

**Initial Study/Mitigated Negative Declaration
San Bernardino County Flood Control District**

**Lenwood Facilities Maintenance and
Improvement Project
San Bernardino County, California**

Lead Agency:



San Bernardino County
Flood Control District
825 E 3rd Street,
San Bernardino CA 92415

Technical assistance provided by:

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Redlands, CA 92373

April 2019

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SECTION 1 - INTRODUCTION

The San Bernardino County Flood Control District (District) proposes to conduct routine maintenance and spillway improvements within the approximately 280-acre Lenwood Spreading Grounds flood control facilities and adjacent Lenwood Channel located in the Lenwood area of the City of Barstow, CA. The facilities include earthen spreading grounds and a concrete spillway and earthen channel that provide groundwater recharge and flood protection to adjacent and downstream property owners. Further, the spreading grounds provide groundwater recharge as surface flows settle and percolate within the series of basins. In very large storm events, flows from the watershed collect and are conveyed in the spreading grounds and then are through a single spillway from the spreading grounds into the Lenwood Channel which outlets to the Mojave River. The Lenwood Spreading Grounds and channel supports an approximately 43,560-acre drainage area and is one of the District's larger facilities. Routine, on-going maintenance activities would include access road repair and related herbicide, vegetation management, excavation to reestablish flow line and improve groundwater recharge and design capacity, bank repair, concrete and appurtenant structure repair, and spillway improvements. The spillway improvements include upgrades required to convey larger storm flows.

1.1. Background

The District is charged with operating and maintaining its existing flood control facilities throughout the County of San Bernardino. The Barstow area climate, within the Mojave Desert, is extremely arid and the precipitation in the general area of the Project site is largely a result of thunderstorm activity. These desert thunderstorms generally occur during the warm summer months from July through September. The characteristics of desert thunderstorm precipitation consist of high intensities, limited areal coverage, relatively short duration, and erratic frequency.

Because the District does not have federal and state regulatory permits to conduct routine maintenance, there has been a lack of maintenance in the channel and spreading grounds. Within the spreading grounds, sediment and debris has built up over time, resulting in a decreased capacity for storm flow containment and groundwater recharge. In some areas, the sediment build-up is 7-9 feet deep. Further, in August 2014, the spillway of the Lenwood Spreading Grounds was destroyed. Large volumes of debris-laden sediment washed down through the spillway, resulting in extensive irreparable damage to the spillway, and wing walls. The facilities convey flows of a drainage area approximately 43,560 acres. The spillway is an integral part of the flood control facility because it regulates the water flow into Lenwood Channel and allows water to percolate within the spreading grounds.

1.2. Purpose and Need

District's facilities must be maintained routinely to achieve the District's goals of optimum groundwater recharge and flood protection. Maintenance of the channel and spreading grounds and related spillway improvements require the District to obtain environmental permits from various state and federal agencies.

SECTION 2 - REGULATORY FRAMEWORK

The San Bernardino County Flood Control District has identified that the Lenwood Facilities Maintenance and Improvement Project meets the California Environmental Quality Act (CEQA) Guidelines Section 15378 definition of a Project. CEQA Guidelines Section 15378 defines a Project as the following:

"Project" means the whole of an action, which has a potential for resulting in either a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment.

In accordance with the California Environmental Quality Act (CEQA) (Public Resources Code Sections 21000-21177), this Initial Study has been prepared to determine potentially significant impacts upon the environment resulting from the construction, operation and maintenance of the Lenwood Facilities Maintenance and Improvement Project (hereinafter referred to as the "Project" or "proposed Project"). In accordance with Section 15063 of the State CEQA Guidelines, this Initial Study is a preliminary analysis prepared by the San Bernardino County Flood Control District (District) as Lead Agency to inform the Lead Agency decision makers, other affected agencies, and the public of potential environmental impacts associated with the implementation of the proposed Project.

Instructions for Completing Initial Study and Evaluating Environmental Impacts

The Initial Study shall be prepared as follows:

1. A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
2. All answers must take account of the whole action involved, including offsite as well as onsite, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.
3. Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.
4. "Negative Declaration: No Impact or Less Than Significant" applies when the proposed project will not have a significant effect on the environment, does not require the incorporation of mitigation measures, and does not require the preparation of an Environmental Impact Report. The lead agency must briefly describe the reasons that a proposed project will not have significant effect on the environment and does not require the preparation of an environmental impact report.
5. "Mitigated Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced any effect from "Potentially Significant Impact" to a "Less Than Significant Impact". The lead agency must describe the mitigation measures, and

briefly explain how they reduce the effect to a less than significant level (mitigation measures from "Earlier Analyses", as described in (-6) below, may be cross-referenced).

6. Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. (CEQA Guidelines Section 15063(c)(3)(D)). The use of an earlier analysis as a reference should include a brief discussion that identifies the following:
 - a. Earlier Analysis Used. Identify and state where they are available for review.
 - b. Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
 - c. Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated", describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.
7. Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.
8. Supporting Information Sources. A source list should be attached and other sources used or individuals contacted should be cited in the discussion.
9. The explanation of each issue should identify:
 - a. The significance criteria or threshold, if any, used to evaluate each question; and
 - b. The mitigation measure identified, if any, to reduce the impact to less than significance.

Initial Study Organization

The Initial Study is organized as follows:

Introduction: Provides the regulatory context for the review along a brief summary of the CEQA process.

Project Information: Provides fundamental Project information, such as the Project description, Project location and figures.

Lead Agency Determination: Identifies environmental factors potentially affected by the Project and identifies the Lead Agency's determination based on the initial evaluation.

Mitigated Negative Declaration: Prepared when a determination can be made that no significant environmental effects will occur because revisions to the Project have been made or mitigation measures will be implemented which will reduce all potentially significant impacts to less than significant levels.

Evaluating Environmental Impacts: Provides the parameters the District uses when determining level of impact.

CEQA Checklist: Provides an environmental checklist and accompanying analysis for responding to checklist questions.

References: Includes a list of references and various resources utilized in preparing the analysis.

SECTION 3 - DETAILED PROJECT DESCRIPTION

The San Bernardino County Flood Control District (District) proposes to conduct routine maintenance work along approximately 1.7 miles (61 acres) of the existing Lenwood Channel and within approximately 181 acres of the 220-acre Lenwood Spreading Grounds facilities. Additional maintenance includes upgrading the spillway between the channels and spreading grounds that was irreparably damaged during the 2014 storm season. The Lenwood Channel and Spreading Grounds Maintenance Project would primarily consist of access road repair and related herbicide, vegetation management, sediment excavation to reestablish flow line and design capacity, bank repair, concrete and appurtenant structure repair, and spillway improvements.

1.3. Project Location

The proposed Project is generally located west of the Interstate 15 freeway, south of National Trails Highway and south of Lenwood Road, at the northwest corner of Green Desert Drive and Salt Springs Avenue (dirt roads), in the City of Barstow, approximately 1 mile west of the Barstow Outlet shopping center at Lenwood Road and the I-15 freeway. It is located on the USGS *Hodge* and *SE Barstow* Quadrangles T9N-R2W, Section 20, SBB & M., San Bernardino County, California; refer to Figure 1, *Regional Vicinity Map*, and Figure 2, *Site Vicinity*.

The Assessor Parcel Numbers for the Project are as follows:

- 048813109
- 049713132
- 049713136
- 042115103
- 042114113
- 042113207
- 042126103
- 042126104
- 042127101
- 042112221
- 042112220
- 042112222
- 042112219

1.4. Project Site and Vicinity

The proposed Project site is characterized as the existing Lenwood Channel and Spreading Grounds. The spreading grounds connect to the channel by a spillway structure, which allows overflow into Lenwood Channel and ultimately the Mojave River during large storm events. Both facilities are natural, earthen facilities, with the exception of the concrete spillway that conveys overflow from the spreading grounds into the channel and culvert structures at road and railroad crossings.

There are some residences located in the vicinity of the project, primarily where Highway 66 crosses the Lenwood Channel and northeast of the railroad crossing and commercial business located about a mile east of the project; however the majority of the area immediately surrounding the proposed Project site is comprised almost entirely of natural desert with sparse vegetation (Figure 4 -*General Plan Land Use*). In addition to the BNSF rail, Highway 66 and Lenwood Road, there are several unpaved dirt roads located

within the immediate vicinity of the proposed Project site. Salt Spring Avenue, Green Desert Drive and Tumbleweed Drive all provide access to the spreading grounds near the south/southeast portion of the Project site. Sweeten Lane, which runs parallel the south side of the Lenwood Channel provides access to the northwest corner of the spreading grounds. Sun Valley Drive is a partially paved road that crosses the Lenwood Channel approximately 0.5 mile southeast (upstream) of where Highway 66 crosses Lenwood Channel. The area surrounding the Project area contains industrial, residential and commercial land uses (*City of Barstow, July 20, 2015*).

1.5. Proposed Project

The proposed Project consists of the routine maintenance of the District-owned Lenwood flood control facilities and includes upgrading the channel spillway that was irreparably damaged in 2014. In general, maintenance includes the following components:

- Lenwood Spreading Grounds Initial Sediment Removal Maintenance - removal of approximately 1.9 million cubic yards of sediment and debris over time that has built up within 16 basin bottoms, repair of earthen basin side slopes and repair of the connecting weirs and dikes within approximately 181 acres of the 220-acre facility.
- Lenwood Spreading Grounds Maintenance - Following the Initial Sediment Removal, this activity entails the removal of approximately 200,000 cubic yards annually of sediment and debris within 16 basin bottoms, repair of earthen basin side slopes and repair of the connecting weirs and dikes with work anticipated to alternate annually within 90 acres maintained each year within approximately 180 acres of the 220-acre facility.
- Lenwood Spreading Grounds Spillway Improvements – located at the northwestern end of the spreading grounds to convey water to the Lenwood Channel, the damaged spillway and adjacent, damaged earthen slope/levee will be replaced with a rock slope protection structure and new spillway to convey flows to the subchannel downstream. The total improvements be approximately 220 feet wide by 92 feet in length, and be made of primarily permeable materials (rock rip-rap and filter fabric). Immediately downstream, there will be some grading and slope stabilization to properly convey flows downstream and to reduce future maintenance needs. Once constructed, maintenance of the spillway will include structural repairs as necessary.
- Lenwood Channel Maintenance – remove sediment and repair side slopes as necessary in approximately 1.7 miles (approximately 61 acres) of the Lenwood Channel. This will occur annually.
- Access Road Maintenance – maintenance of approximately 10.5 miles of access roads throughout the Lenwood Spreading Grounds and along the Lenwood Channel.

Types of routine maintenance activities undertaken by the District for their facilities is described Table 1: *Typical Maintenance Activities*. Table 2: *Routine Maintenance Equipment* lists types of machinery or equipment used by the District to maintain their facilities.

Lenwood Spreading Grounds Initial Sediment Removal

Due to the lack of permits to adequately maintain the facility, it is estimated that the District will need to initially remove up to approximately 1.9 million cubic yards (CY) of sediment in the first two years following issuance of regulatory permits (assuming initial excavation of 8.5 foot depth of accumulated soil over

approximately 181 acres). However, after the initial effort, it is anticipated that the routine annual soil removal will be approximately 200,000 CY.

Sediment will be used for dike, channel, and access road maintenance. Surplus material will be stockpiled onsite, such as adjacent to access roads, or in designated stockpile areas, or off-site at the County yards, or sold to third-party vendors. Sediment is only sold when there is a market, so some material may sit for a year or two in designated stockpile locations. Materials sifting and rock processing is not part of the District's operations and maintenance of their facilities. Any materials separation is done on a very small or de minimis scale. The initial excavation work will take approximately 2 years to complete, and average 4-6 weeks each year thereafter.

Lenwood Spreading Grounds Routine Maintenance

The spreading grounds consists of a series of approximately 16 basins that vary in size and flood storage capacity. The basins collect stormwater sheet flow from the desert floor and from road culverts, into through a series of weirs and culverts within the basins, water is slowed down and allowed to percolate into the regional groundwater basin. Flow of water into these basins brings suspended sediment, which is dropped to the basin floors with percolation of the water. This sediment requires periodic removal, which also tills the basin floor, in order for percolation rates to remain efficient. In larger storm events, flows are conveyed through the basins and over the spillway into Lenwood Channel and downstream to the Mojave River. The basins serve primarily as a key source of groundwater recharge and flood protection for the City of Barstow and Lenwood area from the approximately 43,560-acre watershed. The basins also provide flood protection to adjacent and downstream property owners.

The spreading grounds facility property boundaries encompass approximately 220 acres. The District proposes to maintain approximately 181 acres, with the southeastern most basins (Basins 1 – 3) being excluded from maintenance as this is primarily lands within the property boundary where maintenance is not required for the basins to function, as well as to leave as native area for sensitive species.

Routine maintenance activities include slope repair and concrete and appurtenant structure repair and clearing, graffiti removal, vegetation management, sediment and debris removal and center flowing as needed. Maintenance of these facilities would occur typically in the summer, fall, or winter. Vegetation management and, if required, herbicide spraying, would occur one to two times a year, with slope repair occurring one to three times a year or even more, depending on the frequency and intensity of storm events. Maintenance work, such as slope stabilization activities to repair gullies, may occur on a more frequent basis as needed along the access roads, channel slopes and basin slopes.

Sediment and debris removal activities would occur in the spreading grounds over the approximately 181 acre-area, but in alternating sections of approximately 90 acres each year over a two to two-and one-half year span. Maintenance work necessary to ensure structural integrity of the facility following a storm, such as slope stabilization activities to repair gullies, may have to occur on a more frequent basis as needed.

Sediment and debris removal activities may increase beyond the 90 acres following a severe storm or storm season if required to ensure flood protection. However, in a typical storm year, the work will occur over alternating areas of the spreading grounds facility.

Lenwood Spreading Grounds Spillway Restoration

During two consecutive storms that occurred in early August 2014, large volumes of debris-laden sediment washed down through the concrete spillway destroying the concrete spillway invert and wing walls. The original spillway, constructed in the 1960s, was approximately 36 feet wide by 23.5 feet long consisting of 846 square feet (0.02 acre) of concrete.

The District plans to replace the spillway and adjacent slope/levee features to improve the structure's flood flow conveyance capability and to reduce the need for future maintenance.

The damaged spillway and adjacent earthen slope/levee features will be replaced with a rock slope protection structure with a new spillway to convey flows to the subchannel downstream. The total improvements will have an area of approximately 220 feet wide by 92 feet long and will be made of primarily permeable materials (rock riprap and filter fabric). Immediately downstream, there will be some grading and slope stabilization to properly convey flows downstream and to reduce future maintenance needs. Once constructed, maintenance of the spillway will include structural repairs as necessary.

These improvements will ensure the integrity of the slope/levee and spillway during larger storm events as well as reduce the need for future maintenance at this location.

Access to the site will be located along the east boundary of the spillway from existing dirt access roads connected to Salt Spring Ave. and Tumbleweed Drive, which is connected to Lenwood Avenue within the Lenwood Spreading Grounds.

Lenwood Channel Routine Maintenance (Facility Nos. 4-601-1A and 4-601-1B)

Routine maintenance activities would occur within the Lenwood Channel for 1.7 miles downstream (approximately 61 acres). Routine maintenance of the channel includes grading and sediment/debris removal within the channel bottom to improve channel capacity and re-establish a consistent flow path, re-establish the channel side slopes and remove vegetation as needed to maintain structural integrity and properly convey flows, concrete and appurtenant structure repairs and related graffiti removal. Washout and erosion repair is typically accomplished by filling in the eroded area with native material, and sometimes riprap if excessive erosion requires rock to reduce future maintenance in that specific location.

It is estimated that maintenance will occur two to three times a year as needed and take about one to two weeks to complete.

Access Road Maintenance

The District maintains approximately 10.5 miles of access or service maintenance roads throughout the Project area. Most roads are 12 to 15 feet wide and surfaced with native material such as gravel or compacted soil. Maintenance activities include clearing encroaching vegetation, filling ruts and potholes, grading, resurfacing (with similar materials), spraying herbicide on and adjacent to the roads as needed by a licensed applicator, and repairing washouts. This maintenance would occur approximately two to three times a year as needed and last about two to three weeks. Access road maintenance may occur more or less than two to three times a year depending on the severity and frequency of erosion caused by storm events.

Table 1
Typical Maintenance Activities

Activity	Description
Stockpiling	Maintenance of stockpile locations includes placement of material (i.e. debris and sediment from District facilities) at specific locations for use in repairs and temporary storage. Stockpiles are treated to avoid the spread of invasive plants.
Mechanized Land Clearing/Excavation	Mechanized land clearing includes clearing sediment, vegetation and debris within the center of the channel bottom, ripping or grading the basin bottoms for water quality control and to maintain capacity of each facility as necessary. High priority facilities are maintained at 100% capacity at all times. Basin bottom silt are removed and kept free of vegetation. Illegally dumped trash, vehicles and homeless camps are removed from District facilities, and material is taken to a landfill or appropriate recycling facility for disposal. Mechanical vegetation clearing includes the removal of vegetation with equipment such as dozers, graders, dump trucks, scrapers, loaders, and excavators/ gradalls to remove large areas of growth.
Vegetation Management including Mowing and Hand Clearing	Mechanical and manual vegetation management activities, including mowing, disking and manual pruning, remove vegetation within facilities that prevent the proper spreading and flow of water. Mowing and vegetation management activities such as manual removal result in thinning and involve shallow soil disturbance, which encourages seed germination, soil aeration, and insect populations. Equipment used includes, but is not limited to, tractor mowers and boom mowers. Manual removal includes using power trimmers, weed eaters and manual tools such as pruning loppers, saws, and clippers to trim and thin vegetation.
Herbicide	Herbicide application, sometimes referred to as chemical vegetation clearing, is accomplished by trained and licensed applicators to manage vegetation, typically on or around access roads. Herbicides are used to prevent the spread of invasive species. Equipment used includes sprayers mounted on a service truck, or backpack sprayers.
Ingress/Egress	Maintenance of access roads includes, but is not limited to, fencing and gate repairs, signage, road grading and pavement repair.
Bank Repair	Bank repairs include, but are not limited to removal of excess sediment and sand from the bottoms of canals or basins or onsite/offsite stockpile and placing it onto the side slopes. Sometimes, additional and incidental riprap rock or gabion placement may be required for banks that experience frequent erosion. Riprap repair includes repositioning, replacement or placement of incidental riprap to stabilize the slopes. It also includes the repair of grouted and ungrouted sections of rock. Bank repair can also include the repair or replacement of steel revetment with more revetment, or riprap rock.
Spreading Structure Repair	Spreading structure repair or in-kind replacement include, but are not limited to, those appurtenant structures such as inlets, outlets, culverts, spillways, bottom controls, weirs, diversion structures, water quality structures, including settling basins and rip rap, channel invert improvements, and berms.

**Table 2
Routine Maintenance Equipment**

Equipment	Application
Hand Sprayers/Hand Tools and other non-mechanized Equipment	Hand-sprayers are used to apply herbicide. Hand tools are used by hand crews to remove vegetation from areas that are not accessible or efficient for mechanized equipment and to minimize impacts.
Dozer	The Dozer is a track- type tractor used to move earthen materials. This machine efficiently moves, clears and grades large amounts of earthen materials in muddy and sandy conditions where other rubber tire equipment would be ineffective. Dozers are used to clear material and debris from the bottoms of facilities; or push material onto the slopes of a facility to stabilize eroded slopes. Dozers are also used for center flowing and grading activities.
Dump Truck	Dump trucks are used to move materials from one location to another within a facility. Dump trucks can also be utilized to export materials from a facility or import materials from an off-site location.
Hydraulic Excavator (Excavator/Gradall)	Excavators are track-type machines that consist of a dual hydraulic arm and a material bucket mounted on a rotating platform. Excavators have the ability to work around waterways and muddy soil by using its long arm and bucket to work at an adequate distance preventing the machine from becoming entrenched in mud or water. Excavators are used to excavate and clear material and debris from facilities. The dual function allows the machine to excavate and load material onto dump trucks if needed. Excavators are also used to backfill erosions and voids on slopes using material from the bottom of facilities.
Motor Grader (Grader)	The Motor Grader is a rubber-tired machine with a wide blade attached and is used to maintain and repair earthen facility roads. The Grader is also an efficient method of removing vegetation from levee roads and large areas that involve flat surfaces
Wheel Loader (Loader)	The Wheel Loader is a rubber-tired tractor with a hydraulic arm and material bucket attached to the front of the machine. The Loader is used to excavate, load and carry material within facilities. The Loader has the ability to move material cleanly from one area to another and also to stockpile excess material so that the excavation process executes more efficiently. The Loader is used to load Dump Trucks with materials and also for grading and vegetation removal within a facility.
Tractor Mower	The Tractor Mower is a tractor with a fixed mower head attached to the rear or an attached hydraulic boom arm with mower head. Mowing equipment is used to remove / trim vegetation from facilities without removing the root system of the plant. This enables the soil to retain its structure and prevent erosion of the surface.
Service Truck	Service trucks allow manpower to travel within a facility and serve as a means of transportation of hand tools, power tools, hand sprayers, and construction tools. Service trucks are used as support to heavy equipment
Sprayer Trucks / Equipment	Vehicles used to spray herbicides within a facility. These vehicles range from Heavy Spray Trucks to pick-up trucks and all-terrain vehicles.
Water Truck	All-wheel drive tanker trucks are used to control dust during construction projects. Water Trucks are also used for compaction purposes such as levee road repair and backfill operations.
Gradall	The Gradall is a highway speed hydraulic excavator with rubber tires. This specialized excavator is versatile in its ability to travel on highways and also function in construction sites. The Gradall is also used to remove vegetation from facility slopes and grade and compact slopes
Scraper	Equipment that moves earth over short distances, consisting of a wagon that pushes forward and forces excavated material into the wagon. When wagon is filled, a gate closes and the material is taken to a place for stockpiling.
Skid Steer Loaders	The Skid Steer Loader is a compact wheel or rubber tracked machine that is used to excavate, load and place materials. The Skid Steer is also used for removing or mowing vegetation with its mower attachment. The skid steers small size enables the machine to work in height restricted areas. The light rubber tracked machines are used in earthen facilities and on slopes that rubber tired machines would not have traction.



