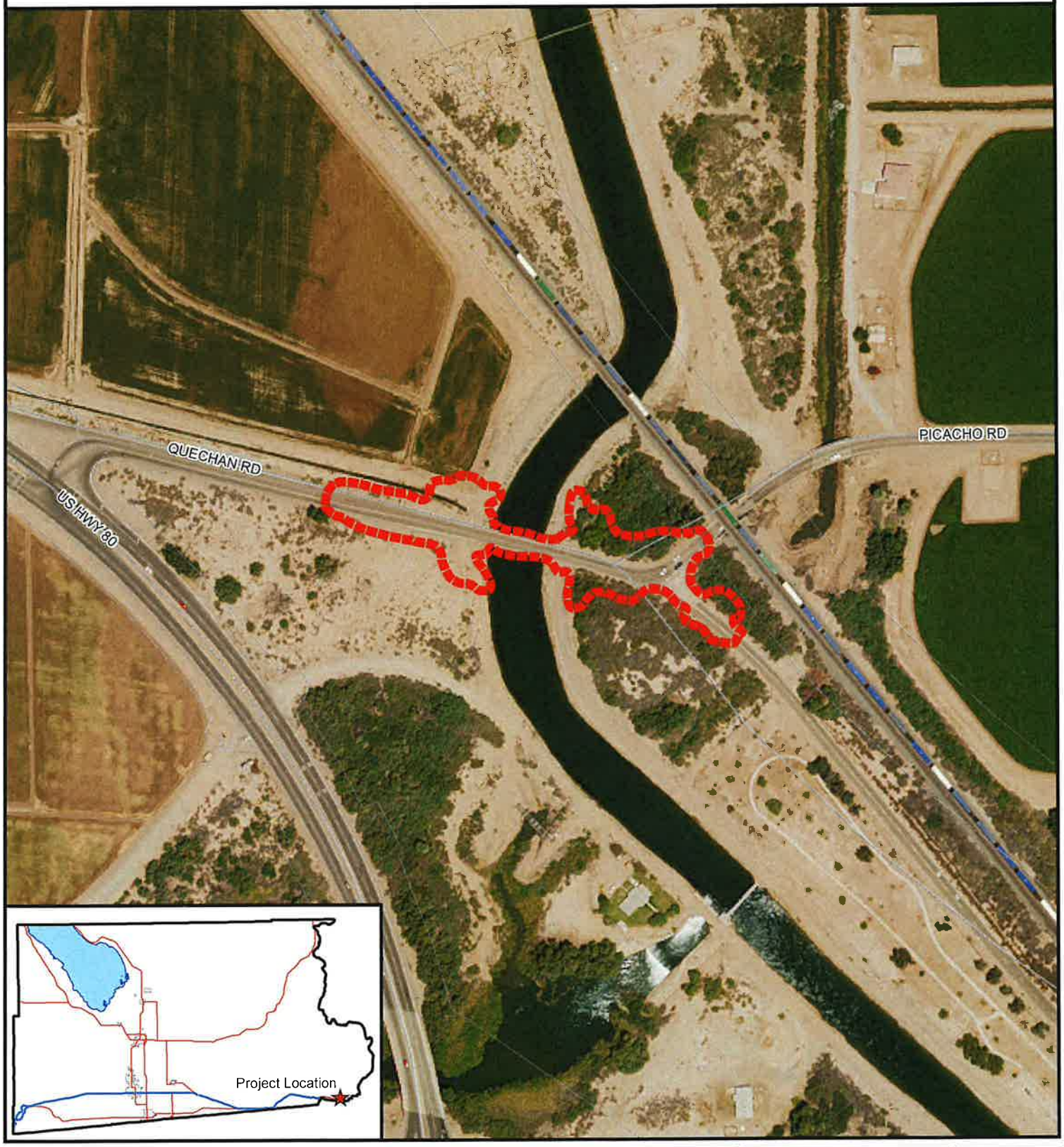
Cordage

Shell midden

Historic glass artifacts

Historic metal artifacts

PROJECT LOCATION MAP



IMPERIAL COUNTY CALIFORNIA

PICACHO RD
BRIDGE REPLACEMENT
IS #24-0037

Project Location
Centerline
Parcels

EEC ORIGINAL PKG

N

COUNTY OF IMPERIAL

PICACHO ROAD BRIDGE REPLACEMENT OVER YUMA MAIN CANAL, BR. NO.

COUNTY PROJECT NO. 6811

FEDERAL PROJECT NO.

GENERAL NOTES

1. THE STRUCTURAL SECTION SHALL BE IN ACCORDANCE WITH TYPICAL CROSS SECTIONS ON SHEETS X-1 AND X-2
2. APPROVAL OF THESE IMPROVEMENT PLANS AS SHOWN DOES NOT CONSTITUTE APPROVAL OF ANY CONSTRUCTION OUTSIDE THE PROJECT BOUNDARY.
3. THE EXISTENCE AND LOCATION OF EXISTING UNDERGROUND FACILITIES SHOWN ON THESE PLANS WERE OBTAINED BY A SEARCH OF THE AVAILABLE RECORDS. TO THE BEST OF OUR KNOWLEDGE, THERE ARE NO OTHER EXISTING FACILITIES EXCEPT AS SHOWN ON THESE PLANS. HOWEVER, THE CONTRACTOR IS REQUIRED TO TAKE PRECAUTIONARY MEASURES TO PROTECT ANY EXISTING FACILITY SHOWN HEREON AND ANY OTHER THAT IS NOT OF RECORD OR NOT SHOWN ON THESE PLANS
4. LOCATION AND ELEVATIONS OF IMPROVEMENTS TO BE MET BY WORK TO BE DONE SHALL BE CONFIRMED BY FIELD MEASUREMENTS PRIOR TO CONSTRUCTION OF NEW WORK. CONTRACTOR WILL MAKE EXPLORATORY EXCAVATIONS AND LOCATE EXISTING UNDERGROUND FACILITIES SUFFICIENTLY AHEAD OF CONSTRUCTION TO PERMIT REVISIONS TO PLANS IF REVISIONS ARE NECESSARY BECAUSE OF ACTUAL LOCATION OF EXISTING FACILITIES
5. UTILITIES COORDINATION
6. NO LESS THAN 2 WORKING DAYS PRIOR TO ANY EXCAVATION OR TRENCHING EACH CONTRACTOR DOING SUCH WORK SHALL CONTACT THE FOLLOWING AGENCIES SO THAT EXISTING UNDERGROUND UTILITIES MAY BE LOCATED. THE AGENCY MAY REQUIRE AN INSPECTOR TO BE PRESENT.

1 QUECHAN INDIAN TRIBE (SEWER/WATER)	(760) 572-5270
2 IMPERIAL IRRIGATION DISTRICT (POWER)	(760) 339-9280
3 BARD WATER DISTRICT (WATER)	(760) 356-0714
4 TDS TELECOM (TELEPHONE)	(888) 225-5837
5 SOUTHERN CALIFORNIA GAS CO	811
6 CHARTER COMMUNICATIONS (CABLE)	(760) 674-5455

7. EXISTING UNDERGROUND UTILITIES
8. BEFORE EXCAVATING FOR THIS CONTRACT, VERIFY LOCATION OF UNDERGROUND UTILITIES. THE EXISTENCE AND LOCATION OF ANY UNDERGROUND UTILITY PIPES OR STRUCTURES SHOWN ON THESE PLANS HAVE BEEN OBTAINED FROM AVAILABLE RECORDS ONLY AND MAY NOT REFLECT ALL EXISTING UTILITIES. LOCATION OF ALL EXISTING UTILITIES SHALL BE CONFIRMED BY FIELD MEASUREMENTS BY CONTRACTOR PRIOR TO CONSTRUCTION OF WORK.
9. CONTRACTOR IS REQUIRED TO TAKE PRECAUTIONARY MEASURES TO PROTECT THE UTILITY LINES SHOWN HEREON AND ANY OTHER EXISTING LINES NOT OF RECORD OR NOT SHOWN ON THESE PLANS
10. ACCURATE VERIFICATIONS AS TO SIZE, LOCATION AND DEPTH OF EXISTING UNDERGROUND SERVICES SHALL BE THE CONTRACTOR'S RESPONSIBILITY. THE CONTRACTOR SHALL NOTIFY THE SOUTHERN CALIFORNIA GAS COMPANY, TDS, BARD WATER DISTRICT, CHARTER, IMPERIAL IRRIGATION DISTRICT AND ANY OTHER AFFECTED UTILITY AGENCIES PRIOR TO STARTING HIS WORK NEAR SUCH UTILITY FACILITIES AND SHALL COORDINATE HIS WORK WITH UTILITY REPRESENTATIVES FOR LOCATION OF UNDERGROUND UTILITIES AND APPURTENANCES. CONTACT "UNDERGROUND SERVICE ALERT" AT 811
11. CONTRACTOR WILL BE RESPONSIBLE FOR THE REPLACEMENT OF ANY STRIPING, PAVEMENT MARKERS, OR LEGENDS OBLITERATED BY THE CONSTRUCTION OF THIS PROJECT.
12. THE CONTRACTOR SHALL DO ALL NEW STRIPING AND SANDBLASTING OF REDUNDANT [illegible]
13. UNDERGROUND SERVICE ALERT (USA) MUST BE CALLED TWO WORKING DAYS BEFORE THE CONTRACTOR MAY EXCAVATE. THEIR CONTACT NUMBER IS 811. ALL WORK AND MATERIALS ARE SUBJECT TO THE INSPECTION AND APPROVAL FROM THE COUNTY DEPARTMENT OF PUBLIC WORKS OR THEIR REPRESENTATIVE.
14. NO REVISIONS OF ANY KIND SHALL BE MADE TO THESE PLANS WITHOUT THE PRIOR WRITTEN APPROVAL OF BOTH THE COUNTY ENGINEER (OR HIS REPRESENTATIVE) AND THE ENGINEER OF RECORD. A REPRODUCIBLE AS-BUILT PLAN SET WILL BE PROVIDED TO THE PUBLIC WORKS DEPARTMENT AS A CONDITION OF SUBSTANTIAL CONSTRUCTION COMPLETION AND PRIOR TO ACCEPTANCE.
15. ALL WORK AND MATERIALS SHALL CONFORM TO THESE PLANS AND SPECIFICATIONS, THE IMPERIAL COUNTY DEPARTMENT OF PUBLIC WORKS STANDARDS AND ANY REFERENCED STANDARDS AND SPECIFICATIONS OF THE AGENCIES REFERRED TO HEREIN. ALL WORK SHOWN OR INDICATED BY THESE PLANS SHALL BE COMPLETED IN ACCORDANCE WITH THE STANDARDS, POLICIES AND REGULATIONS OF IMPERIAL COUNTY. WHERE, OR IF, CONFLICTS OCCUR, THEN THE IMPERIAL COUNTY REQUIREMENTS SHALL GOVERN.
16. UNLESS SPECIFICALLY INDICATED OTHERWISE METHODS EMPLOYED AND MATERIAL USED IN THE CONSTRUCTION OF ALL OFFSITE IMPROVEMENTS SHALL CONFORM TO THE APPLICABLE PROVISIONS OF THE "STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS 2023 EDITION. ALL WORK IS SUBJECT TO INSPECTION AND APPROVAL AS REQUIRED.
17. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN AN EXCAVATION PERMIT FROM THE STATE OF CALIFORNIA DIVISION OF SAFETY AND TO ADHERE TO ALL PROVISIONS OF THE STATE CONSTRUCTION SAFETY ORDERS AND STANDARDS
18. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN A GENERAL CONSTRUCTION ACTIVITY STORM WATER PERMIT FROM THE STATE WATER RESOURCES CONTROL BOARD DIVISION OF WATER QUALITY. CONTACT "STATE WATER RESOURCES CONTROL BOARD, DIVISION OF WATER QUALITY, ATTENTION STORM WATER PERMIT UNIT, P.O. BOX 100, SACRAMENTO, CALIFORNIA, 95812-0100".
19. CONSTRUCTION PROJECTS DISTRUBING MORE THAN ONE ACRE MUST OBTAIN A NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT. OWNER/DEVELOPERS ARE REQUIRED TO FILE A NOTICE OF INTENT (NOI) WITH THE STATE WATER RESOURCES CONTROL BOARD, PREPARE A STORM WATER POLLUTION PREVENTION PLAN (SWPPP) AND MONITORING PLAN FOR THE SITE.
20. EXISTING STORM DRAIN PIPES/CULVERTS WHETHER TO BE CONNECTED TO, EXTENDED, ADJUSTED, DRAINED TO, OR JUST IN PROJECT VICINITY SHALL BE REPAIRED AND/OR CLEANED TO MAKE THEM FUNCTIONAL AND ACCEPTABLE AS DIRECTED BY THE PUBLIC WORKS DIRECTOR.
21. TEMPORARY TRAFFIC CONTROL DEVICE SHALL BE IN ACCORDANCE WITH THE CURRENT MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND THE CALIFORNIA SUPPLEMENT AS DIRECTED BY THE IMPERIAL COUNTY ENGINEER.
22. ANY EXISTING SURVEY MONUMENTS OR COUNTY RECOGNIZED BENCHMARKS SHALL BE PROTECTED BY THE CONTRACTOR. SHOULD ANY SUCH MONUMENTS OR BENCHMARKS BE REMOVED, DAMAGED, OBLITERATED OR ALTERED BY THE CONTRACTOR'S OPERATIONS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER RESETTING OF THE SAME AS PER THE SUBDIVISION MAP ACT, THE PROFESSIONAL LAND SURVEYORS ACT AND THE SATISFACTION OF THE COUNTY SURVEYOR/DIRECTOR OF PUBLIC WORKS. SUCH POINTS SHALL BE REFERENCED AND REPLACED WITH APPROPRIATE MONUMENTATION BY A LICENSED LAND SURVEYOR OR A REGISTERED CIVIL ENGINEER AUTHORIZED TO PRACTICE LAND SURVEYING. A CORNER RECORD OR RECORD OF SURVEY AS APPROPRIATE SHALL BE FILED BY THE LICENSED LAND SURVEYOR OR REGISTERED CIVIL ENGINEER.
23. DUST SHALL BE CONTROLLED BY THE CONTRACTOR IN ACCORDANCE WITH ALL IMPERIAL COUNTY AIR POLLUTION CONTROL DISTRICT (APCD) FUGITIVE DUST CONTROL RULES AND REGULATIONS AND SHALL COMPLY WITH THEIR PERMITTING REQUIREMENTS IF APPLICABLE.

VICINITY MAP

ABBREVIATIONS

AB	AGGREGATE BASE	MR	MOVEMENT RANGE
Abut	ABUTMENT	N	NORTH
AC	ASPHALT CONCRETE	No.	NUMBER
Alt	ALTERNATE, ALTERNATIVE	NTS	NOT TO SCALE
AP	ANGLE POINT	OG	ORIGINAL GROUND
Approx	APPROXIMATE	OH	OVERHEAD
Ave	AVENUE	PC	POINT OF CURVATURE, PRECAST
BB	BEGINNING OF BRIDGE	PCC	POINT OF COMPOUND CURVE, PORTLAND CEMENT CONCRETE
BC	BEGIN HORIZONTAL CURVE	PG	PROFILE GRADE
Beg	BEGIN	POC	POINT OF HORIZONTAL CURVE
Brg	BEARING	POT	POINT OF TANGENT
BVC	BEGIN VERTICAL CURVE	PP	PLASTIC PIPE, POWER POLE
BWD	BARD WATER DISTRICT	PRC	POINT OF REVERSE CURVE
C&G	CURB AND GUTTER	PS	PRESTRESSED
CATV	CABLE TELEVISION	psi	POUNDS PER SQUARE INCH
CB	CONCRETE BARRIER	PVI	POINT OF VERTICAL INTERSECTION
CICB	CURB INLET CATCH BASIN	Pvmt	PAVEMENT
CISS	CAST-IN-STEEL SHELL	QIT	QUECHAN INDIAN TRIBE
℄	CENTERLINE	R	RADIUS
Clr	CLEAR, CLEARANCE	R/C	RATE OF CHANGE
CMP	CORRUGATED METAL PIPE	RCP	REINFORCED CONCRETE PIPE
Cont	CONTINUOUS	RGJ	RUBBER GASKET JOINT
CSP	CORRUGATED STEEL PIPE	Rd	ROAD
DD	DOWNDRAIN	Reinf	REINFORCED, REINFORCEMENT, REINFORCING
DI	DRAINAGE INLET	RR	RAILROAD
DIP	DUCTILE IRON PIPE	RSP	ROCK SLOPE PROTECTION, REVISED STANDARD PLAN
Dr	DRIVE	Rt	RIGHT
Dwg	DRAWING	R/W	RIGHT OF WAY
Dwy	DRIVEWAY	S	SLOPE, SOUTH
E	EAST	S/C	SAWCUT LINE
EA	EACH	Shld	SHOULDER
EB	END OF BRIDGE	SL	STREET LIGHT
EC	END HORIZONTAL CURVE	SSMH	SANITARY SEWER MANHOLE
EEP	EAST EDGE PAVING	SQFT	SQUARE FOOT
Elect	ELECTRIC, ELECTRICAL	St	STREET
Elev	ELEVATION	Sta	STATION
EOD	EDGE OF DECK	SW	SIDEWALK
ES	EDGE OF SHOULDER	TACD	TRAVERSABLE ASPHALT CONCRETE DIKE
ETW	EDGE OF TRAVELED WAY	TC	TOP OF CURB
EVC	END VERTICAL CURVE	TCE	TEMPORARY CONSTRUCTION EASEMENT
Exist	EXISTING	TDS	TDS TELECOM
FES	FLARED END SECTION	Tel	TELEPHONE
FG	FINISH GRADE	TMH	TELEPHONE MANHOLE
FL	FLOW LINE	Tot	TOTAL
FO	FIBER OPTIC	Trans	TRANSITION
ft	FOOT OR FEET	TW	TRAVELED WAY
GB	GRADE BREAK	Typ	TYPICAL
H	HEIGHT	UG	UNDERGROUND
Horiz	HORIZONTAL	UON	UNLESS OTHERWISE NOTED
HP	HIGH POINT, HINGE POINT	UP	UNDERPASS
ICDPW	COUNTY OF IMPERIAL DEPARTMENT OF PUBLIC WORKS	UPRR	UNION PACIFIC RAILROAD
ID	IDENTIFICATION, INSIDE DIAMETER	USBR	U.S. BUREAU OF RECLAMATION
IID	IMPERIAL IRRIGATION DISTRICT	Var	VARIABLE, VARIES
In	INCH	VC	VERTICAL CURVE
Inv	INVERT	VCP	VITRIFIED CLAY PIPE
kip	1,000 POUNDS	Vert	VERTICAL
ksi	KIPS PER SQUARE INCH	W	WEST, WIDTH
LB	POUND	WW	WINGWALL
LF	LINEAR FOOT	WEP	WEST EDGE PAVING
Ln	LANE		
LOL	LAYOUT LINE		
Lt	LEFT		
LVC	LENGTH OF VERTICAL CURVE		
Max	MAXIMUM		
Min	MINIMUM		

LEGEND

DESCRIPTION	SYMBOL
RIGHT OF WAY	
TEMPORARY CONSTRUCTION EASEMENT	
CENTERLINE/BASELINE	
EXISTING OVERHEAD ELECTRICAL	OH
EXISTING SEWER	SS
EXISTING TELEPHONE	T
EXISTING TELEVISION	TV
EXISTING WATER	W
DAYLIGHT LINE	
EXISTING CONTOURS - MAJOR	(140)
EXISTING CONTOURS - MINOR	
PROPOSED CONTOURS - MAJOR	140
PROPOSED CONTOURS - MINOR	
EXISTING RAILROAD	
PROPOSED TRAVERSABLE AC DIKE	
PROPOSED CURB AND GUTTER	
PROPOSED CONTIGUOUS SIDEWALK	
PROPOSED PAVEMENT SECTION	
PROPOSED AGGREGATE BASE ACCESS ROAD AND SHOULDER BACKING	
COLD PLANE ASPHALT CONCRETE PAVEMENT	
ALTERNATIVE CRASH CUSHION SYSTEM	
DIRECTION OF FLOW	
LINE AND CURVE NUMBER	1
CONSTRUCTION NOTE No.	1
HYDROMULCH	
FIBER ROLL	FR
DRAINAGE SYSTEM SYMBOL	1
DRAINAGE UNIT SYMBOL	a
CALTRANS STANDARD PLAN REFERENCE	B11-58

SHEET INDEX

GEOTECHNICAL ENGINEER'S STATMENT

A GEOTECHNICAL REPORT FOR THIS PROJECT WAS PERFORMED BY THE UNDERSIGNED OR UNDER MY SUPERVISION

THE REPORT TITLED:
FOUNDATION REPORT (FR 100% SUBMITTAL) PICACHO ROAD BRIDGE (REPLACEMENT) IMPERIAL COUNTY, CALIFORNIA
DATED: JANUARY 8, 2024

THESE PLANS HAVE BEEN REVIEWED BY THE UNDERSIGNED AND FOUND TO BE IN GENERAL CONFORMANCE WITH THE RECOMMENDATIONS OF THE PROJECT GEOTECHNICAL REPORT

NV5 INFRASTRUCTURE
15092 AVENUE OF SCIENCE, SUITE 200
SAN DIEGO, CA 92128

CARL FRANCISCO HENDERSON ____ DATE
G.E. 2981
EXP. DATE 6/30/2?

DECLARATION OF RESPONSIBLE CHARGE

I HEREBY DECLARE THAT I AM THE ENGINEER OF WORK FOR THIS PROJECT, THAT I HAVE EXERCISED RESPONSIBLE CHARGE OVER THE DESIGN OF THE PROJECT AS DEFINED IN SECTION 6703 OF THE BUSINESS AND PROFESSIONS CODE AND THAT THE DESIGN IS CONSISTENT WITH CURRENT STANDARDS.

I UNDERSTAND THAT THE CHECK OF PROJECT DRAWINGS AND SPECIFICATIONS BY THE COUNTY OF IMPERIAL IS CONFINED TO A REVIEW ONLY AND DOES NOT RELIEVE ME, AS ENGINEER OF WORK, OF MY RESPONSIBILITIES FOR THE PROJECT DESIGN

NV5
15092 AVENUE OF SCIENCE, SUITE 200
SAN DIEGO, CA 92128

DARAB BOUZARJOMEHRI
R.C.E. 54870
EXP. DATE 6/30/2024

XX/XX/XX
DATE

SURVEY CONTROL AND BENCHMARK

BASIS OF COORDINATES:

THE COORDINATES ARE REFERENCED TO THE NORTH AMERICAN DATUM OF 1983 AND ARE EXPRESSED IN TERMS OF THE CALIFORNIA COORDINATE SYSTEM 1983, ZONE VI, AT EPOCH 2010, AND ARE BASED ON CORS POINT IID2 PER NGS PID DM7518, AND CORS POINT GMPK PER NGS PID DN7584. SAID GRID COORDINATES ARE AS FOLLOWS:

IID2 = N - 1838305.045 E - 6938405.180
GMPK = N - 1965188.735 E - 6997583.136
8000 = N - 1851163.934 E - 7061587.939

BENCHMARK:

ELEVATIONS ARE REFERENCED TO NAVD88, UTILIZING GEOID18 AND DETERMINED BY OPUS FOR POINT #8000

NAVD88 ELEVATION = 139.470

REVISION	DATE	COMMENTS

EEC ORIGINAL PKG

PREPARED UNDER THE DIRECT SUPERVISION OF:

DARAB BOUZARJOMEHRI, P.E. — 54870 R.C.E. No.
NV5 — 6/30/26 REG. EXP.
DATE

COUNTY OF IMPERIAL PUBLIC WORKS DEPARTMENT APPROVED FOR CONSTRUCTION BY:

JOHN A. GAY, P.E. — 62028 R.C.E. No.
ROAD COMMISSIONER — 9/30/25 REG. EXP.
DATE

PUBLIC WORKS DEPARTMENT
COUNTY OF IMPERIAL
EL CENTRO, CALIFORNIA

DATE 1/15/2024
SCALE AS SHOWN
CHECKED DB

PICACHO ROAD BRIDGE REPLACEMENT
OVER YUMA MAIN CANAL
BRIDGE NO.
COUNTY PROJECT No. 6811

TITLE SHEET

REFERENCE: B-199
T-1
SHEET 1 OF 29

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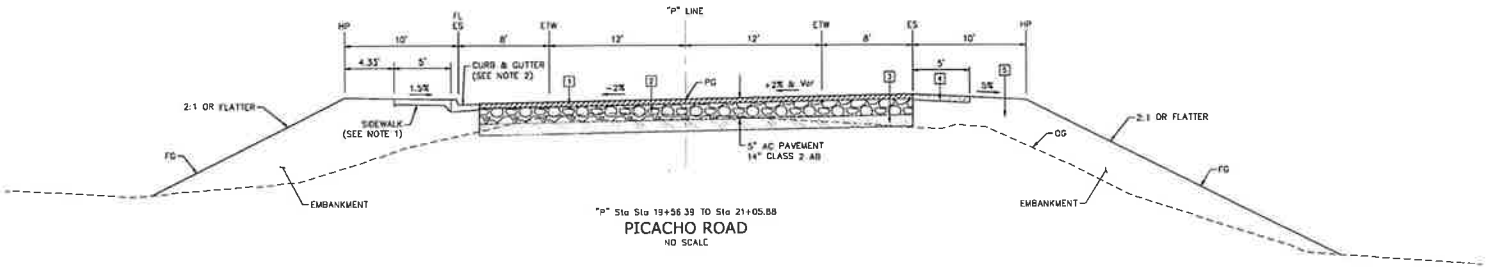
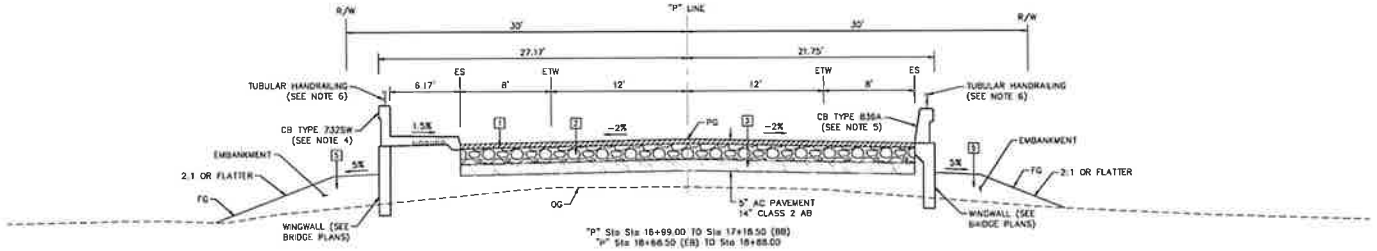


"P" Sta Sta 19+56.39 TO Sta 21+05.88

PICACHO ROAD

NO SCALE



"P" Sta Sta 18+99.00 TO Sta 17+18.50 (BB)
"P" Sta 18+88.50 (EB) TO Sta 18+88.00

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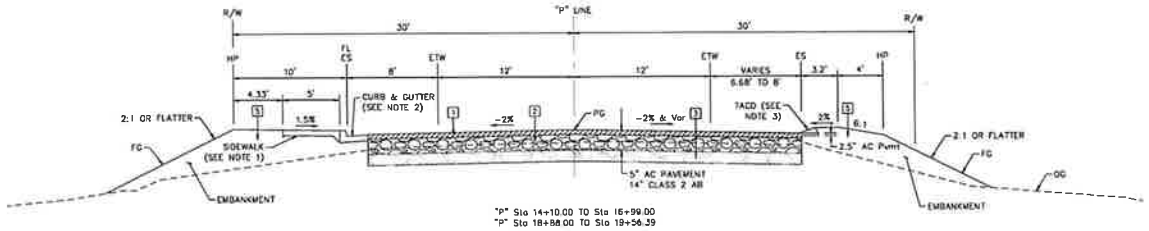
NO SCALE



"P" Sta 14+10.00 TO Sta 16+99.00
"P" Sta 18+88.00 TO Sta 19+56.39

PICACHO ROAD

NO SCALE

[1] 5 INCHES HOT MIX ASPHALT (HMA) SHALL BE CALTRANS TYPE A OR B, ¾ INCH MAXIMUM–MEDIUM GRADING, COMPACTED TO A MIN. OF 95% OF THE HVEEM OR 75 – BLOW MARSHAL DENSITY ASTM D1559

[2] 14 INCH CLASS II AGGREGATE BASE SHALL BE CALTRANS CLASS II, ¾ INCH MAX. COMPACTED TO A MIN. OF 95% OF ASTM D1557 MAX. DRY DENSITY

[3] SCARIFY AND RECOMPACT MIN. 12 INCH OF NATIVE MATERIAL TO 95% RELATIVE DENSITY ASTM D1557 AT A MIN. 4% TO 8% ABOVE OPTIMUM MOISTURE, COMPACTION SHALL BE IN LAYERS OF 6 INCH. FOR NATIVE CLAY SOILS. COMPACT TO A MIN. OF ASTM D1557 DENSITY CAN BE USED.

