North First Avenue Mojave River Bridge Replacement Project

Initial Study [with Proposed] Mitigated Negative Declaration



Prepared by:

City of Barstow 220 East Mountain View Street Barstow, CA 92311

July 2020

General Information about This Document

What's in this document:

The City of Barstow (City) has prepared this Initial Study (IS), which examines the potential environmental impacts of the proposed project in San Bernardino County, California. The City is the lead agency under the California Environmental Quality Act (CEQA). This document tells you why the project is being proposed, what alternatives we have considered for the project, how the existing environment could be affected by the project, the potential impacts of each of the alternatives, and the proposed avoidance, minimization, and/or mitigation measures.

What you should do:

- Please read this document.
- Additional copies of the document are available for review at the City of Barstow Planning Department office building located at 220 East Mountain View Street, Suite A, Barstow, 92311. This document may also be downloaded at the following website: www.barstowca.org/home
- We'd like to hear what you think. If you have any comments regarding the proposed project or would like to request a public hearing, please send your written comments to the City by the deadline.
- Send comments via postal mail to:

City of Barstow Attention: Brad S. Merrell, P.E., Consulting City Engineer 220 East Mountain View Street, Suite A Barstow, California 92311

• Send comments via email to:

bmerrell@barstowca.org

Please use "North First Avenue Mojave River Bridge Initial Study" in the subject line of the email.

• Be sure to send comments by the deadline: September 2, 2020.

What happens next:

After comments are received from the public and reviewing agencies, the City may (1) give environmental approval to the proposed project, (2) do additional environmental studies, or (3) abandon the project. If the project is given environmental approval and funding is obtained, the City could design and construct all or part of the project.

Replace the existing two-lane North First Avenue Bridge over the Mojave River with a new two-lane bridge in the city of Barstow, San Bernardino County, California.

INITIAL STUDY with (Proposed) Mitigated Negative Declaration

City of Barstow, San Bernardino County

July 27, 2020

Date of Approval

Fred A. Mung

Brad S. Merrell, P.E., Consulting City Engineer City of Barstow CEQA Lead Agency

The following person may be contacted for more information about this document:

Brad S. Merrell, P.E. Consulting City Engineer City of Barstow 220 East Mountain View Street, Suite A Barstow, California 92311 (760) 255-5161

Summary Proposed Mitigated Negative Declaration

Project Description

The City of Barstow (City) proposes to replace the two existing bridges, Mojave River (Bridge Number 54C-0089) and Mojave River Overflow (Bridge No. 54C-0090), over the Mojave River along North First Avenue in the City of Barstow, San Bernardino County, California. The southern terminus of the proposed project would be approximately 800 feet south of Crooks Avenue, and the northern terminus would be approximately 1,700 feet north of Irwin Avenue. North First Avenue is currently one lane in each direction and would remain one lane in each direction after construction. The new bridges, approaches, and connecting roadway would be constructed just east of the existing bridges and roadway, which would remain operational until the new work is completed and the new bridges are open for travel.

Determination

This proposed Mitigated Negative Declaration (MND) is included to give notice to interested agencies and the public that it is the City's intent to adopt a MND for this project. This does not mean that the City's decision regarding the project is final. This MND is subject to change, based on comments received by interested agencies and the public.

The City has prepared an Initial Study (IS) for this project and, pending public review, expects to determine from this study that the proposed project would not have a significant effect on the environment for the following reasons:

The proposed project would have no effects on Agriculture and Forest Resources, Land Use and Planning, Mineral Resources, Population and Housing, Public Services, Recreation, or Transportation and Traffic. In addition, the proposed project would have less-than-significant effects on Aesthetics, Hazards and Hazardous Materials, Noise, and Utilities and Service Systems.

With the following mitigation measures incorporated, the proposed project would have less-than-significant effects on Air Quality, Biological Resources, Cultural Resources, Hazards and Hazardous Materials, Public Services, Hydrology and Water Quality.

AQ-1: The project would conform to Caltrans construction requirements, as specified in Caltrans' 2015 Standard Specifications, Section 14-9.02 (Air Pollution Control) and Section 14-11.04 (Dust Control), for asphalt concrete emissions and all earthwork, clearing and grubbing, and roadbed activities involving heavy construction equipment.

AQ-2: MDAQMD Rules 403 and 403.2 (Fugitive Dust) require that fugitive dust control measures be applied to all construction projects in the MDAB, unless said project is

specifically exempted by the rule. The text of Rules 403 and 403.2 is provided in Appendix F of the AQSR.

BIO-1: Prior to clearing or construction, highly visible barriers (such as orange construction fencing) will be installed around Saltbush Scrub Dune adjacent to the limits of disturbance to designate environmentally sensitive areas (ESAs) to be preserved. No grading or gill activity of any type will be permitted within these ESAs. In addition, no construction activities, materials, or equipment will be allowed within the ESAs. All construction equipment will be operated in a manner to prevent accidental damage to nearby preserved areas. Silt fence barriers will be installed at the ESA boundary to prevent accidental deposition of fill material in areas where vegetation is immediately adjacent to planned grading activities.

BIO-2: All equipment maintenance, staging, and dispensing of fuel, oil, or any other such activities will occur in developed or designated non-sensitive upland habitat areas. The designated upland areas will be located to prevent runoff from any spills from entering WoUS.

BIO-3: A construction Storm Water Pollution Prevention Plan (SWPPP) and a soil erosion and sedimentation plan will be developed to minimize erosion and identify specific pollution prevention measures that will eliminate or control potential point and nonpoint pollution sources on-site during and following the project construction phase. The SWPPP will identify specific BMPs to be implemented during project construction to avoid causing or contributing to any water quality standard exceedances. In addition, the SWPPP will contain provisions for change to the plan such as alternative mechanisms, if necessary, during project design and/or construction to achieve the stated goals and performance standards.

BIO-4: A biologist will monitor construction within the vicinity of Saltbush Scrub Dune areas prior to and during vegetation removal to flush any wildlife species present and to ensure that vegetation removal, BMPs, ESAs, and all avoidance and minimization measures are properly implemented.

BIO-5: Fire suppression capability, including extinguishers, shovels, and water tankers, will be available on-site whenever construction occurs during the fire season (as determined by the San Bernardino County fire department). Activities that may produce sparks, including welding or grinding, will use protective gear to reduce fire risks, such as shields and protective mats.

BIO-6: Dust control measures will be implemented by the contractor to reduce excessive dust emissions. Dust control measures will be carried out at least two times per day on all construction days, or more during windy or dry periods, and may include wetting work areas, using soil binders on dirt roads, and wetting or covering stockpiles.

BIO-7: Any exotic species that are removed during construction will be properly handled to prevent sprouting or regrowth. This means that care will be taken to not spread exotic plant seeds during plant removal and that plants will be removed prior to flowering, if feasible.

BIO-8: Construction equipment will be cleaned of mud or other debris that may contain invasive plants and/or seeds and inspected to reduce the potential of spreading noxious weeds before mobilizing to the site and before leaving the site during the course of

construction. Cleaning of equipment will occur at least 100 feet from ESA fencing in a designated area.

BIO-9: Trucks carrying loads of vegetation that will be removed from the project footprint will be covered and disposed of in accordance with applicable laws and regulations.

BIO-10: The resource agencies shall have the right to access and inspect the project site to ensure compliance with project approval conditions, including BMPs.

BIO-11: A general pre-construction survey for special-status species, including desert tortoise, will be conducted prior to the start of construction activities.

BIO-12: To prevent impacts on potential bat roosts, including maternity roosts, a qualified bat biologist will be retained to conduct bat and bat roosting site surveys between May 1 and July 30 prior to commencement of construction activities. This pre-construction survey will be conducted at the bridges, rock outcrop, and vacant building illustrated on Figure 11 of the NES. The survey must occur during maternity season to confirm whether Townsend's big-eared bat is present. If roosting sites or bats are not found, a report confirming their absence will be sent to CDFW, and no further action will be required.

If the pre-construction survey finds bats to be present, a Bat Mitigation Plan will be developed (see Measure BIO-13). If a Townsend's big-eared bat maternity roost is found in the rock outcrop or vacant building, no construction work within a 250-foot-wide buffer zone (or an alternative width, as determined by the designated biologist in consultation with CDFW) will occur between April 1 and September 30. The rock outcrop and building occur outside the project limits of disturbance but well within the range of adversely affecting this species, if a maternity roost is present.

BIO-13: If the pre-construction survey finds bats to be present, a Bat Mitigation Plan will be developed to ensure mortality of bats does not occur. The following items will be included in the plan, at a minimum:

- For each location confirmed to be occupied by bats, the plan will provide details both in text and graphics where exclusion devices will need to be placed, type(s) of exclusion material to be used, the timing for exclusion work, and the timeline and methodology needed to exclude the bats
- Monitoring activities and schedule will be included, including frequency of monitoring, which structures would need to be monitored, and reporting requirements.
- The plan will be reviewed and approved by CDFW.

BIO-14: To determine if burrowing owls are occupying the project limits or adjacent areas prior to construction, a take avoidance survey following CDFW protocol (2012) will be conducted no more than 14 days prior to initiating ground disturbance activities. In addition, any time lapses between project activities will trigger subsequent take avoidance surveys. The survey will be conducted from civil twilight to 10 a.m. or 2 hours before sunset until evening civil twilight within areas providing suitable habitat for burrowing owl. The survey will include the proposed project limits and a 300-foot buffer if performed between February 15 and August 31 (nesting season) and a 100-foot buffer if conducted outside of the nesting season. If burrowing owls are present within 300 feet of project activities during the breeding season or within 100 feet of project activities outside of the nesting season, Measure BIO-15 or BIO-16 will be implemented, as applicable.

BIO-15: If burrowing owls are found during pre-construction take avoidance surveys (Measure BIO-14) during the nesting season, the burrowing owls will be fully avoided by establishing an appropriate buffer in coordination with CDFW.

BIO-16: If burrowing owls are found during pre-construction take avoidance surveys (Measure BIO-14) outside of the nesting season, passive relocation by a qualified avian biologist will be conducted once it has been confirmed that pairing activities have not begun. Passive relocation efforts will be conducted in coordination with CDFW. If the burrowing owl is found to be paired and exhibiting potential nesting behavior, construction disturbance will not occur within a designated buffer determined in coordination with CDFW of the active burrow(s) until it is confirmed by the avian biologist that the pair is not nesting and that young are not present, or if present, are independently foraging.

BIO-17: If construction commences during the bird breeding season (February 15 through August 31), a pre-construction survey for nesting birds will occur within 3 days prior to construction activities by an experienced avian biologist. The survey will occur within all suitable nesting habitat within the project impact area and a 300-foot buffer. If nesting birds are found, an avoidance area will be established in consultation with the resource agencies as appropriate by a qualified biologist around the nest until a qualified avian biologist has determined that young have fledged or nesting activities have ceased. The project site will need to be re-surveyed if there is a lapse in construction activities for more than 7 days during the bird breeding season.

BIO-18: Access and disturbance within the wildlife corridors should be kept to a minimum during evening and nighttime hours.

BIO-19: To the maximum extent feasible, the corridors will not be fully blocked by equipment or structures that could potentially serve as barriers to wildlife passage.

BIO-20: Equipment maintenance, lighting, and staging will occur only in designated areas, and will not block or impede movement throughout wildlife corridors.

BIO-21: Nighttime construction activities, if any, will use shielded lighting to prevent spillover into the corridor. Security lighting on vehicle utilized in the Mojave River and Mojave River Overflow will not be left on overnight.

BIO-22: Speed limits will be reduced to 5 miles per hour during any nighttime construction that occurs within wildlife corridors.

BIO-23: To mitigate effects on jurisdictional areas, a compensatory mitigation plan will be developed during the permitting phase.

BIO-24: Permanent impacts on non-wetland waters will be mitigated off-site at a minimum 2:1 ratio through an approved in-lieu fee program or other agency-approved mitigation bank/mitigation program.

CR-1: Based on the City of Barstow General Plan, 2015–2020 Resource Conservation and Open Space Element, the following procedures will be adhered to by all projects which grade or disturb soil in the city of Barstow:

• If human remains are encountered during grading and other construction excavation, work in the immediate vicinity shall cease and the County Coroner shall be contacted pursuant to State Health and Safety Code Section 7050.5.

- In the event that Native American cultural resources are discovered during project development/construction, all work in the immediate vicinity of the find shall cease and a qualified archaeologist meeting Secretary of Interior standards shall be hired to assess the find. Work on the overall project may continue during this assessment period.
- If significant Native American cultural resources are discovered, for which a Treatment Plan must be prepared, the developer or his archaeologist shall contact the Morongo Band of Mission Indians.
- If requested by the tribe, the developer or the project archaeologist shall, in good faith, consult on the discovery and its disposition (e.g., avoidance, preservation, return of artifacts to tribe, etc.).

CR-2: If human remains are discovered, State Health and Safety Code Section 7050.5 states that further disturbances and activities shall stop in any area or nearby area that is suspected to overlie remains, and the County Coroner shall be contacted. Pursuant to California Public Resources Code Section 5097.98, if the remains are thought to be Native American, the coroner will notify the Native American Heritage Commission, who will then notify the Most Likely Descendent. At that time, the person who discovered the remains will contact the City of Barstow Planning Department at (760) 255-5153 so that they can work with the Most Likely Descendent regarding the respectful treatment and disposition of the remains. Further provisions of Public Resources Code 5097.98 are to be followed as applicable.

CUL-1: Due to the heightened cultural sensitivity of the proposed project area, an archaeological monitor with at least 3 years of regional experience in archaeology shall be present for all ground-disturbing activities that occur within areas that have moderate potential for potentially significant prehistoric cultural resources, as identified in the Environmentally Sensitive Area (ESA) Action Plan as the Archaeological Monitoring Area. Ground-disturbing activities include, but are not limited to, tree/shrub removal and planting, clearing/grubbing, grading, excavation, trenching, compaction, fence/gate removal and installation, drainage and irrigation removal and installation, hardscape installation, and archaeological work). A sufficient number of archaeological monitors shall be present each work day to ensure that simultaneously occurring ground disturbing activities receive thorough levels of monitoring coverage. This shall include one monitor per work crew conducting ground disturbance when crews are more 50 meters apart. If ground disturbing occurs with more than one crew less than 50 meters apart and the monitor can adequately cover both activities, then this will be the approach. A Monitoring and Discovery Plan (MDP) that is reflective of the project mitigation ("Cultural Resources" and "Tribal Cultural Resources") shall be completed by the archaeologist and submitted to the Lead Agency for dissemination to the San Manuel Band of Mission Indians Cultural Resources Department (SMBMI). Once all parties review and approve the plan, it shall be adopted by the Lead Agency – the plan must be adopted prior to construction of the project. If there are any disagreements between parties regarding the content of MDP, the Lead Agency has the authority to make final determinations. Any and all findings will be subject to the protocol detailed within the MDP. The MDP will also demarcate the areas of the Project that will be subject to archaeological and tribal monitoring (see TCR-1).

CUL-2: Applicant is required to contact the Lead Archaeologist at least 5 business days in advance of ground-disturbing activities within culturally-sensitive areas to ascertain monitor availability. If the Applicant fails to give sufficient notice to Lead Archaeologist, or if it is discovered that ground-disturbing activities occurred within culturally-sensitive areas without the presence of archaeological and tribal monitors, then a non-compliance report will be submitted to the City and appropriate action or mitigation taken at the City's discretion.

CUL-3: The entirely of the Buzzard Rock archaeological site shall be fenced off and avoided by all construction personnel and activities, including ground-disturbance, vehicular activity, and equipment staging. An archaeological monitor will conduct bi-weekly (twice a month) checks of the Buzzard Rock fencing, even during periods of time for which archaeological and tribal monitoring does not occur, until the project is complete. Upon completion of the project, the Applicant is responsible for removing any protective fencing from the site.

TCR-1: Due to the heightened cultural sensitivity of the proposed project area, a San Manuel Band of Mission Indians (SMBMI) monitor shall be present for all ground-disturbing activities that occur within areas that have moderate potential for potentially significant prehistoric cultural resources, as identified in the Environmentally Sensitive Area (ESA) Action Plan as the Archaeological Monitoring Area. Ground-disturbing activities include, but are not limited to, tree/shrub removal and planting, clearing/grubbing, grading, excavation, trenching, compaction, fence/gate removal and installation, drainage and irrigation removal and installation, hardscape installation, and archaeological work). A sufficient number of Tribal monitors shall be present each work day to ensure that simultaneously occurring ground disturbing activities receive thorough levels of monitoring coverage. This shall include one monitor per work crew conducting ground disturbance when crews are more the 50 meters apart. If ground disturbing occurs with more than one crew less than 50 meters apart and the monitor can reasonably cover both activities, then this will be the approach. A Monitoring and Discovery Plan that is reflective of the project mitigation ("Cultural Resources" and "Tribal Cultural Resources") shall be completed by the archaeologist, as detailed within CUL-1, and submitted to the Lead Agency for dissemination to the San Manuel Band of Mission Indians Cultural Resources Department (SMBMI). Once all parties review and agree to the plan, it shall be adopted by the Lead Agency - the plan must be adopted prior to construction of the project. Any and all findings will be subject to the protocol detailed within the Monitoring and Discovery Plan.

TCR-2: The Lead Archaeologist/Applicant is required to contact the San Manuel Band of Mission Indians Cultural Resources Department (SMBMI) at least 5 business days in advance of ground-disturbing activities within the Archaeological Monitoring Area to ascertain Tribal monitor availability. If the Lead Archaeologist/Applicant fails to give sufficient notice to SMBMI, or if it is discovered that ground-disturbing activities occurred within culturally-sensitive areas without the presence of archaeological and tribal monitors, then a non-compliance report will be submitted to the City and appropriate action or mitigation taken at the City's discretion.

TCR-3: If a pre-contact archaeological site or feature is discovered during project implementation, ground disturbing activities shall be suspended 50 feet around the resource(s) and an Environmentally Sensitive Area (ESA) physical demarcation/barrier constructed. If a cultural resource is identified as an isolated artifact it will not require the establishment of an ESA.

A research design shall be developed by the archaeologist that shall include a plan to evaluate the resource for significance under CEQA criteria. Representatives from the

San Manuel Band of Mission Indians Cultural Resources Department (SMBMI), the archaeologist/applicant, and the Lead Agency shall confer regarding the research design, as well as any testing efforts needed to delineate the resource boundary. Following the completion of evaluation efforts, all parties shall confer regarding the archaeological significance of the resource, its potential as a tribal cultural resource (TCR), and avoidance (or other appropriate treatment) of the discovered resource.

Should any significant resource and/or TCR not be a candidate for avoidance or preservation in place, and the removal of the resource(s) is necessary to mitigate impacts, the research design shall include a comprehensive discussion of sampling strategies, resource processing, analysis, and reporting protocols/obligations. Removal of any cultural resource(s) shall be conducted with the presence of a Tribal monitor representing the tribe, unless otherwise decided by SMBMI. All plans for analysis shall be reviewed and approved by the applicant and SMBMI prior to implementation, and all removed material shall be temporarily curated on-site. If there are any disagreements between parties on this matter, the lead agency has the authority to make final determinations. It is the preference of SMBMI that removed cultural material be reburied as close to the original find location as possible. However, should reburial within/near the original find location during project implementation not be feasible, then a reburial location for future reburial shall be decided upon by the City in consultation with SMBMI, and the landowner, and all finds shall be reburied within this location. Additionally, in this case, reburial shall not occur until all ground-disturbing activities associated with the project have been completed, all monitoring has ceased, all cataloging and basic recordation of cultural resources have been completed, and a final monitoring report has been issued to Lead Agency, CHRIS, and SMBMI. All reburials are subject to a reburial agreement that shall be developed between the landowner and SMBMI outlining the determined reburial process/location, and shall include measures and provisions to protect the reburial area from any future impacts (vis a vis project plans, conservation/preservation easements, etc.).

Should it occur that avoidance, preservation in place, and on-site reburial are not an option for treatment, the landowner shall relinquish all ownership and rights to this material and confer with the City and SMBMI to identify an American Association of Museums– (AAM-) accredited facility or other curation facility meeting federal standards, within the County that can accession the materials into their permanent collections and provide for the proper care of these objects in accordance with the 1993 CA Curation Guidelines. A curation agreement with an appropriate qualified repository shall be developed between the landowner and museum that legally and physically transfers the collections and associated records to the facility. This agreement shall stipulate the payment of fees necessary for permanent curation of the collections and associated records and the obligation of the Project developer/applicant to pay for those fees.

All draft records/reports containing the significance and treatment findings and data recovery results shall be prepared by the archaeologist and submitted to the Lead Agency and SMBMI for their review and comment. After review and approval from all parties, the final reports and site/isolate records are to be submitted to the local CHRIS Information Center, the Lead Agency, and SMBMI. If there are any disagreements

between parties regarding this content, the Lead Agency has the authority to make final determinations.

TCR-4: Inadvertent Discoveries of Human Remains/Funerary Objects

In the event that any human remains are discovered within the project area, grounddisturbing activities shall be suspended 100 feet around the resource(s) and an environmentally sensitive area (ESA) physical demarcation/barrier constructed. The on-site lead/foreman shall then immediately notify the City of Barstow. The City of Barstow will then notify SMBMI. The City and the applicant/developer shall then immediately contact the County Coroner regarding the discovery. If the Coroner recognizes the human remains to be those of a Native American, or has reason to believe that they are those of a Native American, the Coroner shall ensure that notification is provided to the NAHC within twentyfour (24) hours of the determination, as required by California Health and Safety Code Section 7050.5(c). The NAHC-identified Most Likely Descendant (MLD), shall be allowed, under California Public Resources Code Section 5097.98(a), to (1) inspect the site of the discovery and (2) make determinations as to how the human remains and funerary objects shall be treated and disposed of with appropriate dignity. The MLD, Lead Agency, and landowner agree to discuss in good faith what constitutes "appropriate dignity" as that term is used in the applicable statutes. The MLD shall complete its inspection and make recommendations within forty-eight (48) hours of the site visit, as required by California Public Resources Code Section 5097.98.

Reburial of human remains and/or funerary objects (those artifacts associated with any human remains or funerary rites) shall be accomplished in compliance with the California Public Resources Code Section 5097.98 (a) and (b). The MLD in consultation with the landowner, shall make the final discretionary determination regarding the appropriate disposition and treatment of human remains and funerary objects. All parties are aware that the MLD may wish to rebury the human remains and associated funerary objects on or near the site of their discovery, in an area that shall not be subject to future subsurface disturbances. The applicant/developer/landowner should accommodate on-site reburial in a location mutually agreed upon by the Parties.

It is understood by all Parties that unless otherwise required by law, the site of any reburial of Native American human remains or cultural artifacts shall not be disclosed and shall not be governed by public disclosure requirements of the California Public Records Act. The Coroner, parties, and the City of Barstow will be asked to withhold public disclosure information related to such reburial, pursuant to the specific exemption set forth in California Government Code Section 6254(r).

GEO-1: A site-specific geotechnical investigation including subsurface exploration will be performed during the plans, specifications, and estimate (PS&E) phase of work.

HAZ-1: Prior to demolition, a lead-based paint and asbestos survey shall be conducted on the project site by a licensed lead and asbestos inspector. The survey shall determine whether any on-site abatement of lead-based paint or asbestos containing materials is necessary. Once lead content is determined, Caltrans Standard Special Provisions (SSPs) related to lead-based paint will be followed for removal, containment, analyses, transportation, and disposal of the materials. For asbestos containing materials, see HAZ-2 below.

HAZ-2: In accordance with Section 112 of the Clean Air Act, which established the National Emission Standards for Hazardous Air Pollutants (NESHAP), specific work practices will be followed during demolition of structures. The regulations require a thorough inspection where demolition will occur and requires the owner or the operator of the demolition that contain a certain threshold amount of regulated asbestos-containing material. The rule also requires work practice standards that control asbestos emissions. The project shall comply with all asbestos demolition and removal measures outlined in SCAQMD Rule 1403 (2007).

PS-1: A TMP prior to project construction that identifies methods to avoid and minimize construction-related traffic and circulation effects and minimize impacts on pedestrian and bicycle access. During construction, the constructor will implement the methods identified in the TMP.