Figure 1

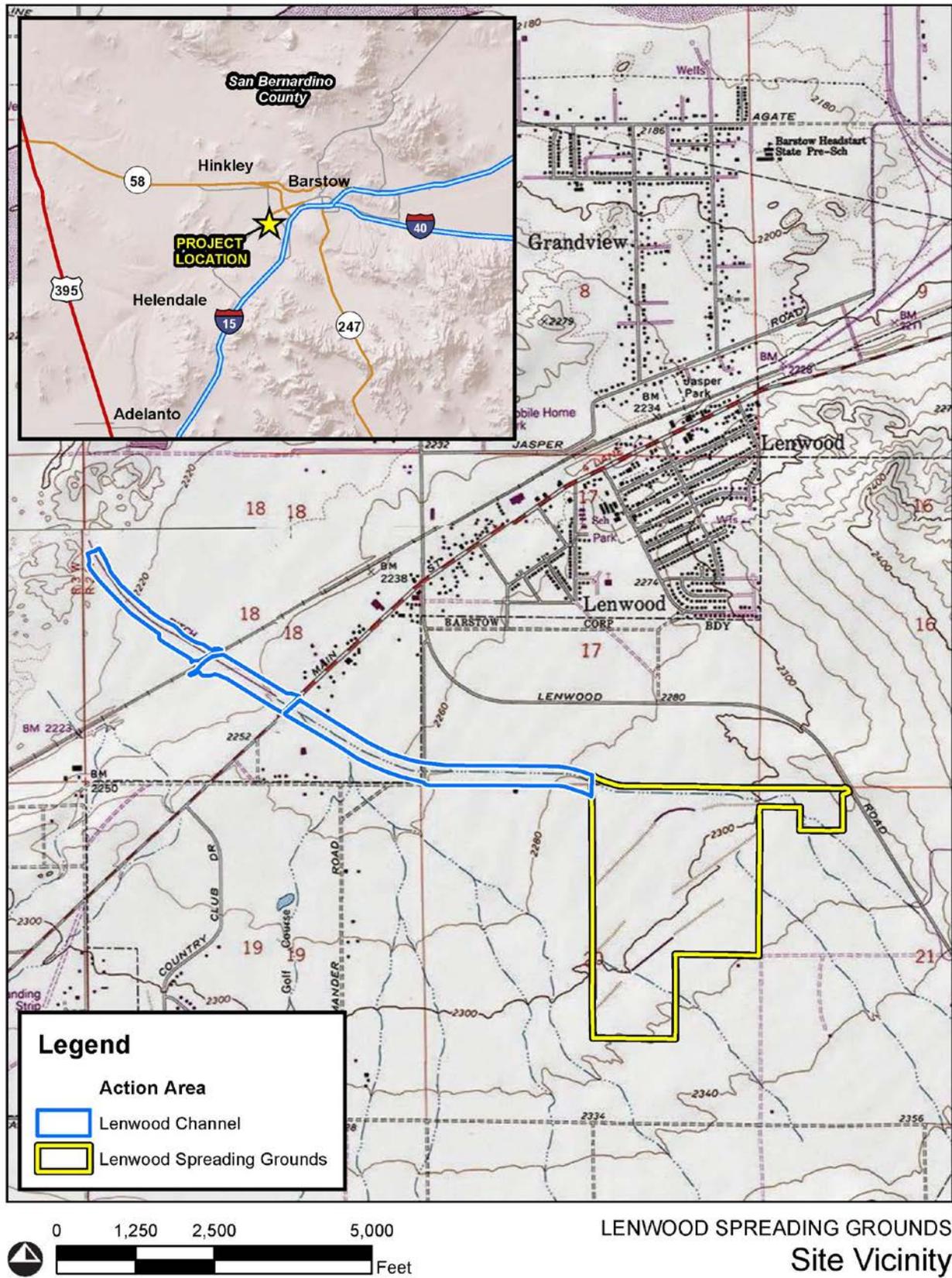


Figure 2

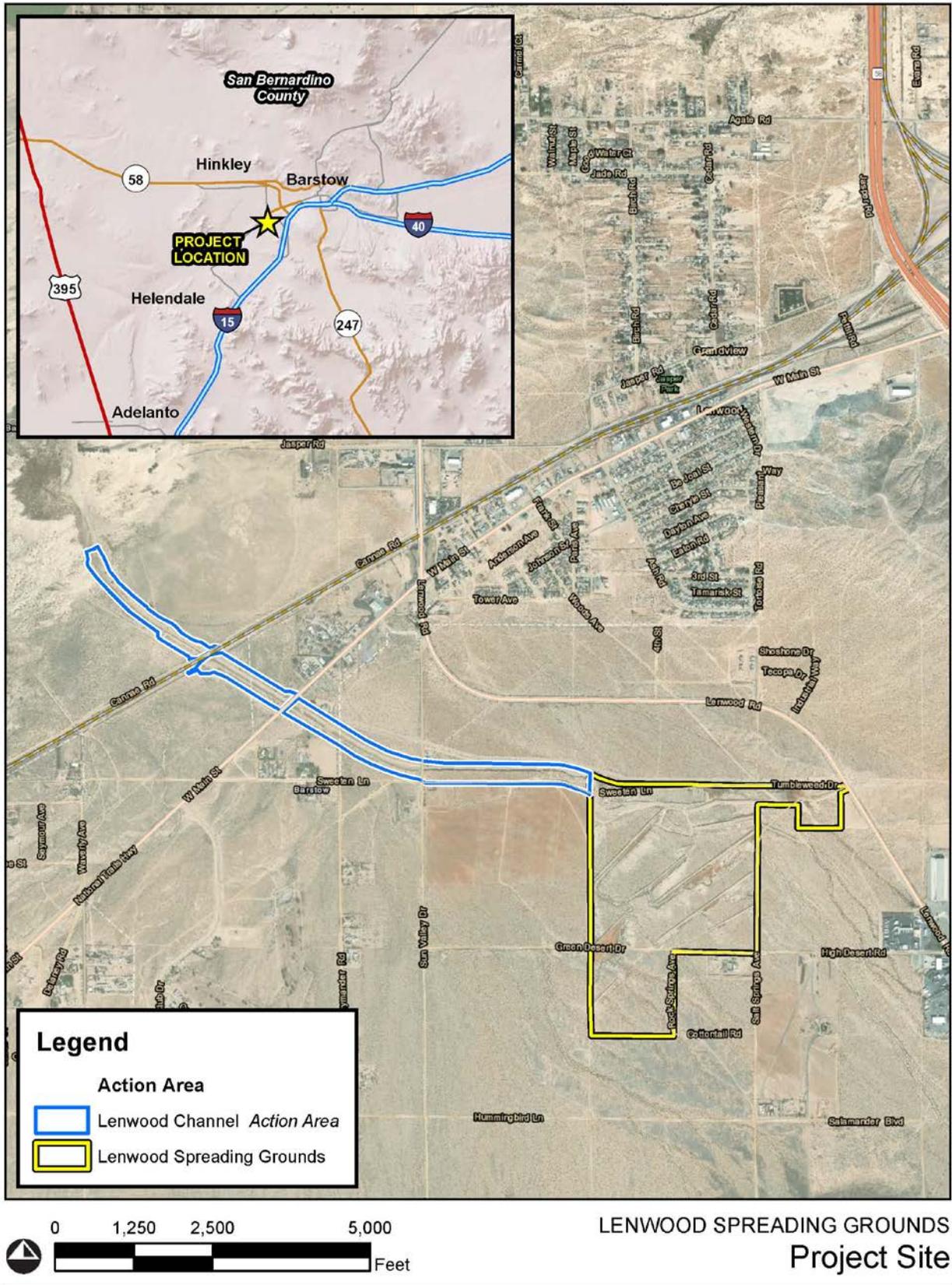


Figure 3

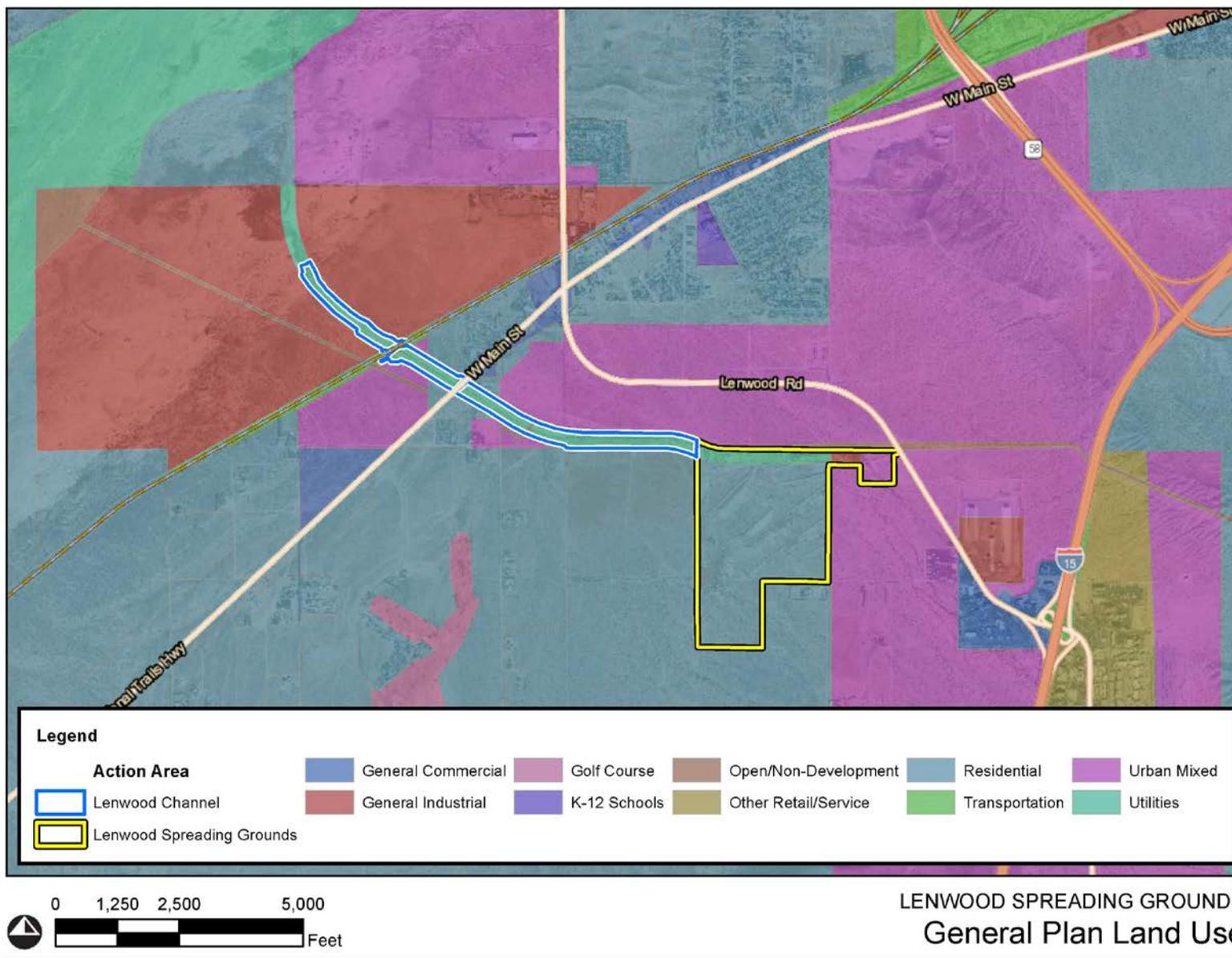


Figure 4

ENVIRONMENTAL CHECKLIST FORM

1. **Project Title:** Lenwood Facilities Maintenance and Spillway Improvement Project
2. **Lead Agency Name:** San Bernardino County Flood Control District
Address: 825 E. Third Street, San Bernardino, CA 92415
3. **Contact Person:** Michele Derry
Phone Number: (909) 387-8114
4. **Project Location:**

General Project Location

West of the Interstate 15 freeway, south of National Trails Highway and south of Lenwood Road within the City of Barstow, at the northwest corner of Green Desert Drive and Salt Springs Avenue, San Bernardino County, CA.

Topographic Quad (USGS 7.5"): Hodge and SE Barstow Quadrangles
 Topographic Quad Coordinates: T9N-R2W, Section 20, SBB & M., San Bernardino County, California

Latitude: 34°51'34.94"N, Longitude: 117° 6'19.55"W

Site Access

From San Bernardino: Interstate 15 North, exit Lenwood Road, turn northwest onto Lenwood Road; Tumbleweed Drive, turn west.

5. **Project Sponsor's Name and Address:** San Bernardino County Flood Control District
825 E. Third Street, San Bernardino, CA 92415
6. **General Plan Designation:** Resource Conservation, Open Space
7. **Zoning:** Open Space
8. **Project Description Summary:**

The proposed Project is the initial sediment removal of approximately 1.9 million cubic yards within approximately 181-acres of the approximately 220-acre Lenwood Spreading Grounds, Lenwood Spreading Grounds Spillway Replacement, and follow-on routine maintenance of the Lenwood Spreading Grounds, Lenwood Spreading Grounds Spillway, Lenwood Channel, and access roads.

Because the District does not currently have regulatory permits to conduct routine maintenance, there has been a lack of maintenance within the facilities. Within the spreading grounds, sediment and debris has built up over time, resulting in a decreased capacity for storm flow containment and groundwater recharge. In some areas, the sediment build-up is 7 to 9 feet deep.

Further, in August 2014, the spillway of the Lenwood Spreading Grounds was destroyed. Large volumes of debris-laden sediment washed down through the spillway, resulting in extensive irreparable damage to the spillway, and wing walls. The facilities convey flows of a drainage area approximately 43,560 acres. The spillway is an integral part of the flood control facility because it regulates the water flow into Lenwood Channel and allows water to percolate within the spreading grounds.

District's facilities must be maintained routinely to achieve the District's goals of optimum flood control and public safety. The Lenwood Spreading Grounds also act as a major source for groundwater recharge. Maintenance of the channel and spreading grounds and related spillway improvements require the District to obtain environmental permits from various state and federal agencies.

Details of the Project are further discussed in Section 3.

8. Environmental/Existing Site Conditions:

The proposed project is located in Barstow in the Mojave Desert. The Mojave Desert is extremely arid and the precipitation in the area is largely a result of monsoonal thunderstorm activity. These desert thunderstorms generally occur during the warm summer months from July through September. The characteristics of desert thunderstorm precipitation consist of high intensities, limited areal coverage, relatively short duration, and erratic frequency.

The facilities provide groundwater recharge and flood protection to adjacent and downstream property owners, including the Atchison Topeka and Santa Fe Railroad. The spreading grounds is a series of basins that vary in size and primarily serve to collect water to recharge the groundwater basin and provide flood protection to residents and businesses. The basins vary in size and flood storage capacity. The basins are excavated areas on the upstream side of dikes, and are where the actual velocity dissipation, short term storage, and water percolation takes place. The Lenwood spreading grounds occur over an area of approximately 220 acres. Sheet flow and road culverts convey stormwater into large spreading basins (approximately 16) owned by the District where water is slowed down through a series of weirs, dikes and culverts before entering Lenwood Channel and/or percolating into the regional groundwater basin. Previously the District has actively maintained about 220 acres but proposes to reduce active maintenance to approximately 181 acres. The spreading grounds connects to the channel by a spillway structure, which allows overflow into Lenwood Channel, and ultimately the Mojave River during large storm events. Both facilities are natural earthen facilities except for the concrete spillway and any appurtenant structures such as inlet and outlet structures.

With the exception of several residences located in the vicinity of where Highway 66 crosses the Lenwood Channel, the area immediately surrounding the proposed Project site is comprised almost entirely of natural desert with sparse vegetation. In addition to the BNSF rail, Highway 66 and Lenwood Road, there are several unpaved dirt roads located within the immediate vicinity of the proposed Project site. Salt Spring Avenue, Green Desert Drive and Tumbleweed Drive all provide access to the spreading grounds near the south/southeast portion of the Project site. Sweeten Lane, which runs parallel the south side of the Lenwood Channel provides access to the northwest corner of the spreading grounds. Sun Valley Drive is a partially paved road that crosses the Lenwood Channel approximately 0.5 mile southeast (upstream) of where Highway 66 crosses Lenwood Channel.

Climate, Soils and Topography

The Barstow area climate, within the Mojave Desert, is extremely arid and subject to seasonal and annual variations in temperature and precipitation. Weather data was collected from Daggett Airport, located approximately 18 miles east of the site. Temperatures measured at Daggett Airport show average maximum temperatures of 104.2 degrees Fahrenheit (°F) occurring in July and average minimum temperatures of 35.5°F occurring in December. Precipitation measured at Daggett Airport show that average precipitation is highest in January at 0.58 inches and lowest in May and June at 0.07 inches. The average annual precipitation in the vicinity of the site is 3.83 inches.

The precipitation in the general area of the site is largely a result of thunderstorm activity. These desert thunderstorms generally occur during the warm summer months from July through September. The characteristics of desert thunderstorm precipitation consists of high intensities, limited areal coverage, relatively short duration, and erratic frequency.

The surface elevation of the proposed Project site ranges from approximately 2,325 feet above mean sea level (AMSL) at the eastern boundary of the site to approximately 2,225 feet AMSL at the western boundary of the site. The site is generally located in the Mojave Desert, between the Mojave River at the northwest terminus of Lenwood Channel and Stoddard Valley to the southeast of the Lenwood Spreading Grounds. Stoddard Valley is surrounded by Stoddard Ridge to the south/southwest, the Ord Mountains to the southeast, Daggett Ridge to the north/northeast and the Mojave River to the northwest.

Precipitation runoff will flow down the steep mountain slopes in numerous small channels, which converge and form larger, well-defined channels or washes. These channels retain their definition until the slopes flatten and the flow changes to rill and braided overland flow within the gently sloping alluvial fan plain. There is high absorption in these flood plains due to slow runoff and rapid permeability.

According to the U.S. Department of Agriculture (USDA) Natural Resources Conservation Services (NRCS), Web Soil Survey website, soils on-site soils consist primarily of Cajon Gravelly Sand, Cajon Sand, Joshua Loam. About 4% of the site contains Villa Loamy Sand – Hummocky, Victorville Sand Loam, and Norob-Halloran Complex. Refer to Figure 5 and the Geology and Soils section of this document for more information.

The Lenwood facilities occurs within an approximately 2.45-mile section of alluvial fan, which originates approximately 20 miles southeast (upstream) of the spreading grounds in the Ord Mountains. Runoff from these local mountains and surrounding area enters the Lenwood Spreading Grounds at the easternmost border of the spreading grounds, between Salt Springs Avenue and Lenwood Road. Flow that is not retained within the spreading grounds passes through the spillway, which is located at the northwestern most corner of the spreading grounds, and continues westward within Lenwood Channel before converging with the Mojave River. The Lenwood Spreading Grounds and Channel are considered tributaries to the Mojave River, which is the major hydrogeomorphic feature of the Mojave Watershed; refer to Figure 6 – National Hydrology Dataset. The Mojave River is approximately 110 miles long and originates approximately 50 miles south (upstream) of the proposed Project site at the northern slopes of the San Bernardino Mountains. The terminus of the Mojave River is approximately 60 miles northeast (downstream) of the proposed Project site, where it percolates between Afton Canyon and Soda Lake.