[4] SHOULDER BACKING, 6 INCHES CLASS II AGGREGATE BASE COMPACTED TO 95% OF ASTM D1557 MAX. DRY DENSITY

[5] IMPORT MATERIAL SHALL BE OBTAINED FROM A LEGAL SITE, COMPACTED TO 95% RELATIVE DENSITY ASTM D1557 AT A MIN. 4% to 8% ABOVE OPTIMUM MOISTURE COMPACTION SHALL BE IN LAYERS OF 6 INCH

EEC ORIGINAL PKG

NOTES:

1. FOR CONCRETE SIDEWALK DETAIL, SEE ICDPW Dwg No. 420.
2. FOR CURB AND GUTTER DETAIL, SEE ICDPW Dwg No. 400.
3. FOR TRANSVERSABLE ASPHALT CONCRETE DIKE DETAIL, SEE ICDPW Dwg No. 402. FOR EXACT LOCATIONS OF DIKE, SEE SHEETS PP-1 AND PP-2.
4. FOR CONCRETE BARRIER TYPE 732SW DETAILS, SEE CALTRANS STANDARD PLANS B11-58 AND B11-59
5. FOR CONCRETE BARRIER TYPE 836A DETAILS, SEE CALTRANS REVISED STANDARD PLANS RSP B11-79 AND RSP B11-80
6. FOR TUBULAR HANDRAILING DETAILS, SEE CALTRANS STANDARD PLAN B11-51.
7. COMPACT EARTHWORK TO A RELATIVE COMPACTION OF AT LEAST 95 PERCENT FOR AT LEAST A DEPTH OF 12 INCHES BELOW THE GRADING PLANE BETWEEN THE OUTER EDGES OF PAVEMENT.

NOT FOR CONSTRUCTION

REVISION	DATE	COMMENTS

PREPARED UNDER THE DIRECT SUPERVISION OF:
DARAB BOUZARJOMEHRI, P.E. NV5 — 54870 R.C.E. No. — DATE — 6/30/26 REG. EXP.

COUNTY OF IMPERIAL PUBLIC WORKS DEPARTMENT
APPROVED FOR CONSTRUCTION BY:
JOHN A. GAY, P.E.
ROAD COMMISSIONER — 62028 R.C.E. No. — DATE — 9/30/25 REG. EXP.

PUBLIC WORKS DEPARTMENT
COUNTY OF IMPERIAL
EL CENTRO, CALIFORNIA

DATE 1/15/2024
DESIGNED PE
SCALE AS SHOWN
CHECKED GB

PICACHO ROAD BRIDGE REPLACEMENT
OVER YUMA MAIN CANAL
BRIDGE NO.
COUNTY PROJECT No. 6811

TYPICAL CROSS SECTIONS

REFERENCE X-1

B-199

SHEET 2 OF 29

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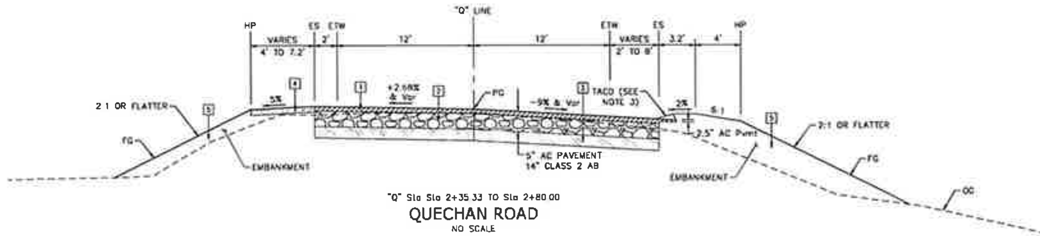
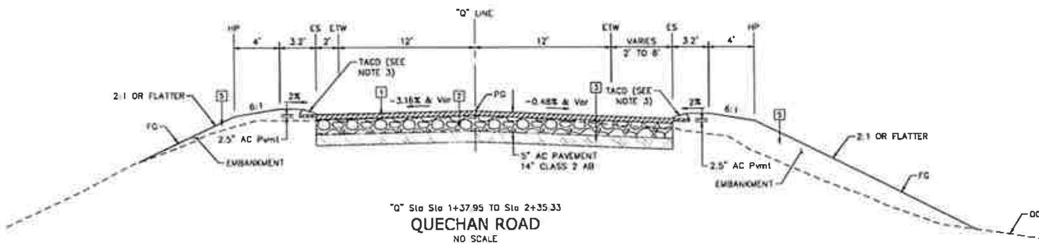


"Q" Sta Sta 2+35.33 TO Sta 2+80.00

QUECHAN ROAD

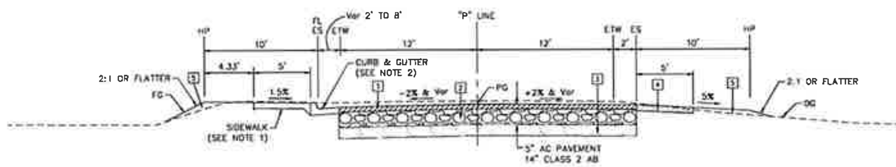
NO SCALE



"Q" Sta Sta 1+37.95 TO Sta 2+35.33

QUECHAN ROAD

NO SCALE



"P" Sta Sta 21+05.88 TO Sta 21+90.00

PICACHO ROAD

NO SCALE

[1] 5 INCHES HOT MIX ASPHALT (HMA) SHALL BE CALTRANS TYPE A OR B, ¾ INCH MAXIMUM-MEDIUM GRADING, COMPACTED TO A MIN. OF 95% OF THE HVEEM OR 75 – BLOW MARSHAL DENSITY ASTM D1559

[2] 14 INCH CLASS II AGGREGATE BASE SHALL BE CALTRANS CLASS II, ¾ INCH MAX. COMPACTED TO A MIN OF 95% OF ASTM D1557 MAX. DRY DENSITY

[3] SCARIFY AND RECOMPACT MIN. 12 INCH OF NATIVE MATERIAL TO 95% RELATIVE DENSITY ASTM D1557 AT A MIN. 4% TO 8% ABOVE OPTIMUM MOISTURE. COMPACTION SHALL BE IN LAYERS OF 6 INCH. FOR NATIVE CLAY SOILS. COMPACT TO A MIN. OF ASTM D1557 DENSITY CAN BE USED.

[4] SHOULDER BACKING, 6 INCHES CLASS II AGGREGATE BASE COMPACTED TO 95% OF ASTM D1557 MAX. DRY DENSITY

[5] IMPORT MATERIAL SHALL BE OBTAINED FROM A LEGAL SITE, COMPACTED TO 95% RELATIVE DENSITY ASTM D1557 AT A MIN. 4% to 8% ABOVE OPTIMUM MOISTURE COMPACTION SHALL BE IN LAYERS OF 6 INCH

NOTES:

1. FOR CONTINUOUS SIDEWALK DETAIL, SEE ICDPW Dwg No. 420
2. FOR CURB AND GUTTER DETAIL, SEE ICDPW Dwg No. 400.
3. FOR TRAVERSABLE ASPHALT CONCRETE DIKE DETAIL, SEE ICDPW Dwg No. 402. FOR EXACT LOCATIONS OF DIKE, SEE SHEETS PP-1 AND PP-2.
4. FOR CONCRETE BARRIER TYPE 732SW DETAILS, SEE CALTRANS STANDARD PLANS B11-58 AND B11-59
5. FOR CONCRETE BARRIER TYPE 836A DETAILS, SEE CALTRANS REVISED STANDARD PLANS RSP B11-79 AND RSP B11-80
6. FOR TUBULAR HANDRAILING DETAILS, SEE CALTRANS STANDARD PLAN B11-51.
7. COMPACT EARTHWORK TO A RELATIVE COMPACTION OF AT LEAST 95 PERCENT FOR AT LEAST A DEPTH OF 12 INCHES BELOW THE GRADING PLANE BETWEEN THE OUTER EDGES OF PAVEMENT.

NOT FOR CONSTRUCTION

REVISION	DATE	COMMENTS

PREPARED UNDER THE DIRECT SUPERVISION OF:

DARAB BOUZARJOMEHRI, P.E. NV5 — 54870 R.C.E. No. — 6/30/26 REG. EXP. — DATE

COUNTY OF IMPERIAL PUBLIC WORKS DEPARTMENT APPROVED FOR CONSTRUCTION BY:

JOHN A. GAY, P.E. ROAD COMMISSIONER — 62028 R.C.E. No. — 9/30/25 REG. EXP. — DATE

PUBLIC WORKS DEPARTMENT
COUNTY OF IMPERIAL
EL CENTRO, CALIFORNIA

DATE 7/15/2024 — DRAWN PK — SCALE AS SHOWN — CHECKED DB

PICACHO ROAD BRIDGE REPLACEMENT
OVER YUMA MAIN CANAL
BRIDGE NO.
COUNTY PROJECT No. 6811

TYPICAL CROSS SECTIONS

REFERENCE: B-199 — X-2

SHEET 3 OF 29

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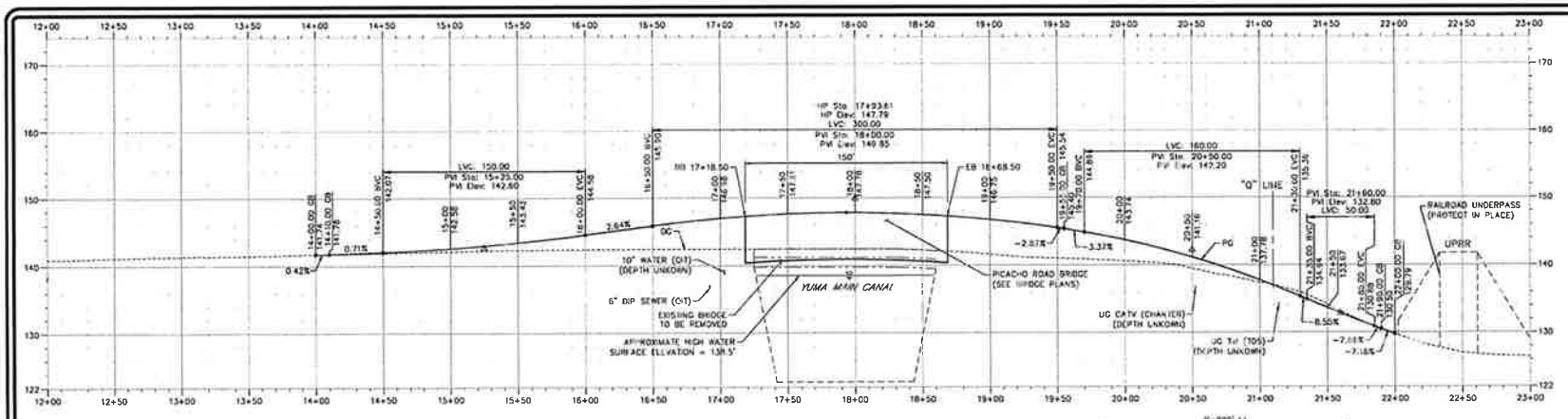


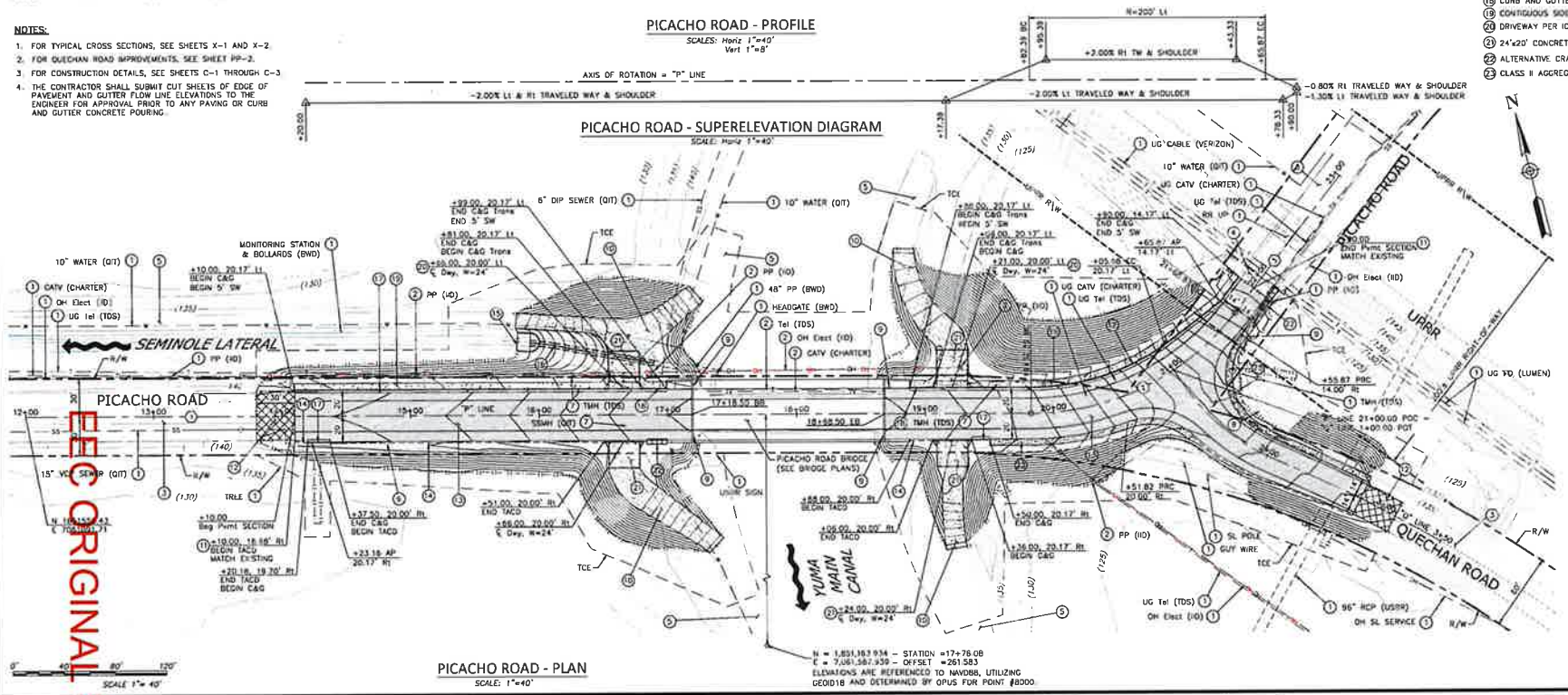
LINE AND CURVE DATA				
NO	DELTA/BEARING	RADIUS	LENGTH	TANGENT
(1)	S 76°04'45" E	–	782.39'	–
(2)	Δ=52°33'47"	200.00'	183.48'	98.77'
(3)	N 51°21'27" E	–	134.13'	–

CONSTRUCTION NOTES

1. PROTECT IN PLACE.
2. EXISTING UTILITY TO BE RELOCATED BY OTHERS.
3. EXISTING ASPHALT CONCRETE PAVEMENT.
4. EXISTING CONCRETE PAVEMENT.
5. EXISTING UNPAVED ACCESS ROAD.
6. REMOVE DOWNDRAIN.
7. ADJUST MANHOLE FRAME AND COVER (UTILITY).
8. RESET PRIVATE SIGN.
9. REMOVE GUARDRAIL.
10. REGRADE ACCESS ROAD, SEE CONSTRUCTION DETAILS.
11. MATCH EXISTING IMPROVEMENT.
12. COLD PLANE ASPHALT CONCRETE PAVEMENT, SEE CONSTRUCTION DETAILS.
13. NEW PAVEMENT SECTION PER TYPICAL CROSS SECTIONS.
14. TRAVERSABLE ASPHALT CONCRETE DIKE PER ICDPW Dwg No. 402.
15. OUTLET APRON, SEE CONSTRUCTION DETAILS.
16. 48" PLASTIC PIPE, SEE CONSTRUCTION DETAILS.
17. CURB AND GUTTER PER ICDPW Dwg No. 400.
18. CURB AND GUTTER TRANSITION, SEE CONSTRUCTION DETAILS.
19. CONTIGUOUS SIDEWALK PER ICDPW Dwg No. 420.
20. DRIVEWAY PER ICDPW Dwg No 410A.
21. 24'x20' CONCRETE PAD, SEE DETAIL ON SHEET C-2
22. ALTERNATIVE CRASH CUSHION SYSTEM.
23. CLASS II AGGREGATE BASE SHOULDER BACKING.

NOTES:

1. FOR TYPICAL CROSS SECTIONS, SEE SHEETS X-1 AND X-2.
2. FOR QUECHAN ROAD IMPROVEMENTS, SEE SHEET PP-2.
3. FOR CONSTRUCTION DETAILS, SEE SHEETS C-1 THROUGH C-3.
4. THE CONTRACTOR SHALL SUBMIT CUT SHEETS OF EDGE OF PAVEMENT AND GUTTER FLOW LINE ELEVATIONS TO THE ENGINEER FOR APPROVAL PRIOR TO ANY PAVING OR CURB AND GUTTER CONCRETE POURING.



NOT FOR CONSTRUCTION

EEC ORIGINAL PKG

REVISION	DATE	COMMENTS

PREPARED UNDER THE DIRECT SUPERVISION OF:
DAWAB BOUZAKJOMEHRI, P.E.
NVS
54870 R.C.E. No.
DATE
8/30/26 REG. EXP.

COUNTY OF IMPERIAL PUBLIC WORKS DEPARTMENT
APPROVED FOR CONSTRUCTION BY:
JOHN A. GAY, P.E.
ROAD COMMISSIONER
62028 R.C.E. No.
DATE
9/30/25 REG. EXP.

PUBLIC WORKS DEPARTMENT
COUNTY OF IMPERIAL
EL CENTRO, CALIFORNIA

DATE 7/15/2024
DESIGN PH
SCALE AS SHOWN
CHECKED DB

PICACHO ROAD BRIDGE REPLACEMENT OVER YUMA MAIN CANAL BRIDGE NO. COUNTY PROJECT No. 6811

PLAN AND PROFILE PICACHO ROAD

REFERENCE PP-1

B-199

SHEET 4 OF 29

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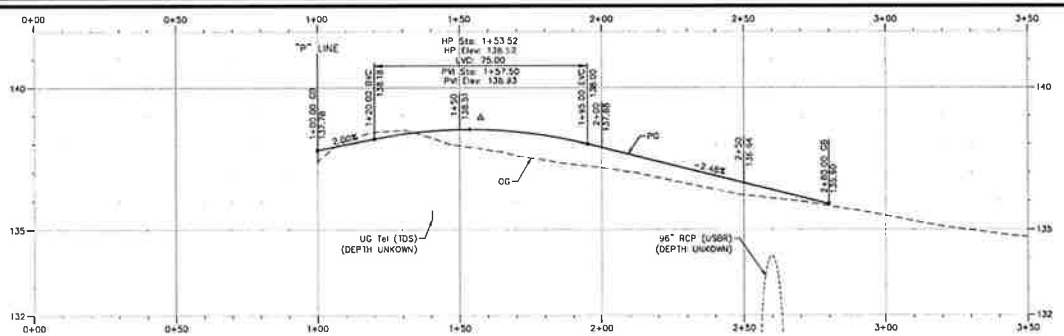
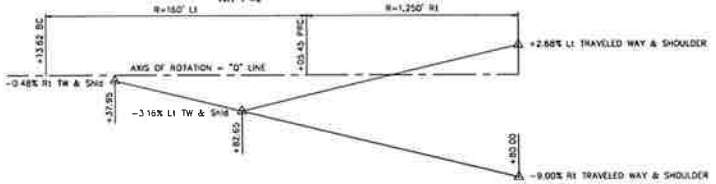


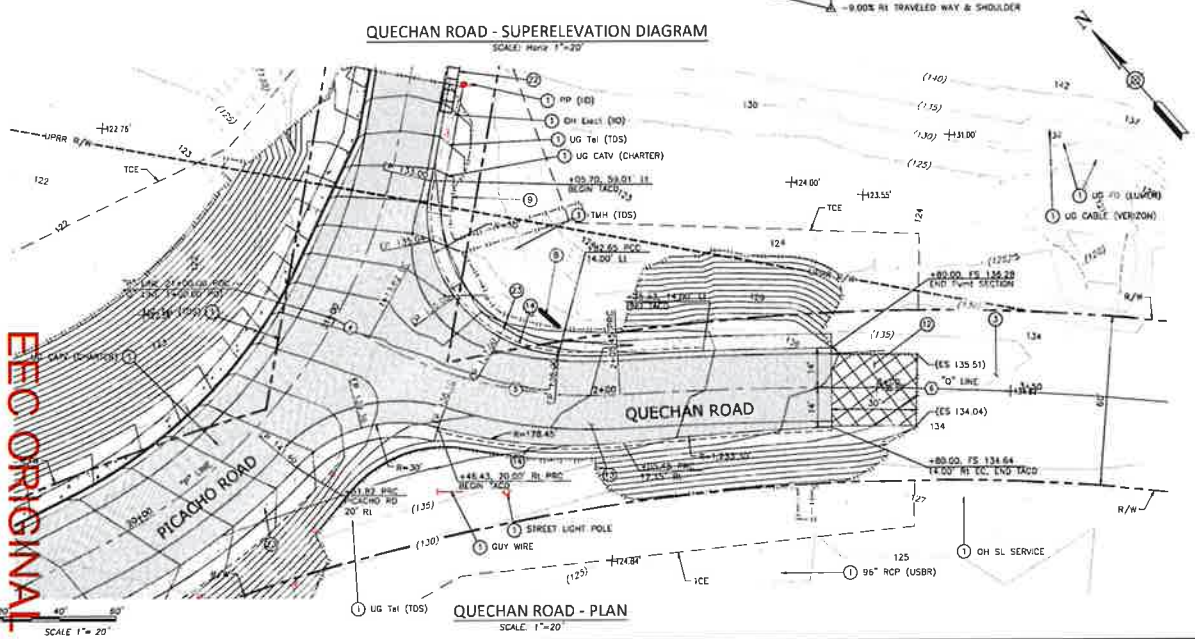
QUECHAN ROAD - PROFILE

SCALES: Horiz 1"=20'
Vert 1"=2'



QUECHAN ROAD - SUPERELEVATION DIAGRAM

SCALE: Horiz 1"=20'



QUECHAN ROAD - PLAN

SCALE: 1"=20'

LINE AND CURVE DATA				
NO	DELTA/BEARING	RADIUS	LENGTH	TANGENT
(4)	S 19°46'14" E	-	13.62'	-
(5)	Δ=32°53'08"	160.00'	91.83'	47.22'
(6)	Δ=6°37'32"	1,250.00'	144.55'	72.35'

CONSTRUCTION NOTES

1. PROTECT IN PLACE.
2. EXISTING UTILITY TO BE RELOCATED BY OTHERS.
3. EXISTING ASPHALT CONCRETE PAVEMENT.
4. EXISTING CONCRETE PAVEMENT.
7. ADJUST MANHOLE FRAME AND COVER (UTILITY).
8. RESET PRIVATE SIGN
9. REMOVE GUARDRAIL.
12. COLD PLANE ASPHALT CONCRETE PAVEMENT, SEE CONSTRUCTION DETAILS.
13. NEW PAVEMENT SECTION PER TYPICAL CROSS SECTIONS.
14. TRAVERSABLE ASPHALT CONCRETE DIKE PER ICDPW Dwg No. 402.
22. ALTERNATIVE CRASH CUSHION SYSTEM.
23. CLASS II AGGREGATE BASE SHOULDER BACKING.

NOTES:

1. ALL STATIONS AND OFFSETS ARE TO "Q" LINE, UNLESS OTHERWISE NOTED.
2. FOR TYPICAL CROSS SECTIONS, SEE SHEET X-2.
3. FOR PICACHO ROAD IMPROVEMENTS, SEE SHEET PP-1.
4. FOR CONSTRUCTION DETAILS, SEE SHEETS C-1 THROUGH C-3.
5. THE CONTRACTOR SHALL SUBMIT CUT SHEETS OF EDGE OF PAVEMENT AND GUTTER FLOW LINE ELEVATIONS TO THE ENGINEER FOR APPROVAL PRIOR TO ANY PAVING OR CURB AND GUTTER CONCRETE POURING.

NOT FOR CONSTRUCTION

EEC ORIGINAL PKG

REVISION	DATE	COMMENTS

PREPARED UNDER THE DIRECT SUPERVISION OF:
DARAB BOUZARJOMEHRI, P.E.
NV5
54870 R.C.E. No.
DATE 6/30/26 REG. EXP.

COUNTY OF IMPERIAL PUBLIC WORKS DEPARTMENT
APPROVED FOR CONSTRUCTION BY:
JOHN A. GAY, P.E.
ROAD COMMISSIONER
62028 R.C.E. No.
DATE 9/30/25 REG. EXP.

PUBLIC WORKS DEPARTMENT
COUNTY OF IMPERIAL
EL CENTRO, CALIFORNIA

DATE 7/15/2024
DRAWN PP
SCALE AS SHOWN
CHECKED DD

PICACHO ROAD BRIDGE REPLACEMENT
OVER YUMA MAIN CANAL
BRIDGE NO.
COUNTY PROJECT No. 6811

PLAN AND PROFILE
QUECHAN ROAD

REFERENCE B-199
PP-2
SHEET 5 OF 29

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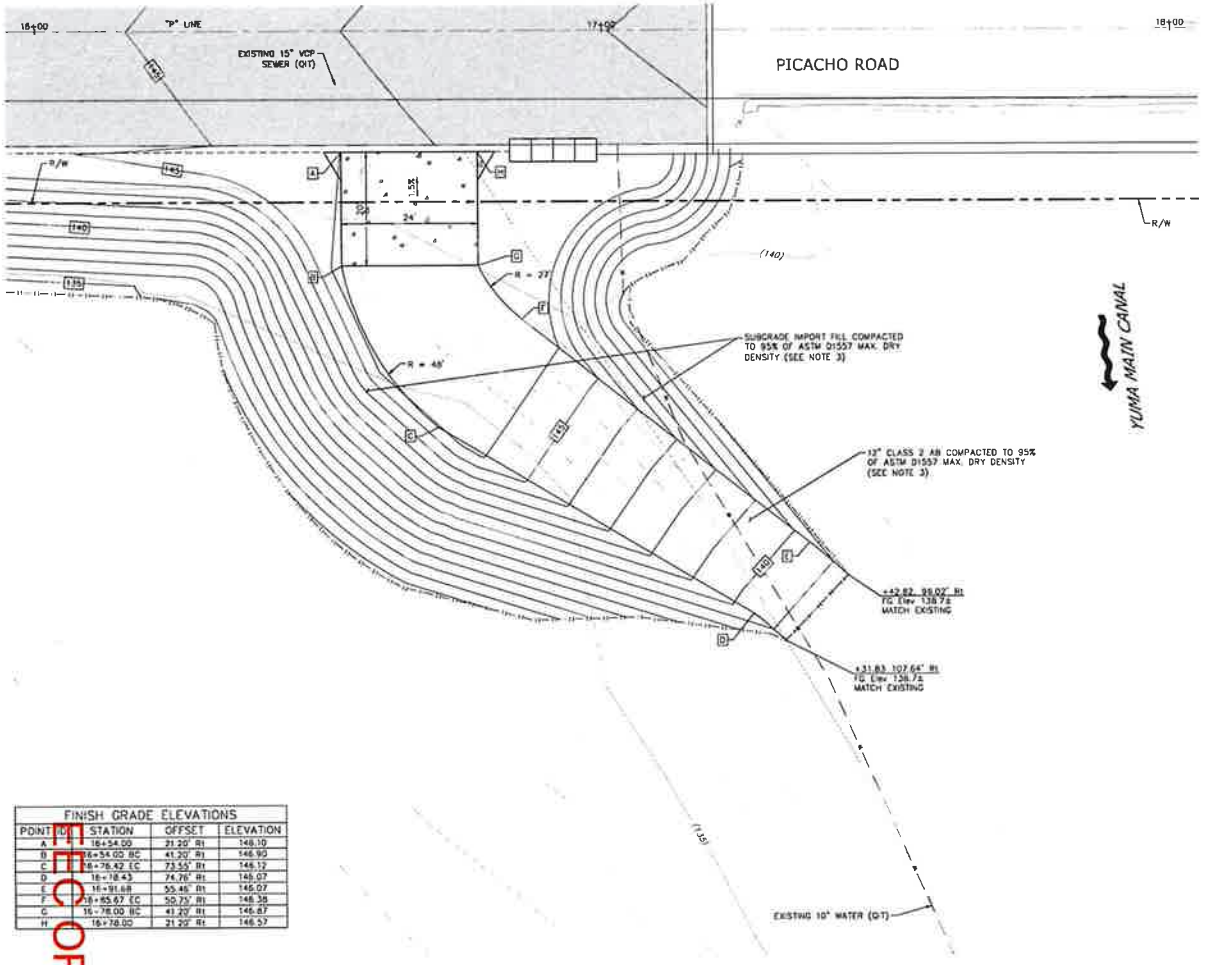


FINISH GRADE ELEVATIONS			
POINT NO.	STATION	OFFSET	ELEVATION
A	18+54.00	21.20' Rt	148.10
B	18+54.00 BC	41.20' Rt	146.90
C	18+78.42 EC	73.55' Rt	146.12
D	18+78.43	74.76' Rt	146.07
E	18+91.68	55.46' Rt	146.07
F	18+65.67 EC	50.75' Rt	146.38
G	18+78.00 BC	41.20' Rt	146.67
H	18+78.00	21.20' Rt	146.57

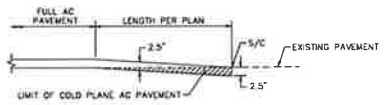
NOTES:

1. ALL STATIONS AND OFFSETS ARE TO THE "P" LINE.
2. FOR DETAILS NOT SHOWN, SEE SHEET PP-1.
3. SCARIFY SUBGRADE TO A DEPTH OF AT LEAST 12 INCHES AND COMPACT TO A RELATIVE COMPACTION OF AT LEAST 95 PERCENT.