WQ-1: Compliance with NPDES Permit and SWRCB Permit. In compliance with the NPDES Permit, a Notice of Intent will be filed with the Lahontan RWQCB for coverage under the state-wide NPDES permit for construction-related discharges. The contractor will prepare a SWPPP that sets forth the BMPs that will be implemented on-site. The BMPs will be implemented to minimize spills and keep potentially contaminated materials used during construction out of the drainage waterways as documented in the SWPPP.

The SWRCB permit requires all non-stormwater discharges are identified and either eliminated, controlled, or treated.

WQ-2: Permanent and Construction BMP Implementation. The following Construction site BMP categories shall be considered and implemented where feasible. Soil Stabilization Practices; Sediment Control Practices; Tracking Control Practices; Wind Erosion Control; Non-Storm Water Controls; and Waste Management and Material Pollution Controls.

Permanent BMPs include design pollution prevention BMPs and treatment BMPs. Design pollution prevention BMPs consider downstream effects related to potentially increased flow, preservation of existing vegetation, concentrated flow conveyance systems, and slope/surface protection systems. Treatment BMPs include but are not limited to such items as: biofiltration; infiltration devices; earthen detention devices; earthen media filters; wet basins; multi-chamber treatment trains; media filters; dry weather flow diversion; detention devices; gross solids removal devices; traction sand traps.

WQ-3: Jurisdictional Waters Compliance

WQ-4: Groundwater Compliance. Groundwater quality will be monitored on a regular basis to identify any potential problems, such as elevated levels of pollutants. In any instance, the City will select and implement measures to control contamination, with a performance standard that groundwater quality must be returned to baseline conditions.

WQ-5: USACE, USFWS and CDFW Compliance. Consultation with USACE will be initiated and, as required, Section 404 permits will be acquired for proposed project elements and/or phases which would take place within jurisdictional waters of the U.S., in accordance with Section 404 of the CWA, which governs the disposal of dredged or fill material in these jurisdictional waters. A 1602 Lake or Streambed Alteration (LSA)

Agreement will be submitted to CDFW for notice upon approval of the proposed project. The LSA Agreement includes measures necessary to protect existing fish and wildlife resources.

NOI-1: To reduce residual construction noise impacts, the construction contractor shall implement the following avoidance, mitigation, and/or minimization measures to the extent feasible:

- 1. Using low-noise-generating construction equipment. Newer equipment is generally quieter than older equipment, electric powered equipment is typically quieter than diesel, and hydraulic powered equipment is typically quieter than pneumatic power;
- 2. Maintaining all construction equipment, including mufflers and ancillary noise abatement equipment;
- 3. Ensuring that all mobile and stationary noise-producing construction equipment used on the project site that is regulated for noise output by a local, state, or federal agency complies with such regulation while in the course of project activity;
- 4. Training construction employees in the proper operation and use of the equipment to avoid careless or improper use that could increase noise and vibration levels;
- 5. Scheduling high noise-producing activities during periods that are least sensitive;
- 6. Switching off construction equipment when not in use;
- 7. Positioning stationary construction equipment, such as generators and compressors, as far away as practical from noise-sensitive receptors;
- 8. Locating storage, staging, and equipment service/repair areas as far away as practical from noise-sensitive receptors;
- 9. Restricting the use of noise-producing signals, including horns, whistles, alarms, and bells, to safety warning purposes only;
- 10. Routing construction-related truck traffic away from noise-sensitive areas; and
- 11. Reducing construction vehicle speeds.

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1.1 Introduction

The City of Barstow (City) proposes to replace the two existing bridges, Mojave River (Bridge Number 54C-0089) and Mojave River Overflow (Bridge No. 54C-0090), over the Mojave River along North First Avenue in the City of Barstow, San Bernardino County, California. The City is the lead agency under the California Environmental Quality Act (CEQA). The southern terminus of the proposed project would be approximately 800 feet south of Crooks Avenue, and the northern terminus would be approximately 1,700 feet north of Irwin Avenue, including the approaches to the bridges. Figures 1-1 and 1-2 are regional vicinity and project location maps.

The proposed project is included in the Southern California Association of Government's (SCAG's) 2019 financially constrained Federal Transportation Improvement Program (FTIP), Amendment 2, under project ID SBDLS08. It is also included in the 2016–2040 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) under project number SBDLS08.

1.2 Purpose and Need

The purpose of the proposed project is to improve the safety and operation of bridges along North First Avenue by replacing the existing structures with bridges that are structurally safe and able to meet current seismic, design, and roadway standards. The project would also help achieve the goals of the 2015–2020 City of Barstow General Plan, which proposes to replace the bridge and classifies North First Avenue over the Mojave River at this location as a collector street.

The project is needed because the Mojave River Bridge was initially constructed in 1933. The bridge has a Sufficiency Rating of 67.5, based on the April 20, 2016, Inspection Report, and is listed as Functionally Obsolete. A fracture critical inspection was performed in August 2016; multiple weld cracks were found as well as cracks in the knee brace connections.

The new Mojave River Bridge would include two lanes of traffic (one lane in each direction), standard shoulders in each direction, a sidewalk on the west side, and concrete barriers on both sides of the bridge.

The existing Mojave River Overflow Bridge (Bridge No. 54C-0090) was constructed in 1939. It has a Sufficiency Rating of 32.8 and is considered structurally deficient. This rating is due to the condition of the deck and superstructure, deck geometry, and the timber railing.



Figure 1-1 Project Vicinity North First Avenue Mojave River Bridge Replacement Project



Figure 1-2 Project Location North First Avenue Mojave River Bridge Replacement Project

1.3 Project Description

This section describes the proposed action and the project alternatives developed to meet the purpose and need of the project while avoiding or minimizing environmental impacts. The alternatives are the Project Build Alternative and No-Build Alternative.

The project is located in San Bernardino County, along North First Avenue Mojave Bridge. The southern terminus of the project area would be approximately 800 feet south of Crooks Avenue, and the northern terminus would be approximately 1,700 feet north of Irwin Avenue. The project area also includes portions of Riverside Drive and Irwin Road to reconnect these roadways with North First Avenue.

1.4 Alternatives

1.4.1 Build Alternative

North First Avenue is currently one lane in each direction and would remain one lane in each direction after construction. The Build Alternative would be constructed just to the east of the existing bridge, which would remain until the new bridge is complete and open for travel.

The Build Alternative would replace the two existing bridges, Mojave River (Bridge Number 54C-0089) and Mojave River Overflow (Bridge No. 54C-0090), over the Mojave River along North First Avenue in the City of Barstow (refer to Figure 1-3). The proposed bridge over the Mojave River (Bridge No. 54C0089) would be a three-span cast-in-place box girder bridge, approximately 575 feet long and 62 feet, 9 inches wide. The proposed bridge would be supported on multi-column concrete bents and seat abutments founded on cast-in-drilled-hole (CIDH) piles. The bridge width includes two 12-foot lanes (one in each direction, northbound and southbound), one 12-foot median, two 8-foot shoulders (one in each direction), one 8-foot sidewalk on the east side of the bridge, and one concrete barrier on the east and west sides of the bridge.

The Mojave River Overflow Bridge (Bridge No. 54C0090), which is located 0.04 mile north or Irwin Road, would also be replaced and remain in place as part of the Build Alternative until the new overflow bridge is constructed and open for traffic. The Mojave River Overflow Bridge would be a two-span cast-in-place box girder bridge, approximately 350 feet long and approximately 50 feet, 9 inches wide on average. The proposed bridge would be supported on seat abutments and multi-column concrete columns founded on CIDH piles. At mid-span, the profile will be approximately 4 to 6 feet higher than the existing bridge.

The new bridges, approaches, and connecting roadway would be constructed just to the east of the existing bridges, and roadway, which would remain operational until the new work is complete and the bridges open for travel.

Between the new Mojave River and Mojave River Overflow bridges, Irwin Road would be extended approximately 200 feet and the profile of the roadway would be modified to join the realigned North First Avenue. The intersection of Irwin Road and North First Avenue

would be signalized to comply with the signal warrant analysis performed. South of the Mojave River Bridge, Riverside Drive would be shifted slightly to the northeast to align with the new North First Avenue where a new non-signalized at-grade intersection would be constructed. The proposed improvements for this project would be consistent with the design of the North First Avenue Grade Separation and Bridge Replacement Project, which is immediately to the west, and provide continuous standard lanes, shoulders, and sidewalks.

The existing Mojave River and Mojave River Overflow bridges and the existing section of the realigned North First Avenue would be demolished once the proposed improvements have been completed.

The proposed project is included in SCAG's 2019 financially constrained FTIP, Amendment 2, under project ID SBDLS08. It is also included in the 2016–2040 RTP/SCS under project number SBDLS08.

The total estimated cost for the project, escalated for the year of construction, is \$25,292,000 for the project Build Alternative.



Figure 1-3 - Sheet 1 Build Alternative (Project) North First Avenue Mojave River Bridge Replacement Project



Figure 1-3 - Sheet 2 Build Alternative (Project) North First Avenue Mojave River Bridge Replacement Project

1.4.2 No-Build Alternative

Under the No-Build Alternative, the existing Mojave River and Mojave River Overflow bridges would remain in place, and none of the proposed project improvements, as discussed in the Build Alternative, would be constructed. This alternative, however, does not preclude the construction of future planned projects in the study area. The No-Build Alternative is not considered a viable project alternative because it would not meet the project purpose of providing bridges that are structurally safe and able to meet current seismic, design, and roadway standards.

1.5 Permits and Approvals Needed

The following permits, licenses, agreements, and certifications (PLACs) are anticipated to be required for project construction:

Agency	Permits/Approval	Status
U.S. Fish and Wildlife Service (USFWS)	Review and comment on Section 404 Permit	Application to be submitted after approval of the final environmental document (FED) for the project.
U.S. Army Corps of Engineers (USACE)	Section 404 Permit for filling or dredging waters of the United States	Permit application to be submitted after approval of environmental document.
	Clean Water Act Section 404 Nationwide Permit	Notification to be submitted following FED adoption.
Regional Water Quality Control Board (RWQCB)	Clean Water Act Section 401 Water Quality Certification	Application to be submitted after approval of FED.
	Porter-Cologne and Clean Water Act Section 401 Water Quality Certification	Application to be submitted following FED adoption.
	National Pollutant Discharge Elimination System Permit	Application to be submitted following FED adoption.
California Department of Fish and Wildlife (CDFW)	1602 Agreement for Streambed Alteration	Notification to be submitted following FED adoption.
State Water Resources Control Board	Section 401 Water Discharge Permit	Application for Section 401 permit expected after FED approval.

Table 1.1 Permits, Licenses, Agreements, and Certifications (PLACs)

Chapter 2 California Environmental Quality Act (CEQA) Evaluation

2.1 CEQA Environmental Checklist

This checklist identifies physical, biological, social, and economic factors that might be affected by the proposed project. In many cases, background studies performed in connection with the projects will indicate that there are no impacts on a particular resource. A "No Impact" answer in the last column reflects this determination. Where there is a need for clarifying discussion, the discussion is included either following the applicable section of the checklist or is within the body of the environmental document itself. The words "significant" and "significance" used throughout the following checklist are related to CEQA, not National Environmental Policy Act (NEPA), impacts. The questions in this form are intended to encourage the thoughtful assessment of impacts and do not represent thresholds of significance.
2.2 Aesthetics

Except as provided in Public Resources Code Section 21099, would the project:	Significant and Unavoidable Impact	Less than Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?			\boxtimes	
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?			\boxtimes	
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 a 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?				
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?				\boxtimes

2.2.1 CEQA Significance Determinations for Aesthetics

Information used in this section is based on the *Visual Impact Assessment* (VIA) from June 2017 that was prepared for the proposed project.

a) Less-than-Significant Impact

There are no National Scenic Byways or State Scenic Highways near North First Avenue Mojave River Bridge or in the city of Barstow (Federal Highway Administration [FHWA] 2017). The City of Barstow General Plan does not designate any Eligible County Scenic Highway or any Scenic Corridor near the city boundary (California Department of Transportation [Caltrans] 2011). The City of Barstow General Plan also does not designate any roads as an Enhanced Landscape Corridor. There are no scenic resources on the project site, and views of the open desert in the distance may be partially blocked but will remain available at various vantage points. See Figure 2-1 for a visual simulation of the project from the viewpoint at one of the Key Observation Points (KOPs) identified in the VIA. The proposed project does not conflict with any of the City's goals regarding the preservation and enhancement of the city's visual character. Therefore, the project as designed would not substantially degrade any scenic vistas of the site and would have less-than-significant impacts. No mitigation is required.



This location is located on Irwin Road, next to KOP B. This view looks northeast towards the existing Mojave River Overflow Bridge.



Visual Simulation of proposed Mojave River Overflow Bridge.

Source: Tatsumi & Partners, Inc. (2017)

Figure 2-1 Visual Simulation of Project from KOP E North First Avenue Mojave River Bridge Replacement Project

b) Less-than-Significant Impact

According to the VIA memorandum prepared for the proposed project, the proposed project is not located within an officially designated National Scenic Byway, or State or County Scenic Highway. Therefore, the proposed project would not damage scenic resources within a scenic highway. While there are no scenic highways near the proposed project location, there are potentially scenic resources. The historic Harvey House Railroad Depot, which is occupied by two museums, an office building, and an Amtrak station, is close to the project area. The Harvey House is a California Historical Landmark and provide an architectural aesthetic for the Barstow area. However, the project as designed would not substantially damage scenic resources. No mitigation is required.

c) Less-than-Significant Impact

The effects of the proposed project on the existing setting and viewshed are analyzed in the VIA (June 2017). The visual quality of five (A, B, C, D, and E) KOPs surrounding the proposed bridge replacements were assessed for potential visual impacts (see Figure 2-2). The visual quality at KOP A would slightly improve due to the change in visual resources. The change in visual quality at KOPs B, C, D, and E would be minimal. The proposed project would not block views of visual resources and the overall visual quality of the area would not decrease. These assessment conclusions determined that the potential visual impacts of this project are low to negligible. Therefore, the project as designed would not substantially degrade the existing visual character or quality of the site and its surroundings. No mitigation is required.

d) No Impact

The proposed project would construct new bridges just to the east of the existing bridges. Street lighting would be installed along the new bridges where none previously existed; however, the lighting would not create substantial light or glare that would affect day or nighttime views in the area because the lighting would be similar to what exists currently.

2.2.2 Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization, or mitigation is required.



Source: Tatsumi & Partners, Inc. (2017)

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Figure 2-2 KOP Locations North First Avenue Mojave River Bridge Replacement Project

2.3 Agriculture and Forest Resources

In determining whether impacts on agriculture and forest 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 on 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 the forest carbon measurement methodology provided in Forest Protocols adopted by the California Agriculture and the Resources Board.

Would the project:	Significant and Unavoidable Impact	Less than Significant with Mitigation Incorporated	Less- than- Significant Impact	No Impact
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?				\boxtimes
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?				\boxtimes
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))?				\boxtimes
d) Result in the loss of forest land or conversion of forest land to non-forest use?				\boxtimes
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?				

2.3.1 CEQA Significance Determinations for Agriculture and Forest Resources

a) No Impact

There are no Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland) in the project area. According to the City of Barstow General Plan Land Use Map, the proposed project site consists of the following land use designations: Diverse Use (DU) and General Industrial (GI) (City of Barstow 2015). The DU designation provides for a diversity of compatible and mutually beneficial commercial and residential uses (such as housing, retail stores or offices) on a given parcel or combination of parcels. The GI designation allows for a variety of activities ranging from manufacturing, warehousing and distribution to industrial plants. The California Important Farmland Map identifies the land in the project site as Other Land and Urban and Built-Up Land (California Department of Conservation 2016a). Such land is not subject to the provisions of the Farmland Protection Policy Act (FPPA). As such, there would be no impacts on Prime Farmland, Unique Farmland, or Farmland of Statewide Importance.

b) No Impact

As shown in the City of Barstow Zoning Map, the project area is zoned for GI for all land in the project vicinity east of North First Avenue. Land west of North First Avenue is zoned DU. As non-agricultural land, none of the project is subject to the provisions of the FPPA. There are no parcels under a Williamson Act contract within or the project limits. As such, the proposed project would not conflict with existing zoning for agricultural use or Williamson Act contracts.

c) No Impact

As detailed in response (a), the project area is designated as GI and DU; therefore, no impacts would occur on land designated as forest land, timberland, or Timberland Production.

d) No Impact

There are no forest or timberlands within the project limits. Therefore, the proposed project would not result in the loss or conversion of forest land.

e) No Impact

The proposed project would not involve changes that would result in the conversion of farmland to non-agricultural use or forest land to non-forest use.

2.3.2 Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization, and/or mitigation measures are required.

2.4 Air Quality

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

Would the project:	Significant and Unavoidable Impact	Less than Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?				\boxtimes
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?				
c) Expose sensitive receptors to substantial pollutant concentrations?		\square		
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?				

2.4.1 CEQA Significance Determinations for Air Quality

Information used in this section is based on the *Air Quality Study Report* (AQSR) (November 2017) prepared for the proposed project.

a) No Impact

The proposed project is located in the Mojave Desert Air Basin (MDAB) and is within the jurisdiction of the Mojave Desert Air Quality Management District (MDAQMD) and the California Air Resources Board (CARB). The MDAQMD is the primary agency responsible for writing the Air Quality Management Plan (AQMP) in cooperation with SCAG, local governments, and the private sector. The AQMP provides the blueprint for meeting state and federal ambient air quality standards. The proposed project is not a capacity-increasing transportation project. It would address the structural deficiency of the existing two-lane North First Avenue Bridge over the Mojave River by replacing it with a new two-lane bridge. It will have no impact on traffic volumes and would generate a less than significant amount of pollutants during construction due to the very short duration, 18 months, of project construction. The proposed project is included in the currently conforming SCAG financially constrained 2016-2040 RTP/SCS and 2017 FTIP, Amendment 2, under project number SBDSL08. The 2016-2040 RTP/SCS was found to conform to the State Implementation Plan (SIP) by FHWA on June 1, 2016; the 2017 FTIP, Amendment 2, was found to conform to the SIP by FHWA on February 21, 2017. The project is exempt from the regional emissions analysis requirements for transportation conformity, per 40 Code of Federal Regulations 93.127, but is subject to project-level conformity determination requirement. Therefore, the proposed project will not conflict with the AQMP. No impacts are anticipated and no mitigation is required.

b) Less-than-Significant Impact

Construction Emissions

Temporary construction emissions would occur for approximately 18 months during construction of the proposed project. Pollutant emissions would vary daily based on the level of activity, specific operations, and prevailing weather operations. Short-term air quality degradation may occur due to the release of particulate emissions (airborne dust) generated by earthmoving and use of heavy equipment, as well as land clearing, ground excavation, cut-and-fill operations, and the construction of connecting roadways and bridge structural supports. Emissions from construction equipment would include CO, NO_X, ROG, directly emitted particulate matter (PM10 and PM2.5), and TACs (aka: MSATs), such as diesel exhaust particulate matter.

Construction-period criteria pollutant emissions were estimated using the Road Construction Emissions Model (Version 8.1.0). This model was developed by the Sacramento Metropolitan Air Quality Management District and is recognized as a tool for quantification of air quality impacts during roadway construction activities. An estimate of project construction emissions is presented below in Table 2-1. The greatest regional emissions would occur during the grading/excavation period, resulting in 10 pounds per day of ROG, 75 pounds per day of CO, 104 pounds per day of NO_X, 15 pounds per day of PM10, and 6 pounds per day of PM2.5.

Construction Phase	ROG	СО	NOx	PM10	PM2.5
Grubbing and Clearing	1	11	24	11	3
Grading/Excavation	10	75	104	15	6
Drainage/Utilities/Sub-Grade	6	54	64	13	5
Paving	1	14	20	1	1
Daily Maximum Regional Emissions	10	75	104	15	6
MDAQMD Significant Emissions Threshold (Daily)*	137	548	137	82	65
Estimates by ICF 2017 (see Appendix C of AQSR) *MDAQMD CEQA and Federal Conformity Guidelines, August 2016					

Table 2-1. Estimate of Criteria Pollutant Emissions during Construction(pounds per day)

None of the criteria pollutant emissions created by the proposed project would exceed the MDAQMD daily significant emissions threshold. As such, the impact of construction-related regional emissions from the project is considered less than significant. Furthermore, these emissions would be temporary and would be minimized through the implementation of exhaust and fugitive dust emission control measures listed below in Section 2.4.2. Therefore, air pollutant emission during construction would result in less-than-significant impacts on air quality. No mitigation is required.

Operation Emissions

The replacement of the North First Avenue Mojave River and Mojave River Overflow bridges would not increase capacity over current conditions, as no additional lanes would be provided. Data from the project's *Traffic Impact Study* (TIS) (March 2017) show virtually no difference in the peak hour intersection volumes and levels of service (LOS) between the without and with project conditions for both opening (2019) and horizon years (2040). Based on the negligible changes in traffic operations that would result from project implementation, quantification of operational emissions was not undertaken, as there would be no meaningful difference in emission between the with and without project conditions. Therefore, air pollutant emission during operation would result in less-than-significant impacts on air quality. No mitigation is required.

Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time. The study area for cumulative effects on air quality is the MDAB. The MDAB experiences chronic exceedances of state and federal ambient air quality standards as a consequence of past and present projects, and is subject to continued nonattainment status by reasonably foreseeable future project. The State of California has designated the Mojave Desert portion of the MDAB as being a nonattainment area for O3, PM2.5, and PM10. The federal EPA has designated this area as being a nonattainment area for O3 (8-hour standard) and PM2.5, and an attainment/maintenance area for the pollutants NO2, CO, and PM10. These nonattainment conditions within the region are considered cumulatively significant. As previously mentioned, the proposed project would not conflict with the AQMP, which is intended to bring the Basin into attainment for all criteria pollutants. Furthermore, the project would comply with MDAQMD rules and regulations, including Rules 403 and 403.2 (Fugitive Dust), during construction as well as all other adopted AQMP emissions control measures to minimize project impacts. Per MDAQMD rules and mandates, as well as CEQA requirements that significant impacts be mitigated to the extent feasible, these same requirements [i.e., Rules 403 and 403.2 (Fugitive Dust), implementation of all feasible mitigation measures, and compliance with adopted AQMP emissions control measures] would also be imposed on all projects basin-wide, which would include all nearby projects.

c) Less than Significant with Mitigation

Some locations are considered more susceptible to adverse impacts from air pollution than others. These locations are commonly referred to as *sensitive receptors* and include schools, playgrounds, childcare centers, long-term healthcare facilities, rehabilitation centers, convalescent centers, hospitals, retirement homes, and residences. As shown in Figure 2-3, the closest sensitive receptors in the project vicinity are the residences along Crooks Avenue, which occur within 500 feet of the project limits. Given the linear nature of the proposed project, sensitive receptors would be exposed to pollutants for a small portion of the total construction period because equipment would not be operated at a particular location along the alignment for an extended period of time. The diesel particulate matter generated from construction equipment would be sporadic, transitory, and short term in nature. Therefore, the project would not expose receptors to acute and/or chronically hazardous Toxic Air Contaminant (TAC) pollutants. The implementation of the exhaust and fugitive dust emission control measures identified in **AQ-1** would avoid and/or minimize any impacts on air quality. Therefore, there would be a less-than-significant impact.

d) Less-than-Significant Impact

According to the California Air Resources Board (CARB), land uses associated with odor complaints typically include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding facilities (CARB 2005). The proposed project does not include any uses identified by as being associated with odors and therefore would not produce objectionable odors that would affect a substantial number of people. Construction activities usually do not emit offensive odors. Potential odor emitters during construction include asphalt paving. However, MDAQMD Rule 1103 limits emissions of volatile organic compounds from cutback asphalt, which are known to be a source of odors. Given mandatory compliance with MDAQMD rules, no construction activities or materials are proposed that would create substantial objectionable odors.

2.4.2 Avoidance, Minimization, and/or Mitigation Measures

The implementation of the exhaust and fugitive dust emission control measures identified below and those contained within MDAQMD Rules 403 and 403.2 would avoid and/or minimize any impacts on air quality.

Particulate Emissions

AQ-1: MDAQMD Rules 403 and 403.2 (Fugitive Dust) require that fugitive dust control measures be applied to all construction projects in the MDAB, unless said project is specifically exempted by the rule. The text of Rules 403 and 403.2 is provided in Appendix F of the AQSR.