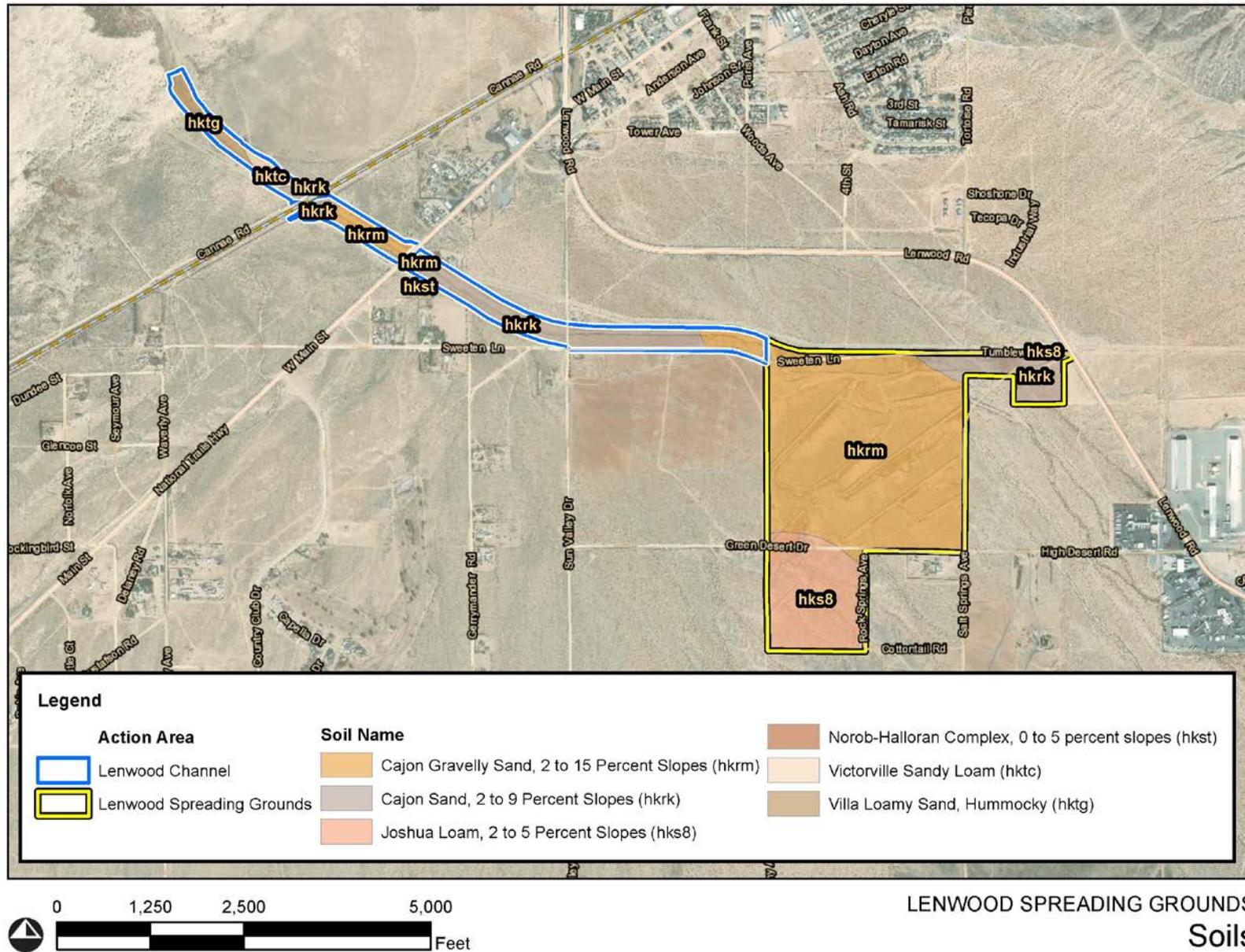


Figure 5

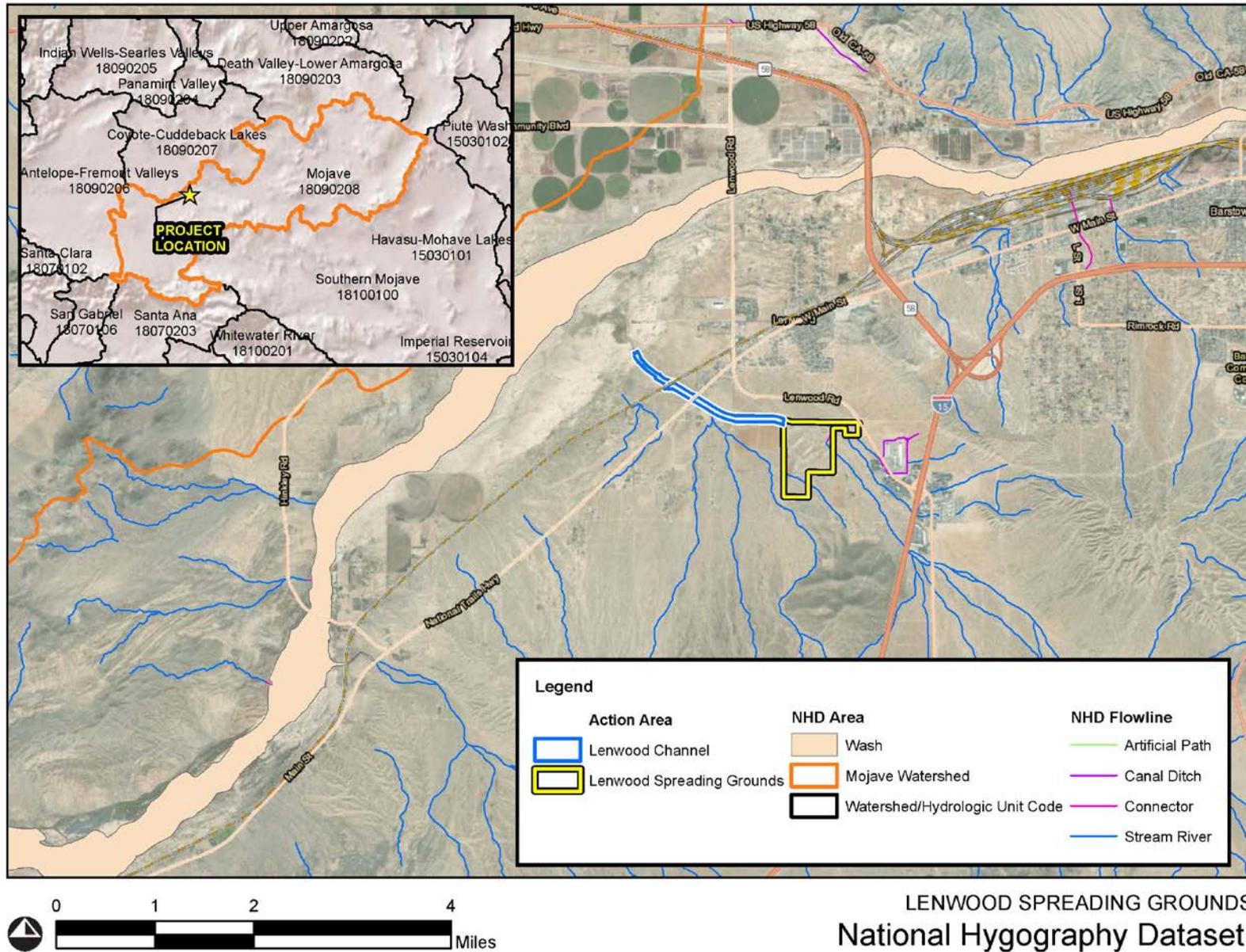


Figure 6

9. Surrounding land uses and setting (Briefly describe the project's surroundings)

The easternmost extent of the Project is located approximately 1 mile west of Interstate 15 (I-15), which runs in a north-south alignment west of the Lenwood Spreading Grounds. Highway 66 (National Trails Highway) crosses Lenwood Channel approximately 1 mile west (downstream) of the spreading grounds and approximately 0.5 mile southwest of the Highway 66/Lenwood Road intersection. The BNSF rail also crosses the Lenwood Channel approximately 0.3 mile west (downstream) of Highway 66. The surrounding land use designations consist of low-density residential, commercial uses, industrial uses, utilities, transportation corridors and undeveloped open space. The Project area is located immediately southwest of and partially within the southern portion of the town of Lenwood, which is situated approximately 1.5 miles west of the State Route 58 (SR-58)/I-15 interchange; refer to Figure 2, *Site Vicinity Map*. According to the 2010 census, the town of Lenwood has a population of 3,543.

10. Lead Agency Discretionary Actions:

Discretionary actions that may be taken by the Lead Agency include, but are not limited to, the following:

- Adoption of Environmental Findings by the County Board of Directors, Flood Control District
- Right-of-way acquisition, if required
- Facility Maintenance and spillway replacement

11. Other agencies whose approval is required (e.g., permits, financing approval, or participation agreement.):

Federal Agencies (not “public agencies” as defined by CEQA or required to take a CEQA action):

- U.S. Army Corps of Engineers (USACE) – Clean Water Act Section 404 Permit
The federal Clean Water Act (CWA) is the primary federal law promulgated to protect the quality of the nation’s surface waters, including lakes, rivers, and coastal wetlands. Under Section 404 of the CWA, a permit is required by the Army Corps of Engineers for any dredge and fill activities within waters overseen by the Army Corps of Engineers, known as “Waters of the US, or WoUS”. This project involves dredge and fill into WoUS.
- Bureau of Land Management – this project will include areas within the boundaries of the existing right-of-way grant issued to the District by BLM in 1964 for the purposes of flood control construction, operations and maintenance; the District will notify the BLM of its proposed project. All flood control and recharge activities are currently authorized under the existing BLM permit.

State Agencies

- California Department of Fish and Wildlife (CDFW) – Streambed Alteration Agreement. The California Department of Fish and Wildlife (CDFW) is responsible for conserving, protecting, and managing California's fish, wildlife, and native plant resources. To meet this responsibility, the Fish and Game Code (Section 1602) requires an entity to notify CDFW of any proposed activity that may substantially modify a river, stream, or lake. If the CDFW determines that the maintenance of the District's facilities may substantially adversely affect fish and wildlife resources, the CDFW requires that the District enter into a Lake or Streambed Alteration Agreement with the CDFW.

- Santa Ana Regional Water Quality Control Board – Clean Water Act Section 401 Water Quality Certification and preparation of SWPPP in accordance with Clean Water Act Section 402. The federal Clean Water Act (CWA) is the primary federal law promulgated to protect the quality of the nation’s surface waters, including lakes, rivers, and coastal wetlands. Under Section 401 of the CWA, a certification by the State Water Resources Control Board is required for any dredge and fill activities within waters overseen by the Army Corps of Engineers, known as “Waters of the US, or WoUS”.

12. Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code section 21080.3.1? If so, has consultation begun?

Note: Conducting consultation early in the CEQA process allows tribal governments, lead agencies, and project proponents to discuss the level of environmental review, identify and address potential adverse impacts to tribal cultural resources, and reduce the potential for delay and conflict in the environmental review process. (See Public Resources Code section 21083.3.2.) Information may also be available from the California Native American Heritage Commission’s Sacred Lands File per Public Resources Code section 5097.96 and the California Historical Resources Information System administered by the California Office of Historic Preservation. Please also note that Public Resources Code section 21082.3(c) contains provisions specific to confidentiality.

On February 29, 2016, the County of San Bernardino Department of Public Works Environmental Management Division mailed a project notice to the San Manuel Band of Mission Indians. The Tribe expressed interest in the project and requested that a cultural resources study be completed and forwarded to them. On April 8, 2018, the District forwarded a cultural report prepared by BCR Consulting to the Tribe. No cultural resources were identified, and the report recommends that no further action be taken. No further comments were received from the Tribe. However, should any resources be found during maintenance activities, mitigation measures have been incorporated.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

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

- Aesthetics
- Agriculture & Forestry Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Geology / Soils
- Greenhouse Gas Emissions
- Hazards & Hazardous Materials
- Hydrology & Water Quality
- Land Use / Planning
- Mineral Resources
- Noise
- Population / Housing
- Public Services
- Recreation
- Transportation / Traffic
- Tribal Cultural Resources
- Utilities / Service Systems
- Mandatory Findings of Significance

LEAD AGENCY DETERMINATION

Based on this Initial Study, the following finding is made:

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


 Signature [Darren J. Meeka, P.E., Chief]

5/6/19
 Date

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
I. AESTHETICS: Would the project:				
a) Have a substantial adverse effect on a scenic vista?				X
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?				X
c) Substantially degrade the existing visual character or quality of the site and its surroundings?				X
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?				X

SUBSTANTIATION: (Check if project is located within a view-shed of any Scenic Route listed in the General Plan):

Environmental Setting

The proposed Project is generally located west of the Interstate 15 freeway, south of National Trails Highway and south of Lenwood Avenue approximately 3 miles west of the City of Barstow, at the northwest corner of Green Desert Drive and Salt Springs Avenue (dirt roads).

The area is primarily a desert environment, with views of the distant mountain ranges in the background.

Impact Analysis

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

No Impact. While CEQA Guidelines do not provide a precise definition of what constitutes a scenic vista, a scenic vista can generally be defined as a viewpoint from a public vantage that provides expansive views of a highly valued landscape for the benefit of the general public. Common examples include undeveloped hillsides, ridgelines, and open space areas that provide a unifying visual backdrop to a developed area. Scenic resources can generally be defined as those landscape patterns and features that are visually or aesthetically pleasing and that contribute affirmatively to the definition of a distinct community or region such as trees, rock outcroppings, and historic buildings.

The Project area is a series of existing flood control basins and channel, which generally cannot be seen from public access points. Historic Route 66 crosses over the Lenwood channel culvert but this section of Route 66 is not considered a scenic route under the County General Plan. The Project is routine maintenance of existing facilities and a spillway replacement with slope/levee improvements that will not change the existing landforms in a manner that would alter the existing character of the area; maintenance has been an ongoing activity within the District facilities. Therefore, no impact would occur.

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

No Impact. The Project is not located within or adjacent to a state scenic highway, and therefore, no impact to trees or rock outcroppings, or historic buildings within a state scenic highway would occur.

- c) Substantially degrade the existing visual character or quality of the site and its surroundings?**

No Impact. The Project is to maintain the existing flood control facilities and a majority of the work will occur below grade. The Project will have no impact on the existing visual character or quality of the site and its surroundings.

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

No Impact. The Project does not propose to install lighting, and all work will be conducted during the daytime hours. Therefore, there will be no impact to this criterion.

Mitigation Measures:

No mitigation measures are required.

Aesthetics Impact Conclusions:

No significant adverse impacts are identified or anticipated, and no mitigation measures are required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
<p>II. AGRICULTURE AND FORESTRY RESOURCES:</p> <p>In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:</p>				
a) Convert Prime Farmland, Unique Farmland or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?				X
b) Conflict with existing zoning for agricultural use or a Williamson Act contract?				X
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104[g])?				X
d) Result in the loss of forest land or conversion of forest land to non-forest use?				X
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?				X

SUBSTANTIATION: (Check if project is located in the Important Farmlands Overlay):

Environmental Setting

There are no farmlands or forest lands within the Project area.

Impact Analysis

- 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?***

No Impact. There are no prime, unique or farmland of statewide importance in the areas of the District's maintenance. Therefore, no impact would occur.

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

No Impact. There are no agricultural or Williamson Act contract lands within the Project area. Therefore, no impact would occur.

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

Less Than Significant. Forest land is defined in Public Resources Code section 12220(g) as "land that can support 10-percent native tree cover of any species, including hardwoods, under natural conditions, and that allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits." The basins in the Project area could support 10-percent native tree cover if left unmaintained. However, the facilities in the Project area has been maintained as flood control facilities for decades. Therefore, no timberland or lands zoned Timberland Production as defined above are crossed by any component of the proposed Project. Therefore, less than significant impacts would occur in this regard.

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

No Impact. There is no forest land in the Project area. Therefore, no impact would occur in this regard.

- e) ***Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?***

No Impact. The Project Area consists of flood control facilities that have existed as this use since the 1940s. Therefore, no impacts would occur in this regard.

Mitigation Measures:

No mitigation measures are required.

Agriculture and Forestry Services Impact Conclusions:

No significant adverse impacts are identified or anticipated, and no mitigation measures are required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
<p>III. 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:</p>				
a) Conflict with or obstruct implementation of the applicable air quality plan?				X
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?			X	
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?			X	
d) Expose sensitive receptors to substantial pollutant concentrations?		X		
e) Create objectionable odors affecting a substantial number of people?				X

SUBSTANTIATION: (Discuss conformity with the South Coast Air Quality Management Plan, if applicable):

Environmental Setting

The City of Barstow is located in the western portion of the Mojave Desert and has relatively good air quality in relation to other portions of central and southern California (City of Barstow, General Plan 2015-2020 EIR). Interstate Highways 15 and 40, State Route 58 and the Burlington-Northern Santa Fe rail line and classification yard are the primary sources of pollutants. Other local stationary sources of air pollutants include the City’s wastewater treatment facility, the Marine Corps Logistics Base and the Barstow Sanitary Landfill. The San Joaquin Valley to the west and the Southern California air basin to the south are considered sources of regional air pollution, which migrates into the Barstow area.

Baseline Air Quality

Monitoring of air quality in the MDAB is the responsibility of the Mojave Desert Air Quality Management District (MDAQMD) headquartered in Victorville, California. Because of the low population density of the air district, limited monitoring resources are distributed over a relatively large geographic area. The heaviest concentration of measurements is in the area of greatest development in the Victor Valley. Existing levels of criteria air pollutants in the Project area can generally be inferred from measurements conducted at the Hesperia monitoring station. Although the Hesperia Station does not monitor the complete spectrum of pollutants, data for CO, NO₂ and PM-2.5 are available from the Victorville Monitoring Station. Table 3 summarizes the monitoring history from the Hesperia and Victorville

monitoring stations for the last six years. From these data, one can infer that baseline air quality levels near the Project site are occasionally unhealthful, but that such violations of clean air standards usually affect only those people most sensitive to air pollution exposure.

- a. Photochemical smog (ozone) levels occasionally exceed standards. The 8-hour state ozone standard has been exceeded an average of 21 percent of all days in the past six years in Hesperia while the 1-hour state standard has been violated six percent of all days. Years 2009 and 2010 were the cleanest years of recent years.
- b. Measurements of carbon monoxide have shown very low baseline levels in comparison to the most stringent one- and eight-hour standards.
- c. Respirable dust (PM-10) levels only rarely exceed the state standard, while the less stringent federal PM-10 standard was not violated for the same time period.
- d. The federal ultra-fine particulate (PM-2.5) standard of 35 $\mu\text{g}/\text{m}^3$ has not been exceeded in the last six years. Maximum daily concentrations are similarly low and were the lowest in 2011.

Although complete attainment of every clean air standard is not yet imminent, extrapolation of the steady improvement trend suggests that such attainment could occur within the reasonably near future.

Standards of Significance

The proposed Project would provide storm drainage improvements. There are no associated operational impacts. Potential air quality impacts would therefore derive exclusively during construction of the proposed improvements.

Table 3
Air Quality Monitoring Summary (2009-2014)
(Number of Days Standards Were Exceeded, and Maximum Levels During Such Violations)

Pollutant/Standard	2009	2010	2011	2012	2013	2014
Ozone						
1-Hour > 0.09 ppm (S)	1	1	0	0	1	0
8-Hour > 0.07 ppm (S)	18	7	35	36	31	37
8- Hour > 0.075 ppm (F)	5	1	9	15	10	17
Max. 1-Hour Conc. (ppm)	0.095	0.097	0.093	0.090	0.099	0.094
Max. 8-Hour Conc. (ppm)	0.086	0.078	0.083	0.084	0.092	0.087
Carbon Monoxide						
1-hour > 20. ppm (S)	0	0	0	0	0	0
8- Hour > 9. ppm (S,F)	0	0	0	0	0	0
Max 8-hour Conc. (ppm)	0.89	0.89	1.35	0.66	ND	ND
Nitrogen Dioxide						
1-Hour > 0.18 ppm (S)	0	0	0	0	0	0
Max. 1-Hour Conc. (ppm)	0.060	0.062	0.077	0.146	0.085	0.069
Inhalable Particulates (PM-10)						
24-hour > 50 µg/m ³ (S) estimated	12	0	12	0	ND	ND
24-hour > 150 µg/m ³ (F) estimated	0	0	0	0	ND	ND
Max. 24-Hr. Conc. (µg/m ³)	76.	38.	98.	42.	ND	ND
Fine Particulates (PM-2.5)						
24-Hour > 35 µg/m ³ (F) estimated	0	0	0	0	0	0
Max. 24-Hr. Conc. (µg/m ³)	20.	16.	12.	13.	24.	20.