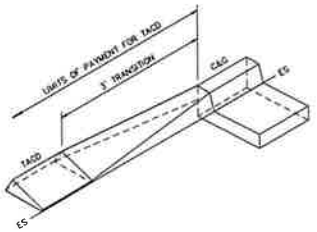
CONSTRUCTION NOTES

(21) 24'x20' CONCRETE PAD, SEE DETAIL ON SHEET C-2

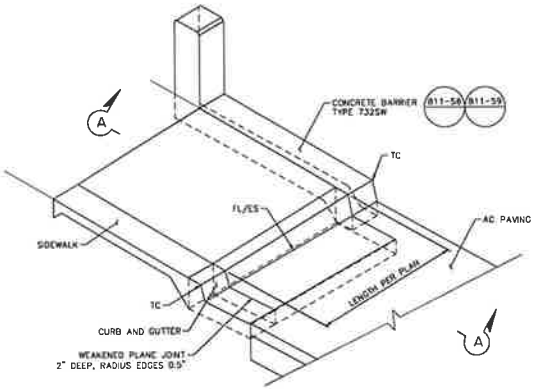
0' 10' 20' 30'
SCALE 1"= 10'



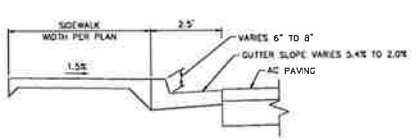
PAVEMENT CONFORM DETAIL
NO SCALE



DIKE TRANSITION DETAIL
NO SCALE



ISOMETRIC VIEW



SECTION A-A

CURB AND GUTTER TRANSITION DETAIL
NO SCALE

NOT FOR CONSTRUCTION

EC ORIGINAL PKG

REVISION	DATE	COMMENTS

PREPARED UNDER THE DIRECT SUPERVISION OF:
DAWAS BOUZARJOMEHRI, P.E. NV5 — 54870 R.C.E. No. — 6/30/26 REG. EXP. — DATE

COUNTY OF IMPERIAL PUBLIC WORKS DEPARTMENT APPROVED FOR CONSTRUCTION BY:
JOHN A. CAY, P.E. ROAD COMMISSIONER — 62028 R.C.E. No. — 9/30/25 REG. EXP. — DATE

PUBLIC WORKS DEPARTMENT
COUNTY OF IMPERIAL
EL CENTRO, CALIFORNIA

DATE 7/15/2024
DESIGNED PR
DRAWN AS SHOWN
CHECKED DB

PICACHO ROAD BRIDGE REPLACEMENT
OVER YUMA MAIN CANAL
BRIDGE NO.
COUNTY PROJECT No. 6811

CONSTRUCTION DETAILS
REFERENCE C-1
B-199
SHEET 6 OF 29

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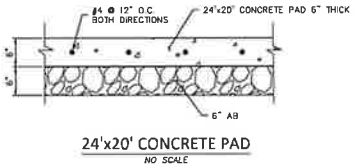
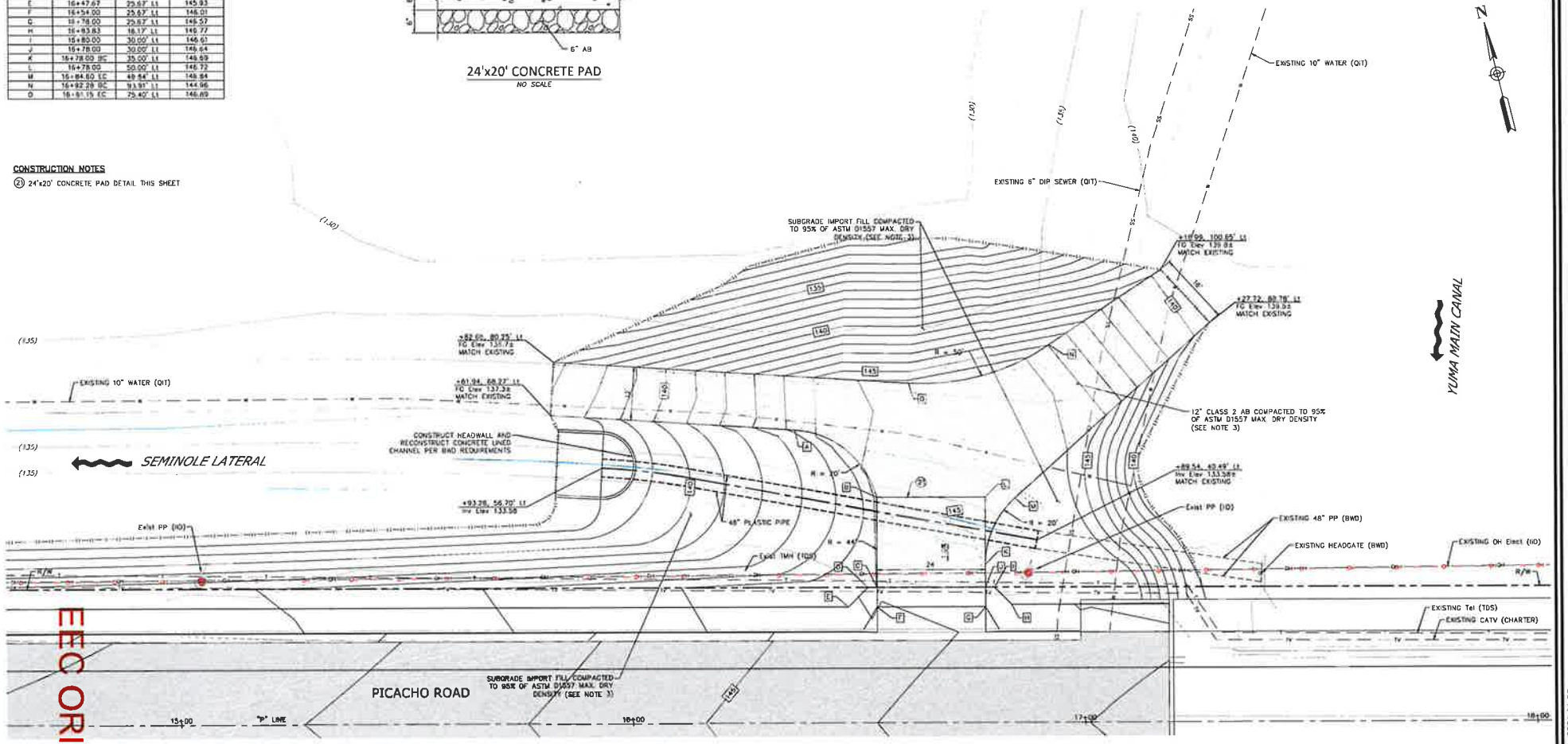
FINISH GRADE ELEVATIONS			
POINT ID	STATION	OFFSET	ELEVATION
A	16+35.31 BC	64.97' LT	144.18
B	16+54.00 EC	50.00' LT	146.28
C	16+54.00	30.00' LT	146.08
D	16+52.00	30.00' LT	146.11
E	16+47.67	25.67' LT	145.93
F	16+54.00	25.67' LT	146.01
G	16+78.00	25.67' LT	145.57
H	16+83.83	18.17' LT	145.77
I	16+80.00	30.00' LT	146.61
J	16+78.00	30.00' LT	146.64
K	16+78.00 BC	35.00' LT	146.69
L	16+78.00	50.00' LT	146.72
M	16+84.80 EC	49.84' LT	146.84
N	16+92.28 BC	93.91' LT	144.96
O	16+81.15 EC	75.40' LT	146.89



24'x20' CONCRETE PAD
NO SCALE

CONSTRUCTION NOTES

(2) 24'x20' CONCRETE PAD DETAIL THIS SHEET



NOTES:

1. ALL STATIONS AND OFFSETS ARE TO THE "P" LINE.
2. FOR DETAILS NOT SHOWN, SEE SHEET PP-1.
3. SCARIFY SUBGRADE TO A DEPTH OF AT LEAST 12 INCHES AND COMPACT TO A RELATIVE COMPACTION OF AT LEAST 95 PERCENT.

0' 10' 20' 30'
SCALE 1"= 10'

EEC ORIGINAL PKG

NOT FOR CONSTRUCTION

REVISION	DATE	COMMENTS

PREPARED UNDER THE DIRECT SUPERVISION OF:
DARAB BOUZARJOMEHRI, P.E. NV5
DATE
54870 R.C.E. No.
6/30/26 REG. EXP.

COUNTY OF IMPERIAL PUBLIC WORKS DEPARTMENT APPROVED FOR CONSTRUCTION BY:
JOHN A. GAY, P.E. ROAD COMMISSIONER
DATE
62028 R.C.E. No.
9/30/25 REG. EXP.

PUBLIC WORKS DEPARTMENT
COUNTY OF IMPERIAL
EL CENTRO, CALIFORNIA

DATE 7/15/2024
DESIGN PJ
SCALE AS SHOWN
CHECKED DB

PICACHO ROAD BRIDGE REPLACEMENT
OVER YUMA MAIN CANAL
BRIDGE NO.
COUNTY PROJECT No. 6811

CONSTRUCTION DETAILS

REFERENCE	B-198
C-2	SHEET 7 OF 29

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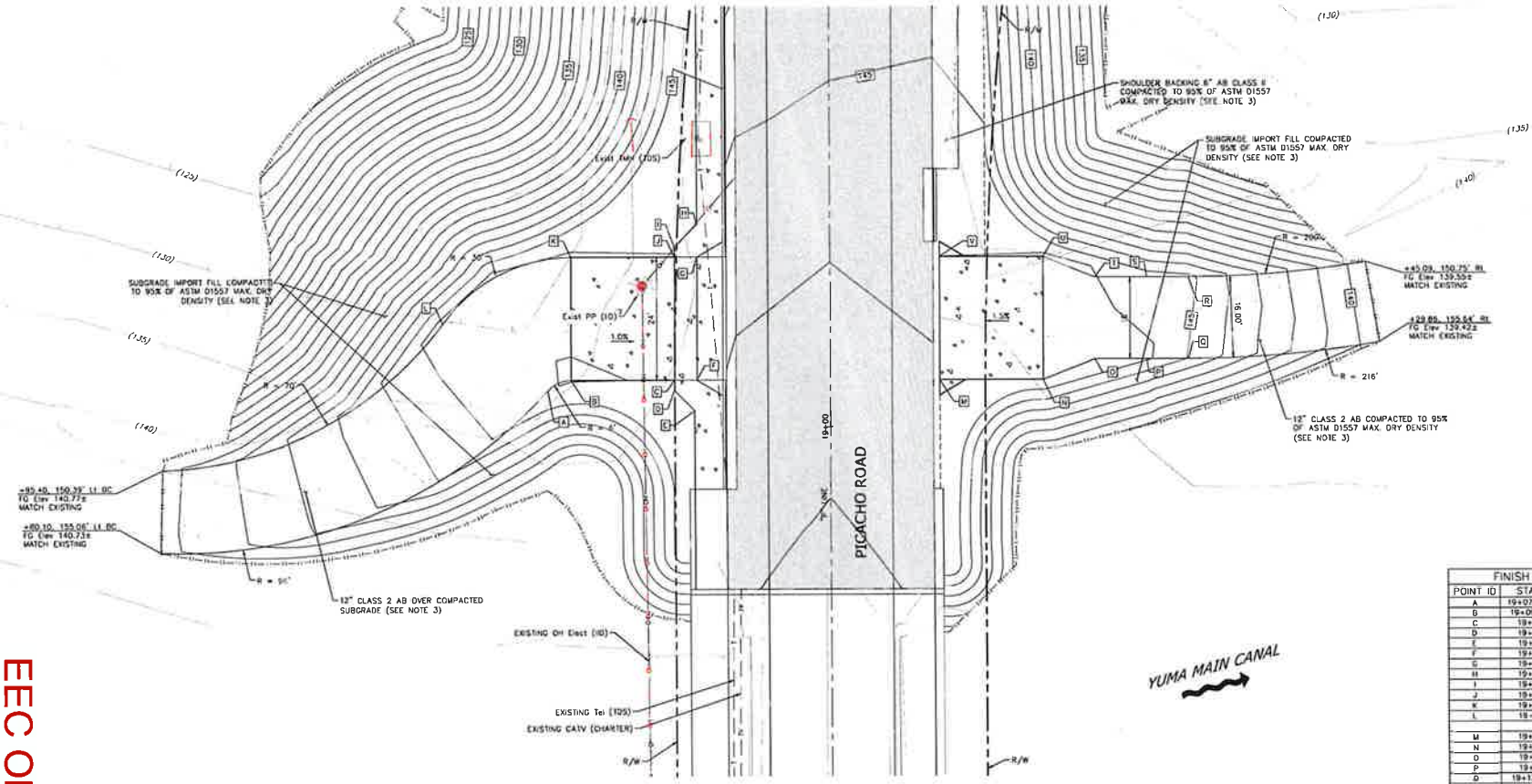

FINISH GRADE ELEVATIONS			
POINT ID	STATION	OFFSET	ELEVATION
A	19+07.00 PRC	54.43' Lt	148.91
B	19+08.00 EC	50.00' Lt	147.11
C	19+09.00	30.00' Lt	148.97
D	19+07.00	30.00' Lt	148.97
E	19+03.17	28.17' Lt	148.61
F	19+09.00	25.67' Lt	148.84
G	19+33.00	25.67' Lt	148.27
H	19+39.33	25.67' Lt	145.78
I	19+35.00	30.00' Lt	145.37
J	19+33.00	30.00' Lt	148.34
K	19+33.00	50.00' Lt	148.54
L	18+19.98	74.73 ' Lt	148.54
M	19+09.00	71.20' Rt	148.68
N	19+09.00	41.20' Rt	148.98
O	19+12.97	51.20' Rt	148.54
P	19+12.97	61.20' Rt	148.15
Q	19+12.97 BC	69.22' Rt	144.98
R	19+28.97 EC	69.22' Rt	145.28
S	19+28.97	61.20' Rt	145.57
T	19+28.97	51.20' Rt	145.95
U	19+33.00	41.20' Rt	148.37
V	19+33.00	71.20' Rt	148.07

NOTES:

1. ALL STATIONS AND OFFSETS ARE TO THE "P" LINE.
2. FOR DETAILS NOT SHOWN, SEE SHEET PP-1.
3. SCARIFY SUBGRADE TO A DEPTH OF AT LEAST 12 INCHES AND COMPACT TO A RELATIVE COMPACTION OF AT LEAST 95 PERCENT.

0' 10' 20' 30'
SCALE 1"= 10'

NOT FOR CONSTRUCTION

EEC ORIGINAL PKG

REVISION	DATE	COMMENTS

PREPARED UNDER THE DIRECT SUPERVISION OF:
DARAB BOUZARJOMEHRI, P.E. NV5
54870 R.C.E. No.
DATE
6/30/26 REG. EXP.

COUNTY OF IMPERIAL PUBLIC WORKS DEPARTMENT APPROVED FOR CONSTRUCTION BY:
JOHN A. GAY, P.E. ROAD COMMISSIONER
62028 R.C.E. No.
DATE
9/30/25 REG. EXP.

PUBLIC WORKS DEPARTMENT
COUNTY OF IMPERIAL
EL CENTRO, CALIFORNIA

DATE 7/15/2024
DRAWN PE
SCALE AS SHOWN
CHECKED DB

PICACHO ROAD BRIDGE REPLACEMENT
OVER YUMA MAIN CANAL
BRIDGE NO.
COUNTY PROJECT No. 6811

CONSTRUCTION DETAILS

REFERENCE	B-199
C-3	SHEET 8 OF 29

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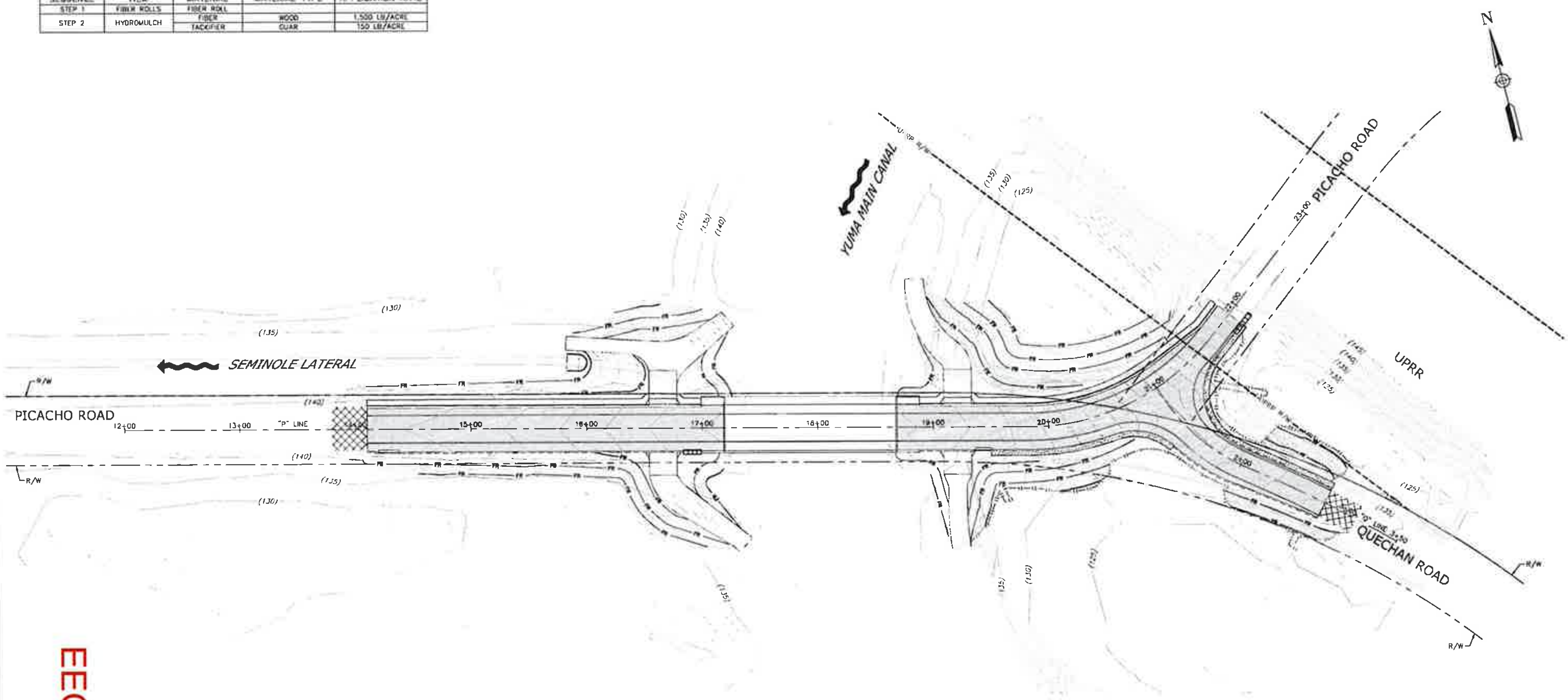
EROSION CONTROL LEGEND				
SEQUENCE	ITEM	MATERIAL	MATERIAL TYPE	APPLICATION RATE
STEP 1	FIBER ROLLS	FIBER ROLL		
STEP 2	HYDROMULCH	FIBER	WOOD	1,500 LB/ACRE
		TACKIFIER	GUAR	150 LB/ACRE



NOTES:

1. FOR NOTES, LEGEND AND LIST OF ABBREVIATIONS, SEE SHEET T-1.
2. FOR FIBER ROLL DETAILS, SEE CALTRANS STANDARD PLAN H51.

0' 40' 80' 120'
SCALE 1"= 40'

EEC ORIGINAL PKG

NOT FOR CONSTRUCTION

REVISION	DATE	COMMENTS

PREPARED UNDER THE DIRECT SUPERVISION OF:
DARAB BOUZAR JOMEHRI, P.E. NVS — 54870 R.C.E. No. — 6/30/26 REG. EXP. — DATE

COUNTY OF IMPERIAL PUBLIC WORKS DEPARTMENT APPROVED FOR CONSTRUCTION BY:
JOHN A. GAY, P.E. ROAD COMMISSIONER — 62028 R.C.E. No. — 9/30/25 REG. EXP. — DATE

PUBLIC WORKS DEPARTMENT
COUNTY OF IMPERIAL
EL CENTRO, CALIFORNIA

DATE 1/15/2024 — DRAWN PR — SCALE AS SHOWN — CHECKED DB

PICACHO ROAD BRIDGE REPLACEMENT
OVER YUMA MAIN CANAL
BRIDGE NO.
COUNTY PROJECT No. 6811

EROSION CONTROL PLAN

REFERENCE EC-1 — B-199 — SHEET 9 OF 29

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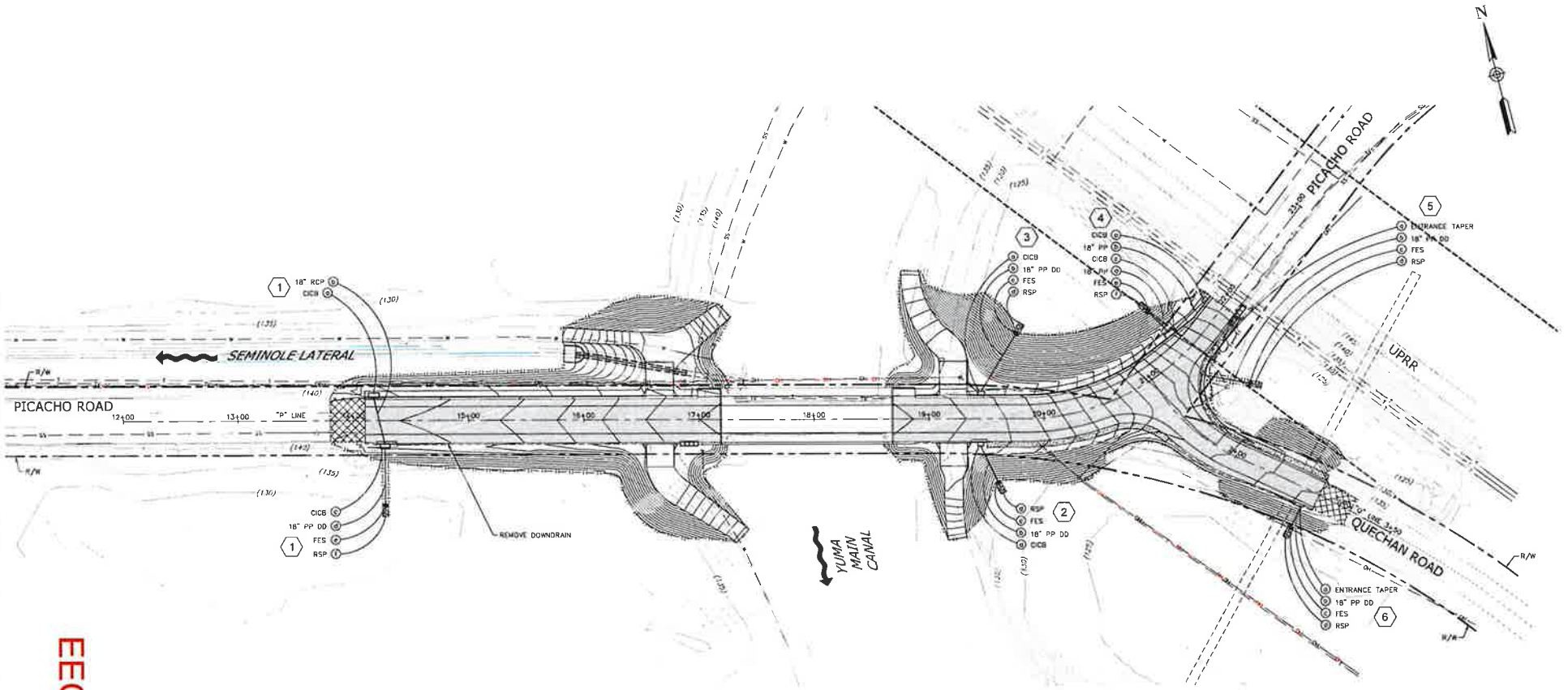

EEC ORIGINAL PKG

NOTES:

1. FOR NOTES, LEGEND AND LIST OF ABBREVIATIONS, SEE SHEET T-1.
2. FOR DRAINAGE PROFILES AND DETAILS, SEE SHEET DP-1.

0' 40' 80' 120'
SCALE 1" = 40'

NOT FOR CONSTRUCTION

REVISION	DATE	COMMENTS

PREPARED UNDER THE DIRECT SUPERVISION OF:
DARAB BOUZANJOMEHRI, P.E.
NV5
54870 R.C.E. No.
5/30/26 REG. EXP.
DATE

COUNTY OF IMPERIAL PUBLIC WORKS DEPARTMENT
APPROVED FOR CONSTRUCTION BY:
JOHN A. CAY, P.E.
ROAD COMMISSIONER
62028 R.C.E. No.
9/30/25 REG. EXP.
DATE

PUBLIC WORKS DEPARTMENT
COUNTY OF IMPERIAL
EL CENTRO, CALIFORNIA

DATE 1/15/2024
DRAWN PS
SCALE AS SHOWN
CHECKED DB

PICACHO ROAD BRIDGE REPLACEMENT
OVER YUMA MAIN CANAL
BRIDGE NO.
COUNTY PROJECT No. 6811

DRAINAGE PLAN

REFERENCE D-1

B-199

SHEET 10 OF 29

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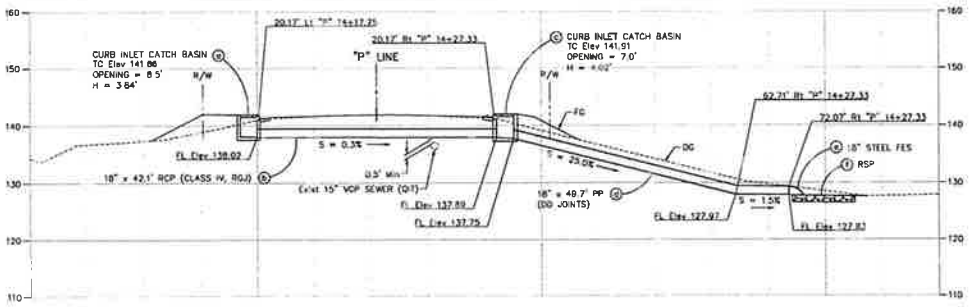
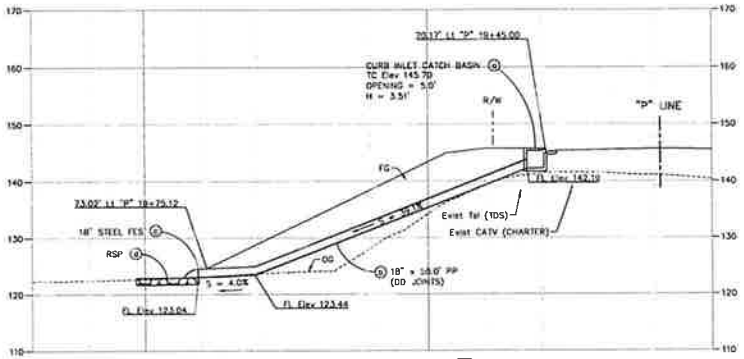
NOTES:

1. ALL STATIONS, OFFSETS, AND CORRESPONDING SHOWN LEADER LINES FOR CURB INLETS ARE TO THE CENTERLINE OF STRUCTURE AT THE TOP OF CURB UNLESS OTHERWISE NOTED.
2. FOR CURB INLET CATCH BASIN DETAILS, SEE ICDPW Dwg No. 312.
3. CONSTRUCT LOCAL DEPRESSION AT ALL CURB INLET CATCH BASINS PER ICDPW Dwg No. 316.
4. INSTALL DRAINAGE INLET MARKER AT ALL CURB INLET CATCH BASINS PER ICDPW Dwg No. 312B.
5. FOR DOWNDRAIN DETAILS, SEE CALTRANS STANDARD PLAN D87B.
6. FOR FLARED END SECTION DETAILS, SEE CALTRANS STANDARD PLAN D94A.
7. PIPE JOINTS SHALL BE STANDARD TYPE UNLESS OTHERWISE NOTED.
8. FOR TRENCH AND BACKFILL DETAILS, SEE ICDPW Dwg No. 500.