Figure 2-3 Sensitive Land Use Receptors North First Avenue Bridge Replacement Project

2.5 Biological Resources

Would the project:	Significant and Unavoidable Impact	Less than Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species 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, U.S. Fish and Wildlife Service, or NOAA Fisheries?				
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?				
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?				
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?				
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?				\square
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?				

2.5.1 CEQA Significance Determinations for Biological Resources

Information used in this section is based on the *Natural Environment Study* (NES) (July 2019) and the preliminary *Jurisdictional Delineation* (JD) Report (July 2019) prepared for the proposed project.

In order to identify and determine direct, indirect, and cumulative impacts on sensitive biological resources within, and adjacent to the project, a Biological Study Area (BSA) was established, which included 100-foot, 200-foot, 300-foot, and 500-foot buffers from the edge of proposed disturbance limits determined from preliminary engineering design. Buffer distances ranged by resource types. A 500-foot buffer was used for reconnaissance work, vegetation mapping, and Mohave ground squirrel surveys; a 300-foot buffer for desert tortoise surveys and burrowing owl surveys; a 200-foot buffer for the jurisdictional delineation, rare plant surveys, and Mohave fringe-toed lizard surveys; and a 100 foot buffer for the bat habitat assessment. See Figure 2-4 for a depiction of the project BSA.

Prior to the first site visit, the U.S. Fish and Wildlife Service (USFWS) Information for Planning and Conservation system (USFWS 2017), California Natural Diversity Database (CNDDB) (California Department of Fish and Wildlife [CDFW] 2017), California Native Plan Society's (CNPS's) Electronic Inventory (CNPS 2017), and the U.S. Department of Agriculture Natural Resources Conservation Service (USDA-NRCS) soils (USDA-NRCS 2017) were queried for biological resources that have special regulatory or management status and could potentially occur in the vicinity of the BSA.

Studies and surveys conducted within the BSA included a rare plant habitat assessment; focused rare plant surveys (3/7/17, 3/27/17, 4/18/17, 5/25/17); vegetation community mapping (3/7/17 and 3/27/17); desert tortoise habitat assessment (9/16/16) and protocol survey (10/20/16); Mohave fringe-toed lizard habitat assessment and protocol survey (8/16 through 9/16); Mohave ground squirrel habitat assessment (3/9/17) and focused surveys (4/17 through 7/17); burrowing owl habitat assessment and protocol surveys (2/15/17, 4/17/17, 5/10/17, 6/21/17); and bat habitat assessment (4/3/17).The jurisdictional delineation of aquatic resources was performed on March 23, 2017.





Figure 2-4 Biological Study Area North First Avenue Mojave River Bridge Replacement Project

a) Less than Significant with Mitigation Incorporated

Special-Status Plant Species

Literature review determined that 24 special-status plant species may potentially occur within the BSA. Of these, one species, the Lane Mountain milk-vetch, is federally listed as endangered. The BSA supports suitable habitat for several special-status plant species generally associated with native vegetation communities. However, no special-status plant species were observed within the BSA during biological reconnaissance and focused rare plant surveys.

Fourteen of the 24 special-status plants identified in the literature review were determined to be absent due to a lack of suitable habitat or absence during focused surveys conducted during the appropriate blooming period. This includes the federally listed as endangered Lane Mountain milk-vetch. The remaining 10 special-status plant species were determined to have marginally suitable habitat present due to site disturbance. These include: Lane Mountain milk-vetch (Astragalus jaegerianus), chaparral sand-verbena (Abronia villosa var. aurita), Borrego milk-vetch (Astragalus lentiginosus var. borreganus), white pygmy-poppy (Canbya candida), desert cymopterus (Cymopterus deserticola), Mojave monkeyflower (Diplacus mohavensis), Joshua tree poppy (Eschscholzia androuxii), Torrey's box-thorn (Lycium torreyi), beaver dam breadroot (Pediomelum castoreum), and Mojave indigo-bush (Psorothamnus arborescens var. arborescens). Suitable habitat for these species exists within degraded, marginally suitable Saltbush Scrub Dune habitat within the BSA. None of these species were observed during focused rare plant surveys and they are considered absent from the BSA. As such, no impacts on special-status plants would occur as a result of the project despite impacts on Saltbrush Scrub Dune habitat.

Avoidance and minimization measures **BIO-1** through **BIO-10** would be incorporated to avoid and minimize impacts on Saltbush Scrub Dune habitat, thereby also minimizing impacts for non-listed special-status plant species.

Special-Status Animal Species

The literature review determined that 13 special-status wildlife species may potentially occur within the BSA. Six of these species are federally and/or state-listed as endangered or threatened, of which only two species were determined to potentially occur within the BSA based on species requirement and BSA conditions. These include the desert tortoise (*Gopherus agassizii*), and Mohave ground squirrel (*Xerospermophilus mohavensis*).

No federally or state listed or special-status wildlife species were observed within the BSA during surveys conducted for the proposed project. Eleven of the 13 special-status wildlife species identified in the literature review were determined to be absent due to a lack of suitable habitat or absent during surveys. The remaining two special-status wildlife species were determined to have marginally suitable habitat present due to site disturbance.

The discussion below details survey results and the potential impacts of the proposed project to the two species federally and/or state-listed as endangered or threatened (the desert tortoise, Mohave ground squirrel), the potential for Townsend's big-eared bat is also discussed as it is listed as a California Species of Special Concern, and the three non-listed special-status species (Mohave fringe-toed lizard, burrowing owl, and golden eagle) that were determined to potentially occur within the BSA.

Desert Tortoise

Survey results for the desert tortoise revealed that habitat suitability is marginal due to disturbance and sandy soils, which are poorly suited for burrow construction. No desert tortoise or sign was documented during 2016 protocol surveys, nor is federally designated critical habitat is present within or adjacent to the BSA. Consequently, desert tortoise is not expected to occur and is considered absent from the BSA.

Because desert tortoise was not found to be present and is not expected to occur within the BSA, no desert tortoise-specific avoidance and minimization efforts are required. Measure **BIO-11** would ensure that no desert tortoise have moved into the BSA prior to the start of construction. In the unlikely event that desert tortoise is detected, then Section 7 consultation with the USFWS will occur and a consistency determination under Section 2080.1 of the California Fish and Game Code from the California Department of Fish and Wildlife (CDFW) will be requested. Appropriate avoidance and minimization measures would be developed at that time.

Mohave Ground Squirrel

Protocol surveys were conducted because the BSA is within the historical range of the Mohave ground squirrel. Existing literature suggests that wind-blown sand habitat with sparse native vegetation is unsuitable for the species and no Mohave ground squirrels were detected during the 2017 protocol surveys. Consequently, Mohave ground squirrel is considered absent from the BSA, and no impacts on this species would occur as a result of the project.

Townsend's Big-Eared Bat

A bat habitat suitability assessment revealed that suitable roosting habitat for bats is present within the Mojave River Bridge and Mojave River Overflow Bridge, the large rock outcrop on the west side of North First Avenue, and the vacant building on the corner of North First Avenue and Irwin Road. However, due to Townsend's big-eared bat's extreme sensitivity to disturbance, it is highly unlikely that this species would roost within the BSA due to frequent off-highway vehicle use and other disturbances. No evidence of bat usage was detected during the assessment; therefore, focused surveys were not conducted and the species is not expected to occur as a result of the project.

Although no bat sign was observed during surveys, bat roosts can change locations seasonally and there is a potential for bats to use the bridges, rock outcrop, and vacant building within the BSA for day and/or night roosting. Potential roosting habitat within the rock outcrop and vacant building are outside the project limits of disturbance; therefore, no direct permanent impacts would occur on any individuals potentially

roosting in these areas. If roosting bats are present within the BSA outside of the limits of disturbance, temporary indirect impacts such as noise, vibration, and dust from construction may occur. However, these impacts are expected to be greatly reduced with implementation of the avoidance and minimization measures **BIO-12** and **BIO-13** to ensure that no direct take of bat species would occur. Implementation of Measures **BIO-1** through **BIO-9** would also provide protection to potential bat habitat adjacent to the project footprint during construction.

Mohave Fringe-Toed Lizard

Suitable habitat for Mohave fringe-toed lizard is present in the BSA within the Saltbush Scrub Dune vegetation community, though habitat within the BSA is low quality due to sparse shrub cover in the area. No Mohave fringe-toed lizards were observed during the 2017 habitat assessment or protocol surveys; therefore, this species is considered absent from the BSA and the project is not expected to affect this species. No avoidance and minimization efforts are required.

Burrowing Owl

Suitable habitat for burrowing owl is present in the BSA within the Saltbush Scrub Dune, Ruderal, and Disturbed vegetation communities (Figure 2-5). Observed burrows with the potential to support burrowing owl were scattered throughout the BSA and mostly consisted of large California ground squirrel burrows. No burrowing owls or sign were observed during the 2017 habitat assessment or protocol surveys; therefore, this species is considered absent from the BSA and the project is not expected to affect this species.

Although no burrowing owls were observed within the BSA, they could subsequently inhabit the BSA in areas that were previously determined to be unoccupied. Measures **BIO-14** through **BIO-16** would ensure there is no direct mortality of any burrowing owls during construction. Implementation of Measures **BIO-1** through **BIO-9** would minimize potential impacts on burrowing owl occurring adjacent to the project limits.

Golden Eagle

Suitable foraging habitat for golden eagle is present within the BSA; no nesting habitat occurs. Due to the urban edge setting and lack of large cliffs within the BSA, there is a low but reasonable potential for very rare foraging events. Golden eagle was not observed during any of the field surveys conducted in 2016 or 2017.

The project would not substantially reduce foraging habitat for golden eagle and any other foraging species would avoid the work area during construction. Therefore, substantial impacts on this species are not anticipated. Furthermore, no golden eagle specific measures are required, as this species has only a low potential to occur as a rare forager and would be expected to avoid the area during construction activities.

b) Less than Significant with Mitigation Incorporated

Seven vegetation communities/land cover types were identified in the BSA, including saltbush scrub dune, riverwash, lycium shrubland, tamarix thicket, ruderal, disturbed, and developed (Figure 2-5). Saltbush Scrub Dune is the only one of these vegetation

communities identified as a depleted natural community and habitat of concern by CDFW. An estimated 35.33 acres of Saltbush Scrub Dune were identified and mapped during field surveys within the BSA, with 8.77 acres located within the project limits of disturbance. This community is classified as sensitive because it has restricted ranges and cumulative losses throughout the region and potentially supports a high number of endemic and/or listed sensitive plant and wildlife species. Vegetation of this type can provide potential habitat for a number of listed and special-status species, such as Lane Mountain milk-vetch, Mohave fringe-toed lizard, and Mohave ground squirrel. Focused and protocol surveys were performed in the BSA for these sensitive species, and none of these species were detected.

Table 2-2 below and Figure 2-5 present information on the vegetation community and acreages within the BSA.

Vegetation Communities	Biological Study Area (500-foot buffer)
Saltbush Scrub Dune	44.11
Riverwash	15.91
Lycium Shrubland	1.06
Tamarix Thicket	1.61
Ruderal	36.86
Disturbed	11.10
Developed	37.91
Grand Total	148.56

 Table 2-2. Vegetation Communities and Acreages within the BSA

The project would result in 1.763 acres of permanent impacts and 7.14 acres of temporary impacts on Saltbush Scrub Dune habitat through disturbance or removal of existing vegetation.

Permanent impacts would occur from construction of the new Mojave River Bridge, Mojave River Overflow Bridge, and realigned North First Avenue. Temporary direct impacts would occur from the demolition of existing streets and existing bridges, which would disturb surrounding Saltbrush Scrub Dune habitat, as well as the use of temporary construction easements for staging and storage of construction equipment.

There is also potential for temporary indirect impacts caused by construction activities (e.g., dust, increased fire risk, sedimentation, and littering) on Saltbush Scrub Dune that is adjacent to the project limits of disturbance.

Project impacts are expected to be greatly reduced with implementation of avoidance and minimization measures **BIO-1** through **BIO-10**.



N 0 300 600 Feet

Figure 2-5 Vegetation Communities North First Avenue Mojave River Bridge Replacement Project

c) No Impact

A delineation of jurisdictional waters and wetlands, plus an additional 200-foot buffer (hereafter jurisdictional study area [JSA]), was conducted in a field investigation as part of the federal and state regulatory permitting processes for the proposed project.

Three features were delineated within the JSA, all of which were earthen channels, and all three were dry at the time of the field survey. Feature 1, the Mojave River, is a naturally occurring intermittent river that may be regulated under Section 404 of the Clean Water Act (CWA) as well as Section 401 of the CWA, despite being a non-navigable water that drains to an isolated, non-navigable receiving water. Features 2 and 3 are direct tributaries to the Mojave River and may also be regulated under Sections 401 and 404 of the CWA, although Feature 3 is constructed in uplands and it is preliminarily expected that it will be deemed non-jurisdictional. All three features are anticipated to be regulated by CDFW under Section 1602 of the California Fish and Game Code.

This resulted in a JSA with a total area of 68.4 acres. Of this land, 6.38 acres (1,795 linear feet) are non-wetland waters of the U.S./waters of the State (WoUS/WoS). Approximately 7.70 acres (1,857 linear feet) of unvegetated streambed, which is subject to CDFW jurisdiction, was observed within the JSA. See Table 2-3 for more information on the potential U.S. Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB), and CDFW jurisdiction.

Feature	Potential Non- wetland WoUS/WoS (acres)	Potential Wetland WoUS/WoS (acres)	Potential WoUS/WoS (Linear feet)	CDFW Unvegetated Streambed (acres)	CDFW Riparian (acres)	CDFW (linear feet)
Feature 1	6.11		880	6.83	—	950
Feature 2	0.18		706	0.70	—	698
Feature 3*	0.09*	_	209*	0.17	—	209
Total	6.38	_	1,795	7.70	—	1,857
* Indicates features that are not expected to be CWA jurisdictional. Final CWA jurisdictional status will be determined by USACE through an Approved Jurisdictional Determination.						

 Table 2-3. Summary of Potential USACE, RWQCB, and CDFW Jurisdiction

See Figures 2-6a and 2-6b for more information on the potential USACE, RWQCB, and CDFW jurisdiction.





Figure 2-6a USACE/RWQCB Aquatic Resources Potential Impacts North First Avenue Mojave River Bridge Replacement Project





 North First Avenue Mojave River Bridge Replacement Project
Jurisdicional Delineation Study Area (200-foot buffer)
CDFW Jurisdiction
Permanent Impacts
Abutments
Bents
Project Layout
Temporary Impacts
Existing Bridge
Existing Street
New Bridge
Temporary Construction Easement

Figure 2-6b CDFW Aquatic Resources Potential Impacts North First Avenue Mojave River Bridge Replacement Project

No dominance of hydrophytic vegetation was present during the time of the field survey; therefore, no USACE-defined wetlands were present. There will be no substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA, including, but not limited to, marsh, vernal pool, coastal, etc., through direct removal, filling, hydrological interruption, or other means. Therefore, no impacts are expected and mitigation is not required. The final CWA jurisdictional determination will be made by USACE.

Tables 2-4a and 2-4b below summarize potential impacts on non-wetland USACE, RWQCB, and CDFW jurisdictional features.

	Permanent I	mpacts (acres)	Temporary Impacts (acres)		
reature ID	Wetland	Non-wetland	Wetland	Non-wetland	
Feature 1	-	0.004	-	2.626	
Feature 2	-	-	-	0.078	
Feature 3	_	_	-	_	
Total	-	0.004	-	2.704	

Table 2-4a. Impacts on Potential USACE and RWQCB Jurisdiction

	Permanent I	mpacts (acres)	Temporary Impacts (acres)		
Feature ID	Riparian	Unvegetated Streambed	Riparian	Unvegetated Streambed	
Feature 1	-	0.004	-	2.911	
Feature 2	-	_	-	0.272	
Feature 3	-	_	-	-	
Total	_	0.004	_	3.183	

Table 2-4b. Impacts on Potential CDFW Jurisdiction

Measures **BIO-23** and **BIO-24** would be incorporated to avoid and minimize effects on WoUS and WoS. No coordination with the agencies has occurred to date; however, agency coordination will occur during the permitting phase. The JD will be submitted to USACE, RWQCB, and CDFW to support obtaining a Nationwide 404 permit, 401 water quality certification, and Lake and Streambed Alteration Agreement, respectively. Additional avoidance, minimization, and/or mitigation measures may be required by the respective agencies as part of the regulatory permitting approval process.

d) Less than Significant with Mitigation Incorporated

The Mojave River and Mojave River Overflow washes serve as wildlife movement corridors that provide seasonal water and connections to open space in the surrounding region. Species that typically utilize wildlife corridors in the BSA are small-to medium-sized mammals such as coyote, opossum, raccoon, skunk, and mule deer.

The project would not permanently affect existing wildlife movement. Although bridge support structures are to be built within the Mojave River wash and Mojave River

Overflow wash, wildlife passages would not be permanently reduced or eliminated by the project. The bridge columns would not create barriers that would prevent or impede wildlife movement and the temporary falsework erected during construction would not result in an impenetrable barrier. The project would not fragment these habitats or corridors in the BSA and would not preclude any movement or dispersal of species or connectivity of habitat in and around the BSA. However, the project could temporarily affect wildlife corridors during construction due to the increased presence of equipment, structures, construction disturbance, and construction personnel. Temporary construction activities would increase disturbance in the area, which may temporarily deter wildlife movement. However, avoidance and minimization efforts **BIO-18** through **BIO-22** would be implemented to ensure that temporary impacts of project construction on wildlife passage are minimized and/or avoided.

e) No Impact

The proposed project would not conflict with any local policies or ordinances protecting biological resources.

f) No Impact

The City of Barstow General Plan has an Open Space/Resource Conservation land use designation as well as an Interim Open Space/Resource Conservation designation that sets aside specific sites for permanent open space while ensuring that others are developed at a future date when services can be extended to them in a timely, cost-effect and less environmentally intrusive manner. The proposed project area has not been designated as an Interim Open Space/Resource Conservation area. As such, the project would not be in conflict with any applicable conservation plans.

2.5.2 Avoidance, Minimization, and/or Mitigation Measures

The following avoidance and minimization measures will be implemented to avoid or minimize potential impacts:

BIO-1: Prior to clearing or construction, highly visible barriers (such as orange construction fencing) will be installed around Saltbush Scrub Dune adjacent to the limits of disturbance to designate environmentally sensitive areas (ESAs) to be preserved. No grading or fill activity of any type will be permitted within these ESAs. In addition, no construction activities, materials, or equipment will be allowed within the ESAs. All construction equipment will be operated in a manner to prevent accidental damage to nearby preserved areas. Silt fence barriers will be installed at the ESA boundary to prevent accidental deposition of fill material in areas where vegetation is immediately adjacent to planned grading activities.

- **BIO-2**: All equipment maintenance, staging, and dispensing of fuel, oil, or any other such activities will occur in developed or designated non-sensitive upland habitat areas. The designated upland areas will be located to prevent runoff from any spills from entering WoUS.
- **BIO-3**: A construction Storm Water Pollution Prevention Plan (SWPPP) and a soil erosion and sedimentation plan will be developed to minimize erosion and identify specific pollution prevention measures that will eliminate or control potential point and nonpoint pollution sources on-site during and following the project construction phase. The SWPPP will identify specific best management practices (BMPs) to be implemented during project construction to avoid causing or contributing to any water quality standard exceedances. In addition, the SWPPP will contain provisions for changes to the plan such as alternative mechanisms, if necessary, during project design and/or construction to achieve the stated goals and performance standards.
- **BIO-4**: A biologist will monitor construction within the vicinity of Saltbush Scrub Dune areas prior to and during vegetation removal to flush any wildlife species present and to ensure that vegetation removal, BMPs, ESAs, and all avoidance and minimization measures are properly implemented.
- **BIO-5**: Fire suppression capability, including extinguishers, shovels, and water tankers, will be available on-site whenever construction occurs during the fire season (as determined by the San Bernardino County fire department). Activities that may produce sparks, including welding or grinding, will use protective gear to reduce fire risks, such as shields and protective mats.
- **BIO-6**: Dust control measures will be implemented by the contractor to reduce excessive dust emissions. Dust control measures will be carried out at least two times per day on all construction days, or more during windy or dry periods, and may include wetting work areas, using soil binders on dirt roads, and wetting or covering stockpiles.
- **BIO-7**: Any exotic species that are removed during construction will be properly handled to prevent sprouting or regrowth. This means that care will be taken to not spread exotic plant seeds during plant removal and that plants will be removed prior to flowering, if feasible.
- **BIO-8**: Construction equipment will be cleaned of mud or other debris that may contain invasive plants and/or seeds and inspected to reduce the potential of spreading noxious weeds before mobilizing to the site and before leaving the site during the course of construction. Cleaning of equipment will occur at least 100 feet from ESA fencing in a designated area.
- **BIO-9**: Trucks carrying loads of vegetation that will be removed from the project footprint will be covered and disposed of in accordance with applicable laws and regulations.
- **BIO-10:** The resource agencies shall have the right to access and inspect the project site to ensure compliance with project approval conditions, including BMPs.

- **BIO-11**: A general pre-construction survey for special-status species, including desert tortoise, will be conducted prior to the start of construction activities.
- **BIO-12**: To prevent impacts on potential bat roosts, including maternity roosts, a qualified bat biologist will be retained to conduct bat and bat roosting site surveys between May 1 and July 30 prior to commencement of construction activities. This pre-construction survey will be conducted at the bridges, rock outcrop, and vacant building illustrated on Figure 11 of the NES. The survey must occur during maternity season to confirm whether Townsend's big-eared bat is present. If roosting sites or bats are not found, a report confirming their absence will be sent to CDFW, and no further action will be required.

If the pre-construction survey finds bats to be present, a Bat Mitigation Plan will be developed (see Measure **BIO-13**). If a Townsend's big-eared bat maternity roost is found in the rock outcrop or vacant building, no construction work within a 250-foot-wide buffer zone (or an alternative width, as determined by the designated biologist in consultation with CDFW) will occur between April 1 and September 30. The rock outcrop and building occur outside the project limits of disturbance but well within the range of adversely affecting this species, if a maternity roost is present.

- **BIO-13**: If the pre-construction survey finds bats to be present, a Bat Mitigation Plan will be developed to ensure mortality of bats does not occur. The following items will be included in the plan, at a minimum:
 - 1. For each location confirmed to be occupied by bats, the plan will provide details both in text and graphics where exclusion devices will need to be placed, type(s) of exclusion material to be used, the timing for exclusion work, and the timeline and methodology needed to exclude the bats.
 - 2. Monitoring activities and schedule will be included, including frequency of monitoring, which structures would need to be monitored, and reporting requirements.
 - 3. The plan will be reviewed and approved by CDFW.
- **BIO-14**: To determine if burrowing owls are occupying the project limits or adjacent areas prior to construction, a take avoidance survey following CDFW protocol (2012) will be conducted no more than 14 days prior to initiating ground disturbance activities. In addition, any time lapses between project activities will trigger subsequent take avoidance surveys. The survey will be conducted from civil twilight to 10 a.m. or 2 hours before sunset until evening civil twilight within areas providing suitable habitat for burrowing owl. The survey will include the proposed project limits and a 300-foot buffer if performed between February 15 and August 31 (nesting season) and a 100-foot buffer if conducted outside of the nesting season. If burrowing owls are present within 300 feet of project activities during the breeding season or within 100 feet of project activities outside of the nesting season, Measure **BIO-15** or **BIO-16** will be implemented, as applicable.
- **BIO-15:** If burrowing owls are found during pre-construction take avoidance surveys (Measure **BIO-14**) during the nesting season, the burrowing owls will be fully avoided by establishing an appropriate buffer in coordination with CDFW.
- **BIO-16:** If burrowing owls are found during pre-construction take avoidance surveys (Measure **BIO-14**) outside of the nesting season, passive relocation by a qualified avian biologist will be conducted once it has been confirmed that pairing activities have not begun. Passive relocation efforts will be conducted in coordination with CDFW. If the burrowing owl is found to be paired and exhibiting potential nesting behavior, construction disturbance will not occur within a designated buffer determined in coordination with CDFW of the active burrow(s) until it is confirmed by the avian biologist that the pair is not nesting and that young are not present, or if present are independently foraging.
- **BIO-17**: If construction commences during the bird breeding season (February 15 through August 31), a pre-construction survey for nesting birds will occur within 3 days prior to construction activities by an experienced avian biologist. The survey will occur within all suitable nesting habitat within the project impact area and a 300-foot buffer. If nesting birds are found, an avoidance area will be established in consultation with the resource agencies as appropriate by a qualified biologist around the nest until a qualified avian biologist has determined that young have fledged or nesting activities have ceased. The project site will need to be re-surveyed if there is a lapse in construction activities for more than 7 days during the bird breeding season.
- **BIO-18**: Access and disturbance within the wildlife corridors should be kept to a minimum during evening and nighttime hours.
- **BIO-19**: To the maximum extent feasible, the corridors will not be fully blocked by equipment or structures that could potentially serve as barriers to wildlife passage.
- **BIO-20**: Equipment maintenance, lighting, and staging will occur only in designated areas, and will not block or impede movement through wildlife corridors.
- **BIO-21**: Nighttime construction activities, if any, will use shielded lighting to prevent spillover into the corridor. Security lights on vehicles utilized in the Mojave River and Mojave River Overflow will not be left on overnight.
- **BIO-22**: Speed limits will be reduced to 5 miles per hour during any nighttime construction that occurs within wildlife corridors.
- **BIO-23:** To mitigate effects on jurisdictional areas, a compensatory mitigation plan will be developed during the permitting phase.
- **BIO-24:** Permanent impacts on non-wetland waters will be mitigated off-site at a minimum 2:1 ratio through an approved in-lieu fee program or other agency-approved mitigation bank/mitigation program.