ND = not reported on CARB website

Source: Barstow Station: Ozone, CO, NO₂, PM-10 and Victorville Station: PM-2.5 data
www.arb.ca.gov/adam/

The Mojave Desert AQMD has adopted numerical emissions thresholds as indicators of potential impact even if the actual air quality increment cannot be directly quantified. The MDAQMD thresholds are as follows:

Carbon Monoxide (CO)	548 pounds/day	100 tons/year
Nitrogen Oxides (NOx)	137 pounds/day	25 tons/year
Sulfur Oxides (SOx)	137 pounds/day	25 tons/year
Reactive Organic Gases (ROG)	137 pounds/day	25 tons/year
Particulate Matter (PM-10)	82 pounds/day	15 tons/year
Particulate Matter (PM-2.5)	82 pounds/day	15 tons/year

Federal Standards

NEPA guidelines do not encourage designation of impacts as (in) significant. However, Section 176(c) of the Clean Air Act Amendments of 1990 prohibits federal participation in projects that would impede implementation of the state implementation plan (SIP) for federal non-attainment pollutants. “Participation” includes project funding as well as granting any federal permits. If the project-related emissions from construction and operations are less than specified “*de minimis*” levels, no further SIP consistency demonstration is required. The MDAB is designated as a “moderate” non-attainment area for the federal 8-hour ozone standard. The basin is a non-attainment area for PM-2.5 and a maintenance area for PM-10. Based upon these designations, the following emissions levels are presumed evidence of SIP conformity:

VOC/ROG	-	50 tons/year
NOx	-	50 tons/year
PM-2.5		100 tons/year
PM-10	-	100 tons/year

These *de minimis* thresholds are less stringent than the MDAQMD CEQA thresholds. If project air quality impacts in the MDAB are less-than-significant under CEQA, they are automatically in compliance under NEPA.

Additional Indicators

In its CEQA Handbook (2007), the MDAQMD also states that additional indicators should be used as screening criteria to determine the need for further analysis with respect to air quality. The additional indicators relevant to this project are as follows:

- Generates total emissions (direct and indirect) in excess of the MDAQMD thresholds.
- Generate a violation of any ambient air quality standard when added to the local background
- Creates odors that could be considered a nuisance by any substantial number of people.
- Does not conform to applicable attainment or maintenance plans.
- Emits hazardous or toxic emissions that create an excess cancer risk of more than 10 in a million or a non-cancerous health index (HI) or more than 1.0.

Except in special circumstances, the CEQA Handbook notes that meeting the emissions thresholds is normally sufficient to demonstrate a less-than-significant impact.

Impact Analysis – Air Quality

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

No Impact. According to the MDAQMD CEQA and Federal Conformity Guidelines (MDAQMD 2011), a project is deemed to be consistent with the air quality plan if it is consistent with the existing land use plan. The Project is to maintain existing flood control facilities. Therefore, there will be no impact to this criteria.

b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?

An Air Quality and GHG Analysis Report was prepared for the Project by Giroux and Associates in May 2016. As previously discussed, the Project would not result in any operational impacts. Therefore, only construction related impacts were analyzed in the report.

Annualized construction activity emissions for the proposed Project were calculated using the South Coast Air Quality Management District (SCAQMD) CalEEMod computer model for the indicated equipment fleet and time frame. The CalEEMod was developed by the SCAQMD and provides a model to calculate construction emissions. It calculates both the daily maximum and annual emissions for criteria pollutants as well as total or annual greenhouse gas (GHG) emissions.

EMFAC2014, the California Air Resources Board tool for estimating emissions from on-road vehicles, was used to calculate truck haul emissions associated with disposal of sediment and debris from the Spreading Grounds. EMFAC2014 emissions calculations were based on the mileage indicated below.

The construction scenario modeled for the various activities that are planned for the proposed Project are listed below.

Access Roads: 3 weeks (frequency 2-3 times per year): 1 roller, 1 grader, 1 loader/backhoe, 1 air compressor

Channel Maintenance: 3 weeks (frequency 2-3 times per year): 2 skid loaders, 1 loader/backhoe, 1 air compressor

Spillway Restoration: 3 months: 1 dozer, 1 loader/backhoe, 1 crane, 1 off-highway truck

Spreading Grounds: On-Site Equipment: 1 dozer, 2 scrapers, 2 loader/backhoes (tier 4), 1 excavator, 1 water truck

Spreading Grounds Truck Haul for Sediment Removal: 486 days: 120 round trips per day, 240 one-way trips, 30 miles/trip = 7,200 miles/day; 20 trucks, 40% clean trucks (CNG or Tier 4)

Emissions for a single project component were calculated and then multiplied to reflect the number of times per year the activity would be expected to occur to determine annual emissions. Therefore, the annual emissions data reflects all project components occurring in the same year (2017) as a worst-case condition. The Table 4, *Daily Emissions (lbs/day)*, provides maximum daily emissions as compared to the MDAQMD daily CEQA thresholds and Table 5, *Annual Emissions (tons/year)*, shows annual emissions.

Emissions for a single project component were calculated and then multiplied to reflect the number of times per year the activity would be expected to occur to determine annual emissions. Therefore, the annual emissions data reflects all project components occurring in the same year (2017) as a worst-case condition. The Table 4, *Daily Emissions (lbs/day)*, provides maximum daily emissions as compared to the MDAQMD daily CEQA thresholds and Table 5, *Annual Emissions (tons/year)*, shows annual emissions.

Table 4
Daily Emissions (lbs/day)

Maximal Construction Emissions	ROG	NOx	CO	SO₂	PM-10	PM-2.5
2017						
Access Roads	1.6	14.7	10.2	0.0	1.1	0.9
Channel Maintenance	0.8	7.3	7.7	0.0	0.7	0.5
Spillway Restoration	2.2	23.6	15.2	0.0	5.7	3.5
Spreading Grounds						
on-site equipment	5.3	60.9	42.2	0.1	10.5	6.1
haul truck miles	1.1	59.2	4.3	-	0.5	0.5
Spreading Grounds Total	6.4	120.1	46.5	0.1	11.0	6.6
MDAQMD Thresholds	137	137	548	137	82	82
<i>Exceeds Thresholds?</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>

Table 5
Annual Emissions (tons/year)

Maximal Construction Emissions	ROG	NOx	CO	SO₂	PM-10	PM-2.5
2017						
Access Roads (single event)	0.01	0.08	0.01	0.00	0.00	0.00
3 x year	0.03	0.24	0.03	0.00	0.00	0.00
Channel Maintenance (single event)	0.01	0.06	0.06	0.00	0.00	0.00
3 x year	0.03	0.18	0.18	0.00	0.00	0.00
Spillway Restoration	0.07	0.08	0.05	0.00	0.19	0.11
1 x	0.07	0.08	0.05	0.00	0.19	0.11
Spreading Grounds (on-site equipment)	0.28	4.56	5.17	0.01	0.61	0.38
Spreading Grounds (haul truck miles)	0.20	10.81	0.79	-	0.10	0.10
Spreading Grounds Total	0.48	15.37	5.96	0.01	0.71	0.48
Total All Activities	0.61	15.87	6.22	0.01	0.9	0.59
MDAQMD Thresholds	25	25	100	25	15	15
<i>De Minimis Thresholds</i>	25	25	-	-	70	100
<i>Exceeds Either Threshold?</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>

Maximum project-related air pollution emissions were compared to daily and annual MDAQMD thresholds as well as federal standard attainment designations and appropriate *de minimis* thresholds. Even if all activities occurred in a single calendar year and overlapped, maximum daily emissions are less than their daily CEQA thresholds and much less than their associated *de minimis* thresholds. A formal State Implementation Plan (SIP) consistency analysis is not required because all project emissions will be below their respective *de minimis* thresholds. Therefore, impacts would be less than significant.

- c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?**

Refer to Response III (b), above. Less than significant impacts would occur.

d) Expose sensitive receptors to substantial pollutant concentrations?

Less Than Significant With Mitigation Incorporated. Maintenance activities will utilize heavy equipment typically used in construction. As such, maintenance activities have traditionally been associated with dust generation, which may create localized nuisances in the Project vicinity. Dust generation results from soil disturbance, travel on unpaved surfaces, loading and unloading of dusty materials, etc. Control of these sources derives from good operational practices, proper housekeeping, and effective dust suppression measures where possible. With an aggressive program of fugitive dust suppression, construction can typically occur with an acceptable ambient particulate air quality impact beyond the site fence line.

Air pollution emissions are not expected to exceed MDAQMD CEQA thresholds. Although particulates are not anticipated to exceed thresholds, the PM-10 non-attainment status of the MDAB area requires that Best Available Control Measures (BACMs) be used where feasible. Recommended construction activity mitigation includes **Mitigation Measures AIR-1** and **AIR-2**. Mitigation Measures are located at the end of this section:

e) Create objectionable odors affecting a substantial number of people?

No Impact. During excavation, fine grading and construction, the proposed Project will generate odors associated with equipment and materials such as diesel fuel odors from construction equipment and asphalt from road repair. These are common odors that will be transitory but there are no receptors in the Project area due to the remote location of the Project. Therefore, the proposed Project is not forecast to cause odor impacts during construction or future operations.

Mitigation Measures:

AIR-1

Dust Control Measures

- Apply soil stabilizers such as hay bales or aggregate cover to inactive areas.
- Prepare and implement a high wind dust control plan when winds exceed 25 mph and reduce non-essential earth-moving activity under high wind conditions.
- Stabilize previously disturbed areas if subsequent construction is delayed.
- Water exposed surfaces and haul roads 3 times/day.
- Stockpiles shall be roller compacted, periodically watered, or treated with appropriate dust suppressants.
- Replace ground cover in disturbed areas quickly.
- Reduce speeds on unpaved roads to less than 15 mph.
- Trenches shall be left exposed for as short a time as possible.
- Identify proper compaction for backfilled soils in construction specifications.
- Take actions sufficient to prevent project-related trackout onto paved surfaces.

AIR-2

Exhaust Emission Controls

- Require 90-day low-NOx tune-ups for off-road equipment.
- Limit allowable idling to 5 minutes for trucks and heavy equipment.

Air Quality Impact Conclusions:

No significant adverse effects are anticipated with the inclusion of the above mitigation measures.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
IV. BIOLOGICAL RESOURCES: Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?		X		
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?		X		
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?				X
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?		X		
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?				X
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?		X		

Summary of Project Biological Studies

Numerous biological resource surveys have been conducted for the project:

2013	Desert tortoise focused surveys conducted by RCA
2015	Initial reconnaissance surveys conducted by Jericho Systems
2016	Jurisdictional delineation conducted by Jericho Systems
2017	Focused surveys conducted by Ironwood Consulting for rare plants, desert tortoise, burrowing owl, Mohave ground squirrel (details found in Biological Resources Technical Report in Appendix A)
2018	Follow up monitoring of desert tortoise burrow in northern area of project

Vegetation

The plant community occurring within the Lenwood spreading grounds and Lenwood channel of the proposed Project site and surrounding areas is mixed Creosote bush-white bursage scrub (Figure 7; Sawyer et al 2009) with varying level of past disturbance related to the use of the site for flood control. The Lenwood spillway is highly disturbed from past construction of the spillway and flood events. Disturbance anticipated for the proposed project includes:

**Table 6
Vegetation Communities**

Project Feature	Vegetation Community	Acres
Lenwood spreading grounds	Creosote bush – white bursage, less disturbed	132.0
	Creosote bush – white bursage, highly disturbed or unvegetated	65.8
Lenwood channel	Creosote bush – white bursage, less disturbed	26.7
	Creosote bush – white bursage, highly disturbed or unvegetated	58.7
Lenwood spillway	Creosote bush – white bursage, highly disturbed or unvegetated	0.2

Impact Analysis

a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

Less than Significant with Mitigation. Prior to all surveys, database records (CNDDDB and CNPSEI) were researched for their proximity to the project site, and species requirements. The literature reviews included searches for the U.S. Geological Survey (USGS) – *Barstow, SE Barstow, Hinkley, and Hodge* Quadrangles, 7.5 Minute Series; and for 2017 surveys a buffer of 5 miles from the project site. Table 6 presents the combined results of these searches and the potential for each species to occur at the project site based on the following criteria:

Present	Detected on or immediately adjacent to the Project site within the past 5 years
High	Detected on or immediately adjacent to the Project site between 5-20 years ago <i>and</i> suitable habitat present
Moderate	Detected on or immediately adjacent to the Project site between 5-20 years ago <i>or</i> suitable habitat present. Annual species if annual rainfall was below average at the time of a focused rare plants survey.
Low	Not detected on or immediately adjacent to the Project site within 20 years; habitat marginal or disturbed
Absent	Specific habitat requirements are not present on or adjacent to the Project site or species is an easily identifiable cactus, shrub or tree absent from the Project site

Table 7
Potential for Species to Occur at the Proposed Project

Common Name Scientific Name	Status	Habitat/elevation (ft)/blooming period	Occurrence Potential		
			Lenwood sreading grounds	Lenwood spillway	Lenwood channel
Plants					
chaparral sand-verbena <i>Abronia villosa</i> var. <i>aurita</i>	Federal: None State: None CNPS: 1B.1	Sandy areas within chaparral and coastal scrub/250-5,250/Mar-Sep	Low	Low	Low
Borrego milk-vetch <i>Astragalus lentiginosus</i> var. <i>borregoanus</i>	Federal: None State: None CNPS: 4.3	Mojavean desert scrubs/100-3,000/Feb-May	Moderate	Low	Moderate
white-pygmy poppy <i>Canbya candida</i>	Federal: None State: None CNPS: 4.2	Sandy and granitic soils in Joshua tree woodlands and Mojavean desert scrubs/2,000-4,800/Mar-Jun	Moderate	Low	Moderate
Mojave spineflower <i>Chorizanthe spinosa</i>	Federal: None State: None CNPS: 4.2	Alkaline playas in Joshua tree woodlands and Mojavean desert scrubs/20-4,250/Mar-Jul	Moderate	Low	Moderate
Clokey's cryptantha <i>Cryptantha clokeyi</i>	Federal: None State: None CNPS: 1B.2	Mojavean desert scrubs/2,400-4,500/Apr	Moderate	Low	Moderate
Colorado Desert larkspur <i>Delphinium parishii</i> ssp. <i>subglobosum</i>	Federal: None State: None CNPS: 4.3	Chaparral, pinyon juniper and Sonoran Desert scrubs/2,000-5,900/Mar-Jun	Low	Low	Low
Mojave monkeyflower <i>Diplacus mohavensis</i>	Federal: None State: None CNPS: 1B.2	Dry, sandy or rocky washes in Joshua tree woodland and Mojavean desert/2,000-3,850/Apr-Jun	Moderate	Low	Moderate
Barstow woolly sunflower <i>Eriophyllum mohavense</i>	Federal: None State: None CNPS: 1B.2	Open, silty or sandy areas in desert chenopod scrub, Mojavean desert scrub, and desert playas/1,650-2,950/Mar-May	Low	Low	Low
Joshua tree poppy <i>Eschschozia androuxii</i>	Federal: None State: None CNPS: 4.3	Dry, sandy or rocky washes in Joshua tree woodland and Mojavean desert/1,900-5,500/Feb-May	Moderate	Low	Moderate
Torrey's boxthorn <i>Lycium torreyi</i>	Federal: None State: None CNPS: 4.3	Sandy and rocky washes in Mojavean desert scrubs/0-4,000/Mar-Jun	Low	Low	Low
Mojave menodora <i>Menodora spinescens</i> var. <i>mohavensis</i>	Federal: None State: None CNPS: 1B.2	Andesite gravel soils on rocky hillsides or canyons in Mojavean desert scrub/690-2,250-6,550/Apr-May	Low	Low	Low
spiny-hair blazing star <i>Mentzelia tricuspis</i>	Federal: None State: None CNPS: 2B.1	Sandy and rocky washes in Mojavean desert scrubs/500-4,200/Mar-May	Moderate	Low	Moderate
creamy blazing star <i>Mentzelia tridentata</i>	Federal: None State: None CNPS: 1B.3	Rocky, gravelly and sandy soils in Mojavean desert scrub/2,300-3,800/Mar-May	Moderate	Low	Moderate
crowned muilla <i>Muilla coronata</i>	Federal: None State: None CNPS: 4.2	Chenopod scrub, Joshua tree woodlands, and Mojavean desert scrub/2,200-6,400/Mar-Apr	Moderate	Low	Moderate
Beaver Dam breadroot <i>Pediomelum castoreum</i>	Federal: None State: None CNPS: 1B.2	Sandy soils, road cuts and wash edges in Joshua tree woodland and Mojavean desert scrub/2,000-2,700/Apr-May	Low	Low	Low

Common Name Scientific Name	Status	Habitat/elevation (ft)/blooming period	Occurrence Potential		
			Lenwood spreading grounds	Lenwood spillway	Lenwood channel
Parish's phacelia <i>Phacelia parishii</i>	Federal: None State: None CNPS: 1B.1	Alkaline flats and slopes, clay soils in Mojavean desert scrub and playas/1,750-3,950/Apr-May	Moderate	Low	Moderate
Mojave indigo bush <i>Psoralea argophylla</i> var. <i>argophylla</i>	Federal: None State: None CNPS: 4.3	Desert riparian and Mojavean desert scrubs/1,300-4,000/Apr-May	Low	Low	Low
Mojave fish-hook cactus <i>Sclerocactus polyancistrus</i>	Federal: None State: None CNPS: 4.2	Carbonate soils in Joshua tree woodlands and Mojavean desert scrubs/2,100-7,600/Apr-Jun	Low	Low	Low
Wildlife					
burrowing owl <i>Athene cunicularia</i>	Federal: None State: SSC	Open, dry annual or perennial grasslands, deserts & scrublands characterized by low-growing vegetation. Depends on burrowing mammals such as the California ground squirrel for burrows.	Present	High	Present
western yellow-billed cuckoo <i>Coccyzus americanus occidentalis</i>	Federal: Threatened State: Endangered	Riparian forest nester, along the broad, lower flood-bottoms of larger river systems. Nests in riparian jungles of willow, often mixed with cottonwoods, w/ lower story of blackberry, nettles, or wild grape.	Low	Low	Low
desert tortoise <i>Gopherus agassizii</i>	Federal: Threatened State: Threatened	Friable soils in most desert habitats.	Present	Low	Low
American badger <i>Taxidea taxus</i>	Federal: None State: SSC	Friable soils in most shrub, forest, and herbaceous habitats.	Moderate	Low	Low
Le Conte's thrasher <i>Toxostoma lecontei</i>	Federal: None State: SSC	Open desert wash, desert scrub, alkali desert scrub, and desert succulent scrub habitats.	Present	Low	Moderate
Mojave fringe-toed lizard <i>Uma scoparia</i>	Federal: None State: SSC	Fine, loose, wind-blown sand in sand dunes, dry lakebeds, riverbanks, desert washes, sparse alkali scrub & desert scrub.	Low	Low	Present (far west end)
Mohave ground squirrel <i>Xerospermophilus mohavensis</i>	Federal: None State: Threatened	sandy and gravelly soils in open desert scrub, alkali scrub & Joshua tree woodland.	Low	Low	Low

Listed species, those known to be present, and those with a high potential to occur on Table 7 are discussed in further detail as follows:

Burrowing Owl

Focused burrowing owl surveys were conducted in 2013 and 2017 (CDFW 2012). No owls or owl sign were found during the 2013 survey. One burrowing owl was observed and three burrows with sign of burrowing owl. In 2015, three burrows with burrowing owl sign were recorded incidental to desert tortoise surveys. All observations of this species and sign have been within the within the Lenwood spreading grounds within the area that would be disturbed for the proposed project.

Potential impacts to this species would be reduced to less than significant with the implementation of **Mitigation Measures BIO-1 through BIO-4**. Mitigation measures are located at the end of this section.

Western yellow-billed cuckoo

A single individual of this species was observed in cottonwood-willow habitat along the Mojave River. This record is over 30 years old and appropriate riparian habitat does not exist on the proposed project site or within 5 miles. This species is unlikely to be found at the project site and no mitigation is proposed.