DRAINAGE SYSTEM No. 1
"P" 14+22.52



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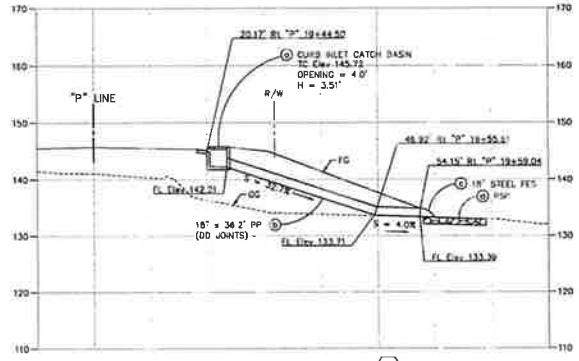

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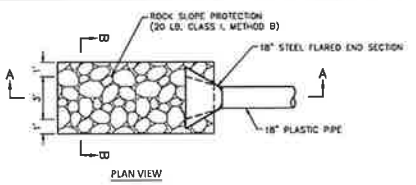
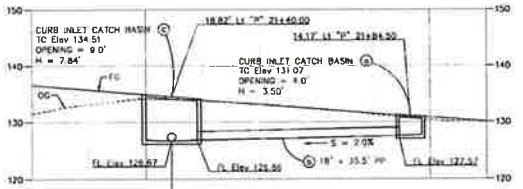
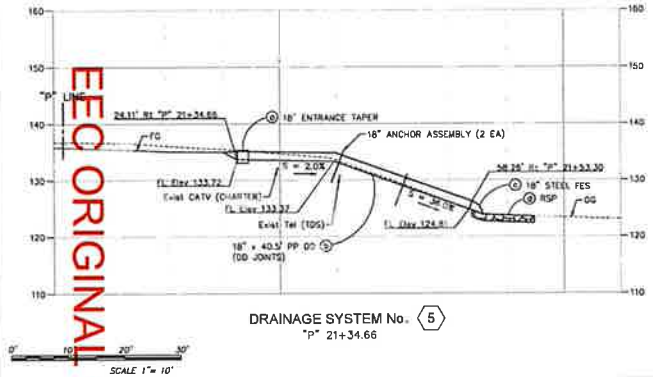


ROCK SLOPE PROTECTION DETAIL
NO SCALE





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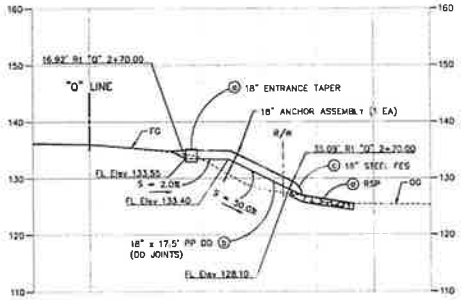
"P" 21+34.66



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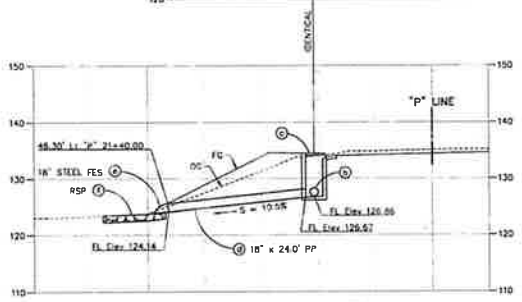
"Q" 2+70.00



DRAINAGE SYSTEM No. 4
"P" 21+40.00

0' 10' 20' 30'
SCALE 1"= 10'

NOT FOR CONSTRUCTION

EEC ORIGINAL PKG

REVISION	DATE	COMMENTS

PREPARED UNDER THE DIRECT SUPERVISION OF:
DARAB BOUZARJOMEHRI, P.E. — No. 54870 — R.C.E. No.
NV5 — 6/30/26 — REG. EXP. — DATE

COUNTY OF IMPERIAL PUBLIC WORKS DEPARTMENT
APPROVED FOR CONSTRUCTION BY:
JOHN A. GAY, P.E. — 62028 — R.C.E. No.
ROAD COMMISSIONER — 9/30/25 — REG. EXP. — DATE

PUBLIC WORKS DEPARTMENT
COUNTY OF IMPERIAL
EL CENTRO, CALIFORNIA

DATE 7/15/2024
DRAWN PR
SCALE AS SHOWN
CHECKED DB

PICACHO ROAD BRIDGE REPLACEMENT
OVER YUMA MAIN CANAL
BRIDGE NO.
COUNTY PROJECT No. 6811

DRAINAGE PROFILES

REFERENCE DP-1 | B-199

SHEET 11 OF 29

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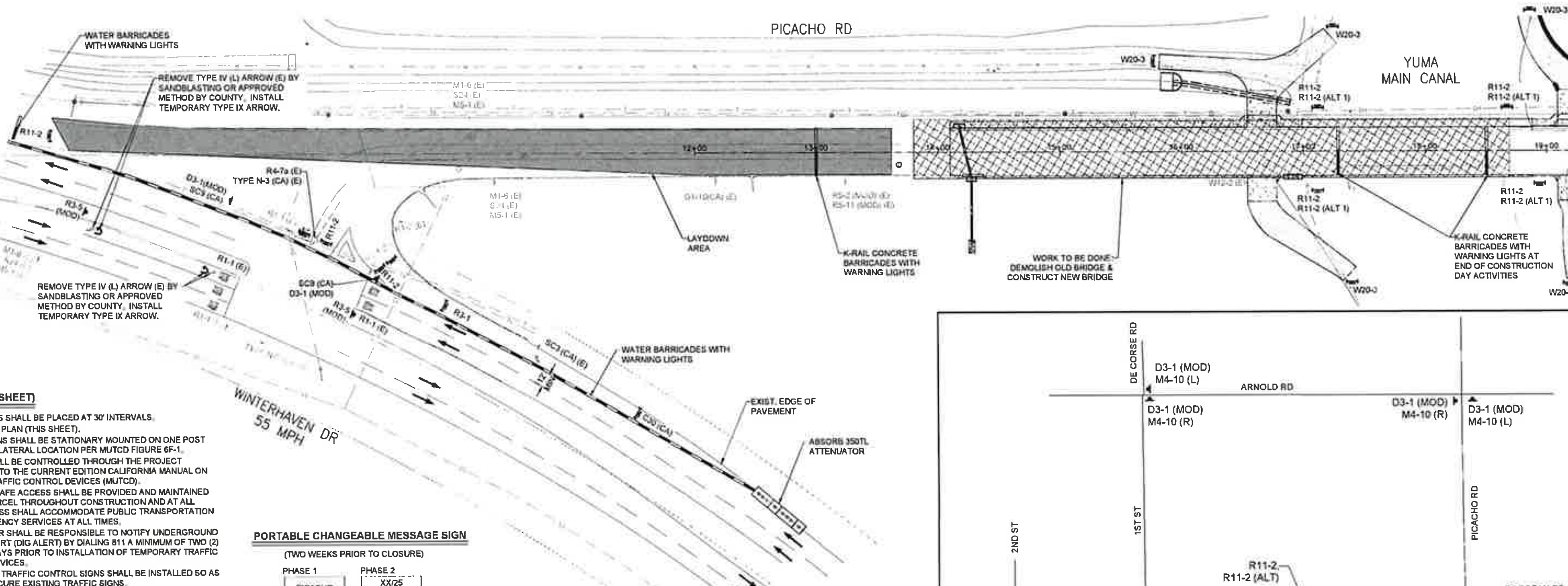

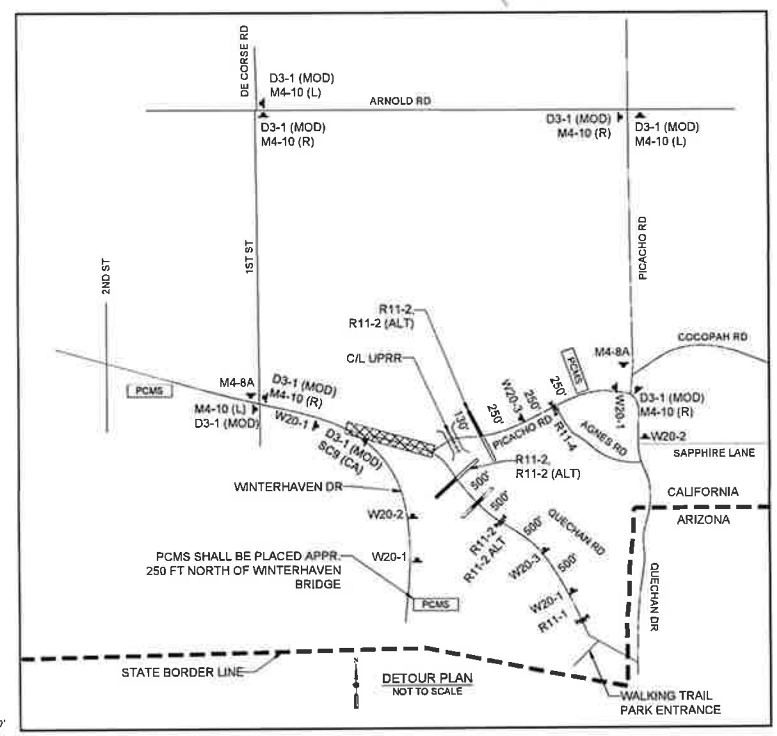

PRELIMINARY
NOT FOR CONSTRUCTION

NOTES (THIS SHEET)

1. DELINEATORS SHALL BE PLACED AT 30' INTERVALS.
2. SEE DETOUR PLAN (THIS SHEET).
3. DETOUR SIGNS SHALL BE STATIONARY MOUNTED ON ONE POST HEIGHT AND LATERAL LOCATION PER MUTCD FIGURE 6F-1.
4. TRAFFIC SHALL BE CONTROLLED THROUGH THE PROJECT ACCORDING TO THE CURRENT EDITION CALIFORNIA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
5. LEGAL AND SAFE ACCESS SHALL BE PROVIDED AND MAINTAINED TO EACH PARCEL THROUGHOUT CONSTRUCTION AND AT ALL TIMES. ACCESS SHALL ACCOMMODATE PUBLIC TRANSPORTATION AND EMERGENCY SERVICES AT ALL TIMES.
6. CONTRACTOR SHALL BE RESPONSIBLE TO NOTIFY UNDERGROUND SERVICE ALERT (DIG ALERT) BY DIALING 811 A MINIMUM OF TWO (2) BUSINESS DAYS PRIOR TO INSTALLATION OF TEMPORARY TRAFFIC CONTROL DEVICES.
7. TEMPORARY TRAFFIC CONTROL SIGNS SHALL BE INSTALLED SO AS NOT TO OBSCURE EXISTING TRAFFIC SIGNS.
8. CONTRACTOR SHALL PROVIDE FOR ALL MAINTENANCE OF TRAFFIC CONTROL DEVICES, SIGNAGE, DUST CONTROL, AND OTHER ACTIVITIES FOUND TO BE REQUIRED TO MAINTAIN SAFE TRAFFIC OPERATIONS OF APPROVED ROUTES.
9. TEMPORARY CONSTRUCTION AREA SIGNS SHOWN ARE APPROXIMATE. EXACT LOCATIONS WILL BE DETERMINED BY EXISTING CONDITIONS AND BY THE ENGINEER.
10. CONTRACTOR SHALL SUBMIT TRAFFIC CONTROL PLANS, FOR PAVEMENT MARKING AND STRIPING OPERATIONS, TO THE PUBLIC WORKS DEPARTMENT FOR REVIEW AND APPROVAL BY THE ENGINEER OF RECORD PRIOR TO THE REMOVAL/INSTALLATION OF PAVEMENT MARKERS.

PORTABLE CHANGEABLE MESSAGE SIGN

(TWO WEEKS PRIOR TO CLOSURE)

PHASE 1	PHASE 2
PICACHO CLOSED	XX/25 TO XX/26

(DURING CONSTRUCTION)

PHASE 1	PHASE 2
PICACHO CLOSED	USE DETOUR

LEGEND (THIS SHEET)

ITEM	SYMBOL
PROPOSED TEMPORARY TRAFFIC CONTROL ROADSIDE SIGN	
K-RAIL CONCRETE BARRICADES WITH WARNING LIGHTS	
TYPE III BARRICADE WITH SIGN AND WARNING LIGHTS	
WATER BARRICADE 9 (ORANGE) WITH WARNING LIGHTS	
PORTABLE DELINEATOR	
DIRECTION OF TRAVEL	
PORTABLE CHANGEABLE MESSAGE SIGN	PCMS
WORK ZONE	
CRASH CUSHION ATTENUATOR ABSORB 350 TL OR APPROVED EQUAL	
PROPOSED TYPE IX U-TURN ARROW	

TEMPORARY CONSTRUCTION SIGNS (THIS SHEET ONLY)

Sign	Code	Sign	Code	Sign	Code
ONLY (U-turn)	R3-5 (MOD)	ROAD CLOSED	R11-2	ROAD WORK AHEAD	W20-1
DETOUR (left)	M4-10 (L)	BRIDGE CLOSED	R11-2 (ALT 1)	DETOUR AHEAD	W20-2
DETOUR (right)	M4-10 (R)	ROAD CLOSED TO THRU TRAFFIC	R11-4	ROAD CLOSED AHEAD	W20-3
END DETOUR	M4-8A	(no U-turn)	R3-1	LANE CLOSED	C30 (CA)
PICACHO RD	D3-1 (MOD) (BLACK ON ORANGE)				
DETOUR	SC9 (CA)				

N

0' 40' 80' 120'
SCALE 1" = 40'

EEC ORIGINAL PKG

REVISION	DATE	COMMENTS

PREPARED UNDER THE DIRECT SUPERVISION OF:
JAMES S. MILLER, P.E. TRAFFIC SERVICES DIRECTOR — 82522 R.C.E. No. — 9/30/24 REG. EXP. — DATE

COUNTY OF IMPERIAL PUBLIC WORKS DEPARTMENT APPROVED FOR CONSTRUCTION BY:
JOHN A. GAY, P.E. ROAD COMMISSIONER — 62028 R.C.E. No. — 9/30/25 REG. EXP. — DATE

PUBLIC WORKS DEPARTMENT
COUNTY OF IMPERIAL
EL CENTRO, CALIFORNIA

DATE 9/3/2024 — AK — SCALE AS SHOWN — JM

PICACHO ROAD BRIDGE REPLACEMENT OVER YUMA MAIN CANAL
BRIDGE NO. 58C-XXXX
COUNTY PROJECT NO. 6811

TRAFFIC CONTROL & DETOUR PLAN
REFERENCE B-199
DE-1
SHEET 12 OF 29

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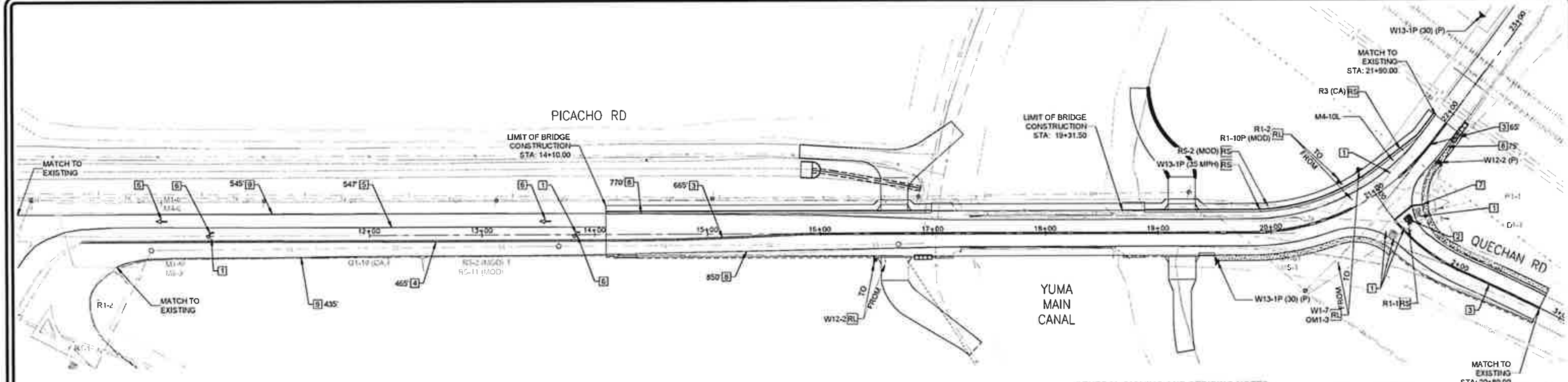


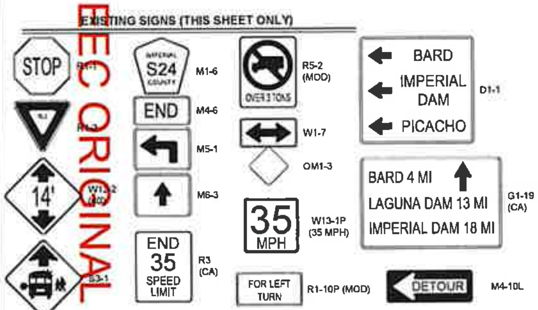
NOTES THIS SHEET

1. REMOVE EXISTING CONFLICTING STRIPING, MARKING, OR ARROW AS NOTED.
2. INSTALL "STOP" LEGEND PER CALTRANS STANDARD A24D.
3. INSTALL 6" DOUBLE YELLOW NO PASSING ZONE LINE PER CALTRANS STANDARD A20A, DETAIL 21.
4. REFRESH 6" DOUBLE YELLOW NO PASSING ZONE LINE PER CALTRANS STANDARD A20A, DETAIL 21.
5. REFRESH 8" CHANNELIZING LINE PER CALTRANS STANDARD A20D, DETAIL 38.
6. INSTALL THERMOPLASTIC PAVEMENT MARKING ARROW PER CALTRANS STANDARD PLAN A24A.
7. INSTALL THERMOPLASTIC 12" LIMIT LINE PER CALTRANS STANDARD A24G.
8. INSTALL 6" WHITE STRIP PER CALTRANS STANDARD A20A.
9. REFRESH 6" WHITE STRIP PER CALTRANS STANDARD A20A.
10. REMOVE TYPE IX ARROW (U-TURN ARROW) AND REPLACE WITH TYPE IV (L) ARROW WITHIN THE WINTERHAVEN DRIVE EASTBOUND LEFT TURN LANE AT THE INTERSECTION OF PICACHO ROAD AS SHOWN ON SHEET 12 OF 29.

LEGEND (THIS SHEET)

ITEM	SYMBOL
PROPOSED ROADSIDE SIGN OR EXISTING TO BE RELOCATED	⊤
RELOCATE EXISTING ROAD SIGN	RL
REMOVE EXISTING ROAD SIGN (SEE NOTE NO. 9)	RS
PROPOSED ROAD SIGN	(P)

EXISTING SIGNS (THIS SHEET ONLY)



PROPOSED SIGNS (THIS SHEET ONLY)

GENERAL SIGNING AND STRIPING NOTES

1. TRAFFIC STRIPES, PAVEMENT MARKINGS AND SIGNS SHALL BE RETROREFLECTIVE AND IN STANDARD SIZES. STRIPING AND MARKING DETAILS SHALL MATCH CALTRANS STANDARD PLANS. STENCILS FOR PAVEMENT MARKING SHALL MATCH CALTRANS STANDARD PLANS.
2. REMOVE CONFLICTING STRIPS, PAVEMENT MARKINGS, AND RAISED PAVEMENT MARKERS IN ACCORDANCE WITH THE PLANS AND AS APPROVED BY THE COUNTY ENGINEER. WORD OR SYMBOL PAVEMENT MARKINGS SHALL BE REMOVED BY WET SANDBLASTING OR GRINDING A RECTANGULAR AREA, OBLITERATING THE WHOLE MARKING.
3. ALL DOUBLE YELLOW STRIPES SHALL HAVE A 3 INCH PAINTED BLACK LINE SEPARATING THE YELLOW STRIPES.
4. PROVIDE PAINTED TRAFFIC STRIPES IN ACCORDANCE WITH THE PLANS. PAINTED TRAFFIC STRIPES AND PAVEMENT MARKINGS (IF ALLOWED) SHALL BE APPLIED IN TWO COATS. THE SECOND COAT OF PAINT SHALL BE APPLIED WITHIN 7 TO 14 DAYS AFTER THE FIRST COAT.
5. APPLY PAVEMENT MARKING INCLUDING CROSSWALKS, LIMIT LINES, TURN ARROW LEGENDS, AND STOP BARS USING THERMOPLASTIC MATERIAL.
6. THE BOTTOM OF THE TRAFFIC SIGN SHALL BE A MINIMUM OF 7 FEET ABOVE THE FINISHED SURFACE.
7. SIGNS LARGER THAN 48 INCHES OR LOCATIONS WHERE SIDEWALKS ARE LESS THAN 5 FEET WIDE, SIGN POSTS SHALL BE INSTALLED BEHIND THE SIDEWALK.
8. THE EXACT LOCATION OF SIGNS SHALL BE APPROVED IN THE FIELD BY THE COUNTY ENGINEER.
9. REMOVE SIGNS AND/OR RELOCATE IN ACCORDANCE WITH THE PLANS AND AS APPROVED BY THE COUNTY ENGINEER. THE CONTRACTOR SHALL DELIVER REMOVED SIGNS TO A DESIGNATED COUNTY YARD OR A LOCATION AS APPROVED BY THE COUNTY ENGINEER.
10. LAYOUT (CAT-TRACK) THE PROPOSED STRIPING AND MARKINGS IN ACCORDANCE WITH THE PLANS WITHIN THREE WORKING DAYS OF FINAL PAVING. CONTACT THE COUNTY OF IMPERIAL PUBLIC WORKS DEPARTMENT TO OBTAIN APPROVAL OF LAYOUT PRIOR TO ACTUAL INSTALLATION.
11. CONTRACTOR SHALL MAINTAIN TEMPORARY TRAFFIC STRIPING TABS UNTIL PERMANENT STRIPING IS INSTALLED. TEMPORARY TRAFFIC TABS SHALL NOT REMAIN ON THE PAVEMENT FOR MORE THAN 10 DAYS.
12. COORDINATE ALL SIGNING AND STRIPING WORKS THROUGH THE COUNTY ENGINEER PRIOR TO OPENING NEW ROADWAYS AND EXISTING ROADWAYS TO NEW SIGNING AND STRIPING.
13. STRIPING AND LEGENDS SHALL BEGIN AND END AT INTERSECTIONS OF ALL ARTERIALS AS IF A CROSSWALK IS BEING INSTALLED.
14. STRIPING AND LEGENDS SHALL BEGIN AND END AT INTERSECTION OF ALL COLLECTOR STREETS 15' FROM THE CURB LINE EXTENDED.
15. STRIPING AND LEGENDS SHALL BE LEAD-FREE WATER-BORNE PAINT EXCEPT WHERE THERMOPLASTIC STRIPING AND LEGENDS ARE REQUIRED.
16. SIGNS SHALL BE IN STANDARD SIZES. UNLESS NOTED OTHERWISE, ALL SIGN FACE REFLECTIVE SHEETING SHALL BE HIGH INTENSITY GRADE WITH PROTECTIVE OVERLAY FILM.
17. CONTRACTOR SHALL SUBMIT TRAFFIC CONTROL PLANS, FOR PAVEMENT MARKING AND STRIPING OPERATIONS, TO THE PUBLIC WORKS DEPARTMENT FOR REVIEW AND APPROVAL BY THE ENGINEER OF RECORD PRIOR TO THE REMOVAL/INSTALLATION OF PAVEMENT MARKERS.

N

0' 40' 80' 120'
SCALE 1" = 40'

PRELIMINARY
NOT FOR CONSTRUCTION

EEC ORIGINAL PKG

REVISION	DATE	COMMENTS

PREPARED UNDER THE DIRECT SUPERVISION OF:
JAMES S. MILLER, P.E.
TRAFFIC SERVICES DIRECTOR
82522 R.C.E. No.
9/30/24 REG. EXP.
DATE

COUNTY OF IMPERIAL PUBLIC WORKS DEPARTMENT APPROVED FOR CONSTRUCTION BY:
JOHN A. GAY, P.E.
ROAD COMMISSIONER
62028 R.C.E. No.
9/30/25 REG. EXP.
DATE

PUBLIC WORKS DEPARTMENT
COUNTY OF IMPERIAL
EL CENTRO, CALIFORNIA

DATE 9/3/2024
DRAWN JK
SCALE AS SHOWN
CHECKED JU

PICACHO ROAD BRIDGE REPLACEMENT
OVER YUMA MAIN CANAL
BRIDGE NO. 58C-XXXX
COUNTY PROJECT NO. 6811

SIGNING & STRIPING PLAN

REFERENCE PD-1
B-199
SHEET 13 OF 29

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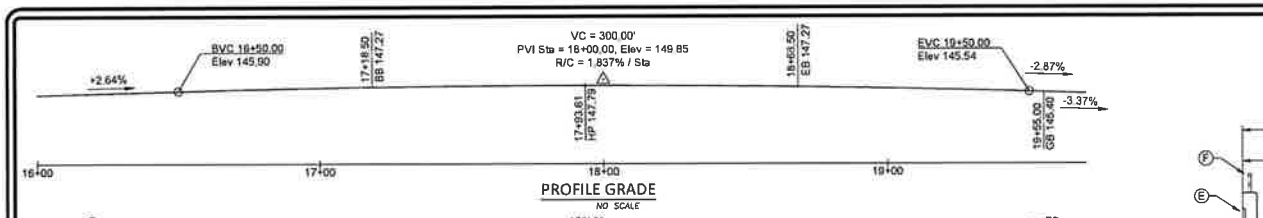
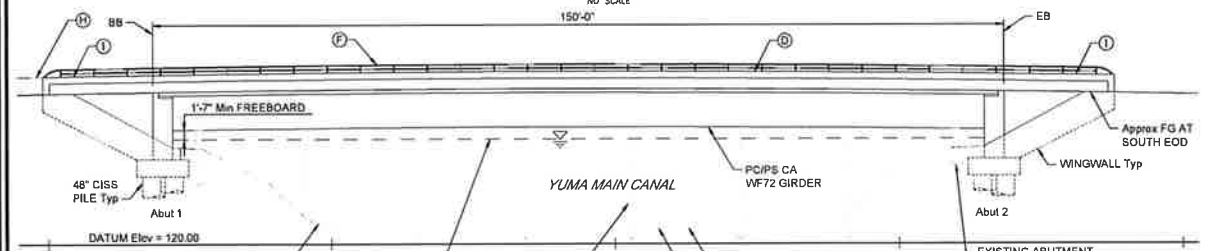
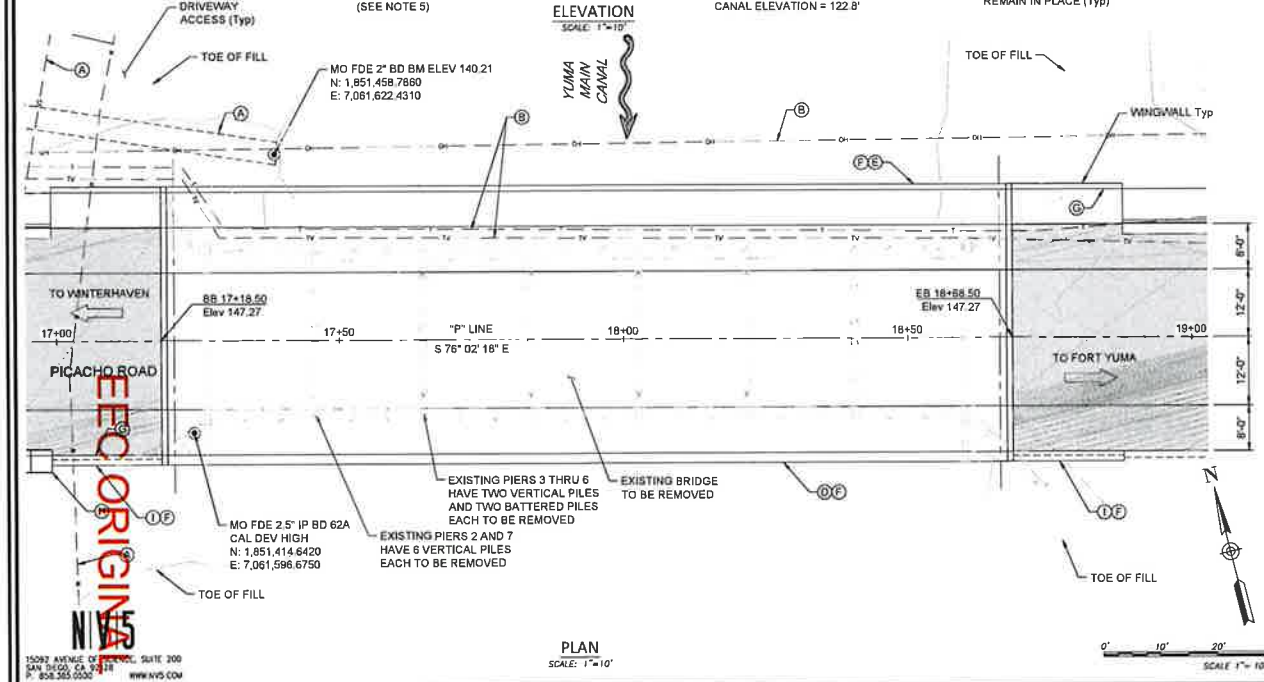


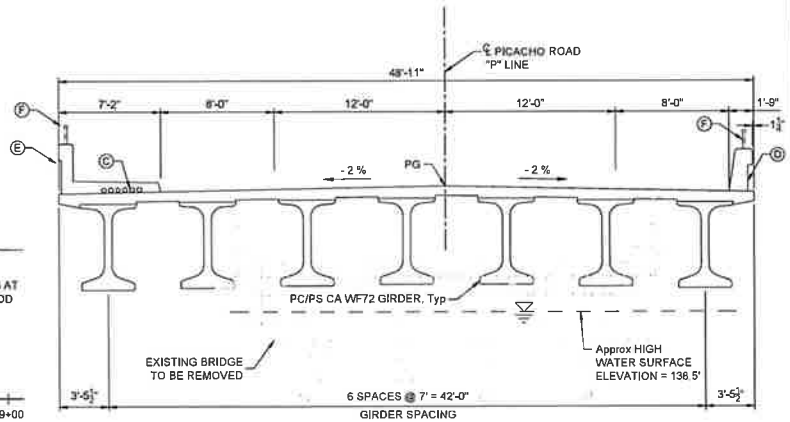
PROFILE GRADE
NO SCALE



ELEVATION
SCALE: 1"=10'



PLAN
SCALE: 1"=10'



TYPICAL SECTION
(EXISTING PIERS 3 THROUGH 6 SHOWN)
SCALE: 1/4" = 1'-0"

NOTES

- (A) Existing utility to be protected in place
- (B) Existing utility to be relocated
- (C) 4" Opening for utilities
- (D) Concrete Barrier Type 836
- (E) Concrete Barrier Type 732SW
- (F) Tubular Handrailing
- (G) Paint "YUMA MAIN (PICACHO RD) BR NO. 58C-0[XXX] [YEAR CONSTRUCTED]
- (H) Crash Cushion, see Roadway Plans
- (I) Concrete Barrier Type 836A

NOTES

1. THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.
2. THE EXISTING CLAY LINED CANAL MUST BE PROTECTED IN PLACE DURING ALL CONSTRUCTION ACTIVITIES.
3. THE CONTRACTOR MUST REMOVE THE EXISTING PILES AT THE PIERS WITHIN THE CANAL, FLUSH WITH THE EXISTING CANAL PRISM IN SUCH A WAY THAT THE CANAL, INCLUDING ITS FOUNDATION IS PROTECTED.
4. ANY MODIFICATION TO THE CANAL PRISM MUST BE BROUGHT TO ITS ORIGINAL OR BETTER CONDITION AND SHALL BE REVIEWED AND APPROVED BY THE BUREAU OF RECLAMATION AND YUMA COUNTY WATER USERS' ASSOCIATION PRIOR TO THE CONTRACTOR COMMENCING WORK.
5. THE APPROXIMATE HIGH WATER SURFACE ELEVATION WAS PROVIDED BY YUMA COUNTY WATER USERS' ASSOCIATION.