2.6 Cultural and Paleontological Resources

Would the project:	Significant and Unavoidable Impact	Less than Significant with Mitigation Incorporated	Less- than- Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?			\square	
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?		\square		
c) Disturb any human remains, including those interred outside of dedicated cemeteries?				\boxtimes

2.6.1 CEQA Significance Determinations for Cultural Resources

Information used in this section is based on the *Historic Property Survey Report* (February 2020), *Historic Resource Evaluation Report and Archaeological Evaluation Report* (February 2020), *ESA Action Plan* (February 2020), and *Archaeological Survey Report* (February 2020) prepared for the proposed project.

a) Less-than-Significant Impact

As detailed in the *Historical Resources Evaluation Report* (HRER) and *Archaeological Evaluation Report* (AER), a total of 10 cultural resources were identified or evaluated, pursuant to CEQA Guidelines Section15064.5(b)(3). This includes:

- One resource previously listed on the National Register of Historic Places (NRHP): Harvey House Railroad Depot (P-36-015019)
- Seven resources required evaluation: North First Avenue (US Route 91/US Route 466/P-36-026534), Irwin Road (CA-SBR-4525H/P-36-004525), Mojave River Bridge (Bridge No. 54C0089), Buzzard's Rock/Jack's Texaco and Café (P-36-000091/CA-SBR-91/H), P-36-031396 (Large Refuse Scatter), P-36-031397 (Small Refuse Scatter), and P-36-031398 (Refuse Scatter and Old Foundations).
- Two resources previously determined not eligible, and that determination remains valid: Barstow Santa Fe Rail Yard and Mojave River Overflow (Bridge No. 54C0090).

The Harvey House Railroad Depot (P-36-015019) remains listed upon the NRHP. The resource is therefore historic property relative to Section 106 of the National Historic Preservation Act pursuant to 36 CFR Part 800, and is a historical resource pursuant to CEQA Section 15064.5. Of those newly evaluated, Buzzard's Rock, prehistoric component only (CA-SBR-91/H/P-36-000091) is determined eligible for the NRHP and has previously been placed on the California Register of Historical Resources (CRHR) pursuant to CEQA Section 15064.5.

Buzzard's Rock/Jack's Texaco and Café (CA-SBR-91/H/P-36-00009) is a multicomponent site. The prehistoric Buzzard's Rock component has been previously recorded and consists of petroglyphs and rock shelters located on the western face of the large rock knoll located on the north bank of the Mojave River. Buzzard's Rock is listed as a California Point of Historical Interest and recognized as a listed historical resource for the purposes of CEQA. The Jack's Texaco and Café historical component is the site of a service station, trailer court, and café on land abutting Buzzard's Rock. The resource was evaluated and found eligible for the NRHP. The Buzzard's Rock prehistoric component contributes to the eligibility of the site; the Jack's Texaco and Café component was found to be non-contributing to the site's eligibility, either individually or as a contributor to Buzzard's Rock.

b) Less than Significant with Mitigation Incorporated

An Archaeological Survey Report (ASR) was prepared for the proposed project and included a review of all available cultural resources surveys and excavation reports as well as site records within a 1-mile radius of the APE. In addition, the National Register of Historic Places and documents and inventories from the California Office of Historic Preservation including the lists of California Historical Landmarks, California Points of Historical Interest, Listing of National Register Properties, and Inventory of Historic Structures were consulted. The results of the records search indicated that ten resources are located within 1 miles of the APE, with four crossing the project APE, and six outside the APE.

The Native American Heritage Commission (NAHC) was also contacted regarding the project on January 30, 2017. The NAHC responded on February 2, 2017, and stated that a search of its Sacred Lands Database did not yield any sacred lands or traditional cultural properties within the project area. Based on the NAHC response letter, outreach letters and maps were sent to two Native American groups on June 15, 2017 to the Twenty-Nine Palms Band of Mission Indians and the San Manuel Band of Mission Indians. The Twenty-Nine Palms Band of Mission Indians responded by phone and email and indicated they were not aware of any additional cultural resources, but advised that the project is near the Chemehuevi Traditional Use Area. The San Manuel Band of Mission Indians responded by stating the project area exists within the Serrano ancestral territory and is of interest to the San Manuel Band of Mission Indians. The proximity of the project to the Mojave River and Buzzard's Rock was also a concern to the tribe. As such, the San Manuel Band of Missions Indians requested consultation with the City of Barstow, pursuant to CEQA. On November 13, 2018, as required by CEQA and specifically PRC Section 21080.3.1 and Chapter 532 Statutes of 2014 (i.e., AB 52), the City contacted the San Manuel Band of Mission Indians. Ongoing consultation continued and a copy of the approved cultural resources report was emailed to the San Manuel Band of Mission Indians representative on March 4, 2020. A response was received on April 9, 2020 and April 30, 2020 from the San Manuel Band of Mission Indians regarding specific mitigation and monitoring measures. Measures CUL-1 to CUL-3, TCR-1 to TCR-4 will be implemented in response to AB 52 coordination that has occurred with the San Manuel Band of Mission Indians. The City of Barstow concluded AB 52 consultation with the San Manuel Band of Mission Indians on May 5, 2020.

As a result of the records search and field survey, four previously recorded built environment resources were observed within the APE: Harvey House Railroad Depot (P-36-15015), North First Avenue (P-36-026534), Irwin Road (P-36-004525), and the Mojave River Bridge (Bridge No. 53C0089). Two cultural resources were relocated and updated P-36-000091 (CA-SBR-91) a multicomponent archaeological site, and the Barstow Santa Fe Rail Yard. Four newly identified archaeological resources were also identified during the surveys: P-36-031396 (Large Refuse Scatter), P-36-031397 (Small Refuse Scatter), P-36-031398 (Refuse Scatter and Old Foundations), and P-36-031399 (Isolated Cottonwood Series Projectile Point).

Buzzard's Rock was first recorded in 1939 as a small intrusive dacite knoll containing two small shelter caves and various petrophyphs on the upstream sides of the knoll. This site was revisited and updated during the current survey effort, and included within the APE boundary. The recorded petroglyphs and shelter caves were observed on the west site. As these cultural features are away from the proposed project area, this portion of the site will not be affected by the project. The site is a point of Historical Interest and is potentially eligible for the NRHP, but its associated prehistoric features are located a safe distance from proposed construction activities and will not be affected by the project.

The Barstow Santa Fe Rail Yard is a multi-acre rail facility originally constructed in 1885 and serves as a rail year and rail related storage facility. The rail yard has had a substantial addition to the west of Barstow Hill during the timeframe of 1973-1976. A centrifugal pump feature was identified within the boundaries of the Barstow Santa Fe Rail Yard north of an Atchison Topeka and Santa Fe Railway unused spur of the railroad line, south of Riverside Drive, and east of the Harvey House Railroad Depot. This pump was most likely used for hot oil for the nearby railroad. The pump, which did not appear to have functioned for a long time, is in poor condition and many of its accompanying parts have been stripped or altered and the feature no longer extends to the railroad itself. The Barstow Santa Fe Rail Yard itself has been previously evaluated as not being a significant historical cultural resource and was recommended as ineligible for the NRHP or the CRHR under any criterion. The pump identified during the survey does not contribute any potential significant to the Barstow Santa Fe Rail Yard due to its lack of integrity and poor condition.

The resource P-36-031399 (Isolated Cottonwood Series Projectile Point) consists of an isolated white grey chert Cottonwood projectile point. It was observed just to the north of the Mojave River on a raised bank. The area has been severely affected by flooding from the Mojave River, off-road vehicular traffic, historical and modern refuse, and alluvial erosion. No evaluation is recommended pursuant to PA Stipulation VIII.C.1.

The resources P-36-031396, P-36-031397, and P-36-031398 are all historical refuse scatters adjacent to existing roads. The scatters were determined not eligible for the NRHP, either individually or as contributing resources to a larger historic district.

Ground disturbance from previous developments, especially related to the construction of the existing North First Avenue and Harvey House Railroad Depot, have likely affected previous cultural resources. There is always the possibility that

buried cultural deposits could be preserved in the APE beneath the limits of disturbance. The project area and surrounding areas have most likely been affected by natural erosion from frequent flooding activities experienced in the area. The project location is subject to infrequent but intense periods of high-energy flooding that scours and redeposits soil within the river and surrounding floodplain. The scouring is exacerbated by the presence of Buzzard's Rock, which splits the flow and increases velocity and further scouring action in the immediate surrounding area. Human activity, including grading and off-road vehicle use have further degraded and disturbed the soils in the area. Maintenance activities related to the Mojave River's banks and flood control construction have all resulted in the project location being very disturbed. Subsurface grading activities for the proposed project have low potential to encounter previously unidentified potentially significant archaeological resources within the river and area immediately surrounding Buzzard's Rock in the riverbed.

Implementation of **CR-1** will minimize potential cultural resources impacts.

c) No Impact

Based on the results of the cultural resource record searches, surveys, and Native American Consultation detailed in the ASR, there are no human remains within the project APE that would be affected by the proposed project. If human remains are discovered, the provisions of **CR-2** below will be followed.

2.6.2 Avoidance, Minimization, and/or Mitigation Measures

The following avoidance and minimization measures will be implemented to avoid or minimize potential impacts:

- **CR-1:** Based on the City of Barstow General Plan, 2015-2020 Resource Conservation and Open Space Element, the following procedures will be adhered to by all projects which grade or disturb soil in the city of Barstow:
 - If human remains are encountered during grading and other construction excavation, work in the immediate vicinity shall cease and the County Coroner shall be contacted pursuant to State Health and Safety Code Section 7050.5.
 - In the event that Native American cultural resources are discovered during project development/construction, all work in the immediate vicinity of the find shall cease and a qualified archaeologist meeting Secretary of Interior standards shall be hired to assess the find. Work on the overall project may continue during this assessment period.
 - If significant Native American cultural resources are discovered, for which a Treatment Plan must be prepared, the developer or his archaeologist shall contact the Morongo Band of Mission Indians.
 - If requested by the tribe, the developer or the project archaeologist shall, in good faith, consult on the discovery and its disposition (e.g., avoidance, preservation, return of artifacts to tribe, etc.).

- **CR-2:** If human remains are discovered, State Health and Safety Code Section 7050.5 states that further disturbances and activities shall stop in any area or nearby area that is suspected to overlie remains, and the County Coroner shall be contacted. Pursuant to California Public Resources Code Section 5097.98, if the remains are thought to be Native American, the coroner will notify the Native American Heritage Commission, who will then notify the Most Likely Descendent. At that time, the person who discovered the remains will contact the City of Barstow Planning Department at (760) 255-5153 so that they can work with the Most Likely Descendent regarding the respectful treatment and disposition of the remains. Further provisions of Public Resources Code 5097.98 are to be followed as applicable.
- CUL-1: Due to the heightened cultural sensitivity of the proposed project area, an archaeological monitor with at least 3 years of regional experience in archaeology shall be present for all ground-disturbing activities that occur within areas that have moderate potential for potentially significant prehistoric cultural resources, as identified in the Environmentally Sensitive Area (ESA) Action Plan as the Archaeological Monitoring Area. Ground-disturbing activities include, but are not limited to, tree/shrub removal and planting, clearing/grubbing, grading, excavation, trenching, compaction, fence/gate removal and installation, drainage and irrigation removal and installation, hardscape installation, and archaeological work). A sufficient number of archaeological monitors shall be present each work day to ensure that simultaneously occurring ground disturbing activities receive thorough levels of monitoring coverage. This shall include one monitor per work crew conducting ground disturbance when crews are more 50 meters apart. If ground disturbing occurs with more than one crew less than 50 meters apart and the monitor can adequately cover both activities, then this will be the approach. A Monitoring and Discovery Plan (MDP) that is reflective of the project mitigation ("Cultural Resources" and "Tribal Cultural Resources") shall be completed by the archaeologist and submitted to the Lead Agency for dissemination to the San Manuel Band of Mission Indians Cultural Resources Department (SMBMI). Once all parties review and approve the plan, it shall be adopted by the Lead Agency – the plan must be adopted prior to construction of the project. If there are any disagreements between parties regarding the content of MDP, the Lead Agency has the authority to make final determinations. Any and all findings will be subject to the protocol detailed within the MDP. The MDP will also demarcate the areas of the project that will be subject to archaeological and tribal monitoring (see TCR-1).
- **CUL-2:** Applicant is required to contact the Lead Archaeologist at least 5 business days in advance of ground-disturbing activities within culturally-sensitive areas to ascertain monitor availability. If the Applicant fails to give sufficient notice to Lead Archaeologist, or if it is discovered that ground-disturbing activities occurred within culturally-sensitive areas without the presence of archaeological and tribal monitors, then a non-compliance report will be submitted to the City and appropriate action or mitigation taken at the City's discretion.

- **CUL-3:** The entirety of the Buzzard Rock archaeological site shall be fenced off and avoided by all construction personnel and activities, including ground-disturbance, vehicular activity, and equipment staging. An archaeological monitor will conduct bi-weekly (twice a month) checks of the Buzzard Rock fencing, even during periods of time for which archaeological and tribal monitoring does not occur, until the project is complete. Upon completion of the project, the Applicant is responsible for removing any protective fencing from the site.
- TCR-1: Due to the heightened cultural sensitivity of the proposed project area, a San Manuel Band of Mission Indians (SMBMI) monitor shall be present for all ground-disturbing activities that occur within areas that have moderate potential for potentially significant prehistoric cultural resources, as identified in the Environmentally Sensitive Area (ESA) Action Plan as the Archaeological Monitoring Area. Ground-disturbing activities include, but are not limited to, tree/shrub removal and planting, clearing/grubbing, grading, excavation, trenching, compaction, fence/gate removal and installation, drainage and irrigation removal and installation, hardscape installation, and archaeological work). A sufficient number of Tribal monitors shall be present each work day to ensure that simultaneously occurring ground disturbing activities receive thorough levels of monitoring coverage. This shall include one monitor per work crew conducting ground disturbance when crews are more the 50 meters apart. If ground disturbing occurs with more than one crew less than 50 meters apart and the monitor can reasonably cover both activities, then this will be the approach. A Monitoring and Discovery Plan that is reflective of the project mitigation ("Cultural Resources" and "Tribal Cultural Resources") shall be completed by the archaeologist, as detailed within CUL-1, and submitted to the Lead Agency for dissemination to the San Manuel Band of Mission Indians Cultural Resources Department (SMBMI). Once all parties review and agree to the plan, it shall be adopted by the Lead Agency - the plan must be adopted prior to construction of the project. Any and all findings will be subject to the protocol detailed within the Monitoring and Discovery Plan.
- **TCR-2:** The Lead Archaeologist/Applicant is required to contact the San Manuel Band of Mission Indians Cultural Resources Department (SMBMI) at least 5 business days in advance of ground-disturbing activities within the Archaeological Monitoring Area to ascertain Tribal monitor availability. If the Lead Archaeologist/Applicant fails to give sufficient notice to SMBMI, or if it is discovered that ground-disturbing activities occurred within culturally-sensitive areas without the presence of archaeological and tribal monitors, then a noncompliance report will be submitted to the City and appropriate action or mitigation taken at the City's discretion.
- **TCR-3:** If a pre-contact archaeological site or feature is discovered during project implementation, ground disturbing activities shall be suspended 50 feet around the resource(s) and an Environmentally Sensitive Area (ESA) physical demarcation/barrier constructed. If a cultural resource is identified as an isolated artifact it will not require the establishment of an ESA.

A research design shall be developed by the archaeologist that shall include a plan to evaluate the resource for significance under CEQA criteria. Representatives from the San Manuel Band of Mission Indians Cultural Resources Department (SMBMI), the archaeologist/applicant, and the Lead Agency shall confer regarding the research design, as well as any testing efforts needed to delineate the resource boundary. Following the completion of evaluation efforts, all parties shall confer regarding the archaeological significance of the resource, its potential as a Tribal Cultural Resource (TCR), and avoidance (or other appropriate treatment) of the discovered resource.

Should any significant resource and/or TCR not be a candidate for avoidance or preservation in place, and the removal of the resource(s) is necessary to mitigate impacts, the research design shall include a comprehensive discussion of sampling strategies, resource processing, analysis, and reporting protocols/obligations. Removal of any cultural resource(s) shall be conducted with the presence of a Tribal monitor representing the tribe, unless otherwise decided by SMBMI. All plans for analysis shall be reviewed and approved by the applicant and SMBMI prior to implementation, and all removed material shall be temporarily curated on-site. If there are any disagreements between parties on this matter, the Lead Agency has the authority to make final determinations. It is the preference of SMBMI that removed cultural material be reburied as close to the original find location as possible. However, should reburial within/near the original find location during project implementation not be feasible, then a reburial location for future reburial shall be decided upon by the City in consultation with SMBMI, and the landowner, and all finds shall be reburied within this location. Additionally, in this case, reburial shall not occur until all ground-disturbing activities associated with the project have been completed, all monitoring has ceased, all cataloging and basic recordation of cultural resources have been completed, and a final monitoring report has been issued to Lead Agency, CHRIS, and SMBMI. All reburials are subject to a reburial agreement that shall be developed between the landowner and SMBMI outlining the determined reburial process/location, and shall include measures and provisions to protect the reburial area from any future impacts (vis a vis project plans, conservation/preservation easements, etc.).

Should it occur that avoidance, preservation in place, and on-site reburial are not an option for treatment, the landowner shall relinquish all ownership and rights to this material and confer with the City and SMBMI to identify an American Association of Museums– (AAM-) accredited facility or other curation facility meeting federal standards, within the County that can accession the materials into their permanent collections and provide for the proper care of these objects in accordance with the 1993 CA Curation Guidelines. A curation agreement with an appropriate qualified repository shall be developed between the landowner and museum that legally and physically transfers the collections and associated records to the facility.

This agreement shall stipulate the payment of fees necessary for permanent curation of the collections and associated records and the obligation of the Project developer/applicant to pay for those fees.

All draft records/reports containing the significance and treatment findings and data recovery results shall be prepared by the archaeologist and submitted to the Lead Agency and SMBMI for their review and comment. After review and approval from all parties, the final reports and site/isolate records are to be submitted to the local CHRIS Information Center, the Lead Agency, and SMBMI. If there are any disagreements between parties regarding this content, the Lead Agency has the authority to make final determinations.

TCR-4: Inadvertent Discoveries of Human Remains/Funerary Objects

In the event that any human remains are discovered within the project area, ground-disturbing activities shall be suspended 100 feet around the resource(s) and an Environmentally Sensitive Area (ESA) physical demarcation/barrier constructed. The on-site lead/foreman shall then immediately notify the City of Barstow. The City of Barstow will then notify SMBMI. The City and the applicant/developer shall then immediately contact the County Coroner regarding the discovery. If the Coroner recognizes the human remains to be those of a Native American, or has reason to believe that they are those of a Native American, the Coroner shall ensure that notification is provided to the NAHC within twenty-four (24) hours of the determination, as required by California Health and Safety Code Section 7050.5 (c). The NAHC-identified Most Likely Descendant (MLD), shall be allowed, under California Public Resources Code Section 5097.98 (a), to (1) inspect the site of the discovery and (2) make determinations as to how the human remains and funerary objects shall be treated and disposed of with appropriate dignity. The MLD, Lead Agency, and landowner agree to discuss in good faith what constitutes "appropriate dignity" as that term is used in the applicable statutes. The MLD shall complete its inspection and make recommendations within forty-eight (48) hours of the site visit, as required by California Public Resources Code Section 5097.98.

Reburial of human remains and/or funerary objects (those artifacts associated with any human remains or funerary rites) shall be accomplished in compliance with the California Public Resources Code Section 5097.98 (a) and (b). The MLD in consultation with the landowner, shall make the final discretionary determination regarding the appropriate disposition and treatment of human remains and funerary objects. All parties are aware that the MLD may wish to rebury the human remains and associated funerary objects on or near the site of their discovery, in an area that shall not be subject to future subsurface disturbances. The applicant/developer/ landowner should accommodate on-site reburial in a location mutually agreed upon by the Parties. It is understood by all Parties that unless otherwise required by law, the site of any reburial of Native American human remains or cultural artifacts shall not be disclosed and shall not be governed by public disclosure requirements of the California Public Records Act. The coroner, parties, and the City of Barstow will be asked to withhold public disclosure information related to such reburial, pursuant to the specific exemption set forth in California Government Code Section 6254(r).

2.7 Energy

Would the project:	Significant and Unavoidable Impact	Less than Significant with Mitigation Incorporated	Less- than- Significant Impact	No Impact
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?			\square	
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?			\square	

2.7.1 CEQA Significant Determination for Energy

a), b) Less-than-Significant Impact

The proposed project would not result in potentially significant environmental impacts from wasteful, inefficient, or unnecessary consumption of energy resources, during construction or operation. As indicated in the 2015–2020 City of Barstow General Plan, Resource Conservation and Open Space Element, the City of Barstow, as with all municipalities in California, is required, in accordance with the California Waste Management Act (AB 939), to reduce the amount of waste that is transported to landfills by half, as of 2000. The City of Barstow's recycling programs comply with AB 939, and the proposed project would comply with all applicable regulations regarding energy resources.

2.8 Geology and Soils

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

2.8.1 CEQA Significance Determinations for Geology and Soils

The information used in this section is from the *Preliminary Foundation Report* (July 2016) prepared for this project.

a. i) Less-than-Significant Impact

The closet known fault is the Gravel Hills-Harper Lake fault located about 1.9 miles northeast of the site. The site is not located in an Alquist-Priolo Earthquake Fault Zone, and there are no un-zoned faults Holocene or younger than underlie or project towards the site. Therefore, the potential to expose people or structures to adverse effects from ground rupture due to on-site active faulting is considered to be low, and less than significant.

a. ii) Less-than-Significant Impact

The project area is within a seismically active region of southern California and would therefore experience the effects of seismic ground shaking. Through the incorporation of current standard seismic design practices, the proposed project would result in a less-than-significant impact.

a. iii) No Impact

Liquefaction occurs when loose, saturated, generally fine sands and silts are subjected to strong ground shaking. Based on prior log of test borings (LOTB) prepared in 1994 for the replacement of the North First Avenue Bridge located about 1,000 feet to the southeast, the alluvial deposits are expected to generally consist of medium dense to very dense sands and silts and very stiff sandy clay with varying amounts of gravel. Accordingly, the potential for liquefaction to occur within these deposits is anticipated to be low. Liquefaction potential of the underlying granitic rock is negligible. As concluded in the Preliminary Foundation Report, site specific liquefaction analysis and recommended mitigation measures, if needed, will be developed and presented after borings and cone penetration tests (CPTs) are performed during PS&E.

a.iv) No Impact

The project area is relatively flat and is not considered susceptible to landslides. There would be no impact.

b) Less than Significant with Mitigation Incorporated

The proposed project would involve clearing, grubbing, and soil disturbance activities. As a result, soil could be exposed to rain and wind, potentially causing accelerated soil erosion and loss of topsoil from the project site. Grading and construction activities could result in soil erosion if effective erosion control measures are not utilized. BMPs for erosion control are required under the National Pollutant Discharge Elimination System (NPDES) regulations pursuant to the Federal CWA. Federal and state jurisdictions require that an approved SWPPP be prepared for projects that involve greater than one acre of disturbance. The proposed project would result in land being cleared and grubbed, potentially causing accelerated erosion and loss of topsoil from the project site. A SWPPP specifies BMPs that would minimize erosion and keep all products of erosion from moving

off-site into receiving waters. Earthwork in the project area would be performed in accordance with the project SWPPP, thereby minimizing impacts to less-than-significant levels under the proposed project.