Desert Tortoise

Focused surveys for this species were conducted in 2013 and 2017 (USFWS 2010, revised 2017). Both surveys, as well as incidental sightings during other activities the County had conducted in the past decade have found desert tortoise and active sign (burrows and scat) in the southern portion of the Lenwood spreading grounds. Follow-up surveys in 2015 to the 2013 surveys did not find active burrows where they had existed in 2013. Follow up surveys in 2018 found that the northern burrow location identified in 2017 was no longer active and had collapsed with no desert tortoise sign found in the vicinity of that location.

No sign has been found in any of these surveys at the Lenwood spillway or Lenwood channel. One area of the Lenwood channel supports good quality habitat for this species. Mitigation is proposed for this portion of the project as discussed in **Mitigation Measure BIO-11**. Mitigation measures are located at the end of this section.

No desert tortoise connectivity potential exists at the project site or surrounding areas because the larger areas of habitat are disconnected from other areas of desert tortoise habitat and have been isolated by long periods of time by development of transportation infrastructure (highways, roads, railroad), and commercial and residential development.

Desert tortoise are assumed to occupy the southern portion of the Lenwood spreading grounds and habitat off-site to the south. Significant impacts to these species could occur if this species were killed or adversely affected by the proposed project. These impacts will be avoided and/or minimized by the incorporation of **Mitigation Measures BIO-1 through BIO-3**, and **BIO-6 through BIO-11**. Mitigation measures are located at the end of this section.

LeConte's thrasher

LeConte's thrasher was observed during camera studies for the site in 2017 at a location in the center of the Lenwood spreading grounds. This species has not been observed at the Lenwood spillway or Lenwood channel. Potential impacts to the species will be avoided by the implementation of **Mitigation Measures BIO-1 through BIO-4**. Mitigation measures are located at the end of this section.

Mojave Fringe-Toed Lizard

Two records of Mojave fringed toed lizard were recorded at the western extent of the Lenwood channel in 2010. No habitat for this species exists in other areas of the proposed project and they are assumed absent from the Lenwood spreading grounds and Lenwood spillway.

Any potential impacts to this species will be avoided by implementation of **Mitigation Measure BIO-12**. Mitigation measures are located at the end of this section.

Mohave Ground Squirrel

Habitat assessments were conducted for this species in 2006, 2008, and 2013 and determined the site was not appropriate habitat for this species. In 2017, CDFW staff requested that the Flood Control District conduct protocol level surveys for MGS. Focused trapping was conducted at the Lenwood spreading grounds and where undisturbed habitat existed along the Lenwood channel. These trapping grids were also supported by twenty camera trapping locations spread throughout the remaining areas of the Lenwood spreading grounds, Lenwood spillway and Lenwood channel (see Appendix A).

No Mohave ground squirrels were identified during trapping or on camera. Round-tailed ground squirrels were trapped twice, a species that overlaps with the range of the Mohave ground squirrel near the proposed project. This species is assumed absent and no mitigation is proposed.

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 U.S. Fish and Wildlife Service?

Less Than Significant with Mitigation. The Lenwood facilities are considered tributaries to the Mojave River, which is the major hydrogeomorphic feature of the Mojave Watershed which is a traditional navigable water. The Jurisdictional Delineation has been prepared for the Project (Jericho Systems 2016) that confirms the presence of hydrogeomorphic features supporting waters subject to the jurisdictions of USACE, RWQCB, and CDFW. Impacts to non-wetland Waters of the State and Waters of the U.S. under the jurisdiction of USACE, RWQCB, and CDFW will be mitigated through consultation with these agencies during the regulatory permitting processes and as described in **Mitigation Measure BIO-5**. Mitigation measures are located at the end of this section.

c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

No Impact. There are no wetlands as defined by Section 404 of the Clean Water Act or Fish and Game Code present within the Project area. Therefore, no impacts would occur.

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?

Less Than Significant with Mitigation Incorporated.

Corridors and Linkages

Due to existing development to the north (Lenwood), northeast (Barstow), and east (outlet mall and Interstate 15) of the action area, potential wildlife movement corridors in the region have been restricted to the areas to the west and east of the action area, and the Mojave River north of the action area. As identified in the "A Linkage Network for the California Deserts" report (February 2012), the Project area is not located within any of the identified California Desert Linkage Network areas. Additionally, the current condition of Connectivity Linkages as depicted in the DRECP shows that the action area is located within an area that has been identified as low, meaning low potential to facilitate wildlife movement. No impacts to corridors and linkages are expected and no mitigation is proposed.

Nesting Birds

There is suitable habitat for nesting birds throughout the Lenwood spreading grounds, Lenwood spillway and eastern portion of the Lenwood channel. Significant impacts that could occur from non-compliance with the federal Migratory Bird Treaty Act and/or California State Codes 3503 and 3503.5 protecting nesting birds. Potential impacts to nesting birds will be avoided and minimized through the implementation of **Mitigation Measure BIO-4**. Mitigation measures are located at the end of this section.

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

No Impact. There are no local policies or ordinances protecting biological resources that are applicable to the Lenwood facilities.

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?

Less than Significant with Mitigation. There are several approved regional planning efforts that cover the area of the proposed project including the *West Mojave Plan* (BLM 2005) and the *Revised Recovery Plan for the Mojave Population of the Desert Tortoise* (USFWS 2011).

West Mojave Plan

The West Mojave Plan (WMP) is a Habitat Conservation Plan and presents conservation measures for the following species that are known to be present at the proposed project site: desert tortoise, Mohave ground squirrel, burrowing owl, LeConte's thrasher, and Mojave fringe-toed lizard. **Mitigation Measures BIO-1 through BIO-12** are consistent with the conservation measures and will ensure the project remains in compliance with the West Mojave Plan. Mitigation measures are located at the end of this section.

Revised Recovery Plan for the Mojave Population of the Desert Tortoise

The proposed project is within the Western Mojave Recovery Unit and outside of desert tortoise critical habitat units. The proposed project is consistent with, or would have no impacts on the three recovery objectives as described below:

Recovery Objective 1 (Demography). *Maintain self-sustaining populations of desert tortoises within each recovery unit into the future.* The proposed project is unlikely to affect local or regional demography of the species.

Recovery Objective 2 (Distribution). *Maintain well-distributed populations of desert tortoises throughout each recovery unit.* Under this objective, the first action is to conserve intact desert tortoise habitat. The proposed project, through the implementation of **Mitigation Measure BIO-1** (located at the end of this section), is likely to improve this condition as it will provide higher quality desert tortoise as mitigation than those areas that would be removed by the project. These mitigation measures will be more fully identified through follow-on State and federal permitting, and these mitigation measures are intended to be utilized as mitigation for both CEQA and in the follow-on State and federal permitting.

Recovery Objective 3 (Habitat). *Ensure that habitat within each recovery unit is protected and managed to support long-term viability of desert tortoise populations.* It is unlikely that there is a local population of

desert tortoise that currently has long term viability because desert tortoise habitat in this area is isolated from larger areas of desert tortoise habitat. The proposed project would not affect long-term viability of desert tortoise populations.

Mitigation Measures:

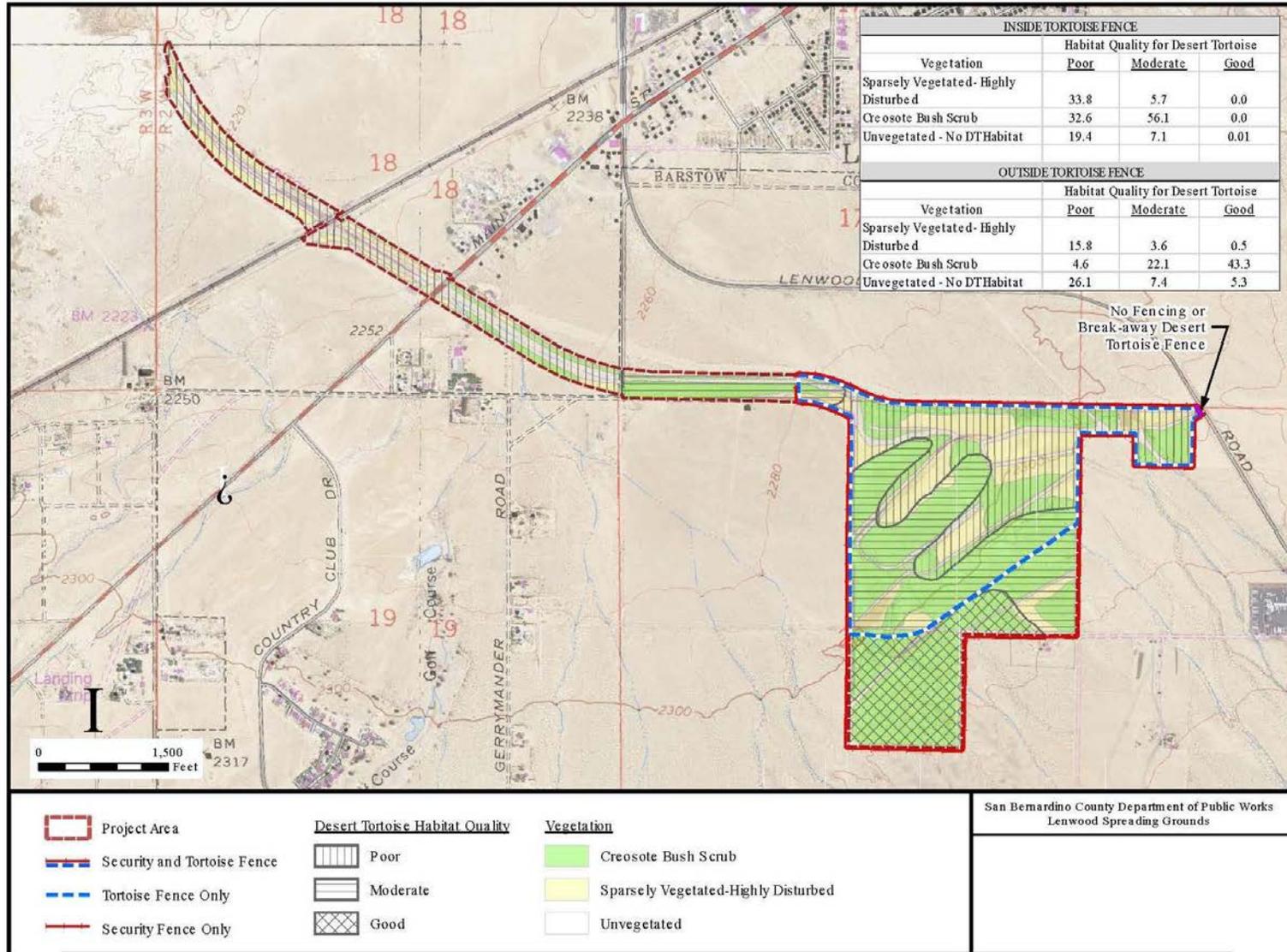
Multiple Species Measures

Pre-Construction

BIO-1 Good quality vegetation communities providing habitat for desert tortoise and other species habitat will be avoided to the extent possible by the installation of desert tortoise exclusion fence, clearance surveys and containing all project activities within the exclusion fence. For those areas that are desert tortoise habitat and would be disturbed or removed by the proposed project, the District will provide compensatory mitigation as required by State and federal permits. Habitat provided will include nested mitigation for burrowing owl and LeConte’s thrasher. Mitigation is estimated as follows and is designed to mitigate for impacts under CEQA and any follow-on State and federal permits as necessary.

Project Feature	Quality of Existing Desert Tortoise Habitat (Figure 8)	Acres Affected	Mitigation Ratio	Acres
Lenwood spreading grounds	Creosote bush – white bursage, less disturbed (moderate or good)	132.0	1:1	132.0
	Creosote bush – white bursage, highly disturbed or unvegetated	65.8	0:1	0.0
Lenwood channel	Creosote bush – white bursage, less disturbed	26.7	1:1	26.7
	Creosote bush – white bursage, highly disturbed or unvegetated	58.7	0:1	0.0
Lenwood spillway	Creosote bush – white bursage, highly disturbed or unvegetated	0.2	0.0	0.0
<i>Proposed acres to be provided as compensatory mitigation</i>				<i>158.7*</i>

**Final compensatory mitigation ratios will be derived during the regulatory permitting processes, and included in the Streambed Alteration Agreement prepared under Section 1602 of the Fish and Game code. This mitigation measure is intended to satisfy mitigation requirements for CEQA and under all State and federal permitting.*



San Bernardino County Department of Public Works
Lenwood Spreading Grounds

LENWOOD SPREADING GROUNDS
Habitat Quality for Desert Tortoise

Figure 8

- BIO-2** A pre-construction survey will be conducted to determine the current status and location of:
- ◆ Nesting birds to determine species, nest location and status, anticipated fledge date and/or buffers.
 - ◆ Desert tortoise sign to determine any need for fence adjustment or need to obtain additional permits if impacts to desert tortoise cannot be avoided by fencing.
 - ◆ Burrowing owl to determine any active burrow locations and nesting status, and
 - ◆ Any other sensitive species that are recorded to determine additional avoidance measures that can be implemented

During project implementation

- BIO-3** The District will prepare a Worker Environmental Awareness Plan (WEAP) that will be given to all personnel at the site, documented by sign-in sheets. Refresher WEAP will be conducted at least annually, and whenever a biological non-compliance is documented. The WEAP will include a discussion of each species, all applicable laws, the permit conditions, and the potential consequences.

Nesting Bird and Burrowing Owl Measure

Pre-construction and during project implementation

- BIO-4** The District will prepare a *Nesting Bird and Burrowing Owl Management Plan*. This plan will include measures for avoidance of nests including seasonal avoidance and species-specific buffers. This plan will also address minimization of impacts through construction of artificial burrows along the southern portion of the spreading grounds.

Jurisdictional Waters Measure

Pre-construction

- BIO-5** The District will consult with the USACE and CDFW to formally permit the temporary impacts to waters under their respective jurisdiction. At a minimum a Streambed Alteration Agreement will be completed under section 1602 of the California Fish and Game Code and all measures included in that permit will be completed by the District.

Desert Tortoise Measures

During project implementation

- BIO-6** Desert tortoise habitat disturbance will be limited by the installation of desert tortoise exclusion fence, as show in Figure 7, including appropriate tortoise-proof access points and shade structures placed outside the fence. Fence installation will be monitored by a qualified biologist.

- BIO-7** Activities conducted outside the exclusion fence will be monitored where good quality habitat is being removed in the Lenwood channel until the completion of vegetation removal. After vegetation removal and in areas of poor-quality habitat, areas will be spot checked as appropriate to the activity, its timing and duration.
- BIO-8** Equipment staging, temporary stockpiling and personnel will within the exclusion fence.
- BIO-9** Speeds will be kept to under 20 mph in unpaved areas outside desert tortoise exclusion fence at all times.
- BIO-10** Trash will be kept in closed containers at all times and routinely removed from maintenance areas.
- BIO-11** Construction activities will be limited to daylight hours (approximately 7:00 A.M. to 6:00 P.M.). During night hours, no activities that would unnaturally increase the light or noise within adjacent occupied habitat will occur.

Mojave Fringe-toed Lizard Measure

- BIO-12** All areas of potential Mojave fringe toed lizard habitat that could be affected by the project will be restricted from project access by placement of temporary visual barriers such as snow fence.

Biological Resources Impact Conclusions:

No significant adverse effects are anticipated with the inclusion of the above mitigation measures.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
V. CULTURAL RESOURCES: Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in 15064.5?		X		
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to 15064.5?		X		
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?		X		
d) Disturb any human remains, including those interred outside of dedicated cemeteries?				X

Environmental Setting

BCR Consulting LLC (BCR Consulting) conducted a cultural resources record search and pedestrian survey of the proposed Project site in February of 2016. BCR Consulting also requested a search of the “Sacred Lands Inventory” maintained by the Native American Heritage Commission (NAHC) for the proposed Project site. A copy of the BCR Consulting report (BCR, March 13, 2017) with a full list of references is on file with the District.

Hydrology

The Project elevation ranges from approximately 2,212 to 2,320 feet above mean sea level (AMSL). The spreading grounds portion of the Project site has been constructed to regulate water flow into the Lenwood Channel. The resulting water distribution has caused severe sheetwashing and riling which occur from southeast to northwest across the Project site towards the Lenwood Channel. The Stoddard Valley watershed contributes heavily to the on-site flow of water. To the south, the peaks of the San Gabriel Mountains rise above 10,000 feet and are often capped with snow until late spring or early summer. The area currently exhibits a relatively arid climate, with dry, hot summers and cool winters. Rainfall ranges from five to 15 inches annually (Jaeger and Smith 1971:36-37). Precipitation usually occurs in the form of winter and spring rain or snow at high elevations, with occasional warm monsoonal showers in late summer.

Biology

The mild climate of the late Pleistocene allowed piñon-juniper woodland to thrive throughout most of the Mojave (Van Devender et al. 1987). The vegetation and climate during this epoch attracted significant numbers of Rancholabrean fauna, including dire wolf, saber toothed cat, short-faced bear, horse, camel, antelope, mammoth, as well as birds which included pelican, goose, duck, cormorant, and eagle (Reynolds 1988). The drier climate of the middle Holocene resulted in the local development of complementary flora and fauna, which remain largely intact to this day. Common native plants include creosote, cacti, rabbit bush, interior golden bush, cheese bush, species of sage, buckwheat at higher elevations and near drainages, Joshua tree, and various grasses. Common native animals include coyotes, cottontail and jackrabbits, rats, mice, desert tortoises, roadrunners, raptors, turkey vultures, and other bird species (see Williams et al. 2008).

Prehistoric Context

The prehistoric cultural setting of the Mojave Desert has been organized into many chronological frameworks (see Warren and Crabtree 1986; Bettinger and Taylor 1974; Lanning 1963; Hunt 1960; Wallace 1958, 1962, 1977; Wallace and Taylor 1978; Campbell and Campbell 1935), although there is no definitive sequence for the region. The difficulties in establishing cultural chronologies for the Mojave are a function of its enormous size and the small amount of archaeological excavations conducted there. Moreover, throughout prehistory many groups have occupied the Mojave and their territories often overlap spatially and chronologically resulting in mixed artifact deposits. Due to dry climate and capricious geological processes, these artifacts rarely become integrated in-situ. Lacking a milieu hospitable to the preservation of cultural midden, Mojave chronologies have relied upon temporally diagnostic artifacts, such as projectile points, or upon the presence/absence of other temporal indicators, such as groundstone. Such methods are instructive, but can be limited by prehistoric occupants' concurrent use of different artifact styles, or by artifact re-use or re-sharpening, as well as researchers' mistaken diagnosis, and other factors (see Flenniken 1985; Flenniken and Raymond 1986; Flenniken and Wilke 1989). Recognizing the shortcomings of comparative temporal indicators, this study recommends the findings of Warren and Crabtree (1986), who have drawn upon this method to produce a commonly cited and relatively comprehensive chronology.

Ethnography

The Uto-Aztecan "Serrano" people occupied the western Mojave Desert periphery. Kroeber (1925) applied the generic term "Serrano" to four groups, each with distinct territories: the Kitanemuk, Tataviam, Vanyume, and Serrano. Only one group, in the San Bernardino Mountains and West-Central Mojave Desert, ethnically claims the term Serrano. Bean and Smith (1978) indicate that the Vanyume, an obscure Takic population, was found along the Mojave River near Apple Valley at the time of Spanish contact. The Kitanemuk lived to the north and west, while the Tataviam lived to the west. The Serrano lived mainly to the south (Bean and Smith 1978). All may have used the western Mojave area seasonally. Historical records are unclear concerning precise territory and village locations. It is doubtful that any group, except the Vanyume, actually lived in the region for several seasons yearly.

History

Historic-era California is generally divided into three periods: the Spanish or Mission Period (1769 to 1821), the Mexican or Rancho Period (1821 to 1848), and the American Period (1848 to present).

The first European to pass through the Project area is thought to be a Spaniard called Father Francisco Garces. Having become familiar with the area, Garces acted as a guide to Juan Bautista de Anza, who had been commissioned to lead a group across the desert from a Spanish outpost in Arizona to set up quarters at the Mission San Gabriel in 1771 near what today is Pasadena (Beck and Haase 1974). This is the first recorded group crossing of the Mojave Desert and, according to Father Garces' journal, they camped at the headwaters of the Mojave River, one night less than a day's march from the mountains. Today, this is estimated to have been approximately 11 miles southeast of Victorville (Marenczuk 1962). Garces was followed by Alta California Governor Pedro Fages, who briefly explored the western Mojave region in 1772. Searching for San Diego Presidio deserters, Fages had traveled north through Riverside to San Bernardino, crossed over the mountains into the Mojave Desert, and then journeyed westward to the San Joaquin Valley (Beck and Haase 1974).