INDEX TO BRIDGE PLANS

LEGEND

- Existing Bridge
- Direction of Flow
- Existing Bridge to be Removed
- Proposed Pavement Section
- SURVEY MONUMENT FOUND

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EEC ORIGINAL PKG

REVISION	DATE	COMMENTS

PREPARED UNDER THE DIRECT SUPERVISION OF:
DARAB BOUZARJOMEHRI — No. 54870 R.C.E. No. — 6/30/26 REG. EXP. — DATE

COUNTY OF IMPERIAL PUBLIC WORKS DEPARTMENT APPROVED FOR CONSTRUCTION BY:
JOHN A. GAY, P.E. — ROAD COMMISSIONER — DATE
No. 62028 R.C.E. No — 9/30/25 REG. EXP.

PUBLIC WORKS DEPARTMENT
COUNTY OF IMPERIAL
EL CENTRO, CALIFORNIA

DATE 3/28/2024
SHEET SD
SCALE AS SHOWN
DESIGNED HE

PICACHO ROAD BRIDGE REPLACEMENT
OVER YUMA MAIN CANAL
BRIDGE NO. 58C-0028
COUNTY PROJECT NO. 6811

GENERAL PLAN

REFERENCE S-1

B-199

SHEET 14 OF 29

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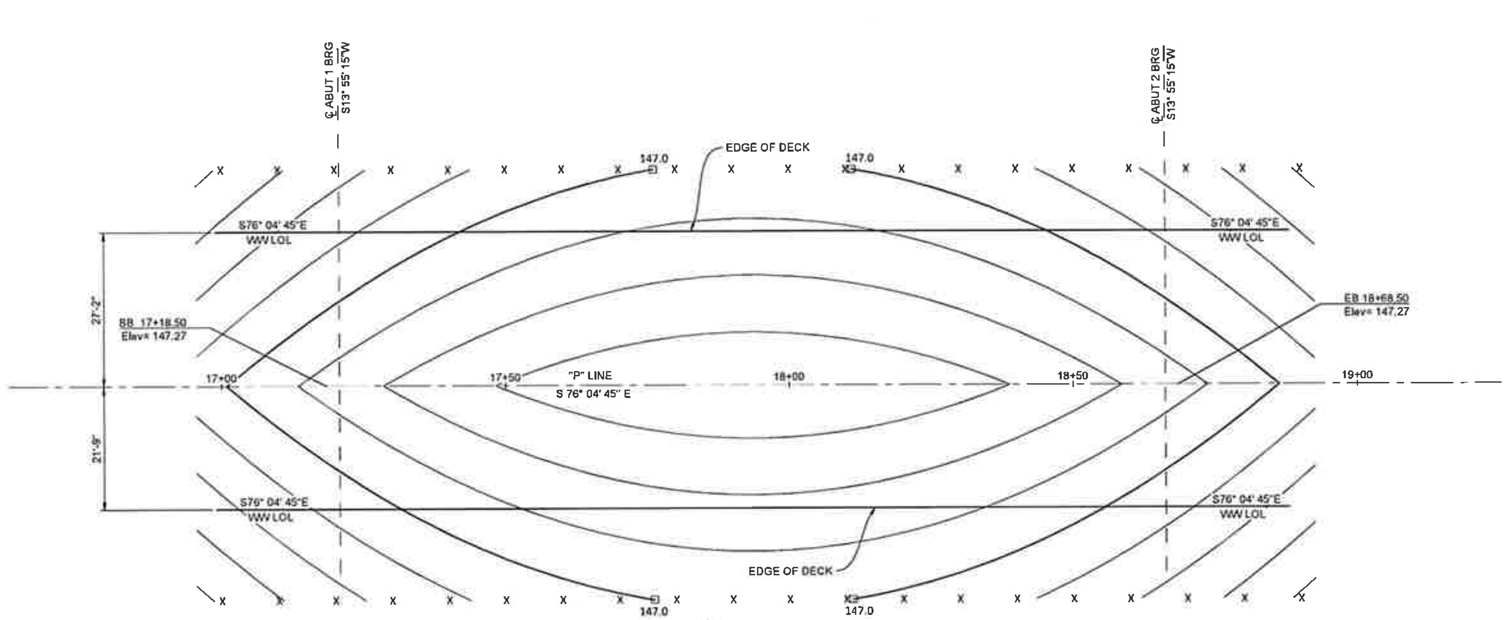
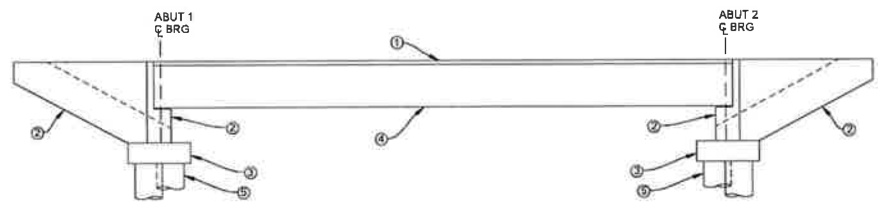


PLAN

SCALE 1" = 10'

NOTES

1. CONTOUR INTERVALS = 0.20 FT.
2. CONTOURS DO NOT INCLUDE CAMBER
3. ☐ - INDICATES EVEN FOOT CONTOUR
4. X - INDICATES 10FT INTERVALS ALONG "P" LINE



① STRUCTURAL CONCRETE, BRIDGE (POLYMER FIBER) (F'C = 5,000 PSI AT 28 DAYS)
② STRUCTURAL CONCRETE, BRIDGE (F'C = 4,500 PSI AT 28 DAYS)
③ STRUCTURAL CONCRETE, BRIDGE FOOTING (F'C = 4,500 PSI AT 28 DAYS)
④ PRECAST PRESTRESSED CONCRETE WIDE FLANGE GIRDER (F'C = 8,000 PSI AT 28 DAYS)
⑤ CAST-IN-STEEL-SHELL CONCRETE PILING (F'C = 4,500 PSI AT 28 DAYS)

CONCRETE STRENGTH AND TYPE LIMITS

SCALE: NTS

QUANTITIES

TREATED WOOD WASTE	LB	40,500
STRUCTURE EXCAVATION (BRIDGE)	CY	487
STRUCTURE BACKFILL (BRIDGE)	CY	241
FURNISH 48" CAST-IN-STEEL-SHELL CONCRETE PILING	LF	1,043
DRIVE 48" CAST-IN-STEEL-SHELL CONCRETE PILE	EA	14
STRUCTURAL CONCRETE, BRIDGE FOOTING	CY	107
STRUCTURAL CONCRETE, BRIDGE	CY	172
STRUCTURAL CONCRETE, BRIDGE (POLYMER FIBER)	CY	237
FURNISH PRECAST PRESTRESSED CONCRETE WIDE FLANGE GIRDER (140'-150')	EA	7
ERECT PRECAST PRESTRESSED CONCRETE GIRDER	EA	7
JOINT SEAL (MR 1")	LF	98
BAR REINFORCING STEEL (BRIDGE)	LB	160,200
BRIDGE REMOVAL (PORTION)	LS	1
MISCELLANEOUS METAL (BRIDGE)	LB	310
TUBULAR HAND RAILING	LF	378
CONCRETE BARRIER (TYPE 732SW)	LF	189
CONCRETE BARRIER (TYPE 836)	LF	150
CONCRETE BARRIER (TYPE 836A)	LF	39

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DARAB BOUZARJOMEHRI — 54870 R.C.E. No. — 6/30/26 REG. EXP. — DATE

COUNTY OF IMPERIAL PUBLIC WORKS DEPARTMENT APPROVED FOR CONSTRUCTION BY:
JOHN A. GAY, P.E. ROAD COMMISSIONER — 62028 R.C.E. No. — 9/30/25 REG. EXP. — DATE

PUBLIC WORKS DEPARTMENT
COUNTY OF IMPERIAL
EL CENTRO, CALIFORNIA

DATE 3/28/2024 — DRAWN SD — SCALE AS SHOWN — CHECKED HE

PICACHO ROAD BRIDGE REPLACEMENT
OVER YUMA MAIN CANAL
BRIDGE NO. 58C-0028
COUNTY PROJECT NO. 6811

DECK CONTOURS
REFERENCE S-2 — B-199 — SHEET 15 OF 29

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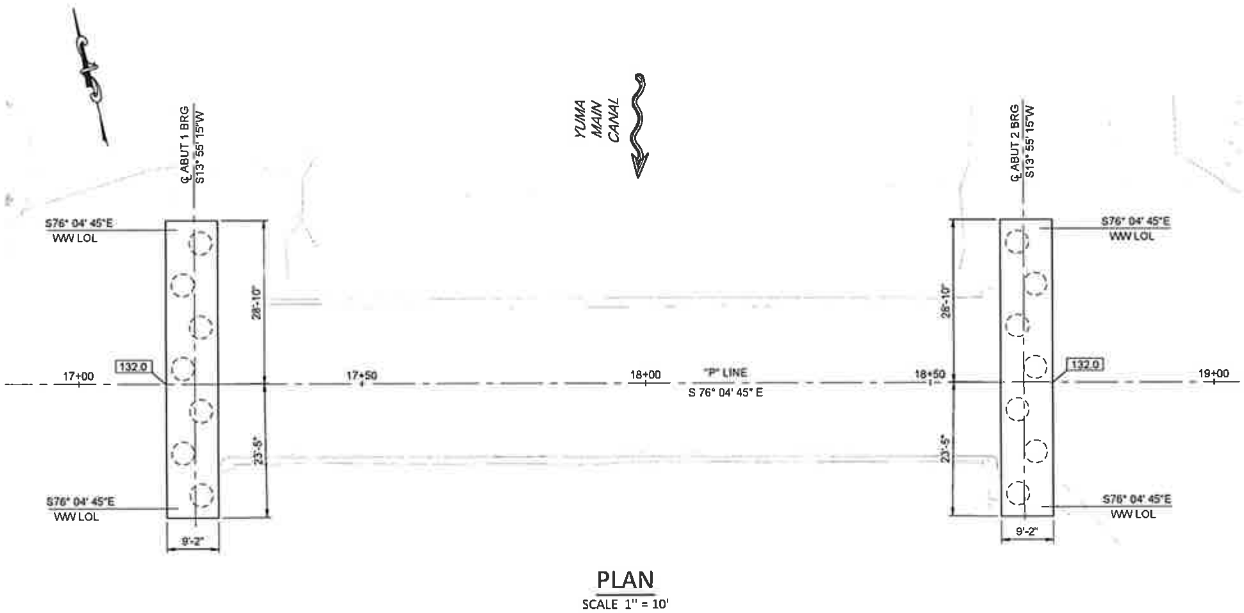


PLAN

SCALE 1" = 10'

GENERAL NOTES

LOAD AND RESISTANCE FACTOR DESIGN

DESIGN: AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 8TH EDITION AND THE CALTRANS AMENDMENTS (AASHTO-CA BDS-8), PREFACE DATED DECEMBER 2023

SEISMIC DESIGN: CALTRANS SEISMIC DESIGN CRITERIA (SDC), VERSION 2.0 DATED APRIL 2019

DEAD LOAD: INCLUDES 35 PSF FOR FUTURE WEARING SURFACE.

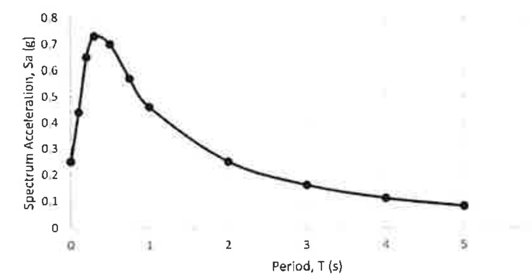
LIVE LOAD: HL93 AND PERMIT DESIGN LOAD

SEISMIC LOAD

SOIL PROFILE: (VS30 = 656 ft/sec)
MEAN MAGNITUDE: 6.96
PEAK GROUND ACCELERATION: 0.25g

REINFORCED CONCRETE: fy = 60 ksi
f'c = 4.5 ksi (UNLESS OTHERWISE NOTED)
n = 8

PRESTRESSED CONCRETE: SEE "PRESTRESSING NOTES" ON "PC/PS WIDE FLANGE GIRDER (HARPED STRANDS)" SHEET



ARS CURVE

SITE SPECIFIC ACCELERATION RESPONSE SPECTRA CURVE

PILE DATA TABLE

LOCATION	PILE TYPE	NOMINAL RESISTANCE (KIPS)		CUT-OFF ELEVATION (FT)	DESIGN TIP ELEVATION (FT)	SPECIFIED TIP ELEVATION (FT)	NOMINAL DRIVING RESISTANCE REQUIRED (KIPS)
		COMPRESSION	TENSION				
ABUT 1	CISS 48x0.5	1200	0	132.42	(a-I) 50.42 (a-II) 83.22	50.42	1200
ABUT 2	CISS 48x0.5	1200	0	132.42	(a-I) 65.42 (a-II) 70.72 (c) 72.01	65.42	1200

- DESIGN TIP ELEVATIONS ARE CONTROLLED BY (a-I) COMPRESSION (STRENGTH), (a-II) COMPRESSION (EXTREME), (c) SETTLEMENT.
- THE SPECIFIED TIP ELEVATIONS SHALL NOT BE RAISED ABOVE THE DESIGN TIP ELEVATION FOR SETTLEMENT (LIQUEFACTION POTENTIAL).
- TO SEAL THE BOTTOM OF CISS PILES, THE TOP OF THE SOIL PLUG SHOULD BE AT ELEVATION 83.42 AT ABUTMENT 1 AND 83.42 AT ABUTMENT 2. ADDITIONALLY, A SEAL COURSE THICKNESS OF 9 FEET ABOVE THE SOIL PLUG ELEVATION IS REQUIRED TO COUNTERACT THE HYDROSTATIC FORCES OF THE GROUNDWATER AND TO ALLOW FOR THE PILE REINFORCEMENT AND CONCRETE TO BE POURED IN THE DRY.
- PILE LOAD TESTING IS REQUIRED AT ONE PILE LOCATION AT ABUTMENT 1; AND DYNAMIC MONITORING AT ONE PILE LOCATION AT ABUTMENT 1 AND TWO PILE LOCATIONS (EASTERN AND WESTERN MOST PILES) AT ABUTMENT 2 LOCATION.

CALTRANS STANDARD PLANS DATED NOVEMBER 2023

	A3A	ABBREVIATIONS (SHEET 1 OF 3)
	A3B	ABBREVIATIONS (SHEET 2 OF 3)
	A3C	ABBREVIATIONS (SHEET 3 OF 3)
	A10A	LEGEND - LINES AND SYMBOLS (SHEET 1 OF 5)
	A10B	LEGEND - LINES AND SYMBOLS (SHEET 2 OF 5)
	A10C	LEGEND - LINES AND SYMBOLS (SHEET 3 OF 5)
	A10D	LEGEND - LINES AND SYMBOLS (SHEET 4 OF 5)
	A10E	LEGEND - LINES AND SYMBOLS (SHEET 5 OF 5)
	A62C	LIMITS OF PAYMENT FOR EXCAVATION AND BACKFILL BRIDGE
	B0-1	BRIDGE DETAILS
	B0-5	BRIDGE DETAILS
	B0-13	BRIDGE DETAILS
	B6-21	JOINT SEALS (MAXIMUM MOVEMENT RATING = 2")
	B9-6	STRUCTURE APPROACH DRAINAGE DETAILS
	B11-51	TUBULAR HANDRAILING
RSP	B11-58	CONCRETE BARRIER TYPE 732SW (SHEET 1 OF 2)
RSP	B11-59	CONCRETE BARRIER TYPE 732SW (SHEET 2 OF 2)
RSP	B11-79	CONCRETE BARRIER TYPE 836 DETAIL No 1
RSP	B11-80	CONCRETE BARRIER TYPE 836 DETAIL No 2

RSP — STANDARD PLAN SHEET NO. — DETAIL NO. — REVISED STANDARD PLAN

LEGEND:

- INDICATES DIRECTION OF FLOW
- INDICATES BOTTOM OF FOOTING ELEVATION
- INDICATES CAST-IN STEEL SHELL CONCRETE PILE

NOTES:

FOR SURVEY CONTROL AND BENCHMARK, SEE "TITLE SHEET" SHEET T-1.

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REVISION	DATE	COMMENTS

PREPARED UNDER THE DIRECT SUPERVISION OF:
DARAB BOUZARJOMEHRI — 54870 R.C.E. No. — 6/30/26 REG. EXP.
DATE

COUNTY OF IMPERIAL PUBLIC WORKS DEPARTMENT APPROVED FOR CONSTRUCTION BY:
JOHN A. GAY, P.E. ROAD COMMISSIONER — 62028 R.C.E. No. — 9/30/25 REG. EXP.
DATE

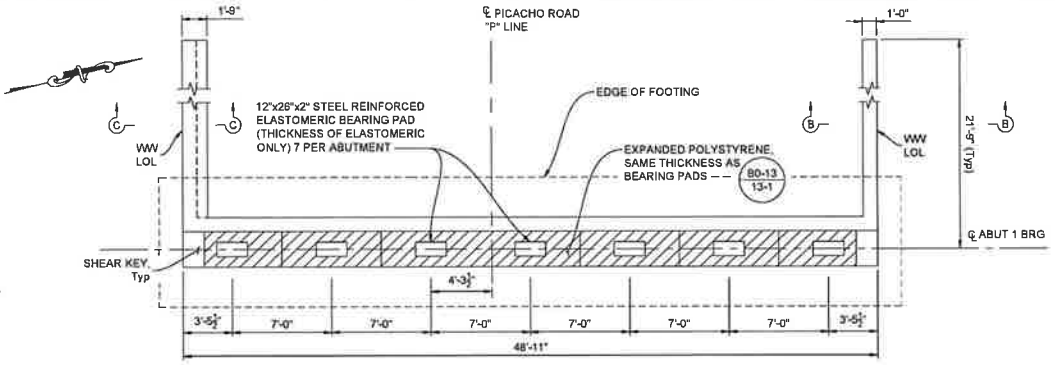
PUBLIC WORKS DEPARTMENT
COUNTY OF IMPERIAL
EL CENTRO, CALIFORNIA

DATE 3/28/2024 — DESIGN 50 — SCALE AS SHOWN — DRAWN HE

PICACHO ROAD BRIDGE REPLACEMENT
OVER YUMA MAIN CANAL
BRIDGE NO. 58C-0028
COUNTY PROJECT NO. 6811

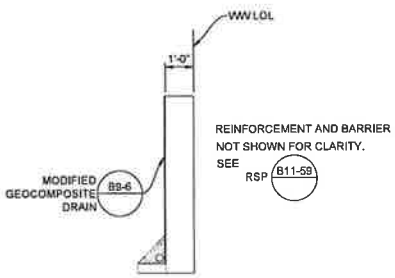
FOUNDATION PLAN

REFERENCE S-3 — B-199 — SHEET 16 OF 29



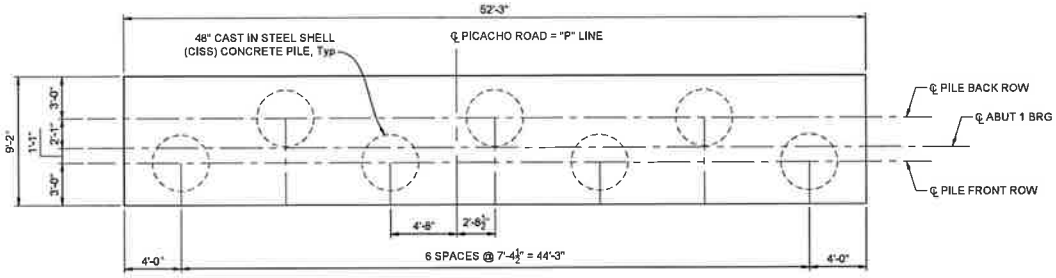
ABUTMENT 1 PLAN

SCALE ¼ " = 1'-0"



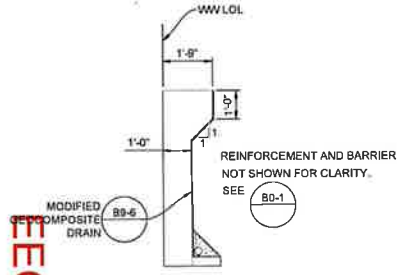
SECTION B-B

SCALE ½ " = 1'-0"



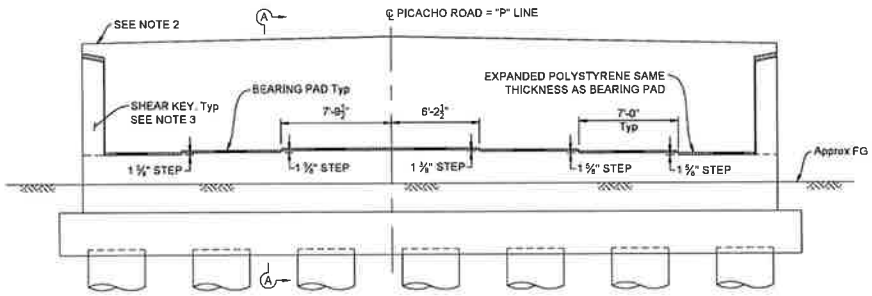
ABUTMENT 1 FOOTING LAYOUT

SCALE ¼ " = 1'-0"



SECTION C-C

SCALE ½ " = 1'-0"



ABUTMENT 1 ELEVATION

SCALE ¼ " = 1'-0"

NOTES:

1. FOR SECTION A-A, SEE "ABUTMENT DETAILS" SHEET
2. CONCRETE BARRIER NOT SHOWN FOR CLARITY
3. FOR SHEAR KEY, SEE "ABUTMENT DETAILS" SHEET
4. FOR PILE DETAILS, SEE "ABUTMENT DETAILS" SHEET.
5. THE CONTRACTOR SHALL SUBMIT CUT SHEETS OF ABUTMENT SEAT, BACKWALL, SHEAR KEY, AND FOOTING ELEVATIONS TO THE ENGINEER FOR APPROVAL PRIOR TO CONCRETE POURING.

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REVISION	DATE	COMMENTS

PREPARED UNDER THE DIRECT SUPERVISION OF:
DARIAS BOOZARJOMEHRI — 54870 R.C.E. No. — 6/30/26 REG. EXP. — DATE

COUNTY OF IMPERIAL PUBLIC WORKS DEPARTMENT
APPROVED FOR CONSTRUCTION BY:
JOHN A. GAY, P.E.
ROAD COMMISSIONER — 62028 R.C.E. No. — 9/30/25 REG. EXP. — DATE

PUBLIC WORKS DEPARTMENT
COUNTY OF IMPERIAL
EL CENTRO, CALIFORNIA

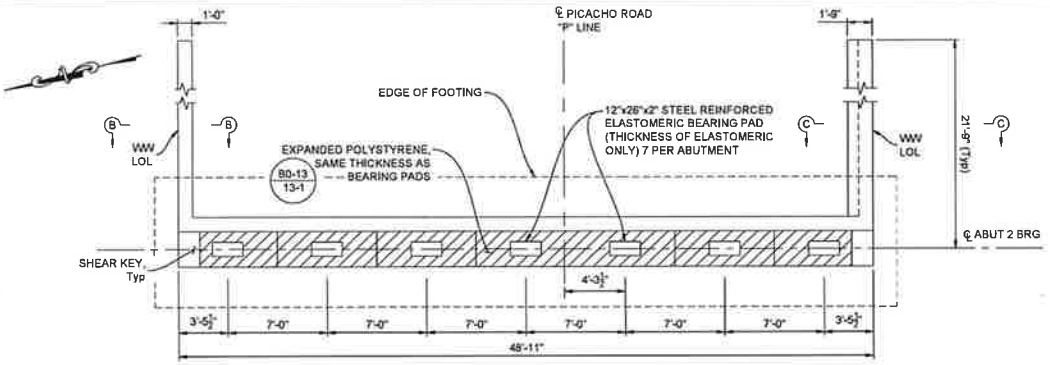
DATE 3/28/2024
DESIGNED SD
DRAWN AS SHOWN
CHECKED ME

PICACHO ROAD BRIDGE REPLACEMENT
OVER YUMA MAIN CANAL
BRIDGE NO. 58C-0028
COUNTY PROJECT NO. 6811

ABUTMENT 1 LAYOUT

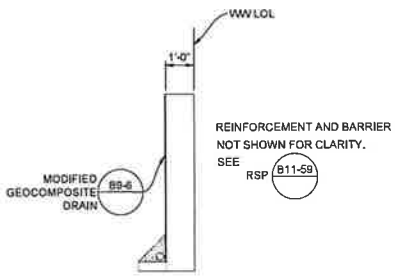
REFERENCE S-4 | B-199

SHEET 17 OF 29



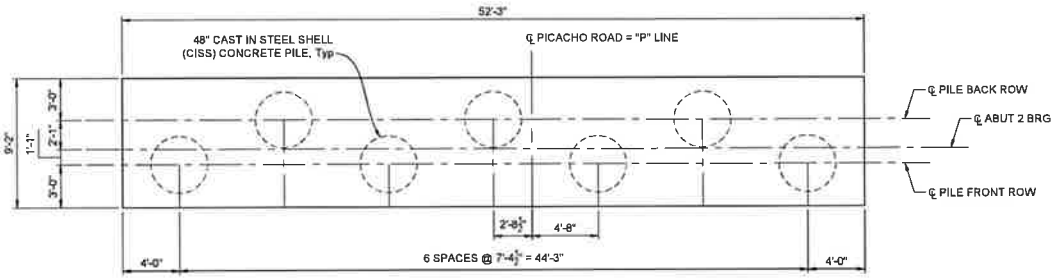
ABUTMENT 2 PLAN

SCALE ¼ " = 1'-0"



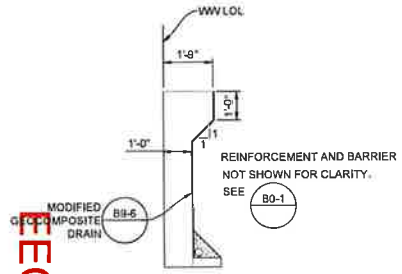
SECTION B-B

SCALE ½ " = 1'-0"



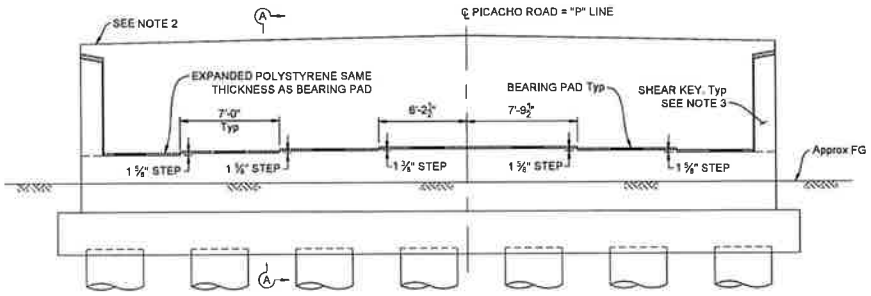
ABUTMENT 2 FOOTING LAYOUT

SCALE ¼ " = 1'-0"



SECTION C-C

SCALE ½ " = 1'-0"



ABUTMENT 2 ELEVATION

SCALE ¼ " = 1'-0"

NOTES:

1. FOR SECTION A-A, SEE "ABUTMENT DETAILS" SHEET
2. CONCRETE BARRIER NOT SHOWN FOR CLARITY
3. FOR SHEAR KEY, SEE "ABUTMENT DETAILS" SHEET
4. FOR PILE DETAILS, SEE "ABUTMENT DETAILS" SHEET.
5. THE CONTRACTOR SHALL SUBMIT CUT SHEETS OF ABUTMENT SEAT, BACKWALL, SHEAR KEY, AND FOOTING ELEVATIONS TO THE ENGINEER FOR APPROVAL PRIOR TO CONCRETE POURING.