Measures **WQ-1** through **WQ-5** would be implemented to minimize soil erosion. With mitigation measures incorporated impacts would be less than significant.

c) No Impact

The project would not be located on a geologic unit that is unstable or that would become unstable as a result of the project. As discussed above under Responses (a.iii) and (a.iv), the project is in an area that has low potential for liquefaction and subsidence and low probability of a landslide due to its relatively flat terrain. Since the potential for liquefaction is low, the potential for lateral spreading and other secondary effects, such as seismic-induced settlement and collapse, is also low. Therefore, there would be no impact as a result of unstable geologic units.

d) Less than Significant with Mitigation

Based on the Preliminary Foundation Report, the site geology consists of river channel and alluvial deposits underlain by igneous rock mapped as dacite. Igneous rock outcrops are present east and west of the anticipated bridge locations. The river channel deposits are expected to generally be loose to medium dense sands. Alluvial deposits are expected to generally consist of medium dense to very dense sands and silts and very stiff sandy clay with varying amounts of gravel. The igneous rock is expected to be very dense and variably weathered. Groundwater was encountered at depths between approximately 33 and 48 feet below the existing ground surface. Historic groundwater data from wells in the vicinity of the site indicate groundwater depths between about 20 and 60 feet below the exiting ground surface. Due to the anticipated deep alluvium and scour potential, deep foundations were recommended and 4-foot-, 6-foot-, and 8-foot-diameter CIDH concrete piles, driven 14-inch precast pre-stressed concrete piles and driven 10-inch and 14-inch steel H piles would be considered for the project. With implementation of GEO-1 which would require a sitespecific geotechnical investigation including subsurface exploration be performed during the plans, specifications, and estimate (PS&E) phase of work, impacts are anticipated to be less than significant.

e) No Impact

The proposed project would replace the existing bridges with new ones and would not require septic tanks or water disposal systems.

f) Less than Significant with Mitigation

Buzzard's Rock is located on the north bank of the Mojave River and is a very prominent geologic feature in the surrounding valley. Buzzard's Rock has several petroglyphs on the western face at varying heights. The designs are abstract/geometric in style and most likely related to the use of the Mojave Trail. The cultural features of Buzzard's Rock are located away from the proposed project area, and this portion of the site will not be affected by the current project. Furthermore, ground disturbances from previous development, especially the construction of the existing North First Avenue and Harvey House Railroad Depot, have likely affected

previous cultural resources. The Mojave River Bridge and Mojave River Overflow bridge and their surrounding environments have most likely been affected by natural erosion from frequent flooding activities. The project location is also subject to infrequent but intense periods of high-energy flooding that scours and redeposits soil within the river and surrounding floodplain. The scouring is further exacerbated by the presence of Buzzard's Rock, which splits the flow and increases velocity and scouring action in the immediate surrounding area. Human activities such as grading and offroad vehicle activity have further degraded and disturbed the soil in the area. The areas near the bridge have been subjected to repeated grading and earth moving activities related to removal of erosion-deposited soils and sand, which collect during wind and flood events. Mechanical maintenance of the Mojave River's banks and flood control construction have all resulted in the project location being very disturbed. Implementation of CR-1 would reduce impacts to less-than-significant levels.

2.8.2 Avoidance, Minimization, and/or Mitigation Measures

GEO-1 A site-specific geotechnical investigation including subsurface exploration will be performed during the plans, specifications, and estimate (PS&E) phase of work.

2.9 Greenhouse Gas Emissions

Would the project:	Significant and Unavoidable Impact	Less than Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?			\square	
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?				

2.9.1 CEQA Significance Determinations for Greenhouse Gas Emissions

a), b) Less-than-Significant Impact

The proposed project involves replacing two bridges over the Mojave River (Bridge No. 54C0089) and Mojave River Overflow (Bridge No. 54C0090) along North First Avenue in the city of Barstow. The bridges stretch between north side of the Barstow rail yard and the sparse suburban development on the north side of the Mojave River. The proposed project would also include portions of Riverside Drive and Irwin Road to reconnect the roadways to north First Avenue. North First Avenue currently has one lane in each direction and would continue to have one lane in each direction after construction. Greenhouse gas (GHG) emissions for transportation projects can be divided into those produced during construction and those produced during operations. Construction GHG emissions include emissions produced as a result of material processing, emissions produced by on-site construction equipment, and emissions arising from traffic delays due to construction. These emissions are produced at different levels throughout the construction phase, their frequency and occurrence can be reduced through innovations in plans and specifications and by implementing better traffic management during the construction phase. With innovations such as longer pavement lives, improved traffic management plans, and changes in construction materials, the GHG emissions produced during construction can be mitigated to some degree by longer intervals between maintenance and rehabilitation events. Approximately 2,108 metric tons of carbon dioxide equivalent (CO₂e) would be emitted over the course of the construction period for the proposed project. Because the proposed project would not add capacity nor would it have a substantial effect on traffic operations, increases in operational greenhouse gas (GHG) emissions would be minor. Net annual increases in emissions of 0.88 metric ton of CO₂e per year would occur in 2019 and 11.27 metric tons of CO₂e in 2040 relative to the no project condition. Annual emissions would be substantially less than the GHG thresholds of 90,718 metric tons CO₂e, identified by MDAQMD.

2.10 Hazards and Hazardous Materials

Would the project:	Significant and Unavoidable Impact	Less than Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?				
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?				
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?				
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?				
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?				
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?				
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?				\square

2.10.1 CEQA Significance Determinations for Hazards and Hazardous Materials

Information used in this section is based on the *Initial Site Assessment* (January 2017) and the *Aerially Deposited Lead Assessment Report* (January 2017) prepared for the proposed project.

a) Less-than-Significant Impact

Implementation of the proposed project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. Construction activities associated with the proposed project involve the

replacement of the existing bridges over the Mojave River and Mojave River Overflow. During construction, routine transport, use, and disposal of hazardous materials, such as fuel, solvents, paints, oils, grease, etc., would occur. However, such transport, use, and disposal must be in compliance with applicable regulations, such as the Resource Conservation and Recovery Act (RCRA), U.S. Department of Transportation (DOT) Hazardous Materials Regulations, and local Certified Unified Program Agency (CUPA) regulations. The Hazardous Materials Division of the San Bernardino County Fire Department is designated as the CUPA for the project area. Although solvents, paints, oils, grease, etc. would be transported, used, and disposed of during the construction phase, these materials are typically used in construction projects and would not represent the transport, use, and disposal of acutely hazardous materials. As the proposed project involves the replacement of two bridges, operational activities are not expected to involve the transport, use, or disposal of hazardous materials. Hazardous materials required for maintenance would be brought to the project area by maintenance personnel, used in small amounts, and accidental releases would be localized and cleaned up as they occur.

b) Less than Significant with Mitigation

Hazardous Materials Use

Implementation of the proposed project is not expected to create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. As mentioned under Response (a), construction-related hazardous materials would be used during construction of the proposed project, including fuel, solvents, paints, oils, grease, etc. It is possible that any of these substances could be released during construction activities. However, compliance with applicable federal, state, and local regulations would ensure that all hazardous materials are used, stored, and disposed of properly, which would minimize potential impacts related to a hazardous materials are expected to be used or stored during normal project operations. As mentioned, hazardous material required for maintenance of the bridge is expected to be brought to the project area by maintenance personnel, used in small amounts, and any release would be localized and cleaned up as it occurs.

Proposed Project Site and Off-site Properties

The SCST Phase I Environmental Site Assessment did not identify the proposed project footprint as being located within any of the environmental databases searched. However; three hazardous materials sites were listed within 0.5 mile of the project.

 K & L Gas, 1650 North First Street, located approximately 1,750 feet northeast project site. The site was located on the San Bernardino County Permit – San Bernardino County Fire Department Hazardous Material Division database. The site is listed as having active permits to handle hazardous materials; however, there were no violations associated with the site, Although the two remaining sites were listed as being within 0.5 mile of the project site as well, additional research conducted by SCST identified them further away from the project site.

- City of Barstow H₂O Reclamation Plant, 2200 Riverside Drive. According to the ISA, the site is actually located approximately 1.7 miles southeast of the subject property. The site was located on the Recovered Government Archive Leaking Underground Storage Tank database (RGA LUST). This database provides a list of LUST incidents derived from historical databases and includes records that no longer appear in current government lists. There were no further details available regarding site conditions or history; however, given its distance, the site is highly unlikely to have a potential impact on the project area.
- City Tire and Wheel, 29434 North First Street. According to the ISA, the site is actually located approximately 11 miles southeast of the subject property. The site was located on both the LUST and Historic Cortese (HIST CORTESE) databases. The site was listed as having gasoline impacts on soil only. The site underwent remediation and was granted closure by San Bernardino County in January of 1992. Given the sites status and its distance, the site is highly unlikely to have a potential impact on the project area.

Lead Based Paint and Asbestos

The Mojave River Bridge was initially constructed in 1933. The Mojave River Overflow Bridge was constructed in 1939. As construction activities involve the demolition of existing streets and bridges, impacts could result from removal of yellow striping and pavement markers potentially containing lead. In addition, and also due to the age of the structures, it is possible that portions of the aforementioned bridges may contain asbestos. However, implementation of measures **HAZ-1 and HAZ-2** described below would reduce potential impacts. Compliance with state and federal regulations in addition to implementation of measures **HAZ-1 and HAZ-2** would make this a less-than-significant impact.

Aerially Deposited Lead

Aerially deposited lead (ADL) can be found in soils along major transportation routes due to the historic use of leaded gasoline in vehicles. ADL impacted soil is typically limited to the upper 2 feet of soil within unpaved shoulders or median areas where the soil has not been disturbed. On November 28, 2013, SCST Engineering performed an ADL assessment to evaluate the surface and near surface soils located along the existing unpaved shoulders and within the right-of-way of the proposed project alignment. Thirty-nine soil samples were collected from a total of thirteen sample collection points. Laboratory analytical results indicated that total lead concentrations in soil were found to be below regulatory thresholds for classification as a hazardous waste and for exposure to workers, and thus, soil within the existing right-of-way could be reused. Potential impacts related to ADL are considered less than significant.

c) Less-than-Significant Impact

The nearest school to the project area, Central High School, is located approximately 0.25 mile to the southwest. The next closest school is Barstow High School, located approximately 0.75 mile to the southwest. Construction-related hazardous materials would be used during construction of the proposed project, and thus, it is possible that any of these substances could be released during construction activities. However, compliance with applicable federal, state, and local regulations would ensure that all hazardous materials are used, stored, and disposed of properly, which would minimize potential impacts related to a hazardous materials release. Furthermore, these materials are typically used in construction projects and would not represent the transport, use, and disposal of acutely hazardous materials. Also, no hazardous materials are expected to be used or stored during normal project operations. Hazardous material required for maintenance of the bridge is expected to be brought to the project area by maintenance personnel, used in small amounts, and any release would be localized and cleaned up as it occurs

d) No Impact

Implementation of the proposed project would not create any impacts associated with being included on list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. A records search conducted as part of the SCST Phase I Environmental Site Assessment did not identify the proposed project footprint as being located within a site included in Cortese list. All sites identified during the records search were off-site properties and sites identified as being located within 0.25 mile of the proposed project footprint are discussed in detail under Response (b). No impact would occur.

e) No Impact

The proposed project is not located within two miles of a public airport or public use airport. The closest airports to the project site are the Depoe Airport (private) and the Barstow Daggett Airport (public) located approximately 7 miles to the southwest and 13 miles to southeast, respectively. No impacts would occur.

f) Less-than-Significant Impact

The proposed project would provide bridges that are structurally safe and meet current seismic, design, and roadway standards, thus improving the ability of emergency service providers to serve the surrounding community as it would improve safety and circulation. In addition, the existing bridges and roadways segments (to be affected by the proposed project) will only be demolished once the proposed improvements have been completed, allowing uninterrupted roadway access to emergency responders.

The proposed project would not result in any substantial traffic queuing along any of the project area roadways (North First Avenue, Riverside Drive, Irwin Road, Crooks Avenue) and would not allow construction vehicles or equipment to park or remain stationary within roadways. Large construction vehicles entering and exiting the site would be guided by the use of personnel using signs and flags to direct traffic. Furthermore, construction activities would be required to comply with applicable requirements in a site-specific Traffic Management Plan (TMP), as described under

Avoidance and Minimization Measure **PS-1** in Section 2.16, *Public Services*. Impacts would be less than significant.

g) No Impact

According to the California Department of Forestry and Fire Protection's Draft Fire Hazard Severity Zones map for San Bernardino County (2007), the proposed project is not located in an area designated as Very High, High or Moderate fire risk. Furthermore, the project area is not located near a wildlands area, but rather in a semideveloped area of the city of Barstow with minor amounts of vegetation. No impacts would occur.

2.10.2 Avoidance, Minimization, and/or Mitigation Measures

- **HAZ-1:** Prior to demolition, a lead-based paint and asbestos survey shall be conducted on the project site by a licensed lead and asbestos inspector. The survey shall determine whether any on-site abatement of lead-based paint or asbestos containing materials is necessary. Once lead content is determined, Caltrans Standard Special Provisions (SSPs) related to lead-based paint will be followed for removal, containment, analyses, transportation, and disposal of the materials. For asbestos containing materials, see **HAZ-2** below.
- **HAZ-2:** In accordance with Section 112 of the Clean Air Act, which established the National Emission Standards for Hazardous Air Pollutants (NESHAP), specific work practices will be followed during demolition of structures. The regulations require a thorough inspection where demolition will occur and requires the owner or the operator of the demolition to notify the appropriate delegated entity (often a state agency) before any demolition that contain a certain threshold amount of regulated asbestos-containing material. The rule also requires work practice standards that control asbestos emissions. The project shall comply with all asbestos demolition and removal measures outlined in SCAQMD Rule 1403 (2007).

2.11 Hydrology and Water Quality

Would the project:	Significant and Unavoidable Impact	Less than Significant with Mitigation Incorporated	Less- than- Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?		\boxtimes		
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?				
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
i) result in a substantial erosion or siltation on-or off-site;				
ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;			\square	
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				
iv) impede or redirect flood flows?				
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?			\square	
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?			\square	

2.11.1 CEQA Significance Determinations for Hydrology and Water Quality

Information used in this section is based on the *Drainage Report* (December 2016), Hydraulics Report (May 2017), and *Water Quality Assessment Report* (WQAR) (June 2017) prepared for the proposed project.

a) Less than Significant with Mitigation Incorporated

Surface water quality standards/objectives have not been established for the intermittent Mojave River at the project location, nor is the Mojave River listed as an impaired waterway at this project location. Furthermore, there are no portions of the

project within an Area of Special Biological Significance (ASB) as designated by the State Water Resources Control Board (SWRCB). The Lahontan RWQCB Basin Plan establishes water body quality objectives for discharge of waste into water bodies, including 445 milligrams per liter maximum for nitrate and 6 milligrams per liter maximum for total dissolved solids.

The proposed project would increase impervious surface area within the project area by 1.74 acres from 3.99 to 5.73 acres. The increase of impervious surface area would increase stormwater runoff, which could contain various visible, floating, suspended, and/or petroleum-based pollutants. Furthermore, construction activities associated with the proposed project could result in sediment or other construction-related pollutants.

The potential for the proposed project to generate pollutants during the postconstruction or operational phase is considered low since structural and non-structure source control BMPs will be implemented to control potential water quality issues. The proposed project would not violate any water quality standards or waste discharge requirements, or otherwise substantially degrade water quality, and impacts, if they occur, would be less than significant. During construction, the proposed project would feature standard avoidance and minimization measures **WQ-1** and **WQ-5** to ensure water quality impacts remain at less-than-significant levels. Therefore, the proposed project would not violate any water quality standards.

b) Less-than-Significant Impact

Construction activity has the greatest potential to impact groundwater during excavation required for the structural foundations of the proposed bridge. The construction of support structures may require the use of either the CIDH or cast-in-steel-shell (CISS) methods. In the CIDH method, a hole is drilled, filled with slurry to prevent cave-ins, and then pumped with concrete (which displaces the slurry and is reused). In areas of high groundwater, the hole is expected to passively fill with groundwater, which would be removed prior to filling the hole with slurry and concrete (i.e., dewatering). The removed groundwater would then be disposed of according to the selected method. This construction activity is not expected to affect groundwater movement because of the use of slurry to prevent caving and groundwater movement.

In addition, there are no existing groundwater recharge facilities within the project limits. Therefore, the proposed project would not impede aquifer or groundwater recharge in the area and would not result in the substantial depletion of groundwater supplies or substantially interfere with groundwater recharge such that there would be net deficit in aquifer volumes or lowering of the groundwater table. Impacts related to lowering the groundwater table and groundwater recharge would be considered less than significant.

c) Less-than-Significant Impact

There is no existing drainage system within the project limits.

The project area consists of mostly soil type A, which is made up of deep, well-drained sands or gravel with high infiltration rates. The project area also includes Riverwash soil types which are considered hydric soils.

The proposed project would not have a measurable effect on sediment loading to the receiving water body. Only intermittent and seasonal resuspensions of sediments through stormwater flows may be anticipated. The project would not change the existing drainage patterns, and therefore, is not expected to increase erosion or accretion patterns.

Following construction, the existing drainage patterns would be retained and flows would be managed in a manner similar to the existing conditions. Impacts related to erosion or siltation on-site or off-site would be less than significant. Implementation of measures **WQ-1** and **WQ-2** will minimize project impacts related to erosion or siltation on- or off-site.

d) Less-than-Significant Impact

The Federal Emergency Management Agency (FEMA) has mapped a 100-year floodplain and floodway along this section of the Mojave River on their Flood Insurance Rate Maps (FIRMs). The FIRMs including the bridges are 06071C3917H and 0671C3919H, dated August 28, 2008. The FIRMs show that the primary floodplain area and the entire floodway pass under the Mojave River Bridge. In addition, a portion of the floodplain passes north under the Mojave Overflow Bridge. There is an area of high ground above the floodplain between the two bridges. The project lies within a Regulatory Floodway (Zone AE) and 1% Annual Chance Flood Hazard (Zone AE). Zone AE is defined as areas subject to inundation by the 1-percent-annual-chance flood event (100-year flood).

The proposed project includes modifications within the existing floodplain and within the existing floodplain channel but is not expected to raise the base flood elevation (BFE). Since the proposed bridge will be relocated downstream of the existing bridge, a small increase in water surface elevations will occur along the river. All encroachments into the existing floodplain and flood control channels will be accompanied by improvements to effectively mitigate any potential impacts that the proposed improvements have on the base floodplain. BMPs to control the increase in stormwater will be utilized to the fullest extent possible.

e) Less-than-Significant Impact

As described above under Responses (a) through (e), the proposed project's impacts on water quality would be less than significant with implementation of permanent treatment BMPs to be included in coordination with the Lahontan RWQCB and Caltrans water quality requirements. Though the construction phase of the project has the potential to impact the present and future water quality of receiving waters through the transport of pollutants, construction impacts would be reduced through the implementation of Measures WQ-1 through WQ-5. As such, water quality impacts would be less than significant with mitigation incorporated.

2.11.2 Avoidance, Minimization, and/or Mitigation Measures

The following avoidance and minimization measures will be implemented to avoid or minimize potential impacts:

WQ-1: Compliance with NPDES Permit and SWRCB Permit. In compliance with the NPDES Permit, a Notice of Intent will be filed with the Lahontan RWQCB for coverage under the state-wide NPDES permit for construction-related discharges. The contractor will prepare a SWPPP that sets forth the BMPs that will be implemented on-site. The BMPs will be implemented to minimize spills and keep potentially contaminated materials used during construction out of the drainage waterways as documented in the SWPPP.

The SWRCB permit requires all non-stormwater discharges are identified and either eliminated, controlled, or treated.

WQ-2: Permanent and Construction BMP Implementation. The following Construction site BMP categories shall be considered and implemented, where feasible: Soil Stabilization Practices; Sediment Control Practices; Tracking Control Practices; Wind Erosion Control; Non-Storm Water Controls; and Waste Management and Material Pollution Controls.

> Permanent BMPs include design pollution prevention BMPs and treatment BMPs. Design pollution prevention BMPS consider downstream effects related to potentially increased flow, preservation of existing vegetation, concentrated flow conveyance systems, and slope/surface protection systems. Treatment BMPs include but are not limited to such items as: biofiltration; infiltration devices; earthen detention devices; earthen media filters; wet basins; multi-chamber treatment trains; media filters; dry weather flow diversion; detention devices; gross solids removal devices; traction sand traps.

- **WQ-3:** Jurisdictional Waters Compliance
- **WQ-4:** Groundwater Compliance. Groundwater quality will be monitored on a regular basis to identify any potential problems, such as elevated levels of pollutants. In any instance, the City will select and implement measures to control contamination, with a performance standard that groundwater quality must be returned to baseline conditions.
- **WQ-5** USACE, USFWS and CDFW Compliance. Consultation with USACE will be initiated and, as required, Section 404 permits will be acquired for proposed project elements and/or phases which would take place within jurisdictional waters of the U.S., in accordance with Section 404 of the CWA, which governs the disposal of dredged or fill material in these jurisdictional waters.

A 1602 Lake or Streambed Alteration (LSA) Agreement will be submitted to CDFW for notice upon approval of the proposed project. The LSA Agreement includes measures necessary to protect existing fish and wildlife resources.

2.12 Land Use and Planning

Would the project:	Significant and Unavoidable Impact	Less than Significant with Mitigation Incorporated	Less- than- Significant Impact	No Impact
a) Physically divide an established community?				\boxtimes
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?				\boxtimes

2.12.1 CEQA Significance Determinations for Land Use and Planning

The information used in this section is based on the 2015–2020 City of Barstow General Plan and the County of San Bernardino 2007 General Plan.

a) No Impact

The proposed project would result in replacing an existing bridge over the Mojave River, an overflow bridge adjacent to the Mojave River, and associated roadway approach movements. The project would not result in the relocation of any residences or business and would not divide an established community.

b) No Impact

As designated in the City of Barstow General Plan Circulation Element, First Avenue is a north-south arterial with its southern terminus at Main Street in downtown Barstow. It provides a connection from the downtown Barstow northerly across the rail yard and Mojave River to the existing State Route 58 North Barstow residential areas and Fort Irwin. In the City of Barstow General Plan, North First Avenue is designated as a collector street in the project area. There are no specific policies that are applicable to the proposed project.

The proposed project is consistent with regional transportation planning documents and as identified in SCAG's 2015 FTIP and 2012 RTP. Furthermore, the project is consistent with the goal and policies of applicable planning documents within the various jurisdictions that compose the proposed project study area, including the 2007 San Bernardino County General Plan and 2015 City of Barstow General Plan Circulation Element.

2007 County of San Bernardino General Plan:

Goal CI 1. The County will provide a transportation system, including public transit, which is safe, functional, and convenient; meets the public's needs; and enhances the lifestyles of county residents.

Goal CL 5. The County's road standards for major thoroughfares will complement the surrounding environment appropriate to each geographic region.

2015 City of Barstow General Plan Circulation Element:

Policy 1.C: Pursue expansion of the City's roadway network to accommodate planned residential, commercial and industrial growth and to address existing system deficiencies.

Strategy 1.C.2: Replace the First Street Bridge

2.12.2 Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization, and/or mitigation measures are required.