In 1821, Mexico overthrew Spanish rule and the missions began to decline. By 1833, the Mexican government passed the Secularization Act, and the missions, reorganized as parish churches, lost their vast land holdings, and released their neophytes (Beattie and Beattie 1974).

The American Period, 1848-Present, began with the Treaty of Guadalupe Hidalgo. In 1850, California was accepted into the Union of the United States primarily due to the population increase created by the Gold Rush of 1849. The cattle industry reached its greatest prosperity during the first years of the American Period. Mexican Period land grants had created large pastoral estates in California, and demand for beef during the Gold Rush led to a cattle boom that lasted from 1849–1855. However, beginning about 1855, the demand for beef began to decline due to imports of sheep from New Mexico and cattle from the Mississippi and Missouri Valleys. When the beef market collapsed, many California ranchers lost their ranchos through foreclosure. A series of disastrous floods in 1861–1862, followed by a significant drought diminished the economic impact of local ranching. This decline combined with ubiquitous agricultural and real estate developments of the late 19th century, set the stage for diversified economic pursuits that have continued to proliferate to this day (Beattie and Beattie 1974; Cleland 1941).

Records Search

The cultural resources record search for the Project area was conducted with the South Central Coastal Information Center (SCCIC) of the California Historical Resources Information System at California State University, Fullerton and included a review of:

- National Register of Historic Places (Directory of Determinations of Eligibility, California, Office of Historic Preservation, Volumes I and II);
- California Historical Landmarks;
- California Points of Historical Interest listing;
- California Historic Property Data File;
- Other pertinent historic data on file with BCR Consulting.

The records search revealed that 21 cultural resources studies have taken place resulting in the recording of 30 cultural resources within one (1) mile of the Project site. These results are summarized in the Cultural Resources report on file with the District. Of the previously recorded resources, 15 were prehistoric, 14 were historic-period, and one (1) contained prehistoric and historic-period components. Of the 21 previous studies, two (2) have previously assessed a portion of the Project site, resulting in one cultural resource previously (a prehistoric lithic quarry designated P-36-2291) recorded within its boundaries. Also, the historic Old National Trails Highway (designated P-36-2910) and the Union Pacific/Atchison, Topeka, and Santa Fe Railroad (no primary designation available) both cross the Lenwood Channel via modern culverts. Aerial photos from the U.S. Department of Agriculture indicate that the proposed Project site has been subject to flood control activities since prior to 1970.

Field Survey

BCR Consulting completed the archaeological field survey of the Project site on February 11, 2016. The survey was conducted by walking evenly-spaced parallel transects across the accessible portions of the Project site that have not been subject to severe disturbances related to modern flood control activities. This resulted in approximately 30 percent coverage at 15-meter transect intervals. All soil exposures in the survey area were carefully inspected for evidence of cultural resources.

The Project site exhibited approximately 70 percent surface visibility. During the field survey, BCR Consulting archaeologists did not discover any cultural resources within the Project site boundaries.

Although the records search indicated a prehistoric lithic quarry (P-36-2291) partially within the Project site boundaries, no trace of this resource was noted during the field survey. Also, the Project crosses under two historic-period resources, the historic-period National Old Trails Highway (P-36-2910) and the Union Pacific/Atchison, Topeka, and Santa Fe Railroad (no primary designation available) via modern culverts. Since the existing culverts are modern, the proposed Project will not result in any impacts to either of these historic-period resources.

Artificial disturbances noted within the Project site boundaries include excavation, construction, and maintenance of a series of weirs, culverts, water basins, and dikes that comprise the Lenwood Spreading Grounds and Channel. These features have been subject to flooding and constant maintenance and do not exhibit any evidence of historic-period or prehistoric activity. Vegetation is relatively varied and includes creosote, cheesebush, and related brush and seasonal grasses. Soils include silty sand with 10-15 percent gravels measuring less than five centimeters in diameter.

Native American Communications

BCR Consulting requested a search of the Sacred Lands File maintained by the Native American Heritage Commission (NAHC) on February 10, 2016. The request included a brief Project description and location map sent by email to Rob Wood of the NAHC. Mr. Singleton performed the Sacred Lands File search, and provided names of potentially interested tribes and individuals to BCR Consulting on February 11, 2016. BCR Consulting then communicated via certified letters and emails to the potentially interested parties on February 17, 2016. The list included Lynn Valbuena, Chairwoman of the San Manuel Band of Mission Indians; John Valenzuela, Chairperson of the San Fernando Band of Mission Indians; Robert Martin, Chairperson of the Morongo Band of Mission Indians; and Goldie Walker, Chairwoman of the Serrano Nation of Mission Indians. Lynn Valbuena, Chairwoman of the San Manuel Band of Mission Indians requested a Phase I cultural report which the District provided as part of the AB52 consultation effort. No further comments were received

Paleontology

A paleontological resource investigation was performed for the proposed Project by Samuel A. McLeod, PhD, Vertebrate Paleontologist for the Los Angeles County Natural History Museum. Published geologic maps and reports indicated no fossil vertebrate localities lie directly within the proposed Project boundaries, but there are localities within the region in the sedimentary deposits similar to those that occur in the proposed Project area. In the very northwestern portion of the Project area, the surface deposits consist of active dune sands similar to those found near the Mojave River, located approximately 1 mile northwest of the Project limits terminus. These deposits are unlikely to contain significant vertebrate fossils but may be underlain at relatively shallow depth by older Quaternary deposits that may well contain significant fossil vertebrate remains. Otherwise, surface deposits throughout the proposed Project area are composed of younger Quaternary Alluvium (Qa), derived primarily as alluvial fan deposits from the more elevated terrain to the southeast. The uppermost layers of these younger Quaternary deposits typically do not contain significant vertebrate fossils, but deeper excavations down into finer-grained deposits may well encounter significant vertebrate fossils. The USGS National Geologic Map Database has identified the project area within the Barstow Quadrangle as comprised of Qa sedimentary rock at the surface and a cross section completed adjacent to the project site reveals depths of approximately 100 feet. Qa describes sedimentary rock with a maximum of 100 feet width that contains alluvial silt, sand, gravel and fanglomerate derived from adjacent higher ground. Our closest fossil vertebrate locality from somewhat similar older Quaternary deposits is probably LACM 7786, southwest of the proposed Project area between Adelanto and the former George Air Force Base that produced a fossil specimen of meadow vole, *Microtus*. Our next closest vertebrate fossil locality from

these deposits is LACM 1224, south-southwest of the proposed Project area west of Spring Valley Lake that produced a specimen of fossil camel, *Camelops*. Additionally, further south-southeast of the proposed Project area, on the western side of the Mojave River below the bluffs, an otherwise unrecorded specimen of mammoth was collected in 1961 from older Quaternary Alluvium deposits. Excavations in the active dune sands in the very northwestern portion of the proposed Project area, and excavations in the younger Quaternary Alluvium exposed elsewhere in the proposed Project area, are unlikely to uncover significant vertebrate fossil remains. Deeper excavations that extend down into older, finer-grained sedimentary deposits, however, may well encounter significant fossil vertebrate remains.

Impact Analysis

a) Cause a substantial adverse change in the significance of a historical resource as defined in 15064.5?

Less Than Significant: Implementation of the proposed Project would not cause a substantial adverse change in the significance of a historical resource as defined in 15064.5. The cultural resource records search indicated that the Project site crosses underneath the historic-period National Old Trails Highway and underneath a historic-period railroad alignment. The field survey has revealed that only modern flood control features are present within the Project site, and that no impacts are proposed to the adjacent historic-period resources will occur.

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

Less Than Significant with Mitigation Incorporated: Implementation of the proposed Project would not cause a substantial adverse change in the significance of a historical resource as defined in 15064.5. The cultural resource records search indicated potential for a prehistoric cultural resource within the Project site. However, the field survey failed to locate any cultural resources within the Project site boundaries and noted that the high level of disturbances present make the discovery of buried resources unlikely. Therefore, **Mitigation Measure CUL-1** would reduce any potential impacts to a level of less than significant. Mitigation Measures are located at the end of this section.

The Project site is located in an area that has been home to Native American tribes for centuries, however the Project site is not located in an area known to contain tribal cultural resources. Additionally, the District has reached out to San Manuel Band of Mission Indians, the San Fernando Band of Mission Indians, the Morongo Band of Mission Indians, and the Serrano Nation of Mission Indians for consultation. Based on input from the San Manuel Band of Mission Indians, **Mitigation Measure CUL-2** has been included to address any culturally significant tribal cultural resources that could be discovered during the construction activities at the Project site. Mitigation measures are located at the end of this section. **Mitigation Measure CUL-2** requires that should Native American resources be discovered, the work would immediately stop and the Native American Heritage Commission would be immediately notified. However, as the Project site is previously disturbed and graded, the potential for any adverse changes in the significance of a tribal cultural resource would be less than significant.

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

Less Than Significant with Mitigation Incorporated: Implementation of the proposed Project will not cause a substantial adverse change in the significance of a paleontological resource with the implementation of mitigation measures described below. Maintenance within the spreading grounds

involves the excavation of approximately 7 to 9 feet of sediment that has been deposited through storm events over last 25 years. At 7 to 9 feet of disturbed material, the proposed excavation work is within shallow depths and unlikely to contain paleontological resources. Maintenance work within the channel is also within shallow depths and involves approximately 4-5 feet of excavation of sediment deposited through storm events over the last 25 years. Construction of the new spillway with rock slope/levee stabilization feature will involve up to approximately 14 feet of excavation. The project site is comprised of recent Qa sedimentary rock that could potentially be present at a maximum depth of 100 feet, and this is relatively new rock. However, there is potential for fossil discovery and therefore the District will employ **Mitigation Measure CUL-3**, Environmental Awareness Training, prior to ground disturbance. Training shall provide geologic history of the area, information on older Quaternary Alluvium, and procedures to follow in case an unanticipated discovery is made.

Should paleontological resources be found during construction, work shall be halted and a qualified paleontologist shall recover and document the findings in accordance with **Mitigation Measure CUL-4**. Mitigation Measure CUL-3 and CUL-4 will reduce any potential impacts to a level of less than significant.

d) Disturb any human remains, including those interred outside of formal cemeteries?

Less Than Significant with Mitigation Incorporated: Implementation of the proposed Project would not disturb any human remains, including those interred outside of formal cemeteries. Should human remains be found during construction, **Mitigation Measure CUL-5** would reduce any potential impacts to a level of less than significant. Mitigation measures are located at the end of this section.

Mitigation Measures

CUL-1: Archaeological Resources. No significant impacts related to archaeological or historical resources is anticipated and no further investigations are recommended for the proposed Project unless:

- the proposed Project is changed to include areas not subject to this study;
- cultural materials are encountered during Project activities.

Although the current study has not indicated sensitivity for cultural resources within the Project boundaries, ground disturbing activities always have the potential to reveal buried deposits not observed on the surface during previous surveys. Prior to the initiation of ground-disturbing activities, field personnel should be alerted to the possibility of buried prehistoric or historic cultural deposits. In the event that field personnel encounter buried cultural materials, work in the immediate vicinity of the find should cease and a qualified archaeologist should be retained to assess the significance of the find. The qualified archaeologist shall have the authority to stop or divert construction excavation as necessary. If the qualified archaeologist finds that any cultural resources present meet eligibility requirements for listing on the California Register or the National Register, plans for the treatment, evaluation, and mitigation of impacts to the find will need to be developed. Prehistoric or historic cultural materials that may be encountered during ground-disturbing activities include:

- historic artifacts such as glass bottles and fragments, cans, nails, ceramic and pottery fragments, and other metal objects;
- historic structural or building foundations, walkways, cisterns, pipes, privies, and other structural elements;
- prehistoric flaked-stone artifacts and debitage (waste material), consisting of obsidian, basalt, and or cryptocrystalline silicates;
- groundstone artifacts, including mortars, pestles, and grinding slabs;
- dark, greasy soil that may be associated with charcoal, ash, bone, shell, flaked stone, groundstone, and fire affected rocks;

CUL-2: Unanticipated Tribal Resources. In the event that Native American cultural resources are discovered during project activities, all work in the immediate vicinity of the find (within a 60-foot buffer) shall cease and a qualified archaeologist meeting Secretary of Interior standards shall be hired to assess the find. Work on the other portions of the project outside of the buffered area may continue during this assessment period. Additionally, pursuant to consultation with the San Manuel Band of Mission Indians (SMBMI), the SMBMI will be contacted if any such find occurs and be provided information and permitted/invited to perform a site visit when the archaeologist makes his/her assessment, so as to provide Tribal input. The archaeologist shall complete an isolate record for the find and submit this document to the applicant and Lead Agency for dissemination to the San Manuel Band of Mission Indians.

If significant Native American historical resources, as defined by CEQA (as amended, 2015), are discovered and avoidance cannot be ensured, an archaeologist qualified by the Secretary of the Interior (SOI) shall be retained to develop a cultural resources Treatment Plan, as well as a Discovery and Monitoring Plan, the drafts of which shall be provided to San Manuel Band of Mission Indians for review and comment. All in-field investigations, assessments, and/or data recovery enacted pursuant to the finalized Treatment Plan shall be monitored by a San Manuel Band of Mission Indians Tribal Participant(s). The Lead Agency and/or applicant shall, in good faith, consult with San Manuel Band of Mission Indians on the disposition and treatment of any artifacts or other cultural materials encountered during the project.

CUL-3: Worker Environmental Awareness Training Prior to Ground Disturbance. Construction personnel shall be trained regarding the recognition of possible subsurface archaeological and paleontological resources and protection of archaeological and paleontological resources during construction. Training will emphasize the general paleontological items, including paleontology and geology of the area and include pictures of typical fossils found during construction, applicable laws, and what to do in case an unanticipated discovery is made.

CUL-4: Paleontological Resources Recovery. In the event archaeological and paleontological resources are discovered, all work will stop, and a qualified paleontologist shall be retained to recover any fossils that are discovered. In the instance of an extended salvage period, the paleontologist shall work with the construction manager to temporarily direct, divert, or halt earthwork to allow recovery of fossil remains in a timely manner. A final summary report shall be

completed that includes discussions of the methods used, stratigraphic section(s) exposed, fossils collected, photographs, and significance of recovered fossils.

- CUL-5: Human Remains.** If human remains or funerary objects are encountered during any activities associated with the project, work in the immediate vicinity (within a 100-foot buffer of the find) shall cease and the County Coroner shall be contacted immediately pursuant to State Health and Safety Code §7050.5 and that code enforced for the duration of the project. The County Coroner will make a determination of origin and disposition pursuant to Public Resources Code Section 5097.98. If the remains are determined to be prehistoric, the Coroner will notify the Native American Heritage Commission (NAHC), which will determine and notify a Most Likely Descendant (MLD). With the permission of the landowner or his/her authorized representative, the MLD may inspect the site of the discovery. The MLD shall complete the inspection within 48 hours of notification by the NAHC.

Cultural Resources Impact Conclusions:

No significant adverse effects are anticipated with the inclusion of the above mitigation measures.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
VI. GEOLOGY AND SOILS: Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:			X	
<ul style="list-style-type: none"> 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. 				
<ul style="list-style-type: none"> Strong seismic ground shaking? 				
<ul style="list-style-type: none"> Seismic-related ground failure, including liquefaction? 				
<ul style="list-style-type: none"> Landslides? 				
b) Result in substantial soil erosion or the loss of topsoil?			X	
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in onsite or offsite landslide, lateral spreading, subsidence, liquefaction or collapse?			X	
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?				X
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?				X

Environmental Setting

The region in which the Project area is located is dominated by northwest-trending, right-lateral strike-slip faults, the densest cluster (centered roughly at Barstow) of which is often known as the Eastern California Shear Zone (ECSZ). This zone is estimated to accommodate between 9% and 23% of the relative motion between the Pacific and North American tectonic plates. Fortunately, the risk of casualties and damage posed by rupture along faults in the Mojave Block is mitigated by the fact that it is a sparsely developed area. The Project area is located closest to the Lenwood Fault, which is a right-lateral strike-slip fault, which last experienced slip near the southeast end in 1992 during the Landers earthquake.

A search of the soil types on-site was conducted using the U.S. Department of Agriculture (USDA) Natural Resources Conservation Services (NRCS), Web Soil Survey (refer to Figure 5). Soils on-site consisted

primarily of Cajon Gravelly Sand, 2 to 15 percent slopes, Cajon Sand, 2 to 9 percent slopes, and Joshua Loam, 2 to 5 percent slopes. Three (3) other soil types occur within the study area including Villa Loamy Sand – Hummocky, Victorville Sand Loam, and Norob-Halloran Complex. However, these other soil types occur in a very small percentage (4.5%) of the site, primarily near the terminus of Lenwood Channel, in the northwestern most portion of the site.

Cajon-Gravelly Sand, 2 to 5 Percent Slopes (hkrm)

This unit is a deep excessively drained soil on alluvial fans and river terraces. Slopes are long, smooth, and nearly level. This soil has rapid permeability, runoff is slow and the hazard of both water erosion and blowing sand is slight. These soils are found in parts of the channel and within the spreading grounds.

Cajon Sand, 2 to 9 Percent Slopes (hkrk)

These soils are very deep, somewhat excessively drained soils on alluvial fans. Slopes are long, smooth, and gently sloping to moderately sloping. Most areas are dissected by long, shallow, intermittent drainageways. The permeability of these soils is rapid. Available water capacity is low, runoff is slow. The hazard of water erosion is slight or moderate. The hazard of blowing sand is high. These soils primarily exist within most of the channel, and in the eastern portion of the spreading basis.

Joshua Loam, 2 to 5 Percent Slopes (hks8)

These soils are generally well drained and located within old stable terraces that have a desert pavement. It formed in alluvium derived from mixed sources. Slopes are long, broad, slightly convex, and gently sloping. Typically, 70 to 90 percent of the surface layer is covered by desert pavement of varnished gravel and cobbles. Permeability is moderately slow, available water capacity is very low or low. Runoff is medium and the hazards of water erosion and soil blowing are slight where the surface is protected by the desert pavement. This soil exists primarily in the southernmost portion of the spreading grounds.

Norob-Halloran Complex, 0 to 5 Percent Slopes (hkst)

These soils are found on terraces that have a microrelief of small depressional areas. The Norob soil is generally found in the higher areas of the terraces adjacent to playas. Slopes are broad, convex, and nearly level to undulating. The Halloran soil is in the lower area of the terraces or on the side slopes near the drainageways. Permeability of the Norob soil is slow. Available water capacity is moderate because of the content of salts and alkali. Runoff is slow, and the hazard of water erosion is slight. After brief heavy rainstorms, this soil is subject to ponding after heavy rains. The hazard of soil blowing is high. These soils exist in various locations of the channel.

Victorville Sandy Loam (hktc)

This is moderately-well drained soil on low river terraces and on flood plains along the Mojave River. Water capacity is moderate, runoff is medium, and the hazard of water erosion is slight. The hazard of soil blowing is moderate. This unit exists in a small portion of the northwest portion of Lenwood Channel.

Villa Loamy Sand, Hummocky (hktg)

This is a moderately well drained soil on floodplains and river terraces along the Mojave River. Permeability of this soil is moderate. Runoff is slow and the hazard of water erosion is slight. The hazard of blowing soil is high. This soil exists primarily in the northernmost portion of Lenwood Channel.

Impact Analysis

a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

- ***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.***
- ***Strong seismic ground shaking?***
- ***Seismic related ground failure, including liquefaction?***
- ***Landslides?***

Less Than Significant. Several faults exist within the region that have the capability of producing a magnitude 6.7 or higher earthquake. The City of Barstow and its vicinity is subject to seismically-induced ground shaking. Two earthquake faults, the Mount General Fault and Lenwood Fault, traverse the City in a southeast-to-northwesterly direction, and both are identified as Alquist-Priolo Fault Zones. At least three additional faults, including Lockhart, Harper Lake, Calico, and Camp Rock, are located near the City and present the possibility of seismically induced hazards. The Lenwood Flood Control Facilities have been operated as flood control for the region, and the Project proposes to continue operations in the same manner. To minimize potential damage to the proposed access road and rock placement caused by groundshaking, all construction would comply with the latest Uniform Building Code and any applicable criteria set forth by the District or County, and would not expose people or structures to potential adverse effects, including the risk of loss, injury, or death involving the rupture of known earthquake faults. Impacts associated with the rupture of a known earthquake fault are considered less than significant.