NV5
15092 AVENUE OF SCIENCE, SUITE 200
SAN DIEGO, CA 92128
P: 858.385-0500
WWW.NV5.COM

REVISION	DATE	COMMENTS

PREPARED UNDER THE DIRECT SUPERVISION OF:
DARAB BOUZAR,DOMENIC — 54870 R.C.E. No. — 6/30/26 REG. EXP. — DATE

COUNTY OF IMPERIAL PUBLIC WORKS DEPARTMENT
APPROVED FOR CONSTRUCTION BY:
JOHN A. GAY, P.E.
ROAD COMMISSIONER — 62028 R.C.E. No — 9/30/25 REG. EXP. — DATE

PUBLIC WORKS DEPARTMENT
COUNTY OF IMPERIAL
EL CENTRO, CALIFORNIA

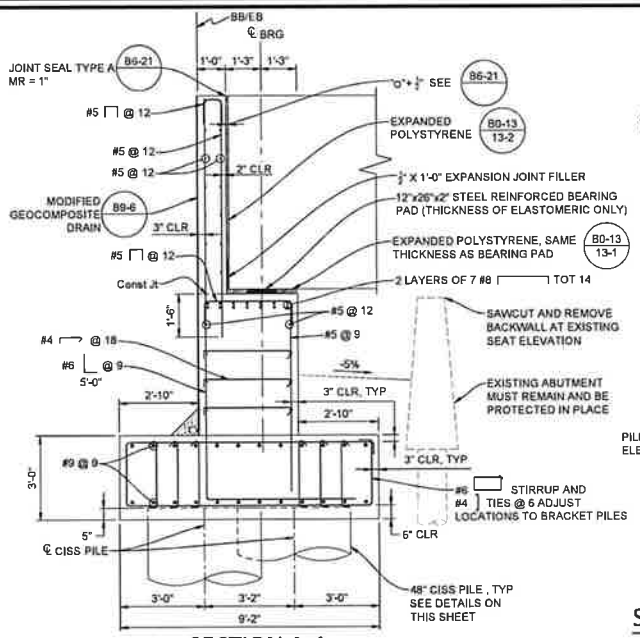
DATE 3/28/2024
DESIGN SD
SCALE AS SHOWN
DRAWN ME

PICACHO ROAD BRIDGE REPLACEMENT
OVER YUMA MAIN CANAL
BRIDGE NO. 58C-0028
COUNTY PROJECT NO. 6811

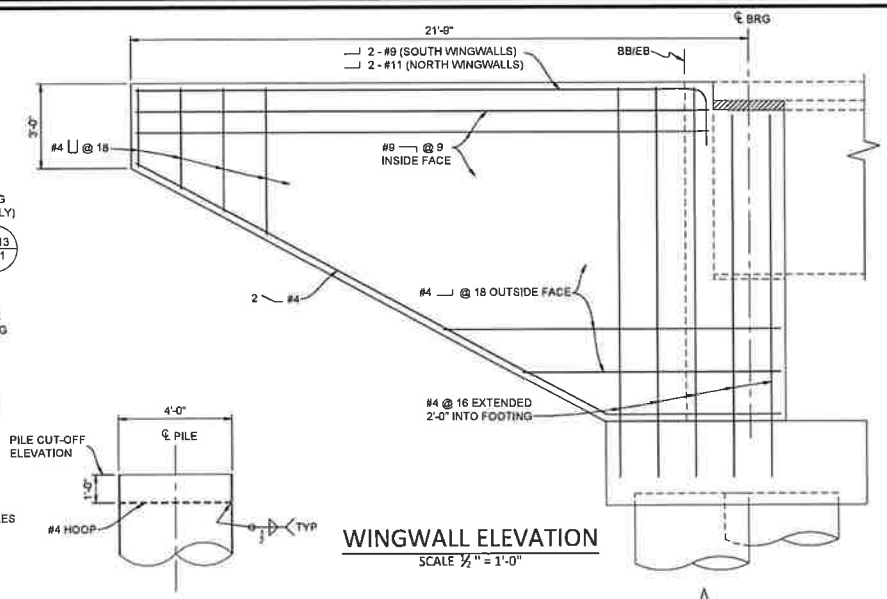
ABUTMENT 2 LAYOUT

REFERENCE S-5 | B-199

SHEET 18 OF 29

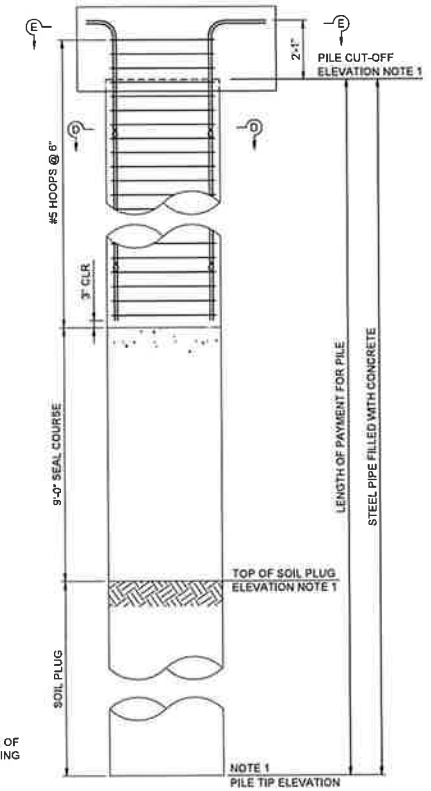


SECTION A-A
SCALE ½ " = 1'-0"

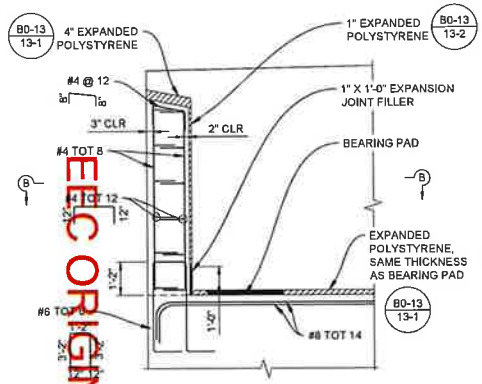


WINGWALL ELEVATION
SCALE ½ " = 1'-0"

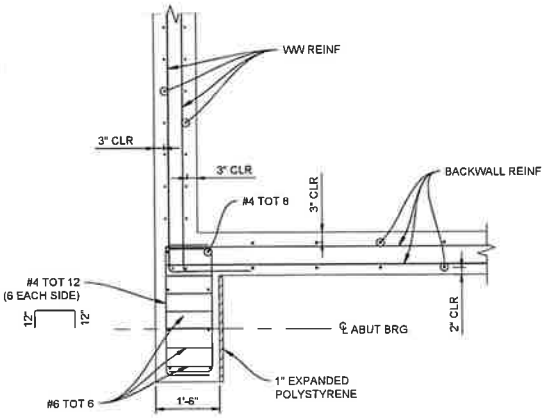
SINGLE SHEAR RING DETAILS
SCALE ½ " = 1'-0"



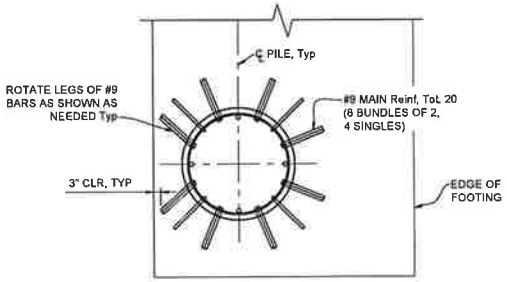
48" CAST IN STEEL SHELL (CISS) CONCRETE PILE DETAIL
SCALE ½" = 1'



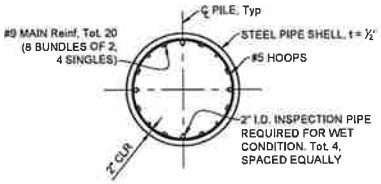
SHEAR KEY DETAIL
SCALE ½ " = 1'-0"



SECTION B-B
SCALE ¾ " = 1'-0"



SECTION E-E
SCALE 1/2" = 1'



SECTION D-D
SCALE 1/2" = 1'

NOTES:
1. FOR SPECIFIED TIP, PILE CUTOFF, AND TOP OF SOIL PLUG ELEVATIONS, SEE "FOUNDATION PLAN" SHEET.
2. HOOPS MAY BE DISCONNECTED AT ABUTMENT TO ALLOW FOR PLACING ABUTMENT REINFORCEMENT.
3. THE CONTRACTOR SHALL VERIFY ALL CONTROLLING DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.
4. NO SPLICES ALLOWED IN MAIN REINFORCEMENT.
5. AGGREGATE MUST BE 1" MAXIMUM COMBINED GRADING.
5. THE CONTRACTOR SHALL SUBMIT CUT SHEETS OF ABUTMENT SEAT, BACKWALL, SHEAR KEY, AND FOOTING ELEVATIONS TO THE ENGINEER FOR APPROVAL PRIOR TO CONCRETE POURING.

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SAN DIEGO, CA 92128
P: 858.385.0500
www.nv5.com

REVISION	DATE	COMMENTS

PREPARED UNDER THE DIRECT SUPERVISION OF:
DARAB BOUZARJOMEHRI — No. 54870 — R.C.E. No. 6/30/25 REG. EXP.
DATE

JOHN A. GAY — No. 62028
COUNTY OF IMPERIAL PUBLIC WORKS DEPARTMENT APPROVED FOR CONSTRUCTION BY:
JOHN A. GAY, P.E.
ROAD COMMISSIONER — R.C.E. No. 62028 — 9/30/25 REG. EXP.
DATE

PUBLIC WORKS DEPARTMENT
COUNTY OF IMPERIAL
EL CENTRO, CALIFORNIA

DATE 3/28/2024
DESIGN SD
DRAWN AS SHOWN
CHECKED HC

PICACHO ROAD BRIDGE REPLACEMENT
OVER YUMA MAIN CANAL
BRIDGE NO. 58C-0028
COUNTY PROJECT NO. 6811

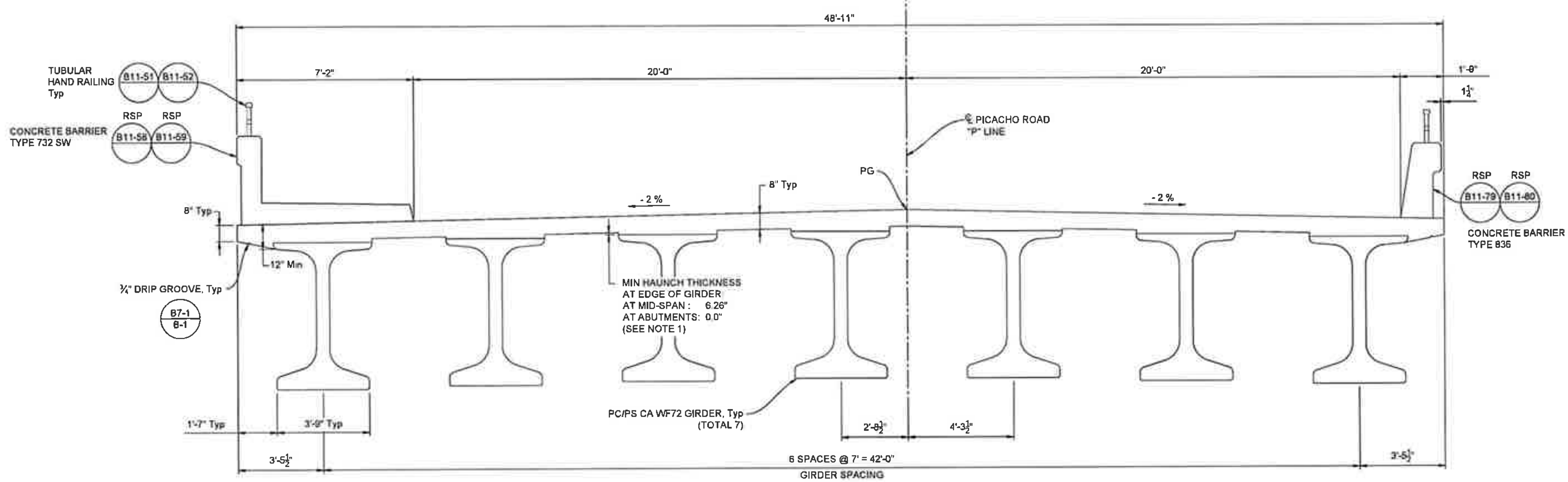
ABUTMENT DETAILS

REFERENCE S-6

B-199

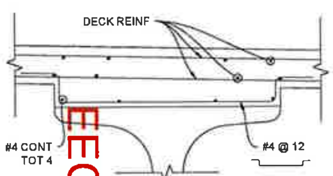
SHEET 19 OF 29

N:\21-0001136\Cadd\Bridge\1136-S-A01.dwg, Aug-06-2024 14:48



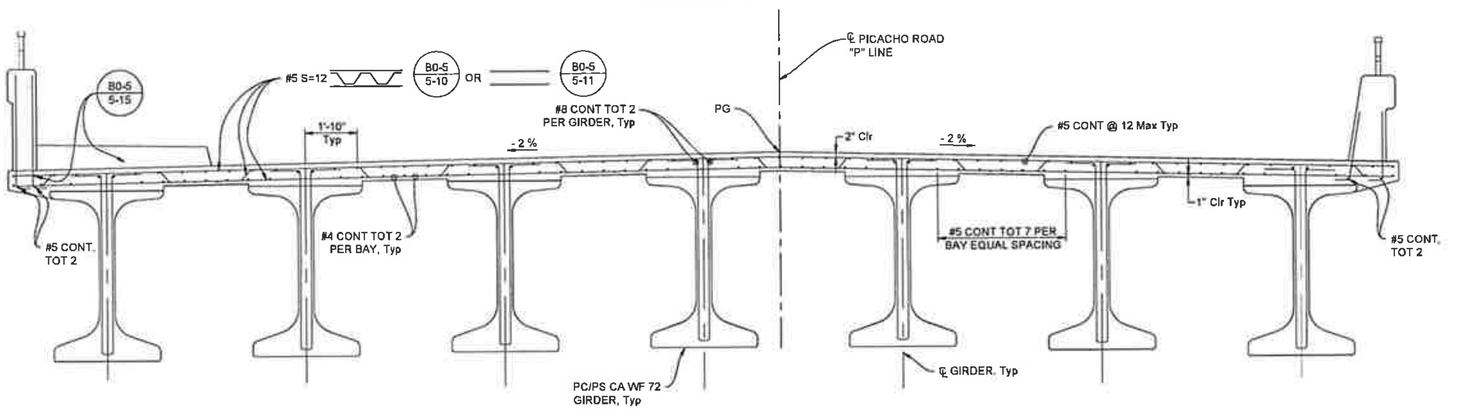
TYPICAL SECTION

SCALE 1/2" = 1'-0"



HAUNCH REINFORCEMENT

SCALE 1" = 1'-0"



DECK REINFORCEMENT

SCALE 1/2" = 1'-0"

NOTES:

1. DUE TO PROFILE GRADE, MINIMUM HAUNCH DEPTH OCCURS AT THE ABUTMENTS AND MAXIMUM HAUNCH DEPTH OCCURS AT MIDSPAN. SEE "GIRDER HAUNCH THICKNESS" DETAIL ON "GIRDER LAYOUT" SHEET.
2. WHERE THE HAUNCH DEPTH IS 4 INCHES OR GREATER PROVIDE HAUNCH REINFORCING AS SHOWN ON THIS SHEET.

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REVISION	DATE	COMMENTS

PREPARED UNDER THE DIRECT SUPERVISION OF:
SARAB BOOZARJOMEHRI — 54870 R.C.E. No. — 6/30/26 REG. EXP. — DATE

COUNTY OF IMPERIAL PUBLIC WORKS DEPARTMENT APPROVED FOR CONSTRUCTION BY:
JOHN A. GAY, P.E. ROAD COMMISSIONER — 62028 R.C.E. No. — 9/30/25 REG. EXP. — DATE

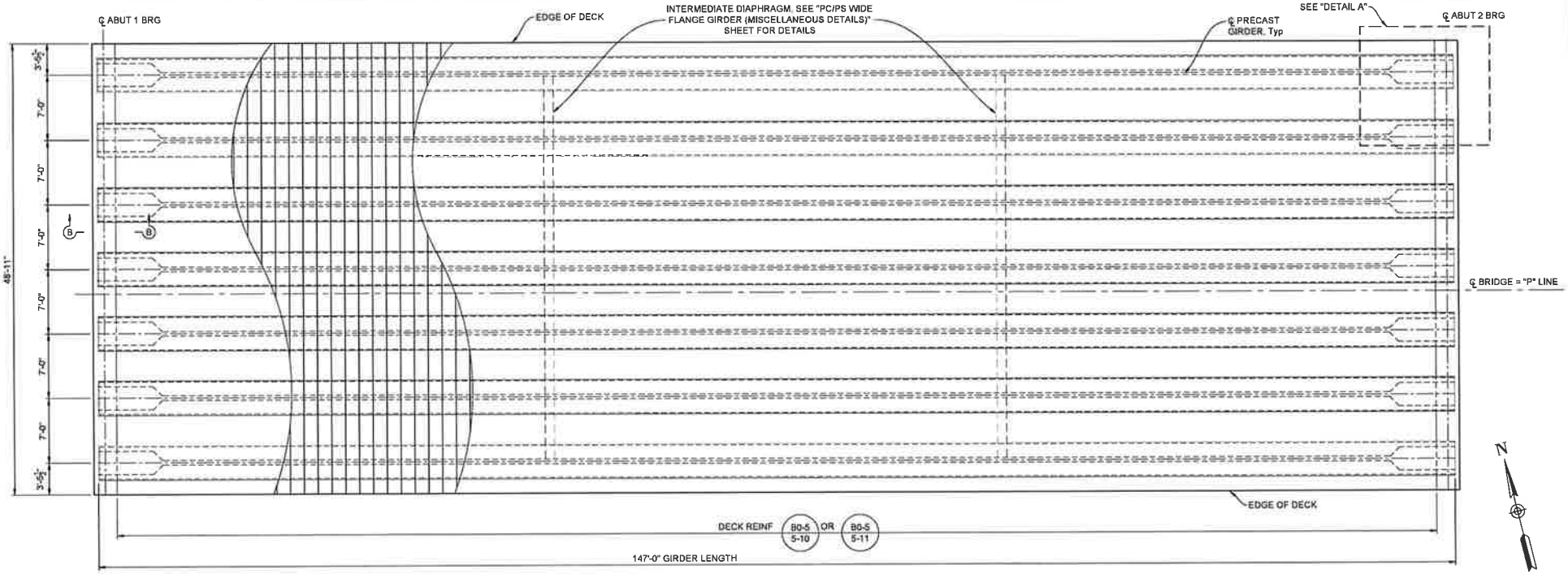
PUBLIC WORKS DEPARTMENT
COUNTY OF IMPERIAL
EL CENTRO, CALIFORNIA

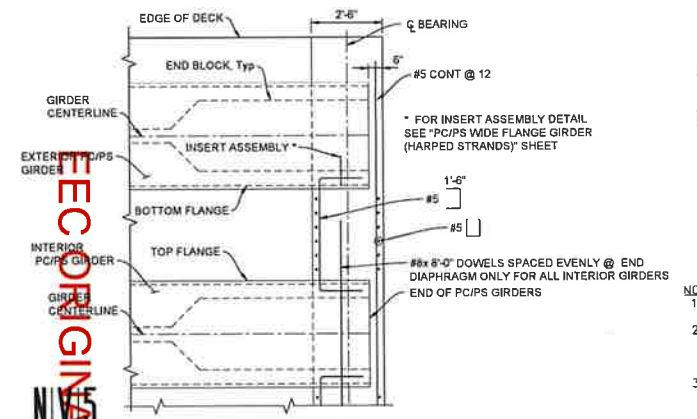
3/28/2024 — SD — AS SHOWN — HE

PICACHO ROAD BRIDGE REPLACEMENT
OVER YUMA MAIN CANAL
BRIDGE NO. 58C-0028
COUNTY PROJECT NO. 6811

TYPICAL SECTION

REFERENCE S-7 — B-199 — SHEET 20 OF 29





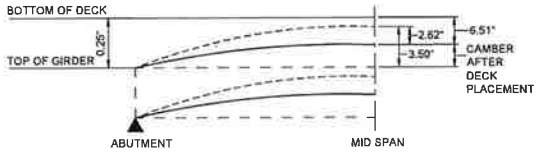
* FOR INSERT ASSEMBLY DETAIL SEE "PC/PS WIDE FLANGE GIRDER (HARPED STRANDS)" SHEET

DETAIL A

SCALE ½" - 1'-0"

GIRDER LAYOUT

SCALE 1" - 5'-0"



LEGEND:

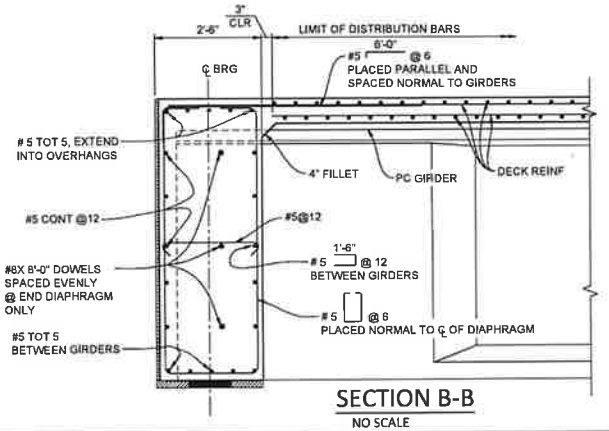
— — — UN-DEFORMED SHAPE
– – – – – DEFORMED SHAPE (BEFORE DECK PLACEMENT)
——— DEFORMED SHAPE (AFTER DECK PLACEMENT)

NOTES:

1. HAUNCH THICKNESSES SHOWN ARE AT THE CL OF THE GIRDER. HAUNCH THICKNESS SHALL VARY ALONG WIDTH OF GIRDER ACCORDING TO CROSS SLOPE OF DECK.
2. DUE TO PROFILE GRADE, MINIMUM HAUNCH DEPTH OCCURS AT THE ABUTMENTS AND MAXIMUM HAUNCH DEPTH OCCURS AT MIDSPAN. THE CONTRACTOR MUST INCLUDE THE ADDITIONAL THICKNESS DUE TO PROFILE VERTICAL CURVE WHEN CALCULATING FINAL HAUNCH THICKNESSES ACCORDING TO FINAL GIRDER DESIGN.
3. WHERE THE HAUNCH DEPTH IS 4 INCHES OR GREATER PROVIDE HAUNCH REINFORCING AS SHOWN ON "TYPICAL SECTION" SHEET.

GIRDER HAUNCH THICKNESS

SCALE: NOT TO SCALE



SECTION B-B

NO SCALE

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REVISION	DATE	COMMENTS

PREPARED UNDER THE DIRECT SUPERVISION OF:
DANAB BOUZANJOMEHRI — 54870 R.C.E. No. — DATE — 6/30/26 REG. EXP.

COUNTY OF IMPERIAL PUBLIC WORKS DEPARTMENT APPROVED FOR CONSTRUCTION BY:
JOHN A. GAY, P.E., ROAD COMMISSIONER — 62028 R.C.E. No. — DATE — 9/30/25 REG. EXP.

PUBLIC WORKS DEPARTMENT
COUNTY OF IMPERIAL
EL CENTRO, CALIFORNIA

DATE 5/28/2024
DRAWN SD
SCALE AS SHOWN
DESIGNED HE

PICACHO ROAD BRIDGE REPLACEMENT
OVER YUMA MAIN CANAL
BRIDGE NO. 58C-0028
COUNTY PROJECT NO. 6811

GIRDER LAYOUT

REFERENCE	B-199
S-8	SHEET 21 OF 29

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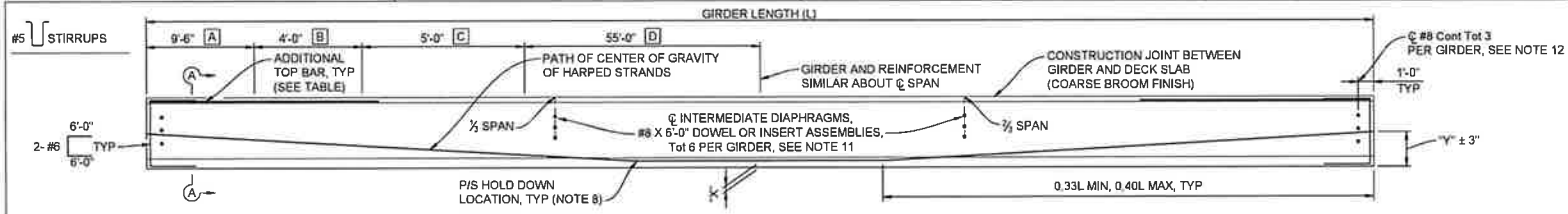
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	IMP	N/A	N/A	22	29

DARAB BOUZARJOMEHRI 2/21/2024
REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

REGISTERED PROFESSIONAL ENGINEER 54870 06/30/24 STATE OF CALIFORNIA

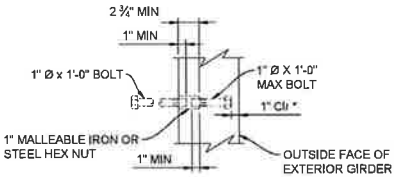


GIRDER ELEVATION

	LOCATION	A	B	C	D
1	ALL GIRDERS	#5 @ 3"	#5 @ 6"	#5 @ 12"	#5 @ 15"

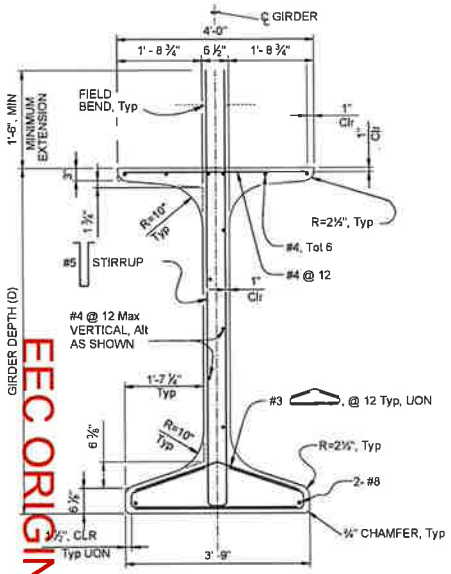
NOTE:
GIRDER ENDS TO BE CAST SUCH THAT A LEVEL SURFACE IS PROVIDED AT BEARING PADS

	LOCATION	GIRDER LENGTH (L)	GIRDER DEPTH (D)	"X" (in)	JACKING FORCE (P) (kips)	As, Min (in^2) of 0.6" Ø STRANDS	"Y" (in)	CONCRETE STRENGTH (ksi) f'ci	CONCRETE STRENGTH (ksi) f'c	MIDSPAN DEAD LOAD DEFLECTION (in) DECK	MIDSPAN DEAD LOAD DEFLECTION (in) RAIL	ADDITIONAL TOP BAR (EACH END)
1	ALL GIRDERS	147'-0"	72"	4	2461	12.15	23	6.5	8.0	2.62	0.52	N/A
				6	2724	13.45				2.55		

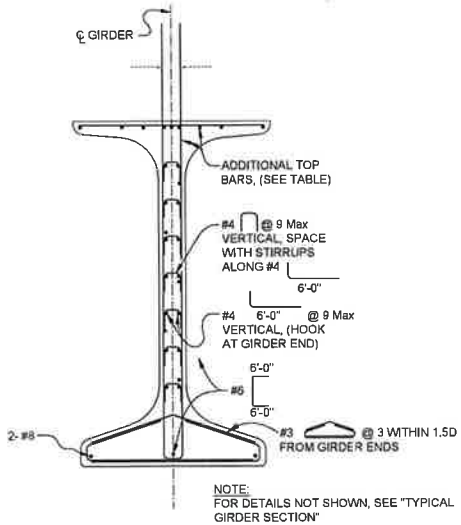


* DIMENSION MAY BE INCREASED WHEN INSERT ASSEMBLY IS USED AT END BLOCK

INSERT ASSEMBLY

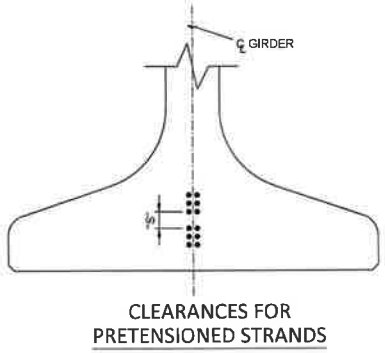


TYPICAL GIRDER SECTION



NOTE:
FOR DETAILS NOT SHOWN, SEE "TYPICAL GIRDER SECTION"

SECTION A-A



CLEARANCES FOR PRETENSIONED STRANDS

NOTE:
For "WELDED WIRE REINFORCEMENT (WWR) ALTERNATIVE", see "PC/PS WIDE FLANGE GIRDER (MISCELLANEOUS DETAILS)" sheet

PRESTRESSING NOTES:

1. THE JACKING FORCE (P) IS THE JACKING FORCE REQUIRED AT THE CENTER OF THE SPAN BEFORE ALL DESIGN LOSSES. THE JACKING FORCE DOES NOT INCLUDE ANY FABRICATION SPECIFIC LOSSES.
2. THE MAXIMUM TENSILE STRESS IN THE PRESTRESSING STEEL UPON RELEASE SHALL NOT EXCEED 75% OF THES PECIFIED MINIMUM ULTIMATE TENSILE STRENGTH OF THE PRESTRESSING STEEL.
3. THE MAXIMUM TEMPORARY TENSILE STRESS (JACKING STRESS) IN THE PRESTRESSING STEEL SHALL NOT EXCEED 80% OF THE SPECIFIED MINIMUM ULTIMATE TENSILE STRENGTH OF THE PRESTRESSING STEEL.
4. CONCRETE STRENGTH:
   F'CI IS AT TIME OF INITIAL STRESSING
   F'C IS AT 28 DAYS
5. DEFLECTION COMPONENTS ARE INFORMATIONAL AND WILL BE USED TO SET SCREED LINE ELEVATIONS.
6. SCREED LINE ELEVATIONS FOR DECK CONCRETE WILL BE DETERMINED BY THE ENGINEER.
7. CONTRACTOR MAY INTERPOLATE "P" AND "X" VALUES BETWEEN THE LIMITS SHOWN, AS APPROVED BY THE ENGINEER.
8. THERE SHALL BE A MINIMUM OF TWO HOLD DOWNS PER GIRDER FOR THE PRESTRESSING.
9. PRESTRESSING STRAND SHALL BE 270 KSI LOW RELAXATION.
10. AS, MIN IS THE MINIMUM AREA REQUIRED OF PRESTRESSING STEEL.
11. AT INTERIOR GIRDERS, FORM 1 ½" Ø HOLES FOR #8x6'-0" DOWELS AND AT EXTERIOR GIRDERS PLACE INSERT ASSEMBLIES. HOLES AND INSERT ASSEMBLIES TO ALIGN WITH INTERMEDIATE DIAPHRAGMS. FOR INSERT ASSEMBLY DETAILS, SEE "INSERT ASSEMBLY". FOR HOLE AND INSERT ASSEMBLY LOCATIONS, SEE "INTERMEDIATE DIAPHRAGM" DETAIL ON "PC/PS WIDE FLANGE GIRDER (MISCELLANEOUS DETAILS)" SHEET.
12. FORM 1 ½" Ø HOLES FOR #8 Cont, ALIGN WITH END AND CONTINUITY DIAPHRAGM CENTERLINE.