2.13 Mineral Resources

Would the project:	Significant and Unavoidable Impact	Less than Significant with Mitigation Incorporated	Less- than- Significant Impact	No Impact
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?				\boxtimes
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?				\boxtimes

2.13.1 CEQA Significance Determinations for Mineral Resources

The information used in this section is from the 2015–2020 City of Barstow General Plan and the 2015–2020 Master Environmental Impact Report.

a) No Impact

Neither the San Bernardino County General Plan nor the City of Barstow General Plan designates mining sites in the city of Barstow, and buildout would not cause a loss of availability of mining sites designated in the San Bernardino County General Plan or the City of Barstow General Plan. As such, mineral resources are not expected to be located within the anticipated direct impact area associated with the proposed project due to the planned uses of the project site and surrounding areas.

b) No Impact

The proposed project is not located in an area delineated as a locally important mineral resource recovery site. Therefore, there would be no impact.

2.13.2 Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization, and/or mitigation measures are required.

2.14 Noise

Would the project result in:	Significant and Unavoidable Impact	Less than Significant with Mitigation Incorporated	Less- than- Significant Impact	No Impact
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?				
b) Generation of excessive ground-borne vibration or ground-borne noise levels?			\square	
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?				

2.14.1 CEQA Significance Determinations for Noise

The information used in this section is from the City of Barstow General Plan Noise Element and the *Noise Study Report* (NSR) for the North First Avenue Grade Separation and Bridge Replacement Project (August 2016).

a) Less-than-Significant Impact

The nearest noise-sensitive land uses to the proposed project are homes and a church (Freewill Church of God in Christ) located on Crooks Avenue.

The only source of temporary or periodic noise associated with the project would be project construction. The City of Barstow Municipal Code does not maintain any standard related to construction noise. Policy 1a of the City of Barstow General Plan Noise Element provides exterior and interior noise standards but Strategy 2.B.1 exempts construction activities from these standards between the hours of 7:00 a.m. and 7:00 p.m. During construction of the project, noise from construction related activities would intermittently dominate the noise environment in the vicinity of construction activities. The anticipated noise levels produced by construction equipment for the project range from 74 to 89 A-weighted decibels at a distance of 50 feet. Construction noise would be temporary and intermittent. No adverse noise impacts from construction are anticipated because construction would be conducted in accordance with City of Barstow noise regulations. In addition, construction would occur primarily during the daytime hours of 7:00 a.m. to 7:00 p.m., when it would be explicitly exempted from the City of Barstow's noise standards. Therefore, construction noise impacts would be less than significant. When feasible, the project would incorporate the additional avoidance and minimization measures summarized below in order to further reduce any residual construction noise impacts.

Once project construction is completed, the only permanent noise generated by the project will be traffic noise. The City of Barstow General Plan Noise Element maintains noise standards for traffic noise. More specifically, Policy 1.A of the Noise Element states that City shall adhere to the State of California interior and exterior standards for desirable sound levels in various land use categories. For homes, the exterior noise standard is 65 decibels (dB) community noise equivalent level (CNEL).¹ There is no specific exterior standard for churches, but there is an interior standard of 45 dB CNEL. Assuming a minimum outdoor-to-indoor building noise reduction of 20 dB with windows closed (Caltrans 2013), any exterior noise level of 65 dB CNEL or less would provide compliance with the interior standard.

Analysis of the long-term noise data generated at a location adjacent to North First Avenue during preparation of the North First Avenue Grade Separation and Bridge Replacement Project NSR indicates that the measured hourly average (Leq)² traffic noise level during the worst noise hour was approximately 1 dB lower than the measured CNEL. The predicted design-year noise levels at the church and homes on Crooks Avenue closest to the project were 52 to 57 A-weighted decibels, indicating the CNEL would range from 53 to 58 dB CNEL, which is 7 to 12 dB below the City's standard of 65 dB CNEL. To increase traffic noise levels by 7 dB, the project would have to move the noise source substantially closer to the receptors or cause a five-fold increase in traffic volumes. Because the project would not cause any changes of this magnitude, it is clear that future traffic noise levels would not be above the City's standards as a result of the project; there would be no impact. In addition, the project would add concrete barriers to the outside of the bridge. Unlike the wood and metal guardrails currently on the bridge, the concrete barriers would be solid structures, providing some shielding of noise from traffic on the bridge. Furthermore, because the project would not add capacity or have a substantial effect on traffic operations, the project would not generate any substantial traffic noise increase.

b) Less-than-Significant Impact

The project would not use high-impact construction techniques such as blasting or pile driving. The bridge would be supported on CIDH piles that would not require using of an impact hammer or vibratory pile installation. Therefore, the worst case ground-borne vibration levels would be associated with conventional heavy construction equipment such as vibratory rollers, graders, and backhoes.

The project plans indicate that heavy construction equipment would not operate within 22 feet of historical buildings or 19 feet of residential structures and would also not operate within 50 feet of occupied buildings where people might experience annoyance due to ground-borne vibration. Therefore, the ground-borne vibration impacts due to project construction would be less than significant.

¹ CNEL is the energy average of the A-weighted sound levels occurring over a 24-hour period, with a 10 dB penalty applied to sound levels occurring during the nighttime hours (10 p.m. and 7 a.m.) and a 5 dB penalty applied to the sound levels occurring during the evening hours (7 p.m. and 10 p.m.).

² L_{eq} is the equivalent sound level and represents an average of the sound energy occurring over a specified period. The 1-hour A weighted equivalent sound level, or Leq(h), is the energy average of A-weighted sound levels occurring during a 1-hour period.

Once operational, the project would not generate perceptible vibration at sensitive land uses. The new roadway would be smooth and vehicles traveling on a smooth roadway are rarely, if ever, the source of perceptible ground vibration. Furthermore any localized vibration would dissipate rapidly with distance and the bridge would be approximately 100 feet from the nearest occupied building and over 150 feet from the nearest homes. Therefore, the ground-borne vibration impacts due to project operation would be less than significant.

c) Less-than-Significant Impact

The proposed project site is not located within a two-mile radius of a public or private use airport. Furthermore, no habitable structures or other noise-sensitive uses would be constructed as part of the proposed project. Therefore, there would be no impact related to air traffic from public or private use airports.

2.14.2 Avoidance, Minimization, and/or Mitigation Measures

- **NOI-1:** To reduce residual construction noise impacts, the construction contractor shall implement the following avoidance, mitigation, and/or minimization measures to the extent feasible:
 - 1. Using low-noise-generating construction equipment. Newer equipment is generally quieter than older equipment, electric powered equipment is typically quieter than diesel, and hydraulic powered equipment is typically quieter than pneumatic power;
 - 2. Maintaining all construction equipment, including mufflers and ancillary noise abatement equipment;
 - 3. Ensuring that all mobile and stationary noise-producing construction equipment used on the project site that is regulated for noise output by a local, state, or federal agency complies with such regulation while in the course of project activity;
 - 4. Training construction employees in the proper operation and use of the equipment to avoid careless or improper use that could increase noise and vibration levels;
 - 5. Scheduling high noise-producing activities during periods that are least sensitive;
 - 6. Switching off construction equipment when not in use;
 - 7. Positioning stationary construction equipment, such as generators and compressors, as far away as practical from noise-sensitive receptors;
 - 8. Locating storage, staging, and equipment service/repair areas as far away as practical from noise-sensitive receptors;
 - 9. Restricting the use of noise-producing signals, including horns, whistles, alarms, and bells, to safety warning purposes only;
 - 10. Routing construction-related truck traffic away from noise-sensitive areas; and
 - 11. Reducing construction vehicle speeds.

2.15 Population and Housing

Would the project:	Significant and Unavoidable Impact	Less than Significant with Mitigation Incorporated	Less- than- Significant Impact	No Impact
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?				\boxtimes
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?				\boxtimes

2.15.1 CEQA Significance Determinations for Population and Housing

a) No Impact

The proposed project would address the structural deficiency of the existing two-lane North First Avenue Bridge over the Mojave River by replacing it with a new two-lane bridge. The project will not widen the existing roadway, increase the number of through traffic, or increase the capacity of the bridge. The proposed project would not provide access to any developable lands that are currently inaccessible and would not contribute to unplanned growth in the area, as such, the proposed project is not considered growth-inducing. No direct or indirect long-term impacts on population growth are anticipated with the implementation of the proposed project.

b) No Impact

No existing residences would be subject to acquisition nor would the proposed project prevent the construction of any future residences. As such, no replacement housing would be needed. The proposed project would result in partial acquisitions on 17 non-residential properties adjacent to the project area. None of these acquisitions would necessitate the relocation of people, residences, or any existing developments; nor would the proposed project require the acquisition of residential right-of-way. As such, no replacement housing would be needed.

2.15.2 Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization, and/or mitigation measures are required.

2.16 Public Services

a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:	Significant and Unavoidable Impact	Less than Significant with Mitigation Incorporated	Less- than- Significant Impact	No Impact
Fire protection?		\boxtimes		
Police protection?		\square		
Schools?		\square		
Parks?				\boxtimes
Other public facilities?				\boxtimes

2.16.1 CEQA Significance Determinations for Public Services

a) Fire Protection? Less than Significant with Mitigation

The project area is serviced by the San Bernardino County Fire Department and Barstow Fire Protection District. The nearest San Bernardino County Fire Department station to the project area is Station No. 56 approximately 12 miles northwest of the project site in the city of Hinkley. The nearest Barstow Fire Protection District station is located at 2600 Main Street, approximately 4 miles southwest of the project site. Because it is anticipated that the new bridges would be constructed adjacent to the existing bridges, no lane closures or detours are anticipated during construction at this time. The existing bridges would be in use until the new bridges are constructed. As such, the project would have no impact on the ability of fire protection services to meet response time goals.

A TMP, as required by avoidance, minimization, and/or mitigation measure **PS-1**, would be prepared for the project to identify detours or lane closures that would occur during the construction period. Implementation of the TMP requires that alternate emergency service routes and traffic handling plans be coordinated with emergency service providers, including fire protection, prior to construction. The TMP would also require that emergency service providers be notified in advance of lane closures or other interruptions.

Police Protection? Less than Significant with Mitigation

The City of Barstow Police Department is located at 220 East Mountain View Street, 1.7 miles south of the project area. Because it is anticipated that the new bridges would be constructed adjacent to the existing bridges, no lane closures or detours are anticipated during construction at this time. As such, the project would have no impact on the ability of police protection services to meet response time goals.

As required in the TMP to be prepared as part of measure **PS-1**, in the event that lane closures or detours are required, the TMP would ensure that traffic disruptions would be minimized.

Schools? Less than Significant with Mitigation

The Barstow Unified School District serves the residents of Barstow with six elementary schools, two junior high schools, two high schools, and one adult education school. The one college in the city is Barstow Community College. Central High School, located at 405 North Second Avenue, is less than 1 mile away from the project area. Because it is anticipated that the new bridges would be constructed adjacent to the existing bridges, no lane closures or detours are anticipated during construction at this time. As such, the project would have no impact on school access.

As required in the TMP to be prepared as part of measure **PS-1**, in the event that lane closures or detours are required, the TMP would ensure that traffic disruptions would be minimized.

Parks? No Impact

There are no parks within the project area, and none are anticipated to be directly or indirectly affected by the proposed project. Because it is anticipated that the new bridges would be constructed adjacent to the existing bridges, no lane closures or detours are anticipated during construction at this time. As such, the project would have no impact on access to parks.

Other public facilities? No Impact

Because it is anticipated that the new bridges would be constructed adjacent to the existing bridges, no lane closures or detours are anticipated during construction at this time. As such, the project would have no impact on access to other public facilities.

2.16.2 Avoidance, Minimization, and/or Mitigation Measures

The following measure will be implemented to minimize potential impacts:

PS-1: A Traffic Management Plan (TMP) prior to project construction that identifies methods to avoid and minimize construction-related traffic and circulation effects and minimize impacts on pedestrian and bicycle access. During construction, the constructor will implement the methods identified in the TMP.

2.17 Recreation

	Significant and Unavoidable Impact	Less than Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?				\boxtimes
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?				\boxtimes

2.17.1 CEQA Significance Determinations for Recreation

a) No Impact

There are no parks within the project area, and none are anticipated to be directly or indirectly affected by the proposed project. The nearest park, as designated by the City of Barstow Parks and Recreation Division, to the project site is Lillian Park. It is located approximately 0.88 mile southeast of the project site. Lower Dana Park is approximately 1.1 miles south of the project site (Barstow Parks and Recreation 2017). Because the proposed project involves the replacement of the Mojave River Bridge along North First Avenue, the proposed project would not result in increased use of existing parks or recreational facilities.

b) No Impact

The project proposes replacement of the Mojave River Bridge and Mojave River Overflow Bridge along North First Avenue; it does not propose the construction or expansion of any park or recreational facility.

2.17.2 Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization, and/or mitigation measures are required.

2.18 Transportation

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

2.18.1 CEQA Significance Determinations for Transportation and Traffic

The information used in this section is from the Traffic Impact Study (TIS) (March 2017).

a) No Impact

As designated in the City of Barstow General Plan Circulation Element, First Avenue is a north-south arterial with its southern terminus at Main Street in downtown Barstow. It provides a connection from the downtown Barstow northerly across the rail yard and Mojave River to the existing State Route 58 North Barstow residential areas and Fort Irwin. In the City of Barstow General Plan, North First Avenue is designated as a collector street in the project area.

One of the high priority items included in the Circulation Element is to address the absence of bicycle lanes and designated pedestrian and bicycle routes and construction of the First Street Bridge.

The existing Mojave Bridge segment between Lawrence Dale Drive and Irwin Road does not have sidewalks on the bridge; however, the bridge segment between Irwin Road and Old Highway 58 has sidewalks on both sides of the bridge. Currently, there are no sidewalks along Irwin Road and First Avenue. Although designated as a Class III Bikeway in the Circulation Element, bicycle lane markings or signage do not exist along First Avenue between Riverside Drive and Old Highway 58.

The proposed bridge width includes two 12-foot lanes, two 10-foot shoulders, one 8foot sidewalk, and two concrete barriers on the outside. The sidewalks along with curb and gutter, street lighting and pedestrian safety railings along both sides of the new bridge will enhance pedestrian safety and promote pedestrian use, therefore enhancing the connectivity between downtown Barstow and northern Barstow
residential areas. Outside shoulders will be provided on the new bridge and will be marked with "share the road" pavement markings and bicycle route signage, thus achieving the Circulation Element goal of providing a Class III Bikeway along First Avenue between Main Street and Irwin Drive.

As such, the project is consistent with and accomplishes the goals and policies of applicable circulation plans, taking into account all modes of transportation. The proposed project is not anticipated to conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities. As discussed above, the project would improve pedestrian and bicycle circulation performance and safety within the project area.

b) No Impact

The proposed project would not conflict with the City's indicators of roadway efficiency, which is measured by assessing the roadway' Level-of-Service (LOS), which describes the capacity of a roadway and the degree to which it is being utilized. The City establishes level of service (LOS) C as the standard for acceptable roadway conditions within the city. As analyzed in the TIS (March 2017), the proposed project achieves the desired LOS at seven intersections and street segments under opening-year (2019) and horizon-year (2040) conditions. Table 2-6 compares the no-build traffic conditions to Build Alternative conditions for the existing year (2016), opening year (2019) and horizon year (2040). As shown in Table 2-5, all studied intersections and street segments would operate at an acceptable LOS; in some cases, the project would improve LOS from unacceptable to acceptable. As such, the project would not have an impact on congestion in the city.

Intersection/Readway	Voor	AM	Peak	PM I	Peak
Intersection/Roadway	real	No Build	Build	No Build	Build
Intersections					
	2016	С	-	С	
First Ave./Main St.	2019	С	С	С	С
	2040	С	С	С	С
	2016	В	-	В	
First Ave./Hutchison St.	2019	В	В	В	В
	2040	С	С	С	С
First Ave./Lawrence Dale Dr.	2016	В	-	В	-
(No Build) or Riverside Dr.	2019	В	В	С	С
(Build)	2040	С	В	Е	В
	2016	С	-	В	
First Ave./Irwin Rd.	2019	С	В	С	С
	2040	F	В	Ш	В
	2016	В	-	В	
Irwin Rd./S. Old Hwy 58	2019	В	В	В	В
	2040	В	В	С	В
Irwin Rd./N. Old Hwy 58	2016	В	-	В	-

Intersection/Pandway	Voor	AMI	Peak	PM	Peak
Intersection/Roadway	real	No Build	Build	No Build	Build
	2019	В	В	В	В
	2040	В	В	С	В
	2016	В	-	В	-
First Ave./Old Hwy 58	2019	В	В	В	В
	2040	В	В	В	В
Street Segment					
First Ave. between Lawrence	2016	A	A	-	-
Dale Dr. (No Build) or	2019	A	A	A	А
Riverside Dr. (Build)	2040	A	A	A	В
Source: Traffic Impact Study (20	17)				

c) No Impact

The proposed project would not substantially increase hazards due to a design feature or incompatible uses. In general, the proposed project would improve traffic safety by providing a new bridge. The existing Mojave River Bridge was constructed in 1933 and is listed as functionally obsolete. The proposed improvements for this project will be consistent with the design of North First Avenue Grade Separation and Bridge Replacement Project, which is located immediately to the west, and would provide for continuous standard lanes, shoulders and sidewalks. No impact is anticipated.

d) Less than Significant with Mitigation

Because it is anticipated that the new bridges would be constructed adjacent to the existing bridges, no lane closures or detours are anticipated during construction at this time. As such, the project would have no impact on the ability of emergency services to meet response time goals.

As required in the TMP to be prepared as part of measure PS-1, in the event that lane closures or detours are required, the TMP would ensure that traffic disruptions would be minimized.

2.18.2 Avoidance, Minimization, and/or Mitigation Measures

Refer to measure PS-1.

2.19 Tribal Cultural Resources

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

2.19.1 CEQA Significance Determinations for Tribal Cultural Resources

The information used in this section is from the *Environmentally Sensitive Area* (ESA) *Action Plan* (February 2020), *Historic Properties Survey Report* (HPSR) (February 2020), and the HRER and AER (February 2020).

a) Less than Significant with Mitigation Incorporated

Based on results of the records search and field survey, it was determined that Buzzard Rock is eligible for the NRHP. Despite contributing features not being affected by the project, the proximity of North First Avenue to the site boundary of Buzzard Rock would mean that demolition of this road would warrant an ESA buffer around the site boundary. An ESA Action Plan was prepared that would protect the entirety of Buzzard Rock during implementation of the project (Attachment E of the HPSR).

In addition, with implementation of **CR-1** and **CR-2**, potential impacts on tribal cultural resources would be avoided or minimized. As such, impacts on cultural resources would be less than significant with mitigation incorporated.

b) Less than Significant with Mitigation Incorporated

A letter was sent to the NAHC on January 30, 2017, requesting a Sacred Lands File Search and list of potentially interested Native American groups and individuals. The NAHC responded on February 2, 2017, stating that a search of the sacred land records files revealed no Sacred Lands or traditional cultural properties in proximity of the APE. The NAHC also provided a list of eight Native American contacts in Riverside and San Bernardino Counties who might have knowledge of cultural resources in the project area.

Based on this NAHC list outreach letters and maps of the project APE were sent to two identified Native American Groups on June 15, 2017. On June 22, 2017, Sarah Bliss of the Twenty-Nine Palms Band of Mission Indians responded stating that they were not aware of additional cultural resources, but advised that the proposed project is near the Chemehuevi Traditional Use Area. The San Manuel Band of Mission Indians responded on July 12, 2017, stating that the project area exists within the Serrano ancestral territory and is of interest to the tribe. The proximity of the project to the Mojave River and Buzzard Rock is of interest to the tribe. Therefore, the tribe requested to consult with the Federal Lead Agency, Caltrans, and the CEQA lead agency, the City, pursuant to Section 106 of the National Historic Preservation Act and CEQA, respectively. The tribe also requested a copy of the cultural resources report. On November 13, 2018, as required by AB 52, the City contacted the San Manuel Band of Mission Indians for consultation. Ongoing consultation has continued with the approved cultural resources report being emailed to the San Manuel Band of Mission Indians on March 4, 2020. Responses were received from the San Manuel Band of Mission Indians on April 9 and April 30, 2020, regarding specific mitigation and monitoring measures. As a result, measures CUL-1 to CUL-3, TCR-1 to TCR-4 will be implemented.

Furthermore, with implementation of **CR-1 and CR-2**, potential impacts on cultural resources would be avoided or minimized.

2.19.2 Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization, and/or mitigation measures are required.

2.20 Utilities and Service Systems

Would the project:	Significant and Unavoidable Impact	Less than Significant with Mitigation Incorporated	Less- than- Significant Impact	No Impact
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?				
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?				\boxtimes
c) Result in a determination by the waste water 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?				
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?				\boxtimes
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?				\boxtimes

2.20.1 CEQA Significance Determinations for Utilities and Service Systems

a) Less than Significant with Mitigation

The City of Barstow's Environmental Services division provides wastewater services for the city. The proposed project does not include any use that would increase demand for wastewater treatment. Implementation of the proposed project would not result in impacts related to the wastewater treatment requirements of the RWQCB. The project does not generate any need for new water or wastewater treatment facilities or require the expansion of existing facilities. The project includes modifications within the existing floodplain and within the existing floodplain channel, but is not expected to have any effect on the existing floodplain areas nor is the project expected to raise the BFE. All encroachments into the existing floodplain and flood control channels will be accompanied by improvements to effectively mitigate any potential impacts that the proposed improvements would have on the base floodplain. The proposed project creates low points at the south end of the intersection near Crooks Road and Riverside Drive and at the intersection near Irwin Road, which is similar to existing condition. Inlets are proposed to capture flow at these locations and discharge into a proposed bio-filtration basin. Inlets are proposed at super elevation transition locations as well to capture runoff prior to crossing the road.

The runoff at the northern end near Irwin Road will discharge to a proposed biofiltration swale which will then outfall into the existing soils with proposed rip rap to mitigate flow and dissipate the energy to reduce downstream erosion. Similar biofiltration swales are proposed at super elevation transition points to outfall surface runoffs. The drainage improvements throughout the project consist of installing inlets at the low points; installing a bio-filtration Swales and infiltration basin for storm water treatment; further detail will be provided as the design plans are completed.

With implementation of detention or infiltration basins and implementation of Measures WQ-1 through WQ-5, it is not anticipated that the project would result in hydrologic impacts, such as flooding on the Mojave River or project area despite the increase in impervious surface area. As a result, the proposed project would have a less-than-significant impact on the drainage pattern of the area and would not necessitate the expansion of the existing water drainage facilities.

b) No Impact

The proposed project involves the replacement of an existing bridge structure and does not contain any components that would require any new or expansion of entitlements. No impacts would occur.

c) Less-than-Significant Impact

The proposed project does not contain any components that would generate any wastewater that would require treatment at a water treatment plant. No impacts would occur.

d) No Impact

The proposed project involves the replacement of an existing bridge structure and would not generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure or impair the attainment of solid waste reduction goals. The existing Mojave River and Mojave River Overflow bridges and the existing section of the realigned North First Avenue will be demolished once the proposed improvements have been completed. No impacts would occur.

e) No Impact

The proposed project would be in compliance with all federal, state, and local solid waste statutes and regulations. No impacts are anticipated.

2.20.2 Avoidance, Minimization, and/or Mitigation Measures

Refer to measures WQ-1 through WQ-5.

2.21 Wildfire

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:	Significant and Unavoidable Impact	Less than Significant with Mitigation Incorporated	Less- than- Significant Impact	No Impact
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?				\boxtimes
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?				\boxtimes
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 on the environment?				\square
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?				\boxtimes

2.21.1 CEQA Significance Determination for Wildfire

a) No Impact

Because of a combination of climate, topography, and vegetation, San Bernardino County has a high fire hazard risk, especially in areas with wildlands and urban uses as well as areas in the foothills and mountains. As urban development encroaches upon wildland area, the potential for fire increases. The County of San Bernardino has established a coordinated program to condition development in some areas through the adoption of a Fire Safety Overlay District. The proposed project is not located within a Fire Safety Overlay District and would not impair an adopted emergency response plan or emergency evacuation plan. Furthermore, as the new bridges would be constructed adjacent to the existing bridges, no lane closures or detours are anticipated during construction. As such, the project would have no impact on the ability of fire protection services to respond to emergencies.

b) No Impact

There are no factors that would exacerbate wildfire risks or would any factors associated with the project, expose occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire.

c) No Impact

The project involves the replacement of an existing bridge structure and would not exacerbate fire risk or result in temporary or ongoing impacts on the environment.

d) No Impact

As previously mentioned, the project involves the replacement of an existing bridge structure and would not expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes.