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

Less Than Significant. Maintenance of the facilities will require the removal of excess sediment that has built up in the basins and channel that reduces the function of the facilities. The soil is generally re-used for bank stabilization or for road maintenance. Therefore, there is no net loss of the topsoil, nor does the maintenance result in substantial soil erosion.

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

Less Than Significant. Unstable soils that can result in a landslide, lateral spreading, subsidence, liquefaction or collapse generally occurs in when shallow groundwater liquefies soil especially during a seismic event. The flood control facilities are located within an area where the depth to groundwater is greater than 50 feet. This deeper groundwater depth decreases the likelihood that these conditions would result. The Project is to continue to maintain existing flood control facilities as they have been maintained for the past several decades. Therefore, the impact of this criterion is less than significant.

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?

No Impact. The alluvium found within the project area has low to no shrink-swell potential (expansive soils). The Project is not designed for human habitation; therefore, there is no impact.

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

No Impact. The Project does not propose the use of septic tanks or alternative wastewater disposal systems. Therefore, there is no impact.

Mitigation Measure:

No mitigation measures are required.

Geology and Soils Impact Conclusions:

No significant adverse effects are anticipated with the inclusion of the above mitigation measures.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
VII. GREENHOUSE GAS EMISSIONS: Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?			X	
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?			X	

Background

“Greenhouse gases” (so called because of their role in trapping heat near the surface of the earth) emitted by human activity are implicated in global climate change, commonly referred to as “global warming.” These greenhouse gases contribute to an increase in the temperature of the earth’s atmosphere by transparency to short wavelength visible sunlight, but near opacity to outgoing terrestrial long wavelength heat radiation in some parts of the infrared spectrum. The principal greenhouse gases (GHGs) are carbon dioxide, methane, nitrous oxide, ozone, and water vapor. For purposes of planning and regulation, Section 15364.5 of the California Code of Regulations defines GHGs to include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons and sulfur hexafluoride. Fossil fuel consumption in the transportation sector (on-road motor vehicles, off-highway mobile sources, and aircraft) is the single largest source of GHG emissions, accounting for approximately half of GHG emissions globally. Industrial and commercial sources are the second largest contributors of GHG emissions with about one-fourth of total emissions.

California has passed several bills and the Governor has signed at least three executive orders regarding greenhouse gases. GHG statues and executive orders (EO) include AB 32, SB 1368, EO S-03-05, EO S-20-06 and EO S-01-07.

AB 32 is one of the most significant pieces of environmental legislation that California has adopted. Among other things, it is designed to maintain California’s reputation as a “national and international leader on energy conservation and environmental stewardship.” It will have wide-ranging effects on California businesses and lifestyles as well as far reaching effects on other states and countries. A unique aspect of AB 32, beyond its broad and wide-ranging mandatory provisions and dramatic GHG reductions are the short time frames within which it must be implemented. Major components of the AB 32 include:

- Requires the monitoring and reporting of GHG emissions beginning with sources or categories of sources that contribute the most to statewide emissions.
- Requires immediate “early action” control programs on the most readily controlled GHG sources.
- Mandates that by 2020, California’s GHG emissions be reduced to 1990 levels.
- Forces an overall reduction of GHG gases in California by 25-40%, from business as usual practices by 2020.
- Dictates that any local initiatives must complement efforts to achieve and maintain federal and state ambient air quality standards and to reduce toxic air contaminants.

Statewide, the framework for developing the implementing regulations for AB 32 is under way. Maximum GHG reductions are expected to derive from increased vehicle fuel efficiency, from greater use of renewable energy and from increased structural energy efficiency.

Greenhouse Gas Emissions Significance Thresholds

In response to the requirements of SB97, the State Resources Agency developed guidelines for the treatment of GHG emissions under CEQA. These new guidelines became state laws as part of Title 14 of the California Code of Regulations in March 2010. The CEQA Appendix G guidelines were modified to include GHG as a required analysis element. A project would have a potentially significant impact if it:

- Generates GHG emissions, directly or indirectly, that may have a significant impact on the environment, or,
- Conflicts with an applicable plan, policy or regulation adopted to reduce GHG emissions.

Section 15064.4 of the Code specifies how significance of GHG emissions is to be evaluated. The process is broken down into quantification of project-related GHG emissions, making a determination of significance, and specification of any appropriate mitigation if impacts are found to be potentially significant. At each of these steps, the new GHG guidelines afford the lead agency with substantial flexibility.

Emissions identification may be quantitative, qualitative or based on performance standards. CEQA guidelines allow the lead agency to “select the model or methodology it considers most appropriate”. The most common practice for transportation/combustion GHG emissions quantification is to use a computer model such as CalEEMod, as was used in the ensuing analysis.

The significance of those emissions then must be evaluated; the selection of a threshold of significance must take into consideration what level of GHG emissions would be cumulatively considerable. The guidelines are clear that they do not support a zero net emissions threshold. If the lead agency does not have sufficient expertise in evaluating GHG impacts, it may rely on thresholds adopted by an agency with greater expertise.

The California Air Resources Board (ARB) has developed an interim significance guideline for industrial projects or 7,000 metric tons of CO₂-equivalent annual emissions.

Impact Analysis

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

The proposed Project consists of operations of an existing flood control facility. Therefore, there will be no long-term emissions of GHG by the proposed Project. The Project, would however, include the routine maintenance of existing facilities, as well as construction of new facilities.

The California Air Resources Board (ARB) has developed an interim CEQA significance guideline for industrial projects or 7,000 metric tons of CO₂-equivalent annual emissions. During Project construction, the CalEEMod2013.2.2 computer model and EMFAC 2014 modeling predicts that the indicated activities could generate the following annual emissions, as shown in Table 8.

**Table 8
GHG Annual Construction Emissions**

Maximal Annual Construction Emissions	MT CO₂e
Access Roads (single event)	9.3
3 x year	27.9
Channel Maintenance (single event)	7.3
3 x year	21.9
Spillway Restoration	66.2
1 x year	66.2
Spreading Grounds (on-site equipment)	706.8
Spreading Grounds (haul truck miles)	4,340.7
Spreading Grounds Total	5,047.5
Total All Projects	5,163.5

Equipment exhaust also contains small amounts of methane and nitric oxides which are also GHGs. Non-CO₂ GHG emissions represent approximately a one percent increase in CO₂-equivalent emissions from diesel equipment exhaust. For screening purposes, the temporary construction activity GHG emissions were compared to the screening level threshold of 7,000 metric tons (MT) of CO₂-equivalent (CO₂(e)) per year. Worst case annual construction activities generating a total of 5,164 MT are below this threshold. Therefore, impacts would be less than significant.

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

Assembly Bill 32

Assembly Bill (AB) 32 requires California to reduce its GHG emissions by approximately 29 percent below business as usual. CARB identified reduction measures to achieve this goal as set forth in the CARB Scoping Plan. Thus, projects that are consistent with the CARB Scoping Plan are also consistent with the 29 percent reduction below business as usual required by AB 32.

Table 9 at the end of this section presents the 39 Recommended Actions (qualitative measures) identified to date by CARB in its Climate Change Proposed Scoping Plan. Of the 39 measures identified those that would be considered applicable to the proposed Project would primarily be those actions related to transportation uses. Table 9 identifies which CARB recommended actions apply to the Project, and of those, whether the project is consistent.

As shown in, Table 9, the proposed Project would not conflict with the recommended actions in the CARB Scoping Plan.

The City of Barstow's General Plan 2015-2020 addresses Greenhouse Gas emissions for Project development. There are no existing local or regional Greenhouse Gas Reduction Plans applicable to the City of Barstow. However, a Greenhouse Gas Emissions Analysis Report was prepared as part of the General Plan Update. In the absence of local or regional plan, the applicable plan is the adopted Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). The SCS focuses the majority of new housing and job growth in high-quality transit areas and other opportunity areas in existing main streets, downtowns, and commercial corridors, resulting in an improved jobs-housing balance and more

opportunity for transit-oriented development. This overall land use development pattern supports and complements the proposed transportation network that emphasizes system preservation, active transportation, and transportation demand management measures. The Greenhouse Gas Emissions Analysis Report determined that with the implementation of mitigation measures, all development consistent with the General Plan would result in less than significant impacts with respect to greenhouse gas emissions. As discussed in Response VII (a), above, the proposed Project would not result in exceedance of applicable thresholds during construction or operation. Therefore, impacts would be less than significant.

Mitigation Measures:

No mitigation measures are required.

Greenhouse Gas Impact Conclusions:

No significant adverse impacts are identified or anticipated, and no mitigation measures are required.

**Table 9
Recommended Actions for Climate Change Proposed Scoping Plan**

ID #	Sector	Strategy Name	Applicable to Project?	Will Project Conflict With Implementation?
T-1	Transportation	Pavley I and II – Light-Duty Vehicle GHG Standards	YES	NO
T-2	Transportation	Low Carbon Fuel Standard (Discrete Early Action)	YES	NO
T-3	Transportation	Regional Transportation-Related GHG Targets	NO	NO
T-4	Transportation	Vehicle Efficiency Measures	YES	NO
T-5	Transportation	Ship Electrification at Ports (Discrete Early Action)	NO	NO
T-6	Transportation	Goods-movement Efficiency Measures	NO	NO
T-7	Transportation	Heavy Duty Vehicle Greenhouse Gas Emission Reduction Measure – Aerodynamic Efficiency (Discrete Early Action)	NO	NO
T-8	Transportation	Medium and Heavy-Duty Vehicle Hybridization	NO	NO
T-9	Transportation	High Speed Rail	NO	NO
E-1	Electricity and Natural Gas	Increased Utility Energy efficiency programs More stringent Building and Appliance Standards	NO	NO
E-2	Electricity and Natural Gas	Increase Combined Heat and Power Use by 30,000GWh	NO	NO
E-3	Electricity and Natural Gas	Renewable Portfolio Standard	NO	NO
E-4	Electricity and Natural Gas	Million Solar Roofs	NO	NO
CR-1	Electricity and Natural Gas	Energy Efficiency	NO	NO
CR-2	Electricity and Natural Gas	Solar Water Heating	NO	NO
GB-1	Green Buildings	Green Buildings	NO	NO
W-1	Water	Water Use Efficiency	NO	NO
W-2	Water	Water Recycling	NO	NO
W-3	Water	Water System Energy Efficiency	NO	NO
W-4	Water	Reuse Urban Runoff	NO	NO
W-5	Water	Increase Renewable Energy Production	NO	NO
W-6	Water	Public Goods Charge (Water)	NO	NO
I-1	Industry	Energy Efficiency and Co-benefits Audits for Large Industrial Sources	NO	NO
I-2	Industry	Oil and Gas Extraction GHG Emission Reduction	NO	NO
I-3	Industry	GHG Leak Reduction from Oil and Gas Transmission	NO	NO
I-4	Industry	Refinery Flare Recovery Process Improvements	NO	NO
I-5	Industry	Removal of Methane Exemption from Existing Refinery Regulations	NO	NO
RW-1	Recycling and Waste Management	Landfill Methane Control (Discrete Early Action)	NO	NO

ID #	Sector	Strategy Name	Applicable to Project?	Will Project Conflict With Implementation?
RW-2	Recycling and Waste Management	Additional Reductions in Landfill Methane – Capture Improvements	NO	NO
RW-3	Recycling and Waste Management	High Recycling/Zero Waste	NO	NO
F-1	Forestry	Sustainable Forest Target	NO	NO
H-1	High Global Warming Potential Gases	Motor Vehicle Air Conditioning Systems (Discrete Early Action)	NO	NO
H-2	High Global Warming Potential Gases	SF6 Limits in Non-Utility and Non-Semiconductor Applications (Discrete Early Action)	NO	NO
H-3	High Global Warming Potential Gases	Reduction in Perfluorocarbons in Semiconductor Manufacturing (Discrete Early Action)	NO	NO
H-4	High Global Warming Potential Gases	Limit High GWP Use in Consumer Products (Discrete Early Action, Adopted June 2008)	NO	NO
H-5	High Global Warming Potential Gases	High GWP Reductions from Mobile Sources	NO	NO
H-6	High Global Warming Potential Gases	High GWP Reductions from Stationary Sources	NO	NO
H-7	High Global Warming Potential Gases	Mitigation Fee on High GWP Gases	NO	NO
A-1	Agriculture	Methane Capture at Large Dairies	NO	NO
Source: CARB 2008				

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
VIII. HAZARDS AND HAZARDOUS MATERIALS: Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?			X	
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?			X	
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?				X
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?				X
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?				X
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?				X
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?				X
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?				X

Environmental Setting

The Project site has historically been used for flood control purposes. The general area surrounding the project site consists of mostly vacant desert land with no previous land uses that would contribute to hazards or hazardous materials near the Project site.

Impact Analysis

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

Less Than Significant Impact. Hazardous substances and wastes would be used during construction of the facilities. These would include fuels for machinery and vehicles, new and used motor oils, and storage containers and applicators containing such materials. The potential exists for localized spills of petroleum-based products or other chemicals during construction. These spills could expose construction workers and the public to hazardous materials either directly, at the site of the spill, or indirectly, by introducing these substances into stormwater runoff. As standard practice, the District implements Best Management Practices (BMPs) to reduce the potential for spills or releases of hazards into the environment. Under BMP 3, the District will ensure that equipment operating in and near the facility is in good working condition and free of leaks. No equipment maintenance and/or refueling will occur within District Facilities. Equipment used during routine maintenance activities will be parked outside of channels and/or washes on the road tops and/or adjacent roadway. All operations staff working with heavy equipment have been trained in the use of the equipment, and in spill containment and response for any unforeseeable accidents that may occur; further, a spill kit will be kept on site at all times. Less than significant impacts would occur.

b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

Less Than Significant. As discussed in Response VII(a), a variety of hazardous substances would be used and stored during construction of the proposed Project. Accidental spills, leaks, fires, or explosions involving hazardous materials represent a potential threat to human health and the environment if not properly addressed. Under a Memorandum of Understanding, the San Bernardino County Fire Protection District, Hazardous Materials Division, is responsible for responding and remediating spill incidents on behalf of the District. Staff is properly licensed trained, and equipped to respond to emergency incidents. Less than significant impacts would occur.

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

No Impact. There is no existing or proposed school within one-quarter mile of the Project site. Therefore, there is no impact.

d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

No Impact. The proposed Project is not located on a site which is included on a list of hazardous materials sites, and as a result would not create a significant hazard to the public or environment. Therefore, there would be no impact. However, should a previously unknown hazardous materials site be discovered, **Mitigation Measure HAZ-2** would apply. Mitigation measures are located at the end of this section.

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 for people residing or working in the project area?

No Impact. There are no airport land use plans as part of the Project area. The maintenance activities do not include construction of above-ground facilities or structures that would physically or visually obstruct any flight path or road to local airports. The nearest airport to the Project site is the Barstow-Daggett Airport, which is located at 39500 National Trails Highway, Daggett, CA 92327, approximately 19 miles from the Project site. Therefore, there is no impact.

f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?

No Impact. There are no private airstrips in the Project area. Therefore, there is no impact.

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

No Impact. The District's facilities are located in undeveloped areas, and do not involve roads or other infrastructure that would impair implementation of, or physically interfere with, and adopted emergency response evacuation plan. Therefore, there is no impact.

h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

No Impact. The facilities are located in a remote location not near structures or urbanized areas. Therefore, there is no impact.

Mitigation Measures:

No mitigation measures are required.

Hazards and Hazardous Materials Impact Conclusions:

No significant adverse effects are anticipated.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
IX. HYDROLOGY AND WATER QUALITY:				
Would the project:				
a) Violate any water quality standards or waste discharge requirements?		X		
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?				X
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation onsite or offsite?			X	
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding onsite or offsite?			X	
e) 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?			X	
f) Otherwise substantially degrade water quality?			X	
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?				X
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?			X	
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?				X
j) Inundation by seiche, tsunami, or mudflow?				X

Environmental Setting

The Barstow area climate, which is within the Mojave Desert, is extremely arid and subject to seasonal and annual variations in temperature and precipitation. Weather data was collected from Daggett Airport, located approximately 18 miles east of the site. Temperatures measured at Daggett Airport show average maximum temperatures of 104.2 degrees Fahrenheit (°F) occurring in July and average minimum temperatures of 35.5°F occurring in December. Precipitation measured at Daggett Airport show that average precipitation is highest in January at 0.58 inches and lowest in May and June at 0.07 inches. The average annual precipitation in the vicinity of the site is 3.83 inches.

The precipitation in the general area of the derailment site is largely a result of thunderstorm activity. These desert thunderstorms generally occur during the warm summer months from July through September. The characteristics of desert thunderstorm precipitation consists of high intensities, limited areal coverage, relatively short duration, and erratic frequency.

The Lenwood Spreading Grounds facilities are within the Stoddard Valley Hydrologic Unit of the Mojave Watershed (HUC 18070203). Lenwood Channel is mostly within the Stoddard Valley Hydrologic Unit, with approximately 0.7 mile of the westernmost portion of the channel located within the Daggett Wash-Mojave River Hydrologic Unit, also within the Mojave Watershed. This watershed is primarily within San Bernardino County, with the extreme western boundary overlapping into Los Angeles and Kern Counties. The Mojave Watershed is bound on the south by the Southern Mojave and Santa Ana watersheds, on the northeast by the Coyote-Cuddeback Lakes, Death Valley-Lower Amargosa, and Ivanpah-Pahrump Valleys watersheds, and on the west by the San Gabriel and Antelope-Fremont Valleys watersheds. The Mojave Watershed is located north of the San Bernardino and San Gabriel Mountains in the Mojave Desert and is approximately 4,500 square miles in area.

Local runoff is diverted into the large spreading basins that make up the Lenwood Spreading Grounds where water is slowed down before entering Lenwood Channel and/or where it can percolate into the regional groundwater basin. Outflow from the spreading grounds occurs at the Lenwood Spreading Grounds Spillway, which is located at the northwestern most corner of the spreading grounds, and continues westward within Lenwood Channel before converging with the Mojave River.

Routine maintenance primarily includes short-term grading and localized excavation of basins and road networks, vegetation removal, and the use of limited quantities of herbicides. Potential water quality impacts during maintenance activities include potential erosion/sedimentation and accidental hazardous material discharge during equipment and vehicle refueling, cleaning and repairs. If not properly controlled, sedimentation or spilled hazardous substances could potentially be washed off-site during a rainstorm, blown off during high winds, or could possibly percolate into the subsurface, where it could eventually reach the water table. If loose soils, litter, vegetation debris or hazardous substances are allowed to flow off-site, nearby drainage inlets and storm drains could become clogged and could carry impacted runoff into downstream waters, potentially resulting in adverse or significant water quality impacts.

The California State Water Resources Control Board (SWRCB) requires that entities whose construction projects disturb 1 acre of soil or more obtain coverage under the National Pollutant Discharge Elimination System General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit [CGP]; Water Quality Order 2009-0009-DWQ). Construction activities include clearing, grading, and ground disturbances such as trenching, stockpiling, or excavation. A CGP specifically exempts routine maintenance activities performed to restore the original line, grade, or capacity of the facility.

Impact Analysis

a) Violate any water quality standards or waste discharge requirements?

Less Than Significant With Mitigation. The Project requires permits to be issued by various State and federal agencies. The permits will contain conditions of compliance to protect water quality. However, implementation of **Mitigation Measures HYD-1** and **HYD-2** would ensure that the proposed project complies with applicable Water Quality Standards and Waste Discharge Requirements. Mitigation measures are located at the end of this section.

b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?

No Impact. The purpose of the Project is to prevent regional flooding by channeling surface water runoff to promote and maintain the basins for groundwater recharge. The proposed Project does not include the use of groundwater or installation of groundwater wells. The existing flood control facilities, and the proposed maintenance of those facilities, allow for the capture of runoff, precipitation, and flows from the surrounding watershed in the basins will contribute to infiltration and may contribute to groundwater resources. Implementation of the proposed Project would result in no impact associated with depletion of groundwater supplies or interference with groundwater recharge.

c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation onsite or offsite?

Less Than Significant. The proposed maintenance activities would include sediment and debris removal and repair of eroded areas and damaged structures within the existing Lenwood Channel and Spreading Grounds area as needed. The purpose of the sediment removal is to remove blockages and restore channel sideslopes and drainage patterns within the existing Lenwood Channel and Lenwood Spreading Grounds so that the facilities can properly convey flows. Not maintaining the existing flow lines and sideslopes would result in facility failure, which would result in substantial erosion and/or siltation onsite and offsite. Therefore, the routine removal of soils and debris from the Lenwood Channel and Lenwood Spreading Grounds, and the maintenance of all structures within both the channel and spreading grounds, would not result in erosion or siltation onsite or offsite.