NOTES:

1. STRANDS MAY BE BUNDLED IN GROUPS CONSISTING OF 3 VERTICALLY AND 2 HORIZONTALLY AT MIDSPAN AND SEPARATED AT THE ENDS.
2. THE MINIMUM DISTANCE "S" BETWEEN GROUPS OR INDIVIDUAL STRANDS IS 1-3/4" FOR 1/2" Ø STRANDS AND 2" FOR 0.6" Ø STRANDS.
3. "S" IS MEASURED BETWEEN CENTERS OF ADJACENT STRANDS.
4. AUTHOTIZATION OF ENGINEER IS REQUIRED FOR DEVIATION.

S-9

STANDARD DRAWING
xs1-122-0 FILE NO.
July 2020 APPROVAL DATE

1 ADDED INFORMATION

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

BRIDGE NO. 58C-0028
POST MILE N/A

PICACHO ROAD BRIDGE OVER YUMA MAIN CANAL
PC/PS WIDE FLANGE GIRDER (HARPED STRANDS)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: X
PROJECT NUMBER & PHASE: X
CONTRACT NO.: X

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES			SHEET	OF
10-28-16	11-30-20	01-15-21	22	29

FILE => $REQUEST

August 6, 2024 Jarrod Epley

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	IMP	N/A	N/A	23	29

DARAB BOUZARJOMEHRI 2/21/2024
REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER 54870 06/30/24 STATE OF CALIFORNIA

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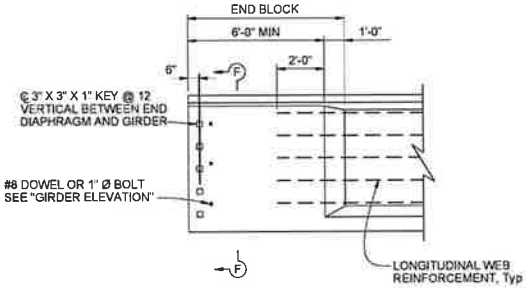
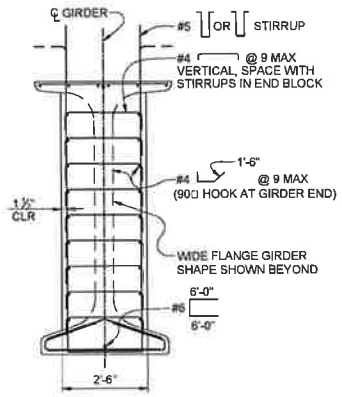
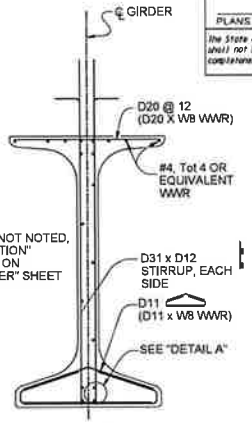


① ~~OPTIONAL~~ END BLOCK - ELEVATION
SCALE: NTS



NOTE:
FOR DETAILS NOT SHOWN, SEE "TYPICAL GIRDER SECTION" DETAIL

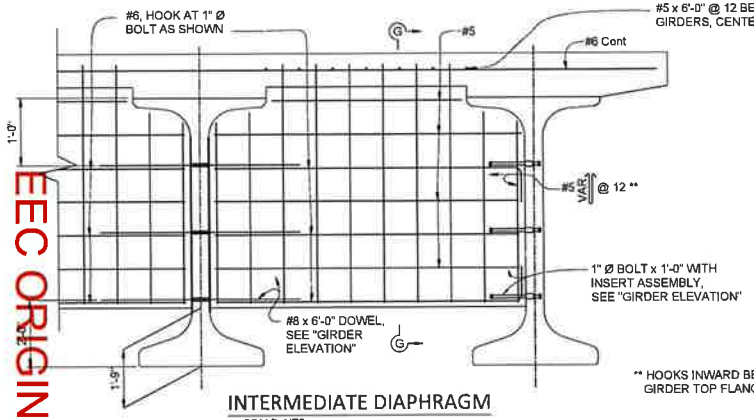
SECTION F-F
SCALE: NTS



NOTE:
1. FOR DETAILS SHOWN BUT NOT NOTED, SEE "TYPICAL GIRDER SECTION" AND "SECTION A-A" DETAIL ON "PC/PS WIDE FLANGE GIRDER" SHEET
2. W8 WWR NOT SHOWN

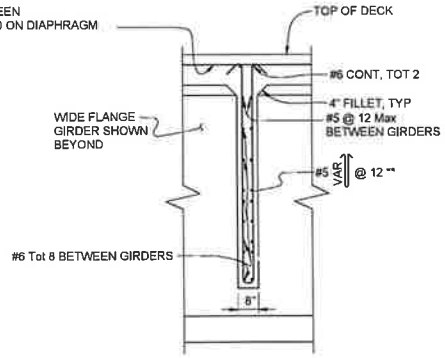
WELDED WIRE REINFORCEMENT (WWR) ALTERNATIVE
SCALE: NTS

NOTE:
FOR "GIRDER ELEVATION" AND "TYPICAL GIRDER SECTION", SEE "PC/PS WIDE FLANGE GIRDER (HARPED STRANDS)" SHEET

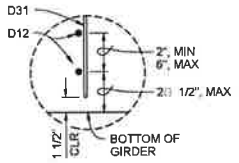


INTERMEDIATE DIAPHRAGM
SCALE: NTS

** HOOKS INWARD BELOW GIRDER TOP FLANGE



SECTION G-G
SCALE: NTS



DETAIL A
SCALE: NTS

NOTE
1. BOTTOM OF STIRRUP WWR DETAIL SHOWN, TOP SIMILAR
2. LONGITUDINAL WIRE AREA SHALL BE 40% OR GREATER OF VERTICA DEFORMED WIRE'S AREA

S-10

EEC ORIGINAL PLOT

STANDARD DRAWING
xs1-122
FILE NO.
July 2020
APPROVAL DATE

① REMOVE OPTIONAL

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

BRIDGE NO. 58C-0028
POST MILE N/A

PICACHO ROAD BRIDGE OVER YUMA MAIN CANAL
PC/PS WIDE FLANGE GIRDER (MISCELLANEOUS DETAILS)

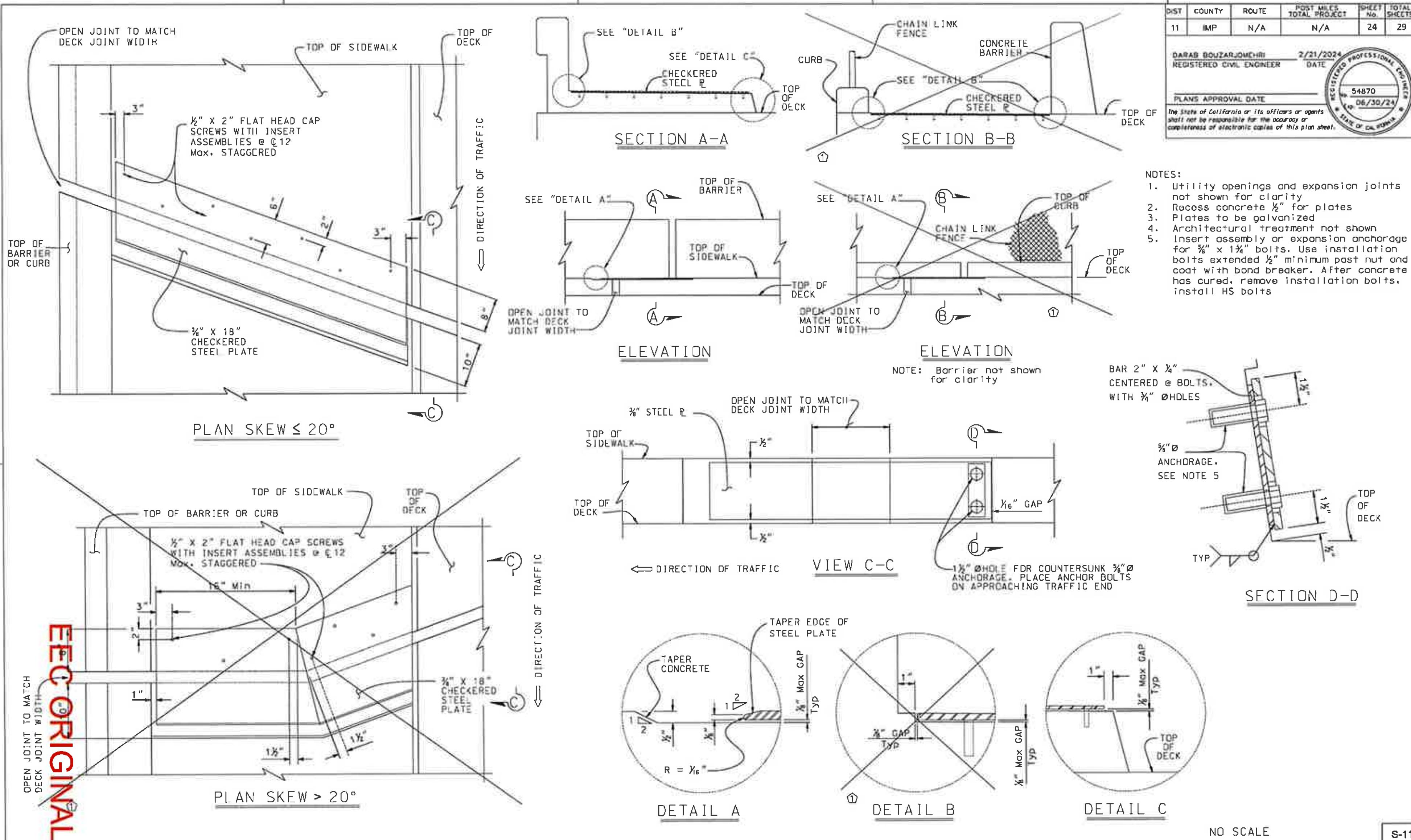
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: X
PROJECT NUMBER & PHASE: X
CONTRACT NO.: X
FILE => $REQUEST

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES			SHEET	OF
			23	29

August 6, 2024 Jarrod Epley



NOTES:

1. Utility openings and expansion joints not shown for clarity
2. Recess concrete ½" for plates
3. Plates to be galvanized
4. Architectural treatment not shown
5. Insert assembly or expansion anchorage for ⅝" x 1¾" bolts. Use installation bolts extended ½" minimum past nut and coat with bond breaker. After concrete has cured, remove installation bolts, install HS bolts

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	IMP	N/A	N/A	24	29

DARAB BOUZARJOMEHRI — REGISTERED CIVIL ENGINEER — 2/21/2024 DATE

PLANS APPROVAL DATE

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

REGISTERED PROFESSIONAL ENGINEER 54870 06/30/24 CIVIL STATE OF CALIFORNIA

S-11

① DETAIL NOT APPLICABLE

STANDARD DRAWING xs8-050 FILE NO. October 2018 APPROVAL DATE

STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

BRIDGE NO. 58C-0028 POST MILE N/A

PICACHO ROAD BRIDGE OVER YUMA MAIN CANAL

JOINT ARMOR FOR PEDESTRIAN WALKWAYS

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: X PROJECT NUMBER & PHASE: X CONTRACT NO.: X

FILE => $REQUEST

DISREGARD PRINTS BEARING EARLIER REVISION DATES — SHEET 24 OF 29

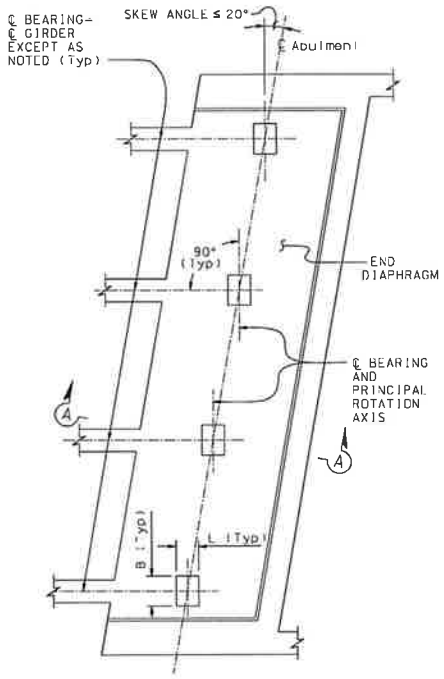
EEC ORIGINAL PKG

DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	IMP	N/A	N/A	25	29

DARAB BOUZARJOMEHRI 2/21/2024
REGISTERED CIVIL ENGINEER DATE

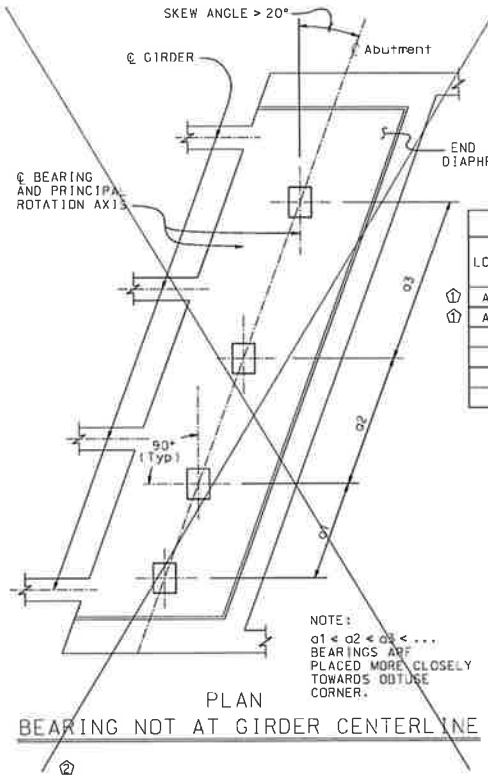
PLANS APPROVAL DATE

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.



PLAN

BEARING AT GIRDER CENTERLINE

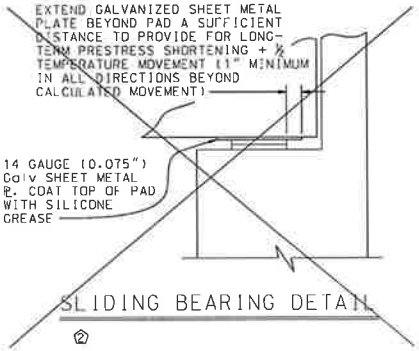


PLAN

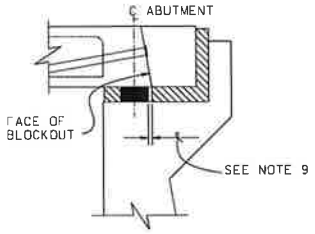
BEARING NOT AT GIRDER CENTERLINE ②

STEEL REINFORCED BEARING TABLE

	LOCATION	MAXIMUM VERTICAL LOAD (kips) (SEE NOTE 7)	MINIMUM VERTICAL LOAD (kips) (SEE NOTE 8)	MAXIMUM HORIZONTAL DISPLACEMENT (in)	B(in)	L(in)	ELASTOMER ONLY THICKNESS T_r(in)	TOTAL BEARING THICKNESS (in)	SLIDING YES/NO
①	ABUT 1	284.6	165.5	0.545	26.0	12.0	2.0	2.30	NO
①	ABUT 2	284.6	165.5	0.545	26.0	12.0	2.0	2.30	NO



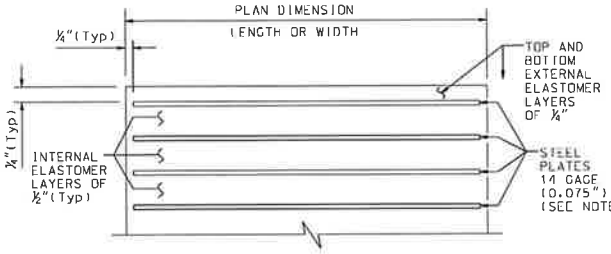
SLIDING BEARING DETAIL ②



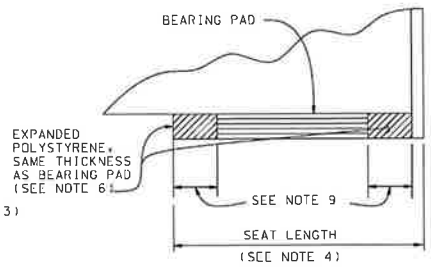
SECTION A–A

DESIGN AND ACTUAL THICKNESS OF ELASTOMERIC BEARINGS

DESIGN THICKNESS (in)	NUMBER OF ½" LAYERS	NUMBER OF STEEL PLATES (14 gauge)	ACTUAL THICKNESS (in)
1.10	2	2	1.15
1.6[illegible]	3	3	1.73
2.6[illegible]	4	4	2.30
2.[illegible]	5	5	2.88
3.6[illegible]	6	6	3.45
3.[illegible]	7	7	4.03
4.6[illegible]	8	8	4.60
4.[illegible]	9	9	5.18
5.[illegible]	10	10	5.75
5.[illegible]	11	11	6.33
6.[illegible]	12	12	6.90



ELASTOMERIC BEARING DETAIL



BEARING PLACEMENT DETAIL

NOTES:

1. Bearing pads must be set level
2. No anchor rods through elastomeric bearings
3. All edges of the bearing steel plates must be ground or otherwise treated so that no sharp edges remain
4. Seat length normal to the center line of the bearing must not be less than 30 inches
5. Maximum horizontal bearing dimension is 30 inches
6. Remove expanded polystyrene from at least two bearing sides
7. Maximum unfactored vertical load per bearing
8. Minimum unfactored vertical load per bearing
9. Minimum edge distance must be equal to the actual bearing thickness or 3 inches whichever is greater
10. The sliding bearing detail must not be used in precast or steel girders

NO SCALE

S-12

STANDARD DRAWING
xs9-030 FILE NO.
October 2018 APPROVAL DATE

① ADDED INFORMATION
② DETAIL NOT APPLICABLE

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

BRIDGE NO. 58C-0028
POST MILE N/A

PICACHO ROAD BRIDGE OVER YUMA MAIN CANAL

STEEL REINFORCED ELASTOMERIC BEARINGS

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: X PROJECT NUMBER & PHASE: X CONTRACT NO.: X

FILE => $REQUEST

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES				SHEET	OF
10-4-18	5-31-19	10-4-18	5-31-19	25	29

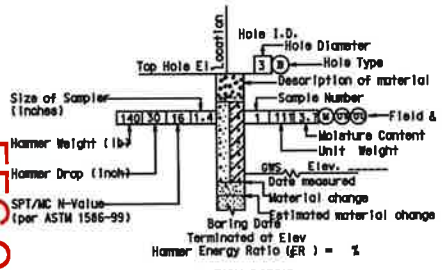
August 6, 2024 Katrina Martel

REFERENCE: CALTRANS SOIL & ROCK LOGGING, CLASSIFICATION, AND PRESENTATION MANUAL (2022)

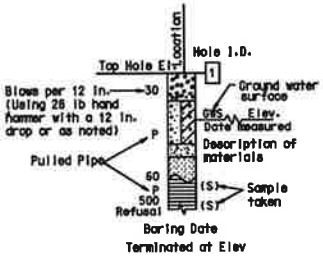
CEMENTATION	
Description	Criteria
Weak	Crumbles or breaks with handling or little finger pressure.
Moderate	Crumbles or breaks with considerable finger pressure.
Strong	Will not crumble or break with finger pressure.

BOREHOLE IDENTIFICATION		
Symbol	Hole Type	Description
	A	Auger Boring (hollow or solid stem bucket)
	R RW RC P	Rotary drilled boring (conventional) Rotary drilled with self-casing wire-line Rotary core with continuously-sampled, self-casing wire-line Rotary percussion boring (air)
	R	Rotary drilled diamond core
	HD HA	Hand driven (1-inch soil tube) Hand Auger
●	D	Dynamic Cone Penetration Boring
▲	CPT	Cone Penetration Test (ASTM D 5778)
□	O	Other (note on LOTB)
Note: Size in inches.		

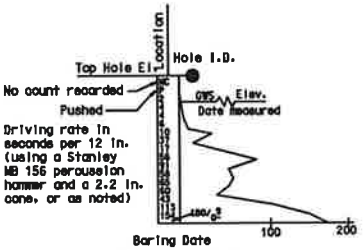
CONSISTENCY OF COHESIVE SOILS				
Description	Shear Strength (tsf)	Pocket Penetrometer Measurement, PP, (tsf)	Torvane Measurement, TV, (tsf)	Vane Shear Measurement, VS, (tsf)
Very Soft	Less than 0.12	Less than 0.25	Less than 0.12	Less than 0.12
Soft	0.12 - 0.25	0.25 - 0.5	0.12 - 0.25	0.12 - 0.25
Medium Stiff	0.25 - 0.5	0.5 - 1	0.25 - 0.5	0.25 - 0.5
Stiff	0.5 - 1	1 - 2	0.5 - 1	0.5 - 1
Very Stiff	1 - 2	2 - 4	1 - 2	1 - 2
Hard	Greater than 2	Greater than 4	Greater than 2	Greater than 2



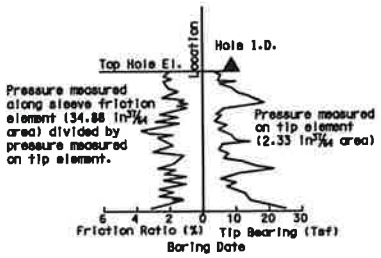
ROTARY BORING



HAND BORING



DYNAMIC CONE PENETRATION BORING



CONE PENETRATION TEST (CPT) BORING

AVS
15092 AVENUE OF THE COMMERCE, SUITE 200
SAN DIEGO, CA 92128
P: 858.385.0500
www.AVS.COM

EEC ORIGINAL PKG

REVISION	DATE	COMMENTS

PREPARED UNDER THE DIRECT SUPERVISION OF:
CARL FRANCISCO HENDERSON — 2886 R.C.E. No. — 6/30/25 REG. EXP. — DATE

COUNTY OF IMPERIAL PUBLIC WORKS DEPARTMENT
APPROVED FOR CONSTRUCTION BY:
JOHN A. GAY, P.E., ROAD COMMISSIONER — 6202B R.C.E. No. — 9/30/25 REG. EXP. — DATE

PUBLIC WORKS DEPARTMENT
COUNTY OF IMPERIAL
EL CENTRO, CALIFORNIA

DATE 2/21/2024
DRAWN PD
SCALE AS SHOWN
CHECKED HE

PICACHO ROAD BRIDGE REPLACEMENT
OVER YUMA MAIN CANAL
BRIDGE NO. 58C-0028
COUNTY PROJECT NO. 6811

SOIL LEGEND 1 OF 2

REFERENCE S-13 | B-199

SHEET 26 OF 29

N:\21-0001136\Cadd\Bridge\1136-13-16-LOTB dwg, Aug-06-2024 14:49

REFERENCE: CALTRANS SOIL & ROCK LOGGING, CLASSIFICATION, AND PRESENTATION MANUAL (2022)

GROUP SYMBOLS AND NAMES

Graphic/Symbol	Group Names
GW	Well-graded GRAVEL Well-graded GRAVEL with SAND
GP	Poorly-graded GRAVEL Poorly-graded GRAVEL with SAND
GW-GM	Well-graded GRAVEL with SILT Well-graded GRAVEL with SILT and SAND
GW-GC	Well-graded GRAVEL with CLAY (or SILTY CLAY) Well-graded GRAVEL with CLAY and SAND (or SILTY CLAY and SAND)
GP-GM	Poorly-graded GRAVEL with SILT Poorly-graded GRAVEL with SILT and SAND
GP-GC	Poorly-graded GRAVEL with CLAY (or SILTY CLAY) Poorly-graded GRAVEL with CLAY and SAND (or SILTY CLAY and SAND)
GM	SILTY GRAVEL SILTY GRAVEL with SAND
GC	CLAYEY GRAVEL CLAYEY GRAVEL with SAND
GC-GM	SILTY, CLAYEY GRAVEL SILTY, CLAYEY GRAVEL with SAND
SW	Well-graded SAND Well-graded SAND with GRAVEL
SP	Poorly-graded SAND Poorly-graded SAND with GRAVEL
SW-SM	Well-graded SAND with SILT Well-graded SAND with SILT and GRAVEL
SW-SC	Well-graded SAND with CLAY (or SILTY CLAY) Well-graded SAND with CLAY and GRAVEL (or SILTY CLAY and GRAVEL)
SP-SM	Poorly-graded SAND with SILT Poorly-graded SAND with SILT and GRAVEL
SP-SC	Poorly-graded SAND with CLAY (or SILTY CLAY) Poorly-graded SAND with CLAY and GRAVEL (or SILTY CLAY and GRAVEL)
SM	SILTY SAND SILTY SAND with GRAVEL
SC	CLAYEY SAND CLAYEY SAND with GRAVEL
SC-SM	SILTY, CLAYEY SAND SILTY, CLAYEY SAND with GRAVEL
PT	PEAT
	COBBLES COBBLES and BOULDERS BOULDERS