2.22 Mandatory Findings of Significance

	Significant and Unavoidable Impact	Less than Significant with Mitigation Incorporated	Less- than- Significant Impact	No Impact
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?				
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?				

2.22.1 CEQA Significance Determinations for Mandatory Findings of Significance

a) Less than Significant With Mitigation Incorporated

As previously discussed in Section 2.5, *Biological Resources*, and Section 2.6, *Cultural and Paleontological Resources*, the proposed project's effects would not significantly 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, or substantially reduce the number or restrict the range of a rare or endangered plant or animal. Project impacts on wildlife are less than significant with implementation of the biological measures **BIO-1** through **BIO-24**. With incorporation of **CR-1** and **CR-2**, project impacts on history would be less than significant with mitigation incorporated and would not eliminate important examples of the major periods of California history or prehistory.

b) Less than Significant with Mitigation Incorporated

The only planned project in the vicinity of the resource study area is the North First Avenue Grade Separation and Bridge Replacement Project just to the west, which proposes to replace the existing North First Avenue grade separation bridge over the UPRR/BNSF/Amtrak rail yard with a new bridge because the existing bridge has been deemed structurally deficient and functionally obsolete. The proposed project improvements for this North First Avenue Mojave River Bridge Replacement Project will be consistent with the design of the North Avenue Grade Separation and Bridge Replacement Project and would provide for continuous standard lanes, shoulders, and sidewalks in conjunction with that project.

Overall, the impacts of the proposed projects are individual limited and not cumulatively considerable. The project proposes to replace an existing bridge that has been deemed to be structurally deficient and functionally obsolete. Impacts associated with the project would be less than significant with the mitigation measures incorporated and when considered cumulatively with other past, current, or probably future projects would not substantially contribute to a cumulative effect on the environment.

c) Less-than-Significant Impact

Operation of the project would not result in the exposure of persons to any substantially adverse natural or human-made hazards that could directly or indirectly cause substantial adverse effects on human beings, such as geologic hazards, air emissions, noise, hazardous materials, or flooding. All potential effects that could result in substantial exposure of persons to hazards during construction of the project are fully addressed with recommended avoidance and minimization measures, and no permanent impacts have been identified as significant in this Initial Study. Avoidance and minimization measures would be incorporated into the project in order to reduce and control the effects the project would have on the environment.

Chapter 3 List of Preparers

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ICF International

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Air Quality
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Biologist
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Environmental Planner
QA/QC Document Reviewer
Senior Biologist
Senior Noise Analyst

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|--|

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Jason Valencia Project Engineer

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Douglas Skinner	Senior Engineering Geologist
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4.1 Agencies

CITY OF BARSTOW 220 E MOUNTAIN VIEW ST BARSTOW CA 92311	COLORADO RIVER INDIAN TRIBES RENA VAN FLEET, THPO ADMINISTRATIVE ASSISTANT 26600 MOHAVE ROAD PARKER AZ 85344	SOBOBA BAND OF LUISENO INDIANS JOSEPH ONTIVEROS, CULTURAL RESOURCES P.O. BOX 487 SAN JACINTO CA 92581
SAN BERNARDINO CO FLOOD CONTROL DIST 825 E 3RD ST SAN BERNARDINO, CA 92415	TWENTY NINE PALMS BAND OF MISSION INDIANS DARRELL MIKE, TRIBAL CHAIRMAN 46-200 HARRISON PLACE COACHELLA CA 92236	GABRIELENO BAND OF MISSION INDIANS ANDREW SALAS, CHAIRMAN P.O. BOX 393 COVINA CA 91723
SOUTHERN CALIFORNIA WATER CO 3625 W 6TH ST LOS ANGELES CA 90020	MORONGO BAND OF MISSION INDIANS ALICIA BENALLY, CULTURAL RESOURCE SPECIALIST 12700 PUMARRA ROAD BANNING CA 92220	MOJAVE DESERT AQMD ALAN DESALVIO, DEPUTY DIRECTOR 14306 PARK AVE VICTORVILLE CA 92392
FRONTIER COMMUNICATIONS 16071 MOJAVE DR. BLDG A VICTORVILLE CA 92392	SAN MANUEL BAND OF MISSION INDIANS LEE CLAUSS, DIRECTOR CULTURAL RESOURCES 26569 COMMUNITY CENTER DR HIGHLAND CA 92346	SOUTHWEST GAS CORPORATION SHEILA ROMO, MANAGEMENT ASST. 13471 MARIPOSA ROAD VICTORVILLE CA 92395
CALTRANS DISTRICT 8 ROSA CLARK, SENIOR TRANS PLANNER 464 WEST 4 TH STREET SAN BERNARDINO CA 92401	MOJAVE WATER AGENCY TONY WINKEL, SENIOR ENGINEER 13846 CONFERENCE CENTER DR APPLE VALLEY CA 92307	GOLDEN STATE WATER CO. KYLE SNAY, OPERATIONS ENG. 630 E. FOOTHILL BLVD SAN DIMAS CA 91773
SAN BERNARDINO COUNTY ENVIRONMENTAL HEALTH SERVICES 385 N. ARROWHEAD AVE, 2 ND FLOOR SAN BERNARDINO CA 92415	BARSTOW UNIFIED SCHOOL DISTRICT JAMES HOCHSTEDLER, DIRECTOR 551 S. AVENUE H BARSTOW CA 92311	

4.2 Interested Groups, Organizations, and Individuals

FERRE, FRANK	RETIREMENT LAND	ALVAREZ, ANGEL
23174 WESTWOOD	CONSERVANCY LLC	3374 SANTA ANA ST
COLTON CA 92324	409 ARCADE PL	SOUTH GATE CA 90280
	GLENDALE CA 91206	
JACKSON, ABRAHAM L	HIGH DESERT COMMUNITY	BOYLAN, FRANK H
2028 SEQUOIA DR	OUTREACH INC	1051 IRWIN RD SPC 15
BARSTOW CA 92311	2494 W MAIN ST SPC 226	BARSTOW CA 92311
	BARSTOW CA 92311	
BISHOP, JACKSON JR	OWENS, GENERAL M	CORDOVA, JOSEPH L
2028 SEQUOIA DR	6412 N VAGEDES AVE	1407 RIVERSIDE DR
BARSTOW CA 92311	FRESNO CA 93711	BARSTOW CA 92311
MALMBORG, BEVERLY	DAVIS JACK EST OF	CHEN, RICHARD
11722 BETA AVE	322 E THUNDERBIRD TRL	3812 E KIRKWOOD AVE
GARDEN GROVE CA 92840	PHOENIX, AZ 85042	ORANGE CA 92869
DJT FAMILY TRUST	DAVIS, CHARLIE	ZARATE, MARTA
14831 WHITTIER BLVD STE 202	153 W GRANT	13818 TRUMAN ST
WHITTIER CA 90605	PHOENIX, AZ 85007	OAK HILLS CA 92344
STOCKDALE, JAMES	TOWNSEND, SUPRENA	JOYCE, WAYNE ROBERT
141 CROOKS AVE	2771 VILLA MONTEREY	37094 COLBY AVE
BARSTOW CA 92311	SAN JOSE CA 95111	BARSTOW CA 92311
YIM, CHONG NAM	HAMPTON CARLIZE-EST, OF	HARDRICK, VERNON T
16676 MENAHKA RD	109 CROOKS AVE	2960 E MAIN ST
APPLE VALLEY CA 92307	BARSTOW CA 92311	BARSTOW CA 92311
DIVINE, ALLEN L	K HARRINGTON INVESTMENTS	TAFAZOLI, FRED T
120 W GRANDVIEW DR	LLC	PO BOX 1890
BARSTOW CA 92311	200 FARM LN	GARDEN GROVE CA 92842
	MARTINEZ CA 94553	
MORGAN MEAT CO	CHEN, RICHARD	KRACK, CHERIE ALLENE
1011 IRWIN RD	3812 E KIRKWOOD AVE	1300 N FIRST AVE
BARSTOW CA 92311	ORANGE, CA 92869	BARSTOW CA 92311
DIVINE, ALLEN L	MALMBORG, BEVERLY	
120 W GRANDVIEW DR	11722 BETA AVE	
BARSTOW CA 92311	GARDEN GROVE CA 92840	

Chapter 5 References

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Appendix A Avoidance, Minimization, and/or Mitigation Summary

In order to be sure that all of the environmental measures identified in this document are executed at the appropriate times, the following mitigation program (as articulated on the proposed Environmental Commitments Record [ECR] which follows) would be implemented. During project design, avoidance, minimization, and /or mitigation measures will be incorporated into the project's final plans, specifications, and cost estimates, as appropriate. All permits will be obtained prior to implementation of the project. During construction, environmental and construction/engineering staff will ensure that the commitments contained in this ECR are fulfilled. Following construction and appropriate phases of project delivery, long-term mitigation maintenance and monitoring will take place, as applicable. As the following ECR is a draft, some fields have not been completed, and will be filled out as each of the measures is implemented. Note: Some measures may apply to more than one resource area. Duplicative or redundant measures have not been included in this ECR.

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ENVIRONMENTAL COMMITMENTS RECORD (North First Avenue Mojave River Bridge Replacement Project)

					If applicable, corresponding				Environ Compl	imental liance
Avoidance, Minimization, and/or Mitigation Measures	Section in Env. Doc.	Environmental Analysis Source (Technical Study, Environmental Document, and/or Technical Discipline)	Responsible for Development and/or Implementation of Measure	Timing/ Phase	construction provision: (standard, special, non-standard)	Action(s) Taken to Implement Measure	Measure Completed (Date and Initials)	Remarks	YES	NO
Air Quality										
AQ-1: MDAQMD Rules 403 and 403.2 (Fugitive Dust) require that fugitive dust control measures be applied to all construction projects in the MDAB, unless said project is specifically exempted by the rule. The text of Rules 403 and 403.2 is provided in Appendix F of the AQSR.										
Cultural Resources										
 CR-1: Based on the City of Barstow General Plan, 2015-2020 Resource Conservation and Open Space Element, the following procedures will be adhered to by all projects which grade or disturb soil in the City of Barstow: If human remains are encountered during grading and other construction excavation, work in the immediate vicinity shall cease and the County Coroner shall be contacted pursuant to State Health and Safety Code Section 7050.5. In the event that Native American cultural resources are discovered during project development/construction, all work in the immediate vicinity of the find shall cease and a qualified archaeologist meeting Secretary of Interior standards shall be hired to assess the find. Work on the overall project may continue during this assessment period. If significant Native American cultural resources are discovered, for which a 	Section 2.6, Cultural and Paleontological Resources	HPSR	Design/Resident Engineer/ Contractor	Design/ Construction						
 Treatment Plan must be prepared, the developer or his archaeologist shall contact the Morongo Band of Mission Indians. If requested by the tribe, the developer or the project archaeologist shall, in good faith, consult on the discovery and its disposition (e.g., avoidance, preservation, return of artifacts to tribe, etc.) 										
CR-2: If human remains are discovered, State Health and Safety Code Section 7050.5 states that further disturbances and activities shall stop in any area or nearby area that is suspected to overlie remains, and the County Coroner shall be contacted. Pursuant to California Public Resources Code Section 5097.98, if the remains are thought to be Native American, the coroner will notify the Native American Heritage Commission, who will then notify the Most Likely Descendent. At that time, the person who discovered the remains will contact the City of Barstow Planning Department at (760) 255-5153 so that they can work with the Most Likely Descendent regarding the respectful treatment and disposition of the remains. Further provisions of Public Resources Code 5097.98 are to be followed as applicable.	Section 2.6, Cultural and Paleontological Resources	HPSR	Design/Resident Engineer/ Contractor	Design/ Construction						

ENVIRONMENTAL COMMITMENTS RECORD (North First Avenue Mojave River Bridge Replacement Project)

					If applicable, corresponding				Environ Comp	nmental liance
Avoidance, Minimization, and/or Mitigation Measures	Section in Env. Doc.	Environmental Analysis Source (Technical Study, Environmental Document, and/or Technical Discipline)	Responsible for Development and/or Implementation of Measure	Timing/ Phase	construction provision: (standard, special, non-standard)	Action(s) Taken to Implement Measure	Measure Completed (Date and Initials)	Remarks	YES	NO
CUL-1: Due to the heightened cultural sensitivity of the proposed project area, an archaeological monitor with at least 3 years of regional experience in archaeology shall be present for all ground-disturbing activities that occur within areas that have moderate potential for potentially significant prehistoric cultural resources, as identified in the Environmentally Sensitive Area (ESA) Action Plan as the Archaeological Monitoring Area. Ground-disturbing activities include, but are not limited to, tree/shrub removal and planting, clearing/grubbing, grading, excavation, trenching, compaction, fence/gate removal and installation, drainage and irrigation removal and installation, hardscape installation, and archaeological work). A sufficient number of archaeological monitors shall be present each work day to ensure that simultaneously occurring ground disturbing activities receive thorough levels of monitoring coverage. This shall include one monitor per work crew conducting ground disturbance when crews are more 50 meters apart. If ground disturbing and Discovery Plan (MDP) that is reflective of the project mitigation ("Cultural Resources" and "Tribal Cultural Resources") shall be completed by the archaeologist and submitted to the Lead Agency for dissemination to the San Manuel Band of Mission Indians Cultural Resources parties regarding the content of MDP, the Lead Agency has the authority to make final determinations. Any and all findings will be subject to the protocol detailed within the MDP. The MDP will also demarcate the areas of the Project that will be subject to archaeological and tribal monitoring (see TCR-1).	p.2-48	ISMND, Monitoring and Discovery Plan	Qualified Archaeologist, City of Barstow Representative	Pre- Construction, During Construction						
CUL-2: Applicant is required to contact the Lead Archaeologist at least 5 business days in advance of ground-disturbing activities within culturally-sensitive areas to ascertain monitor availability. If the Applicant fails to give sufficient notice to Lead Archaeologist, or if it is discovered that ground-disturbing activities occurred within culturally-sensitive areas without the presence of archaeological and tribal monitors, then a non-compliance report will be submitted to the City and appropriate action or mitigation taken at the City's discretion.	p.2-48	ISMND	Applicant, Project Archaeologist, Project Engineer, Contractor, City of Barstow Representative	Pre- Construction						
CUL-3: The entirety of the Buzzard Rock archaeological site shall be fenced off and avoided by all construction personnel and activities, including ground-disturbance, vehicular activity, and equipment staging. An archaeological monitor will conduct bi-weekly (twice a month) checks of the Buzzard Rock fencing, even during periods of time for which archaeological and tribal monitoring does not occur, until the project is complete. Upon completion of the project, the Applicant is responsible for removing any protective fencing from the site.	p.2-49	ISMND	Applicant, Project Archaeologist, Project Engineer, Contractor, City of Barstow Representative	Pre- construction, During Construction						

ENVIRONMENTAL COMMITMENTS RECORD (North First Avenue Mojave River Bridge Replacement Project)

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					If applicable, corresponding				Environ Compl	nmental liance
Avoidance, Minimization, and/or Mitigation Measures	Section in Env. Doc.	Environmental Analysis Source (Technical Study, Environmental Document, and/or Technical Discipline)	Responsible for Development and/or Implementation of Measure	Timing/ Phase	construction provision: (standard, special, non-standard)	Action(s) Taken to Implement Measure	Measure Completed (Date and Initials)	Remarks	YES	NO
TCR-1: Due to the heightened cultural sensitivity of the proposed project area, a San Manuel Band of Mission Indians (SMBMI) monitor shall be present for all ground-disturbing activities that occur within areas that have moderate potential for potentially significant prehistoric cultural resources, as identified in the Environmentally Sensitive Area (ESA) Action Plan as the Archaeological Monitoring Area. Ground-disturbing activities include, but are not limited to, tree/shrub removal and planting, clearing/grubbing, grading, excavation, trenching, compaction, fence/gate removal and installation, drainage and irrigation removal and installation, hardscape installation, and archaeological work). A sufficient number of Tribal monitors shall be present each work day to ensure that simultaneously occurring ground disturbing activities receive thorough levels of monitoring area. This shall include one monitor per work crew conducting ground disturbance when crews are more the 50 meters apart. If ground disturbing occurs with more than one crew less than 50 meters apart and the monitor can reasonably cover both activities, then this will be the approach. A Monitoring and Discovery Plan that is reflective of the project mitigation ("Cultural Resources" and "Tribal Cultural Resources") shall be completed by the archaeologist, as detailed within CUL-1, and submitted to the Lead Agency for dissemination to the San Manuel Band of Mission Indians Cultural Resources Department (SMBMI). Once all parties review and agree to the plan, it shall be adopted by the Lead Agency – the plan must be adopted prior to construction of the project. Any and all findings will be subject to the protocol detailed within the Monitoring and Discovery Plan.	p.2-49	ISMND, Monitor and Discovery Plan	Tribal Monitors, Applicant, Project Archaeologist, Project Engineer, Contractor, City of Barstow Representative	During Construction						
TCR-2: The Lead Archaeologist/Applicant is required to contact the San Manuel Band of Mission Indians Cultural Resources Department (SMBMI) at least 5 business days in advance of ground-disturbing activities within the Archaeological Monitoring Area to ascertain Tribal monitor availability. If the Lead Archaeologist/Applicant fails to give sufficient notice to SMBMI, or if it is discovered that ground-disturbing activities occurred within culturally- sensitive areas without the presence of archaeological and tribal monitors, then a non-compliance report will be submitted to the City and appropriate action or mitigation taken at the City's discretion.	p.2-49	ISMND	Applicant, Project Archaeologist, Project Engineer, Contractor, City of Barstow Representative, Tribal Monitor	Pre- Construction						

TCR-3: If a pre-contact archaeological site or feature is discovered during project implementation, ground disturbing activities shall be suspended 50 feet around the resource(s) and an Environmentally Sensitive Area (ESA) physical demarcation/barrier constructed. If a cultural resource is identified as an isolated artifact it will not require the establishment of an ESA. A research design shall be developed by the archaeologist that shall include a plan to evaluate the resource for significance under CEQA criteria. Representatives from the San Manuel Band of Mission Indians Cultural Resources Department (SMBMI), the archaeologist/applicant, and the Lead Agency shall confer regarding the research design, as well as any testing efforts needed to delineate the resource boundary. Following the completion of evaluation efforts, all parties shall confer regarding the archaeological significance of the resource, its potential as a Tribal Cultural Resource (TCR), and avoidance (or other appropriate treatment) of the discovered resource.	p.2-50	ISMND	Applicant, Project Archaeologist, Project Engineer, Contractor, City of Barstow Representative	During Construction	
necessary to mitigate impacts, the research design shall include a comprehensive discussion of sampling strategies, resource processing, analysis, and reporting protocols/obligations. Removal of any cultural resource(s) shall be conducted with the presence of a tribal monitor representing the tribe unless otherwise decided by SMBML All plans for					
analysis shall be reviewed and approved by the applicant and SMBMI prior to implementation, and all removed material shall be temporarily curated on- site. If there are any disagreements between parties on this matter, the Lead Agency has the authority to make final determinations. It is the preference of					
SMBMI that removed cultural material be reburied as close to the original find location as possible. However, should reburial within/near the original find location during project implementation not be feasible, then a reburial location for future reburial shall be decided upon by the City in consultation with SMBMI and the landowner, and all finds shall be reburied within this					
location. Additionally, in this case, reburial shall not occur until all ground- disturbing activities associated with the project have been completed, all monitoring has ceased, all cataloging and basic recordation of cultural resources have been completed, and a final monitoring report has been					
issued to Lead Agency, CHRIS, and SMBMI. All reburials are subject to a reburial agreement that shall be developed between the landowner and SMBMI outlining the determined reburial process/location, and shall include measures and provisions to protect the reburial area from any future impacts (via a via project place, appropriate process/location, and shall include)					
Should it occur that avoidance, preservation place, and on-site reburial are not an option for treatment, the landowner shall relinquish all ownership and rights to this material and confer with the City and SMBMI to identify an American Association of Museums (AAM)-accredited facility or other					
curation facility meeting federal standards, within the County that can accession the materials into their permanent collections and provide for the proper care of these objects in accordance with the 1993 CA Curation Guidelines. A curation agreement with an appropriate qualified repository					
shall be developed between the landowner and museum that legally and physically transfers the collections and associated records to the facility. This agreement shall stipulate the payment of fees necessary for permanent curation of the collections and associated records and the obligation of the Project developer/applicant to pay for those fees.					
All draft records/reports containing the significance and treatment findings and data recovery results shall be prepared by the archaeologist and submitted to the Lead Agency and SMBMI for their review and comment. After review and approval from all parties, the final reports and site/isolate records are to be submitted to the local CHRIS Information Center, the Lead Agency, and SMBMI. If there are any disagreements between parties					

ENVIRONMENTAL COMMITMENTS RECORD (North First Avenue Mojave River Bridge Replacement Project)

					If applicable, corresponding				Environ Compl	mental liance
		Environmental Analysis Source (Technical Study,	Responsible for Development and/or	Timing/	construction provision:	Action(s) Taken to	Measure Completed			
Avoidance, Minimization, and/or Mitigation Measures	Doc.	and/or Technical Discipline)	Implementation of Measure	Phase	(standard, special, non-standard)	Implement Measure	(Date and Initials)	Remarks	YES	NO
regarding this content, the Lead Agency has the authority to make final determinations.										
determinations. TCR-4: Inadvertent Discoveries of Human Remains/Funerary Objects In the event that any human remains are discovered within the project area, ground-disturbing activities shall be suspended 100 feet around the resource(s) and an Environmentally Sensitive Area (ESA) physical demarcation/barrier constructed. The on-site lead/foreman shall then immediately notify the City of Barstow. The City of Barstow will then notify SMBMI. The City and the applicant/developer shall then immediately contact the County Coroner regarding the discovery. If the Coroner recognizes the human remains to be those of a Native American, or has reason to believe that they are those of a Native American, the Coroner shall ensure that notification is provided to the NAHC within twenty-four (24) hours of the determination, as required by California Health and Safety Code Section 7050.5 (c). The NAHC-identified Most Likely Descendant (MLD), shall be allowed, under California Public Resources Code Section 5097.98 (a), to (1) inspect the site of the discovery and (2) make determinations as to how the human remains and funerary objects shall be treated and disposed of with appropriate dignity. The MLD, Lead Agency, and landowner agree to discuss in good faith what constitutes "appropriate dignity" as that term is used in the applicable statutes. The MLD shall complete its inspection and make recommendations within forty-eight (48) hours of the site visit, as required by California Public Resources Code Section 5097.98. Reburial of human remains and/or funerary objects. All parties are aware that the MLD may wish to rebury the human remains and associated funerary objects on or near the site of their discovery, in an area that shall not be subject to future subsurface disturbances. The applicant/developer/landowner shall make the final discretionary determination regarding the appropriate disposition and treatment of human remains and funerary objects. All parties are aware that the MLD may wish to rebury the human	p.2-51	ISMND	Contractor, City of Barstow Representative, Project Archaeologist	During construction						
Geology and Soils			1				1			
GEO-1: A site-specific geotechnical investigation including subsurface exploration will be performed during the plans, specifications, and estimate (PS&E) phase of work.										