Graphic/Symbol	Group Names
CL	Lean CLAY Lean CLAY with SAND Lean CLAY with GRAVEL SANDY lean CLAY SANDY lean CLAY with GRAVEL GRAVELLY lean CLAY GRAVELLY lean CLAY with SAND
CL-ML	SILTY CLAY SILTY CLAY with SAND SILTY CLAY with GRAVEL SANDY SILTY CLAY SANDY SILTY CLAY with GRAVEL GRAVELLY SILTY CLAY GRAVELLY SILTY CLAY with SAND
ML	SILT SILT with SAND SILT with GRAVEL SANDY SILT SANDY SILT with GRAVEL GRAVELLY SILT GRAVELLY SILT with SAND
OL	ORGANIC lean CLAY ORGANIC lean CLAY with SAND ORGANIC lean CLAY with GRAVEL SANDY ORGANIC lean CLAY SANDY ORGANIC lean CLAY with GRAVEL GRAVELLY ORGANIC lean CLAY GRAVELLY ORGANIC lean CLAY with SAND
OL	ORGANIC SILT ORGANIC SILT with SAND ORGANIC SILT with GRAVEL SANDY ORGANIC SILT SANDY ORGANIC SILT with GRAVEL GRAVELLY ORGANIC SILT GRAVELLY ORGANIC SILT with SAND
CH	Fat CLAY Fat CLAY with SAND Fat CLAY with GRAVEL SANDY fat CLAY SANDY fat CLAY with GRAVEL GRAVELLY fat CLAY GRAVELLY fat CLAY with SAND
MH	Elastic SILT Elastic SILT with SAND Elastic SILT with GRAVEL SANDY elastic SILT SANDY elastic SILT with GRAVEL GRAVELLY elastic SILT GRAVELLY elastic SILT with SAND
OH	ORGANIC fat CLAY ORGANIC fat CLAY with SAND ORGANIC fat CLAY with GRAVEL SANDY ORGANIC fat CLAY SANDY ORGANIC fat CLAY with GRAVEL GRAVELLY ORGANIC fat CLAY GRAVELLY ORGANIC fat CLAY with SAND
OH	ORGANIC elastic SILT ORGANIC elastic SILT with SAND ORGANIC elastic SILT with GRAVEL SANDY ORGANIC elastic SILT SANDY ORGANIC elastic SILT with GRAVEL GRAVELLY ORGANIC elastic SILT GRAVELLY ORGANIC elastic SILT with SAND
OL/OH	ORGANIC SOIL ORGANIC SOIL with SAND ORGANIC SOIL with GRAVEL SANDY ORGANIC SOIL SANDY ORGANIC SOIL with GRAVEL GRAVELLY ORGANIC SOIL GRAVELLY ORGANIC SOIL with SAND

FIELD AND LABORATORY TESTING

- (C) Consolidation (ASTM D 2435)
- (CL) Collapse Potential (ASTM D 5333)
- (CP) Compaction Curve (ASTM D 1557)
- (CR) Corrosivity Testing (CTM 643, CTM 422, CTM 417)
- (CU) Consolidated Undrained Triaxial (ASTM D 4767)
- (DS) Direct Shear (ASTM D 3080)
- (EI) Expansion Index (ASTM D 4829)
- (M) Moisture Content (ASTM D 2216)
- (OC) Organic Content-% (ASTM D 2974)
- (P) Permeability (CTM 220)
- (PA) Particle Size Analysis (ASTM D 422)
- (PI) Plasticity Index (AASHTO T 90) Liquid Limit (AASHTO T 89)
- (PL) Point Load Index (ASTM D 5731)
- (PM) Pressure Meter
- (R) R-Value (CTM 301)
- (SE) Sand Equivalent (CTM 217)
- (SG) Specific Gravity (AASHTO T 100)
- (SL) Shrinkage Limit (ASTM D 427)
- (SW) Swell Potential (ASTM D 4546)
- (UC) Unconfined Compression-Soil (ASTM D 2166) Unconfined Compression-Rock (ASTM D 2938)
- (UU) Unconsolidated Undrained Triaxial (ASTM D 2850)
- (UW) Unit Weight (ASTM D 4767)

APPARENT DENSITY OF COHESIONLESS SOILS

Description	SPT N_{60} (Blows / 12 in.)
Very Loose	0 - 5
Loose	5 - 10
Medium Dense	10 - 30
Dense	30 - 50
Very Dense	Greater than 50

MOISTURE

Description	Criteria
Dry	No discernable moisture
Moist	Moisture present, but no free water
Wet	Visible free water

PERCENT OR PROPORTION OF SOILS

Description	Criteria
Trace	Particles are present but estimated to be less than 5%
Few	5% - 10%
Little	15% - 25%
Some	30% - 45%
Mostly	50% - 100%

PARTICLE SIZE

Description		Size (in.)
Boulder		Greater than 12
Cobble		3 - 12
Gravel	Coarse	3/4 - 3
	Fine	1/5 - 3/4
Sand	Coarse	1/16 - 1/5
	Medium	1/64 - 1/16
	Fine	1/300 - 1/64
Silt and Clay		Less than 1/300

EEC ORIGINAL PKG

NV5
15092 AVENUE OF THE SCIENCE, SUITE 200
SAN DIEGO, CA 92128
P: 858.385.0500
www.nv5.com

REVISION	DATE	COMMENTS

PREPARED UNDER THE DIRECT SUPERVISION OF:
CARL FRANCISCO HENDERSON — 2885 R.C.E. No. — 6/30/25 REG. EXP. — DATE

COUNTY OF IMPERIAL PUBLIC WORKS DEPARTMENT
APPROVED FOR CONSTRUCTION BY:
JOHN A. GAY, P.E.
ROAD COMMISSIONER — 62028 R.C.E. No. — 9/30/25 REG. EXP. — DATE

PUBLIC WORKS DEPARTMENT
COUNTY OF IMPERIAL
EL CENTRO, CALIFORNIA

DATE 2/21/2024
DRAWN PD
SCALE AS SHOWN
CHECKED HE

PICACHO ROAD BRIDGE REPLACEMENT
OVER YUMA MAIN CANAL
BRIDGE NO. 58C-0028
COUNTY PROJECT NO. 6811

SOIL LEGEND 2 OF 2

REFERENCE S-14

B-199

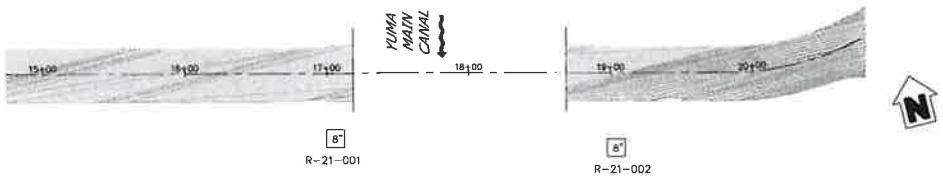
SHEET 27 OF 29

BENCH MARK

See Civil Plans.
All stations and offsets shown on this plan are approximate.

NOTES

(1) This LOTB sheet (Boring Record) was prepared in accordance with Caltrans Soil and Rock Logging, Classification and Presentation Manual (2022).



PLAN
SCALE: 1"=40'

PROFILE
SCALE: 1"=10'

EEC ORIGINAL PKG

NV5
15092 AVENUE OF SCIENCE, SUITE 200
SAN DIEGO, CA 92128
P: 858.385.0500 www.nv5.com

REVISION	DATE	COMMENTS

PREPARED UNDER THE DIRECT SUPERVISION OF:
CARL FRANCISCO HENDERSON — R.C.E. No. 2886 — REG. EXP. 6/30/25
DATE

COUNTY OF IMPERIAL PUBLIC WORKS DEPARTMENT
APPROVED FOR CONSTRUCTION BY:
JOHN A. GAY, P.E.
ROAD COMMISSIONER — R.C.E. No. 62028 — REG. EXP. 9/30/25
DATE

PUBLIC WORKS DEPARTMENT
COUNTY OF IMPERIAL
EL CENTRO, CALIFORNIA

DATE 3/21/2024
DRAWN PD
SCALE AS SHOWN
CHECKED HE

PICACHO ROAD BRIDGE REPLACEMENT
OVER YUMA MAIN CANAL
BRIDGE NO. 58C-0028
COUNTY PROJECT NO. 6811

LOG OF TEST BORINGS 1 OF 2

REFERENCE S-15 | B-199

SHEET 28 OF 28

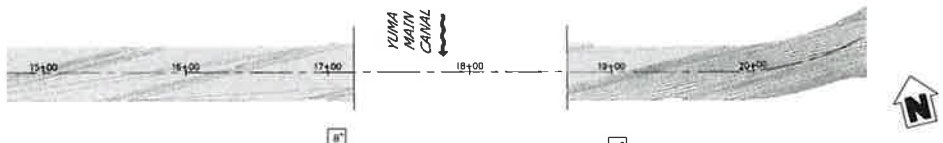
N:\21-0001\5\Cadd\Bridge\1136-13-16-LOTB.dwg[Aug-06-2024 14:49

BENCH MARK

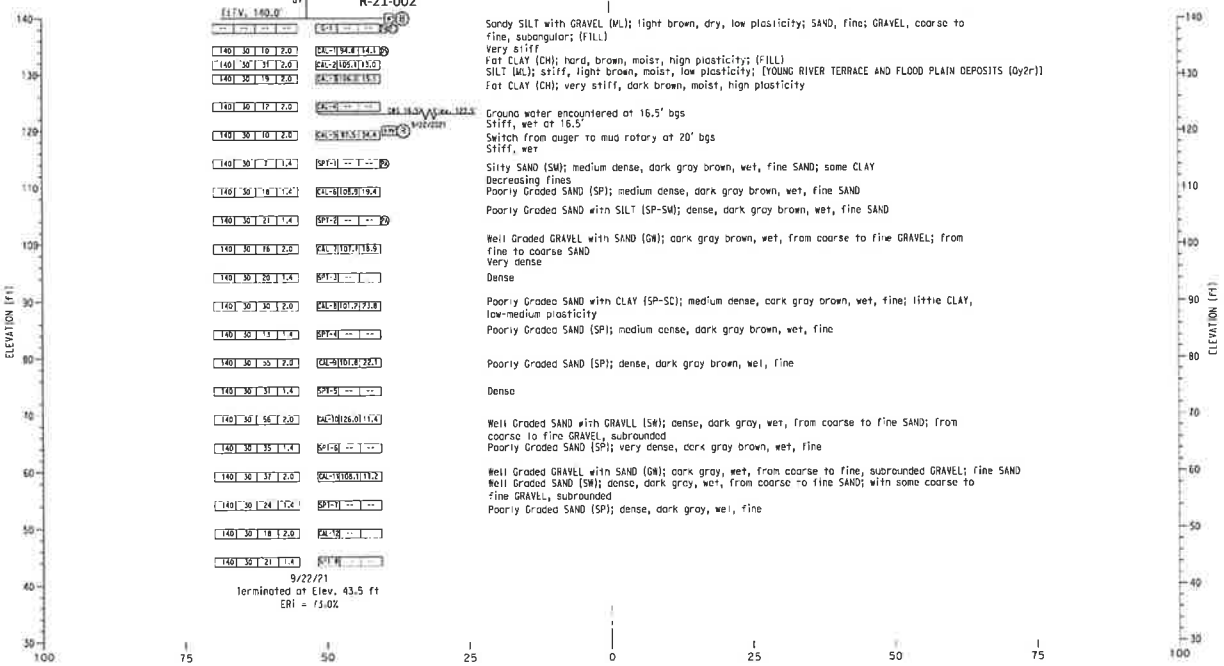
See Civil Plans.
All stations and offsets shown on this plan are approximate.

NOTES

(1) This LOTB sheet (Boring Record) was prepared in accordance with Caltrans Soil and Rock Logging, Classification and Presentation Manual (2022).



PLAN
SCALE: 1"=40'



PROFILE
SCALE: 1"=10'

EEC ORIGINAL DKG

NV5
15092 AVENUE OF SCIENCE, SUITE 200
SAN DIEGO, CA 92128
P: 858.385.0500
www.nv5.com

REVISION	DATE	COMMENTS

PREPARED UNDER THE DIRECT SUPERVISION OF:
CARL FRANCISCO HENDERSON — 2886 R.C.E. No. — DATE — 6/30/25 REG. EXP.

COUNTY OF IMPERIAL PUBLIC WORKS DEPARTMENT
APPROVED FOR CONSTRUCTION BY:
JOHN A. GAY, P.E.
ROAD COMMISSIONER — 62028 R.C.E. No. — DATE — 9/30/25 REG. EXP.

PUBLIC WORKS DEPARTMENT
COUNTY OF IMPERIAL
EL CENTRO, CALIFORNIA

DATE 8/27/2024
DRAWN RD
SCALE AS SHOWN
CHECKED HE

PICACHO ROAD BRIDGE REPLACEMENT
OVER YUMA MAIN CANAL
BRIDGE NO. 58C-0028
COUNTY PROJECT NO. 6811

LOG OF TEST BORINGS 2 OF 2

REFERENCE S-16 — B-199 — SHEET 29 OF 29

N:\21-0001136\Cadd\Bridge\1136-13-18-LOTB.dwg, Aug-06-2024 14:49

COMMENT LETTERS

EEC ORIGINAL PKG

Luis Bejarano

From: Jill Mccormick <historicpreservation@quechantribe.com>
Sent: Thursday, October 17, 2024 4:26 PM
To: Kamika Mitchell; Antonio Venegas; Ashley Jauregui; Jolene Dessert; Margo Sanchez; Belen Leon-Lopez; Monica Soucier; Jesus Ramirez; John Hawk; Miguel Figueroa; Rebecca Terrazas-Baxter; Rosa Lopez; Bari Bean; Jeff Lamoure; Jorge Perez; Alphonso Andrade; Marco Topete; Sheila Vasquez-Bazua; Andrew Loper; David Lantzer; Carlos Yee; Veronica Atondo; John Gay; rkelly@icso.org; Fred Miramontes; Robert Benavidez; dvargas@iid.com; Planning@yumaaz.gov; kimberly.dodson@dot.ca.gov; roger.sanchez-rangel@dot.ca.gov; heather.brashear@wildlife.ca.gov; marcuscuero@campo-nsn.gov; jmesa@campo-nsn.gov; Tribal Secretary
Cc: Michael Abraham; Diana Robinson; Jim Minnick; Diana Robinson; Rocio Yee; Luis Bejarano; Aimee Trujillo; Jenyssa Gutierrez; Kayla Henderson; Marsha Torres; Olivia Lopez; Valerie Grijalva
Subject: RE: [EXTERNAL]:Initial Study (IS) #24-0037- REQUEST FOR COMMENTS

Good afternoon,
Pursuant to AB52 and PRC 21080.3.1 (b), the Historic Preservation Office of the Fort Yuma-Quechan Indian Tribe is requesting consultation for the Picacho Road Bridge Project. Feel free to reach out with any questions regarding this request.

Thank you,
H. Jill McCormick, M.A.

Historic Preservation Office
Ft. Yuma Quechan Indian Tribe
P.O. Box 1899
Yuma, AZ 85366-1899
Office: 760-919-3631
Cell: 928-920-6521

From: Kamika Mitchell <kamikamitchell@co.imperial.ca.us>
Sent: Wednesday, October 16, 2024 2:02 PM

EEC ORIGINAL PKG

Luis Bejarano

From: Robert Urena
Sent: Thursday, October 31, 2024 10:53 AM
To: Rocio Yee; Luis Bejarano; John Gay; historicpreservation@quechantribe.com
Cc: Michael Abraham; Diana Robinson
Subject: RE: IS 24-0037 - IID COMMENT LETTER

Good Morning Rocio,

Thank you for the update!

Robert "Bobby" Ureña III, PE
Principal Engineer
Imperial County Department of Public Works
155 S. 11th St, El Centro, CA 92243
Phone: (442) 265-1818 Ext. 1814
Email: roberturena@co.imperial.ca.us

From: Rocio Yee <rocioyee@co.imperial.ca.us>
Sent: Thursday, October 31, 2024 10:50 AM
To: Robert Urena <RobertUrena@co.imperial.ca.us>; Luis Bejarano <luisbejarano@co.imperial.ca.us>; John Gay <JohnGay@co.imperial.ca.us>; historicpreservation@quechantribe.com
Cc: Michael Abraham <MichaelAbraham@co.imperial.ca.us>; Diana Robinson <DianaRobinson@co.imperial.ca.us>
Subject: RE: IS 24-0037 - IID COMMENT LETTER

Good morning,

I hope this message finds you well.

I wanted to provide you with an update regarding our outreach for the **Picacho Road Bridge Replacement project, (IS#24-0037).** As of now, we have not received any comment letters apart from IID.

Additionally, I reached out to Jill McCormick from the Quechan Indian Tribes concerning the AB52 Consultation. During our initial phone conversation, He indicated that they are not ready to meet at this time; however, they expressed a strong interest in staying informed as the project progresses.

Please note that the comment period officially closed on **October 30**, and the **AB52** tribal consultation period will conclude on **November 15**.
Following these timelines, we will be able to schedule a meeting with the Environmental Evaluation Committee (EEC). I will keep you updated on the meeting date once it is confirmed.

Thank you for your attention to these matters, and please let me know if you have any questions or need further information.

Best regards,

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Imperial County Planning & Development Services
Planning / Building

Jim Minnick
DIRECTOR

RECEIVED
By Imperial County Planning & Development Services at 11:19 am, Nov 01, 2024

October 16,2024
REQUEST FOR REVIEW AND COMMENTS

The attached project and materials are being sent to you for your review and as an early notification that the following project is being requested and being processed by the County's Planning & Development Services Department. Please review the proposed project based on your agency/department area of interest, expertise, and/or jurisdiction.

To:

County Agencies

☒ County Executive Office – Miguel Figueroa/ Rosa Lopez/Rebecca Terrazas- Baxter/ Bari Smith Bean
☒ Public Works – Carlos Yee/John Gay/ Veronica Atondo
☒ Fort Yuma- Quechan Indian Tribe – Jordan D. Joaquin/ Frank L. Reece
☒ City Of Yuma Dept. Of Comm. Dev./Director- Alyssa Linville
☒ Caltrans, District 11-Kimberly Dotson/ Roger Sanchez

State Agencies/Other

☒ IC Sheriff's Office – Ryan Kelley/ Fred Miramontes/ Robert Benavidez
☒ Board of Supervisors – John Hawk- District 5
☒ Ag. Commissioner – /Margo Sanchez/Antonio Venegas/ Ashley Jauregui/ Jolene Jauregui
☒ Campo Band Of Mission Indians - Marcus Cuero/Jonathon Mesa
☒ Dept. Of Fish & Wildlife / Habitat Conservation / Cannabis Program- Heater Brashear

Cities/Other

☒ IID – Donald Vargas
☒ IC Fire/OES Office – Andrew Loper/ David Lantzer
☒ EHS – Jeff Lamoure/Jorge Perez/Sheila Vasquez/Alphonso Andrade/Marco Topete
☒ APCD – Monica Soucier/Belen Leon/Jesus Ramirez

From: Luis Bejarano Planner I/ Rocio Yee Planner I - (442) 265-1736 or luisbejarano@co.imperial.ca.us & rocioyee@co.imperial.ca.us

Project ID: Initial Study (IS) #24-0037

Project Location: Picacho Rd, Winterhaven, CA 92283

Project Description: The applicant intends to replace the existing Picacho bridge which leads into the Townsite of Winterhaven, due to cracking and outliving its useful life. The existing timber bridge must be replaced to support commerce, continue access to the Quechan Reservation and the Bard community, as well as provide a safer crossing of the Yuma Main Canal. Therefore, Imperial County Department of Public Works has requested that an Initial Study be prepared to environmentally assess potential impacts.

Applicants: Imperial County Department of Public Works

Comments due by: **October 30th 2024 at 5:00PM**

COMMENTS: *(attach a separate sheet if necessary)* (if no comments, please state below and mail, fax, or e-mail this sheet to Case Planner)

No Comment

Name: Antonio Venegas Signature: [signature] Title: Ag. Biologist/Standards Spec. IV

Date: 10/30/2024 Telephone No.: 442-265-1486 E-mail: antoniovenegas@co.imperial.ca.us

LB/RY/KM\S:\Clerical\Clerical Forms\Request for Comments Templates\Request for Comments .docx

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October 21, 2024

Mr. Luis Bejarano
Planner I
Planning & Development Services Department
County of Imperial
801 Main Street
El Centro, CA 92243

SUBJECT: Picacho Road Bridge at Yuma Main Canal Replacement Project; IS #24-0037

Dear Mr. Bejarano:

On October 16, 2024, the Imperial Irrigation District received from the Imperial County Planning and Development Services Department, a request for agency comments on the Picacho Road Bridge at Yuma Main Canal replacement project; Initial Study No. 23-0037. The Imperial County Public Works Dept. proposes to replace the existing bridge at Picacho Road over the Yuma Main Canal, leading into the townsite of Winterhaven, California; with a new precast prestressed concrete girder bridge that spans over the canal with no intermediate supports, to minimize disturbance to canal operations during construction and to keep debris out of the canal as much as possible. The project includes the demolition, removal and disposal of the existing bridge.

The IID has reviewed the application and has the following comments:

1. The project will be impacting an existing overhead distribution line (A-66 Circuit 7.2/12.5kV) in the immediate project area. Please note the line currently is serving various customers in the area. An IID Encroachment Permit (see Comment No. 7) will be required for the project with all approved pertinent plans, profiles, construction plans with existing and proposed construction easements for IID to review and approve.

2. For any modification to the existing overhead distribution lines, the applicant should be advised to contact Joel Lopez, IID project development planner, at 760-482-3444 or e-mail Mr. Lopez at JFLopez@IID.com. to initiate the customer service application process. In addition to submitting a formal application (available at http://www.iid.com/home/showdocument?id=12923), the applicant will be required to submit an AutoCAD file of site plan, approved electrical plans, electrical panel size and panel location, operating voltage, electrical loads, project schedule, and the applicable fees, permits, easements and environmental compliance

EEC ORIGINAL PKG

documentation pertaining to the provision of electrical service to a project. The applicant shall be responsible for all costs and mitigation measures related to providing electrical service to a project.

3. Electrical capacity is limited in the project area. A circuit study may be required. Any system improvements or mitigation identified in the circuit study to enable the provision of electrical service to the project shall be the financial responsibility of the applicant.

4. Applicant shall provide a surveyed legal description and an associated exhibit certified by a licensed surveyor for all rights of way deemed by IID as necessary to accommodate the project electrical infrastructure. Rights-of-Way and easements shall be in a form acceptable to and at no cost to IID for installation, operation, and maintenance of all electrical facilities.

5. The applicant will be required to provide rights of ways and easements for any proposed power line extensions and/or any other infrastructure needed to serve the project as well as the necessary access to allow for continued operation and maintenance of any IID facilities located on adjoining properties.

6. The applicant will be required to bear all costs associated with acquisition of land, rights of way, easements, and the relocation and/or realignment of IID infrastructure deemed necessary to accommodate the project. Any street or road improvements imposed by the local governing authority shall also be at the project proponent cost.

7. Public utility easements over all private public roads and additional ten (10) feet in width on both side of the private and public roads shall be dedicated to IID for the construction, operation, and maintenance of its electrical infrastructure.

8. 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 for its completion are available at the IID website https://www.iid.com/about-iid/department-directory/real-estate. No foundations or buildings will be allowed within IID's right of way. The IID Real Estate Section should be contacted at (760) 339-9239 for additional information regarding encroachment permits or agreements.

9. 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, water deliveries, canals, drains, etc.) need to be included as part of the project's California Environmental Quality Act (CEQA) and/or National Environmental Policy Act (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.

10. When a project goes through the CEQA compliance process, it is important to bear in mind that to address the project impacts to the electrical utility (i.e., the IID electrical grid), considered under the environmental factor "Utilities and Services" of the Environmental Checklist/Initial Study, and determine if the project would require or result in the relocation or construction of new or expanded electric power facilities, the construction or relocation of which could cause significant environmental effects; a circuit study/distribution impact study, facility study, and/or system impact study must be performed.

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

Jamie Asbury – General Manager
Mike Pacheco – Manager, Water Dept.
Matthew H Smelser – Manager, Power Dept.
Paul Rodriguez – Deputy Mgr. Power Dept.
Geoffrey Holbrook – General Counsel
Michael P. Kemp – Superintendent General, Fleet & Compliance Services
Laura Cervantes. – Supervisor, Real Estate
Jessica Humes – Environmental Project Mgr. Sr., Water Dept.

EEC ORIGINAL PKG

150 SOUTH NINTH STREET
EL CENTRO, CA 92243-2850

TELEPHONE: (442) 265-1800
FAX: (442) 265-1799

AIR POLLUTION CONTROL DISTRICT

October 25, 2024

Mr. Jim Minnick
Planning Director
801 Main Street
El Centro, CA 92243

SUBJECT: Initial Study 24-0037 Picacho Bridge – Imperial County Department of Public Works

Dear Mr. Minnick,

The Imperial County Air Pollution Control District (Air District) thanks you for the opportunity to review and comment on Initial Study (IS) 24-0037 proposing the replacement of the existing Picacho Bridge (Project). The proposed project would be along Picacho Rd. in Winterhaven, spanning over the Yuma Main Canal and also identified with Assessor's Parcel Number 056-600-011.

The Initial Study determined the Air Quality impacts would remain below significant levels and included a summary CalEEMod report in Appendix A. While CalEEMod is the Air District's approved modeling software, the Air District is unable to comment on the CalEEMod results as the summary report does not lend itself to review of the modeling inputs, a detailed report would be more suited to an in-depth review. However, the Air District can concur with the Less Than Significant impact determination as the type and size of the project is consistent with projects that remain below significant impact levels. The concurrence is also further reinforced as the IS also explicitly acknowledges project compliance with the Air District's Regulation VIII, a collection of rules designed to maintain fugitive dust emissions below 20% visual opacity. The Air District reminds the applicant the project must comply with all Air District rules and regulations including Reg VIII.

The Air District also reminds the applicant that combustion equipment such as generators must either be registered with the California Air Resources Board's (CARB) Portable Equipment Registration Program (PERP) or it may require an Air District permit. Should combustion equipment not be PERP registered the applicant should submit an application for engineering review of the equipment to determine permitting requirements.

The Air District would like note that the IS states "will not exceed ICAPACD construction thresholds as summarized below in Table 3", however, Table 3 uses the heading "SCAQMD Significance Thresholds," however, the thresholds in the table are consistent with Air District

For your convenience, the Air District's Rules and Regulations can be found online for review at https://apcd.imperialcounty.org/rules-and-regulations/. Please contact our office at (442) 265-1800 if you have any additional questions or concerns.

Sincerely,

Ismael Garcia
Environmental Coordinator II

Reviewed by,
Monica N. Soucier
APC Division Manager

COUNTY EXECUTIVE OFFICE

Miguel Figueroa
County Executive Officer
miguelfigueroa@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

November 5, 2024

TO: Luis Bejarano, Planning and Development Services Department

FROM: Rosa Lopez, Executive Office

SUBJECT: Request for Comments – Picacho Road Bridge Project, IS #24-0037

The County of Imperial Executive Office is responding to a request for comments: Picacho Road Bridge Project, IS #24-0037. The Executive Office would like to inform of conditions and responsibilities of the applicant request a building permit for the project. The following conditions will be written into the CUP, but not limited to:

- Sales Tax Guarantee. The permittee is required to have a Construction Site Permit reflecting the project site address, allowing all eligible sales tax payments are allocated to the County of Imperial, Jurisdictional Code 13998. The permittee will provide the County of Imperial a copy of the California Department of Taxation and Fee Administration (CDTFA) account number and sub-permit for its contractor and subcontractors (if any) related to the jobsite. Permittee shall provide in written verification to the County Executive Office that the necessary sales and use tax permits have been obtained, prior to the issuance of any grading permits and subsequently continue throughout the permitting process.

Should there be any concerns and/or questions, do not hesitate to contact me.

Luis Bejarano

From: Luis Bejarano
Sent: Tuesday, January 14, 2025 8:19 AM
To: Robert Urena; Scott.Molloy@nv5.com
Cc: Rocio Yee; Diana Robinson; Michael Abraham; Darab.Bouzarjomehri@nv5.com; Mehrnoush.Yavary@nv5.com; eric.fuss@nv5.com; historicpreservation@quechantribe.com
Subject: IS 24-0037- CALTRANS COMMENTS

Good morning Robert,

Please see the below email from **Caltrans** with comments on the **Picacho Bridge** replacement project.

Feel free to share any questions you may have.
Thank you!

Luis Bejarano
Planner I
Imperial County Planning and Development Services
801 Main Street
El Centro, CA 92243
luisbejarano@co.imperial.ca.us
Phone (442) 265-1736

From: Sanchez Rangel, Rogelio@DOT <roger.sanchez-rangel@dot.ca.gov>
Sent: Monday, January 13, 2025 11:46 AM
To: Kamika Mitchell <kamikamitchell@co.imperial.ca.us>; Luis Bejarano <luisbejarano@co.imperial.ca.us>
Subject: RE: Initial Study (IS) #24-0037- REQUEST FOR COMMENTS

Hi Kamika and Luis,

Caltrans has general comments regarding the Picacho Bridge Replacement.

The California Department of Transportation (Caltrans) has discretionary authority with respect to highways under its jurisdiction and may, upon application and if good cause appears, issue a special permit to operate or move a vehicle or combination of vehicles or special mobile equipment of a size or weight of vehicle or load exceeding the maximum limitations specified in the California Vehicle Code. The Caltrans Transportation Permits Issuance Branch is responsible for the issuance of these special transportation permits for oversize/overweight vehicles on the State Highway network. Additional information is provided online at: http://www.dot.ca.gov/trafficops/permits/index.html

Any work performed within Caltrans' R/W will require discretionary review and approval by Caltrans and an encroachment permit will be required for any work within the Caltrans' R/W prior to construction.

Thank you,

Rogelio Sanchez

EEC ORIGINAL PKG