ENVIRONMENTAL COMMITMENTS RECORD (North First Avenue Mojave River Bridge Replacement Project)

					If applicable, corresponding				Environr Compli	nental iance
		Environmental Analysis Source (Technical Study.	Responsible for Development and/or		construction provision:	Action(s) Taken to	Measure Completed			
	Section in Env.	Environmental Document,	Implementation of	Timing/	(standard, special,	Implement	(Date and			
Avoidance, Minimization, and/or Mitigation Measures	Doc.	and/or Technical Discipline)	Measure	Phase	non-standard)	Measure	Initials)	Remarks	YES	NO
Noise		1		-				T	1 T	
NOI-1: To reduce residual construction noise impacts, the construction										
contractor shall implement the following avoidance, mitigation, and/or										
minimization measures to the extent teasible:										
is generally quieter than older equipment, electric powered equipment is typically quieter than diesel, and hydraulic powered equipment is										
typically quieter than pneumatic power;										
Maintaining all construction equipment, including mutflers and ancillary noise abatement equipment;										
 Ensuring that all mobile and stationary noise-producing construction equipment used on the project site that is regulated for noise output by a local, state, or federal agency complies with such regulation while in the course of project activity; 										
 Training construction employees in the proper operation and use of the equipment to avoid careless or improper use that could increase noise and vibration levels; 										
 Scheduling high noise-producing activities during periods that are least sensitive; 										
Switching off construction equipment when not in use;										
 Positioning stationary construction equipment, such as generators and compressors, as far away as practical from noise-sensitive receptors; 										
 Locating storage, staging, and equipment service/repair areas as far away as practical from noise-sensitive receptors; 										
9. Restricting the use of noise-producing signals, including horns, whistles,										
alarms, and bells, to safety warning purposes only;										
10. Routing construction-related truck traffic away from noise-sensitive										
11 Reducing construction vehicle speeds										
Hydrology and Water Quality										
WO-1: Compliance with NDDES Permit and SW/PCB Permit. In compliance	Section 2.10	WOAR	Design/Posident	Dosign/			T			
with the NPDES Permit, a Notice of Intent will be filed with the Labortan	Hydrology and	WQAR	Engineer/ Contractor	Construction						
RWQCB for coverage under the state-wide NPDES permit for construction-	Water Quality			Contraction						
related discharges. The contractor will prepare a SWPPP that sets forth the										
BMPs that will be implemented on-site. The BMPs will be implemented to										
minimize spills and keep potentially contaminated materials used during										
construction out of the drainage waterways as documented in the SWPPP.										
and either eliminated, controlled, or treated.										

ENVIRONMENTAL COMMITMENTS RECORD (North First Avenue Mojave River Bridge Replacement Project)

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Avoidance, Minimization, and/or Mitigation Measures	Section in Env. Doc.	Environmental Analysis Source (Technical Study, Environmental Document, and/or Technical Discipline)	Responsible for Development and/or Implementation of Measure	Timing/ Phase	construction provision: (standard, special, non-standard)	Action(s) Taken to Implement Measure	Measure Completed (Date and Initials)	Remarks	YES	NO
WQ-2: Permanent and Construction BMP Implementation. The following Construction site BMP categories shall be considered and implemented, where feasible: Soil Stabilization Practices; Sediment Control Practices; Tracking Control Practices; Wind Erosion Control; Non-Storm Water Controls; and Waste Management and Material Pollution Controls. Permanent BMPs include design pollution prevention BMPs and treatment BMPs. Design pollution prevention BMPS consider downstream effects related to potentially increased flow, preservation of existing vegetation, concentrated flow conveyance systems, and slope/surface protection systems. Treatment BMPs include but are not limited to such items as: biolfiltration; infiltration devices; earthen detention devices; earthen media filters; wet basins; multi-chamber treatment trains; media filters; dry weather flow diversion; detention devices; gross solids removal devices; traction sand traps.	Section 2.10, Hydrology and Water Quality	WQAR	Design/Resident Engineer/ Contractor	Design/ Construction						
WQ-3: Jurisdictional Waters Compliance	Section 2.10, Hydrology and Water Quality	WQAR	Design/Resident Engineer/ Contractor	Design/ Construction						
WQ-4: Groundwater Compliance. Groundwater quality will be monitored on a regular basis to identify any potential problems, such as elevated levels of pollutants. In any instance, the City will select and implement measures to control contamination, with a performance standard that groundwater quality must be returned to baseline conditions.	Section 2.10, Hydrology and Water Quality	WQAR	Design/Resident Engineer/ Contractor	Design/ Construction						
WQ-5: USACE, USFWS and CDFW Compliance. Consultation with USACE will be initiated and, as required, Section 404 permits will be acquired for proposed project elements and/or phases which would take place within jurisdictional waters of the U.S., in accordance with Section 404 of the CWA, which governs the disposal of dredged or fill material in these jurisdictional waters. A 1602 Lake or Streambed Alteration (LSA) Agreement will be submitted to CDFW for notice upon approval of the proposed project. The LSA Agreement includes measures necessary to protect existing fish and wildlife resources.	Section 2.10, Hydrology and Water Quality	WQAR	Design/Resident Engineer/ Contractor	Design/ Construction						
Hazards and Hazardous Materials										
HAZ-1: Prior to demolition, a lead-based paint and asbestos survey shall be conducted on the project site by a licensed lead and asbestos inspector. The survey shall determine whether any on-site abatement of lead-based paint or asbestos containing materials is necessary. Once lead content is determined, Caltrans Standard Special Provisions (SSPs) related to lead-based paint will be followed for removal, containment, analyses, transportation, and disposal of the materials. For asbestos containing materials, see HAZ-2 below.	Section 2.9, Hazards and Hazardous Materials	ISA	Design/Resident Engineer/ Contractor	Design/ Construction						

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					If applicable, corresponding				Enviror Comp	nmental liance
Avoidance, Minimization, and/or Mitigation Measures	Section in Env. Doc.	Environmental Analysis Source (Technical Study, Environmental Document, and/or Technical Discipline)	Responsible for Development and/or Implementation of Measure	Timing/ Phase	construction provision: (standard, special, non-standard)	Action(s) Taken to Implement Measure	Measure Completed (Date and Initials)	Remarks	YES	NO
HAZ-2: In accordance with Section 112 of the Clean Air Act, which established the National Emission Standards for Hazardous Air Pollutants (NESHAP), specific work practices will be followed during demolition of structures. The regulations require a thorough inspection where demolition will occur and requires the owner or the operator of the demolition to notify the appropriate delegated entity (often a state agency) before any demolition that contain a certain threshold amount of regulated asbestos-containing material. The rule also requires work practice standards that control asbestos emissions. The project shall comply with all asbestos demolition and removal measures outlined in SCAQMD Rule 1403 (2007).	Section 2.9, Hazards and Hazardous Materials	ISA	Design/Resident Engineer/ Contractor	Design/ Construction						
Biological Resources				1						
BIO-1 : Prior to clearing or construction, highly visible barriers (such as orange construction fencing) will be installed around Saltbush Scrub Dune adjacent to the limits of disturbance to designate environmentally sensitive areas (ESAs) to be preserved. No grading or fill activity of any type will be permitted within these ESAs. In addition, no construction activities, materials, or equipment will be allowed within the ESAs. All construction equipment will be operated in a manner to prevent accidental damage to nearby preserved areas. Silt fence barriers will be installed at the ESA boundary to prevent accidental deposition of fill material in areas where vegetation is immediately adjacent to planned grading activities.	Section 2.5, Biological Resources	NES	Biological Studies/Design/ Resident Engineer/ Contractor	Design/ Construction						
BIO-2 : All equipment maintenance, staging, and dispensing of fuel, oil, or any other such activities will occur in developed or designated non-sensitive upland habitat areas. The designated upland areas will be located to prevent runoff from any spills from entering WoUS.	Section 2.5, Biological Resources	NES	Biological Studies/ Resident Engineer/ Contractor	Design/ Construction						
BIO-3 : A construction Storm Water Pollution Prevention Plan (SWPPP) and a soil erosion and sedimentation plan will be developed to minimize erosion and identify specific pollution prevention measures that will eliminate or control potential point and nonpoint pollution sources on-site during and following the project construction phase. The SWPPP will identify specific BMPs to be implemented during project construction to avoid causing or contributing to any water quality standard exceedances. In addition, the SWPPP will contain provisions for changes to the plan such as alternative mechanisms, if necessary, during project design and/or construction to achieve the stated goals and performance standards.	Section 2.5, Biological Resources	NES	Biological Studies/ Resident Engineer/ Contractor	Design/ Construction						
BIO-4 : A biologist will monitor construction within the vicinity of Saltbush Scrub Dune areas prior to and during vegetation removal to flush any wildlife species present and to ensure that vegetation removal, BMPs, ESAs, and all avoidance and minimization measures are properly implemented.	Section 2.5, Biological Resources	NES	Biological Studies/Design/ Resident Engineer/ Contractor	Design/ Construction						
BIO-5 : Fire suppression capability, including extinguishers, shovels, and water tankers, will be available on-site whenever construction occurs during the fire season (as determined by the San Bernardino County fire department). Activities that may produce sparks, including welding or grinding, will use protective gear to reduce fire risks, such as shields and protective mats.	Section 2.5, Biological Resources	NES	Biological Studies/Design/ Resident Engineer/ Contractor	Design/ Construction						

ENVIRONMENTAL COMMITMENTS RECORD (North First Avenue Mojave River Bridge Replacement Project)

					If applicable, corresponding				Environ Comp	imental liance
Avoidance, Minimization, and/or Mitigation Measures	Section in Env. Doc.	Environmental Analysis Source (Technical Study, Environmental Document, and/or Technical Discipline)	Responsible for Development and/or Implementation of Measure	Timing/ Phase	construction provision: (standard, special, non-standard)	Action(s) Taken to Implement Measure	Measure Completed (Date and Initials)	Remarks	YES	NO
BIO-6 : Dust control measures will be implemented by the contractor to reduce excessive dust emissions. Dust control measures will be carried out at least two times per day on all construction days, or more during windy or dry periods, and may include wetting work areas, using soil binders on dirt roads, and wetting or covering stockpiles.	Section 2.5, Biological Resources	NES	Biological Studies/ Resident Engineer	Design/ Construction						
BIO-7 : Any exotic species that are removed during construction will be properly handled to prevent sprouting or regrowth. This means that care will be taken to not spread exotic plant seeds during plant removal and that plants will be removed prior to flowering, if feasible.	Section 2.5, Biological Resources	NES	Biological Studies/Design/ Resident Engineer/ Contractor	Design/ Construction						
BIO-8: Construction equipment will be cleaned of mud or other debris that may contain invasive plants and/or seeds and inspected to reduce the potential of spreading noxious weeds before mobilizing to the site and before leaving the site during the course of construction. Cleaning of equipment will occur at least 100 feet from ESA fencing in a designated area.	Section 2.5, Biological Resources	NES	Biological Studies/ Resident Engineer	Design/ Construction						
BIO-9 : Trucks carrying loads of vegetation that will be removed from the project footprint will be covered and disposed of in accordance with applicable laws and regulations	Section 2.5, Biological Resources	NES	Biological Studies/ Resident Engineer	Design/ Construction						
BIO-10: The resource agencies shall have the right to access and inspect the project site to ensure compliance with project approval conditions, including BMPs.	Section 2.5, Biological Resources	NES	Biological Studies/Design/ Resident Engineer	Design/ Construction						
BIO-11 : A general pre-construction survey for special-status species, including desert tortoise, will be conducted prior to the start of construction activities.	Section 2.5, Biological Resources	NES	Biological Studies/Design/ Resident Engineer/ Contractor	Design/ Construction						
 BIO-12: To prevent impacts on potential bat roosts, including maternity roosts, a qualified bat biologist will be retained to conduct bat and bat roosting site surveys between May 1 and July 30 prior to commencement of construction activities. This pre-construction survey will be conducted at the bridges, rock outcrop, and vacant building illustrated on Figure 11 of the NES. The survey must occur during maternity season to confirm whether Townsend's big-eared bat is present. If roosting sites or bats are not found, a report confirming their absence will be sent to CDFW, and no further action will be required. If the pre-construction survey finds bats to be present, a Bat Mitigation Plan will be developed (see Measure BIO-13). If a Townsend's big-eared bat maternity roost is found in the rock outcrop or vacant building, no construction work within a 250-foot-wide buffer zone (or an alternative width, as determined by the designated biologist in consultation with CDFW) will occur between April 1 and September 30. The rock outcrop and building occur outside the project limits of disturbance but well within the range of adversely affecting this species, if a maternity roost is present. 	Section 2.5, Biological Resources	NES	Biological Studies/Design/ Resident Engineer/ Contractor	Design/ Construction						

ENVIRONMENTAL COMMITMENTS RECORD (North First Avenue Mojave River Bridge Replacement Project)

					If applicable, corresponding				Environmental Compliance	
Avoidance, Minimization, and/or Mitigation Measures	Section in Env. Doc.	Environmental Analysis Source (Technical Study, Environmental Document, and/or Technical Discipline)	Responsible for Development and/or Implementation of Measure	Timing/ Phase	construction provision: (standard, special, non-standard)	Action(s) Taken to Implement Measure	Measure Completed (Date and Initials)	Remarks	YES	NO
 BIO-13: If the pre-construction survey finds bats to be present, a Bat Mitigation Plan will be developed to ensure mortality of bats does not occur. The following items will be included in the plan, at a minimum: a) For each location confirmed to be occupied by bats, the plan will provide details both in text and graphics where exclusion devices will need to be placed, type(s) of exclusion material to be used, the timing for exclusion work, and the timeline and methodology needed to exclude the bats. b) Monitoring activities and schedule will be included, including frequency of monitoring, which structures would need to be monitored, and reporting requirements. c) The plan will be reviewed and approved by CDFW. 	Section 2.5, Biological Resources	NES	Biological Studies/Design/ Resident Engineer/ Contractor	Design/ Construction						
BIO-14 : To determine if burrowing owls are occupying the project limits or adjacent areas prior to construction, a take avoidance survey following CDFW protocol (2012) will be conducted no more than 14 days prior to initiating ground disturbance activities. In addition, any time lapses between project activities will trigger subsequent take avoidance surveys. The survey will be conducted from civil twilight to 10 a.m. or 2 hours before sunset until evening civil twilight within areas providing suitable habitat for burrowing owl. The survey will include the proposed project limits and a 300-foot buffer if performed between February 15 and August 31 (nesting season) and a 100-foot buffer if conducted outside of the nesting season. If burrowing owls are present within 300 feet of project activities during the breeding season or within 100 feet of project activities outside of the nesting season, Measure BIO-15 or BIO-16 will be implemented, as applicable.	Section 2.5, Biological Resources	NES	Biological Studies/Design/ Resident Engineer/ Contractor	Design/ Construction						
BIO-15: If burrowing owls are found during pre-construction take avoidance surveys (Measure BIO-14) during the nesting season, the burrowing owls will be fully avoided by establishing an appropriate buffer in coordination with CDFW.	Section 2.5, Biological Resources	NES	Biological Studies/Design/ Resident Engineer/ Contractor	Design/ Construction						
BIO-16: If burrowing owls are found during pre-construction take avoidance surveys (Measure BIO-14) outside of the nesting season, passive relocation by a qualified avian biologist will be conducted once it has been confirmed that pairing activities have not begun. Passive relocation efforts will be conducted in coordination with CDFW. If the burrowing owl is found to be paired and exhibiting potential nesting behavior, construction disturbance will not occur within a designated buffer determined in coordination with CDFW of the active burrow(s) until it is confirmed by the avian biologist that the pair is not nesting and that young are not present, or if present are independently foraging.	Section 2.5, Biological Resources	NES	Biological Studies/Design/ Resident Engineer	Design/ Construction						

ENVIRONMENTAL COMMITMENTS RECORD (North First Avenue Mojave River Bridge Replacement Project)

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Avoidance, Minimization, and/or Mitigation Measures	Section in Env. Doc.	Environmental Analysis Source (Technical Study, Environmental Document, and/or Technical Discipline)	Responsible for Development and/or Implementation of Measure	Timing/ Phase	construction provision: (standard, special, non-standard)	Action(s) Taken to Implement Measure	Measure Completed (Date and Initials)	Remarks	YES	NO
BIO-17 : If construction commences during the bird breeding season (February 15 through August 31), a pre-construction survey for nesting birds will occur within 3 days prior to construction activities by an experienced avian biologist. The survey will occur within all suitable nesting habitat within the project impact area and a 300-foot buffer. If nesting birds are found, an avoidance area will be established in consultation with the resource agencies as appropriate by a qualified biologist around the nest until a qualified avian biologist has determined that young have fledged or nesting activities have ceased. The project site will need to be re-surveyed if there is a lapse in construction activities for more than 7 days during the bird breeding season.	Section 2.5, Biological Resources	NES	Biological Studies/Design/ Resident Engineer	Design/ Construction						
BIO-18 : Access and disturbance within the wildlife corridors should be kept to a minimum during evening and nighttime hours.	Section 2.5, Biological Resources	NES	Biological Studies/Design/ Resident Engineer/ Contractor	Design/ Construction						
BIO-19 : To the maximum extent feasible, the corridors will not be fully blocked by equipment or structures that could potentially serve as barriers to wildlife passage.	Section 2.5, Biological Resources	NES	Biological Studies/Design/ Resident Engineer/ Contractor	Design/ Construction						
BIO-20 : Equipment maintenance, lighting, and staging will occur only in designated areas, and will not block or impede movement through wildlife corridors.	Section 2.5, Biological Resources	NES	Biological Studies/Design/ Resident Engineer	Design/ Construction						
BIO-21 : Nighttime construction activities, if any, will use shielded lighting to prevent spillover into the corridor. Security lights on vehicles utilized in the Mojave River and Mojave River Overflow will not be left on overnight.	Section 2.5, Biological Resources	NES	Biological Studies/Design/ Resident Engineer/ Contractor	Design/ Construction						
BIO-22 : Speed limits will be reduced to 5 miles per hour during any nighttime construction that occurs within wildlife corridors.	Section 2.5, Biological Resources	NES	Biological Studies/Design/ Resident Engineer/ Contractor	Design/ Construction						
BIO-23: To mitigate effects on jurisdictional areas, a compensatory mitigation plan will be developed during the permitting phase.	Section 2.5, Biological Resources	NES	Biological Studies/Design/ Resident Engineer/ Contractor	Design/ Construction						
BIO-24: Permanent impacts on non-wetland waters will be mitigated off-site at a minimum 2:1 ratio through an approved in-lieu fee program or other agency-approved mitigation bank/mitigation program.	Section 2.5, Biological Resources	NES	Biological Studies/Design/ Resident Engineer/ Contractor	Design/ Construction						
Public Services		· · · · · · · · · · · · · · · · · · ·								
PS-1: A Traffic Management Plan (TMP) prior to project construction that identifies methods to avoid and minimize construction-related traffic and circulation effects and minimize impacts on pedestrian and bicycle access. During construction, the constructor will implement the methods identified in the TMP.	Section 2.16, Public Services	TIS	Design/Resident Engineer/ Contractor	Design/ Construction						

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Appendix B List of Acronyms and Abbreviations

ADL	aerially deposited lead
APE	area of potential effect
APN	assessor's parcel number
AQMP	Air Quality Management Plan
AQSR	Air Quality Study Report
ASB	areas of special biological significance
ASR	Archeological Survey Report
BAU	business as usual
BFE	base flood elevation
BMPs	best management practices
BSA	biological study area
Caltrans	California Department of Transportation
CARB (ARB)	California Air Resources Board
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CHL	California Registered Historical Landmark
CIDH	cast-in-drill-hole
CISS	cast-in-steel-shell
City	City of Barstow
СО	carbon monoxide
CO ₂	carbon dioxide
CO ₂ e	carbon dioxide equivalent
CPHI	California Point of Historical Interest
СРТ	cone penetration tests
CRHR	California Register of Historical Resources
СТР	California Transportation Plan
CUPA	Certified Unified Program Agency
CWA	Clean Water Act
dB	decibel
DOT	Department of Transportation

EO	Executive Order
EPA (U.S. EPA)	U.S. Environmental Protection Agency
ESA	environmentally sensitive area
FED	Final Environmental Document
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FIRM	Flood Insurance Rate Map
FPPA	Farmland Protection Policy Act
FTIP	Federal Transportation Improvement Program
FSTIP	Federal Statewide Transportation Improvement Program
GHG	greenhouse gas
IPCC	Intergovernmental Panel on Climate Change
IS	Initial Study
ISA	Initial Site Assessment
JD	jurisdictional delineation
KOP	Key Observation Point
LID	Low Impact Development
LOS	level of service
LUST	Leaky underground storage tank
MDAQMD	Mojave Desert Air Quality Management District
MOA	Memorandum of Agreement
MND	Mitigated Negative Declaration
MSATs	Mobile Source Air Toxics
NAHC	Native American Heritage Commission
NES	Natural Environment Study
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
NSR	Noise Study Report
O ₃	ozone
PES	Project Environmental Study
PLACs	permits, licenses, agreements, and certifications
PM	particulate matter

PM10	particles of 10 micrometers or smaller
PM2.5	particles of 2.5 micrometers and smaller
RCRA	Resource Conservation Recovery Act
RTP/SCS	Regional Transportation Plan/Sustainable Communities Strategy
RWQCB	Regional Water Quality Control Board
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SHPO	State Historic Preservation Officer
SIP	Statewide Implementation Plan
SLR	sea level rise
SSPs	Standard Special Provisions
SWMP	Stormwater Management Plan
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TACs	Toxic Air Contaminants
ТМР	Traffic Management Plan
USACE	United States Army Corps of Engineers
USFWS	United States Fish and Wildlife Service
U.S. 91	U.S. Route 91
VIA	Visual Impact Assessment
WoS	Waters of the State
WoUS	Waters of the U.S.
WQAR	Water Quality Assessment Report

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Appendix C List of Technical Studies

Technical Studies Prepared for the Proposed Project

- Aerially Deposited Lead Assessment Report (ADLAR). January 2017.
- Air Quality Study Report (AQSR). September 2017.
- Archeological Survey Report (ASR). February 2020.
- Drainage Report. December 2016.
- Environmentally Sensitive Area (ESA) Action Plan. February 2020.
- Historic Properties Survey Report (HPSR). February 2020.
- Historic Resources Evaluation Report (HRER). February 2020.
- Hydraulics Report. May 2017.
- Initial Site Assessment (ISA). January 2017.
- Jurisdictional Delineation (JD) Report. July 2019.
- Natural Environment Study (NES). July 2019.
- Preliminary Environmental Study (PES). March 2013.
- Preliminary Foundation Report (PFR). July 2016.
- Traffic Impact Study (TIS). March 2017.
- Visual Impact Assessment (VIA). June 2017.
- Water Quality Assessment Report (WQAR). June 2017.

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Appendix D Comments and Coordination

Early and continuing coordination with the general public and public agencies is an essential part of the environmental process. It helps planners determine the necessary scope of environmental documentation and the level of analysis required, and to identify potential impacts and avoidance, minimization, and/or mitigation measures and related environmental requirements. Agency and tribal consultation and public participation for this project have been accomplished through a variety of formal and informal methods, including interagency coordination meetings, and Project Development Team (PDT) meetings. This section summarizes the results of the City of Barstow's efforts to fully identify, address, and resolve project-related issues through early and continuing coordination.

San Manuel Band of Mission Indians

Pursuant to AB 52, on November 13, 2018, the City of Barstow contacted the San Manuel Band of Mission Indians for consultation. Based on the coordination, the San Manuel Band of Mission Indians requested a copy of the approved cultural resources report when available. The approved cultural resources report was emailed to representatives of the San Manuel Band of Mission Indians on March 4, 2020. Responses were received from the San Manuel Band of Mission Indians on April 9 and April 30, 2020 regarding specific mitigation and monitoring measures. After further coordination, the City of Barstow concluded AB 52 consultation with the San Manuel Band of Mission Indians on May 5, 2020.

Twenty-Nine Palms Band of Mission Indians

Twenty-Nine Palms Band of Mission Indians were contacted on June 15, 2017. A response was received from the Twenty-Nine Palms Band of Mission Indians on June 22, 2017 stating that they were not aware of additional cultural resources in the project area, but advised that the project is near the Chemehuevi Traditional Use Area.

San Bernardino County Flood Control District

A meeting was held on March 4, 2020 with representatives from San Bernardino Flood Control District to review the project, discuss status and schedule, and coordinate with San Bernardino Flood Control District on various aspects of the project including San Bernardino County Flood Control District right of way areas. Input was provided on expectations and requirements during the permitting process.

City of Barstow – Planning Commission

The project was introduced to the City of Barstow Planning Commission as an informational item on April 27, 2020. The project description and overall design of the project was discussed as well as the upcoming schedule, and technical reports that have been prepared for the project. As this was an informational item only, no public action was required by members of the Planning Commission.