All routine maintenance to remove sediment would be conducted outside of storm season or after storm events have ended and equipment operations are safe. Native vegetation will be avoided to the greatest feasible extent.

The spillway and rock slope/levee protection improvements will require temporary disturbance in the channel, and construction will be conducted outside of storm season. However, the overall goal of the improvements is to replace an existing, failed spillway structure and adjacent slopes/levee with a structure that can physically withstand the flashy, high-flows it conveys from the spreading grounds to the Lenwood Channel. Therefore, the spillway improvements will not substantially alter the existing drainage pattern of the area or result in substantial erosion or siltation offsite.

Additionally, implementation of **Mitigation Measures HYD-1** and **HYD-2**, already included as part of IX(a) to reduce potential water quality impacts, ensures that work is conducted in a manner that would not contribute to substantial erosion or siltation off-site. Therefore, the impact is less than significant.

d) *Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding onsite or offsite?*

Less Than Significant. The purpose of the Project is to continue the proper maintenance of the Lenwood channel and associated spreading grounds to improve capacity of the system. The spillway chute will be widened and adjacent bank/levee stabilized to allow it to more effectively convey flows downstream to reduce the potential for flooding onsite or offsite. Therefore, the impact is less than significant.

e) *Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?*

Less Than Significant. The District's existing facilities are self-contained and do not rely on municipal storm water drainage systems. Road grading does not appreciably increase surface area such that it would cause runoff to exceed capacity of the existing storm water drainage system. The proposed project is maintenance of the existing facility and would not contribute runoff water that would exceed the capacity of the existing system. Construction BMPs will be implemented to protect water quality downstream. Therefore, impacts are less than significant.

f) *Otherwise substantially degrade water quality?*

Less Than Significant Impact. The proposed Project is to maintain existing channels and basins for regional flood control and groundwater runoff as it has been for decades. Therefore, impacts are less than significant.

g) *Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?*

No Impact. The Project does not propose to construct housing. As a result, maintenance and operation of the Project would not place housing within a 100-year flood hazard area as mapped on a Federal Flood Hazard Map or Federal Flood Insurance Map; refer to Figure 7 - *100-Year Floodplain*. Therefore, no impacts would occur under this criterion as a result of the Project.

h) *Place within a 100-year flood hazard area structures which would impede or redirect flood flows?*

Less Than Significant. The District plans to rebuild an existing spillway and adjacent slopes to improve flood flow conveyance capability by improving spillway and rebuilding the adjacent earthen slope/levee with rock. The new design allows for approximately 5,736 cubic feet of water to be contained in a storm event without breaching the surrounding levees. Construction activities will include new cutoff walls, replace lower invert section, complete invert repair and overlay, construct spillway walls, construct stilling basin rock pad, and construct rock slope/levee protection. These efforts are designed to strengthen the original facility and improve capacity. The purpose of the spillway is to protect the facilities and the area in the event of a flood. The spillway has been a part of the Lenwood flood control facilities for decades. Reconstructing the spillway to today's standards to perform the same function will create a less than significant impact.

i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?

No Impact. The nearest dam to the facilities is the Mojave Forks Dam, located approximately 50 miles upstream of the facilities. The facilities are located in a rural area, where there are few if any structures or people. The types of activities proposed, and their short duration, would not increase the risk of loss, injury, or death as a result of flooding, including as a result of the failure of the Mojave Forks Dam, or the spillway into the basins. Routine maintenance and an improved spillway will reduce risks associated with flooding. There is no impact.

j) Inundation by seiche, tsunami, or mudflow?

Less Than Significant. There is extremely low potential for the Project to be inundated by seiche, tsunami or mudflow as a result of a break in the Mojave Forks Dam. Proposed maintenance activities include sediment removal from the flood control basins which, if not removed, could increase the chances for mudflow from basin overflow. Additionally, the Project is comprised of flood control facilities and periodic maintenance activities, and as such, does not place people or structures in the path of potential seiche, tsunami, or mudflow. Therefore, impacts would be less than significant.

Mitigation Measures:

HYD-1 Compliance with Water Quality Permits. Prior to construction, the San Bernardino County Flood Control District shall obtain a Water Quality Certification from the Lahontan Regional Water Quality Control Board prior to construction. The Water Quality Certification identify measures to be implemented to meet the State Regional Water Quality Board requirements in accordance with the Federal Clean Water Act.

HYD-2 Stormwater Pollution Prevention Plan (SWPPP). Prior to construction, unless the project qualifies for a waiver based on rainfall erosivity factors established by the EPA, the San Bernardino County Flood Control District shall prepare a Storm Water Pollution Prevention Plan (SWPPP) that includes project Best Management Practices which will include but not be limited to the following:

BMP 1 Avoid Channel Work during the Rainy Season to the Greatest Extent Practicable. The greatest potential to transport pollutants or debris/soil/sediment from work activity occurs while water is present in Lenwood channel. Within the County of San Bernardino's diverse watersheds, the rainy season is typically from October through April, with summer monsoons occurring in the desert during the summer months. If work must occur within the channel, clear water diversion structures will be placed to protect water quality downstream.

BMP 2 Clear Water Diversion. Routine maintenance will occur outside of low flow channels within the spreading grounds during winter season. Clear water diversion structures will be employed to protect water quality downstream as needed, such as diversion ditches, berms, dikes, cofferdams, slope drains, rock, gravel bags, filter fabric or turbidity curtains, drainage and interceptor swales, pipes or flumes.

BMP 3 Avoid Spills and Leaks. The District will ensure that equipment operating in and near the facility is in good working condition and free of leaks. No equipment

maintenance and/or refueling will occur within District Facilities. Equipment used during routine maintenance activities will be parked outside of channels and/or washes on the road tops and/or adjacent roadway. All operations staff working with heavy equipment have been trained in the use of the equipment, and in spill containment and response for any unforeseeable accidents that may occur; further, a spill kit will be kept on site at all times. Special care will be taken to prevent liquid paint from entering aquatic resources while painting associated with graffiti removal is conducted. Any spills that occur shall be reported to California State Warning Center (Cal OES) at (800) 852-7550. Additionally, a copy of the Cal OES California Hazardous Materials Spill/Release Notification Guidance will be kept on-site while all maintenance activities take place. Further, if necessary, operations staff will need to follow up with the appropriate agencies as outlined in the Cal OES guidelines, which can be located on the Cal OES website at www.calema.ca.gov.

BMP 4 Avoid Road Base Discharge. The District will implement measures in order to prevent the discharge of road base, fill, sediment, concrete, and/or asphalt beyond the previously established roadbed when maintaining existing driveways and dirt access roads within the maintenance activity area.

BMP 5 Concrete Washout Protocols. The District will implement the appropriate waste management practices during on-site concrete repair operations. Waste management practices shall be applied to the stockpiling of concrete, curing, and finishing of concrete as well as concrete washout operations. Waste management practices shall be adequate to ensure that all fluids associated with the curing, finishing, and washout of concrete shall not be discharged into any area with the potential to enter an aquatic resource. Further, all concrete waste will be stockpiled separately from sediment and protected with erosion control measures to ensure that concrete dust and/or debris is not discharged into an aquatic resource. The District will determine the appropriate waste management practices based on considerations of flow velocities, site conditions, availability of stockpile locations, availability of erosion control materials, construction costs, and other requirements that may be outlined within the District's MS4 permits.

BMP 6 Location of Temporary Stockpiles and Staging Areas. Stockpile locations and staging areas will be located within the disturbed/graded areas outside of the facility bottom and at the tops of the levees/banks to the greatest feasible extent. Silt fences, berms, or other methods of erosion control may be used if stockpiles are to remain in designated areas for longer than 10 days. Materials may be stored temporarily within the facilities during excavation activities if placed outside of watercourses and storm drain inlets. Additionally, heavy equipment may be staged on the access roads within the maintenance activity area, but will be confined to those locations where potential pollutants cannot enter into an aquatic resource.

BMP 7 Location of Permanent Stockpiles. This project will include permanent or long-term stockpiles onsite that will be located outside of areas identified as Waters of the State and Waters of the U.S. Any material not placed onsite will be removed by a District contractor and placed at the nearest Operations yard.

BMP 8 Application of Pesticides, Herbicides, and Fertilizers. The District Aquatic Pesticides permit outlines a schedule of monitoring requirements, BMPs, and conditions designed to promote the reduction of pollutants in stormwater discharges. This permit (Order Number 2013-0002-DWQ) requires the District to manage pesticides and herbicide applications under specific criteria.

General Requirements. Apply pesticides and herbicides in accordance with California Department of Pesticide Regulation requirements: (1) Read and follow manufacturers' label requirements before each application; (2) Check sprinkler system for overflows into the streets and storm drain; (3) As much as possible, utilize safer alternatives such as insecticidal soaps and horticultural oils (also see Appendix E).

Herbicide Applicator Training Requirement. The San Bernardino County Department of Agriculture/Weights and Measures (Ag) is contracted by the District to spray various flood control facilities throughout the County for vegetation control. Many times the Ag spray rigs are not able to spray close to fence lines and in tight areas. Spotty re-growth also occurs and is required to be re-sprayed.

The District consulted with Ag to develop a plan for weed abatement that is an extension of Ag's current weed abatement program; using the same herbicide (Monsanto Roundup Pro Concentrate or similar glyphosate product). The application process has been approved by Ag and is determined not to require a California State Qualified Applicator License (QAL) or Certificate (CAC) per 3CCR section 6504. The District application of herbicide will be under the constant monitoring of Ag, who will be dispensing the herbicide and conducting random monitoring inspections in the field. District staff will complete daily records of herbicide use by amount and location. These logs will be turned in to Ag monthly, to ensure no overuse of herbicides occurs.

At least annually, Ag will provide training to District staff consisting of:

1. Classroom instruction on the laws and regulations governing the application of herbicides in the State of California.
2. Review of the functions of the Department of Agriculture/Weights and Measures Pest Management Division Written Employee Training Program for Pesticide Applicators, Herbicide Applications; including:
 - a. Safety Procedures;
 - b. MSDS for Monsanto Roundup Pro Concentrate (or similar glyphosate product), signs, symptoms & effects of exposure;
 - c. Pesticide Safety Series N1, N2, N4, N5, N7, N8;
 - d. Review of the Dept of Ag Pesticide Monitoring Inspection form;
 - e. Instruction on completing and submission of the required daily use log;
 - f. Practical demonstration of identification and proper use of items required for safe transport, mixing, pouring, application, clean up, storage, disposal of wastes, and emergency procedures

- associated with the Roundup Pro Concentrate (or similar glyphosate product) herbicide application procedure;
- g. The required personal protective equipment and hygiene practices.
3. Employee will perform a proficiency demonstration of knowledge of the above training items.
 4. Employee will successfully complete a verbal/written post test on the above training. Herbicides shall be applied by the District on a limited basis. Licensing standards and procedures are established by DPR and are described in:
 - 1998 California Code of Regulations, Title 3 (Food and Agriculture); and
 - 1997 California Food and Agriculture Code (Divisions 6, 7, and 13).

BMP 9 Invasive Plant Removal Protocols. Invasive plant species shall be removed in a manner that prevents propagation of those species in the same location and/or in other locations throughout the facility and/or County. Where maintenance activities are required, Operations staff will spray and/or mow invasive plant species before seeds ripen. All cut/removed invasive vegetation shall be taken to an approved refuse facility as a load designated for destruction. Operations staff shall prevent cut stems and/or seed material from being transported downstream and/or being left behind to allow the seed to propagate. In the case of giant reed (*Arundo donax*) removal, the District shall minimize ground disturbance and use foliar glyphosate treatment on smaller infestations (see BMP 1.7.3 Aquatic Pesticide Applications, above). Stems shall be removed only when the plants are determined to be dead and unable to re-sprout and/or propagate.

BMP 10 Remove Debris. Remove litter and debris from facility as necessary.

BMP 11 Wind Erosion. Prevent dust and wind erosion by applying water or other dust palliatives as necessary to reduce or alleviate dust nuisance generated by construction activities.

HYD-3 Construction General Permit for Spillway. A Construction General Permit will be required prior to construction of the spillway improvements unless the project qualifies for a waiver based upon erosivity factors established by the EPA .

Hydrology and Water Quality Impact Conclusions:

No significant adverse effects are anticipated with the inclusion of the above mitigation measures.

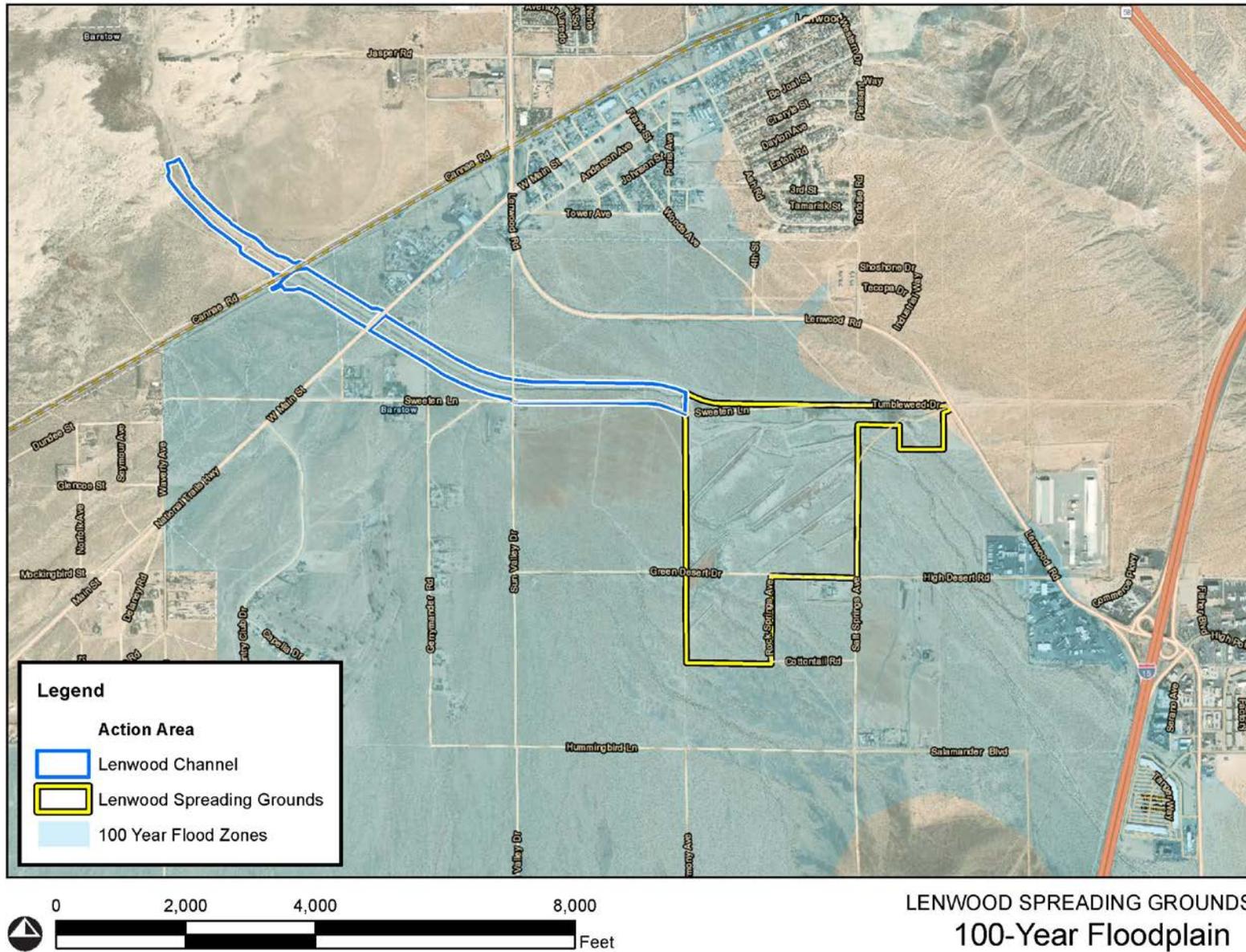


Figure 8

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
X. LAND USE AND PLANNING: Would the project:				
a) Physically divide an established community?				X
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?				X
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?				X

Environmental Setting

The proposed Project site is characterized by the existing Lenwood Channel and Lenwood Spreading Grounds, which are located east (upstream) of the Lenwood Channel and overflow into Lenwood Channel. Both facilities are natural, earthen facilities, except for the concrete spillway of the spreading grounds.

With the exception of several residences located in the vicinity of where Highway 66 crosses the Lenwood Channel, the area immediately surrounding the proposed Project site is comprised almost entirely of natural desert with sparse vegetation. In addition to the BNSF rail, Highway 66 and Lenwood Road, there are several unpaved dirt roads located within the immediate vicinity of the proposed Project site. Salt Spring Avenue, Green Desert Drive and Tumbleweed Drive all provide access to the spreading grounds near the south/southeast portion of the Project site. Sweeten Lane, which runs parallel the south side of the Lenwood Channel provides access to the northwest corner of the spreading grounds. Sun Valley Drive is a partially paved road that crosses the Lenwood Channel approximately 0.5 mile southeast (upstream) of where Highway 66 crosses Lenwood Channel.

Impact Analysis

a) Physically divide an established community?

No Impact. An example of a project that has the potential to divide an established community includes the construction of a new freeway or highway through an established neighborhood. The Project involves the maintenance of existing flood control facilities that are located in a rural area. Material excavated from the basins are utilized for facility repair, and stockpiles are physically not large enough to divide any community. Therefore, there is no impact.

b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

No Impact. The Project is to maintain existing flood control facilities and construct improvements to existing flood control facilities. These facilities have been in place for many years. The facilities are compatible with the land use and zoning of the City of Barstow; refer to Figure 4 - *General Plan Land Use*. Therefore, there is no impact.

c) Conflict with any applicable habitat conservation plan or natural community conservation plan?

No Impact. There are no habitat conservation plans or natural community conservation plans that are applicable to the Lenwood facilities. The Project site is located within the range of the desert tortoise, but is not located within designated critical habitat for the desert tortoise (1994). According to the West Mojave Conservation Plan, the Project site is located in an area where desert tortoise are considered extirpated. Therefore, maintenance of the existing facilities does not conflict with any applicable habitat conservation plan or natural community conservation plan. Therefore, there is no impact.

Mitigation Measures:

No mitigation measures are required.

Land Use and Planning Impact Conclusions:

No significant adverse impacts are identified or anticipated, and no mitigation measures are required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
XI. MINERAL RESOURCES: Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?			X	
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?			X	

Environmental Setting

The Barstow area is one of the richest areas for aggregate mining in Southern California. According to the California Geologic Survey, *Aggregate Sustainability in California* map (2012), the Barstow Victorville area has more than adequate supplies to supply the need for the next 50 years.

Impact Analysis

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?

Less Than Significant. Maintenance of flood control facilities includes the removal of sediment that has built up within the existing channel and basins. Removal of the aggregate resources are generally performed by the mining companies. The District supports the mining operations through cooperative agreements for the mining companies to assist with the removal of the sediment, if the sediment is determined to have value. Otherwise, the sediment is either stockpiled for use by construction contractors, or re-used to make repairs on basins and roads.

b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?

Less Than Significant. The Lenwood facilities are located within an area of the San Bernardino desert that is suitable for aggregate mining, but in an area in which no value is specified on a local general plan, specific plan or other land use plan. Additionally, the Project site has not historically been utilized for aggregate mining purposes. For the removal of sediment, the District routinely works with mining contractors to ensure the highest and best use of any aggregate and material found within the facilities. Furthermore, the use as water recharge basins does not preclude the future mining of the aggregate. Therefore, the impact is less than significant.

Mitigation Measures:

No mitigation measures are required.

Mineral Resources Impact Conclusions:

No significant adverse impacts are identified or anticipated, and no mitigation measures are required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
XII. NOISE: Would the project result in:				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?		X		
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?			X	
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?			X	
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?			X	
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?			X	
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?				X

Environmental Setting

The Lenwood-Barstow area is generally quiet due it is land uses, except for near Interstates 15 and 40 and the Burlington-Northern-Santa Fe Railway. Barstow does not currently have a local noise ordinance and instead relies on state statute.

The nearest residences exist greater than 1 mile from any of the facilities.

Impact Analysis

c) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Less Than Significant. The nearest residences are greater than one mile from the Lenwood facilities. There are no additional sensitive receptors in the Project vicinity. The City of Barstow relies on state codes to restrict noise. The state standards District’s grading and maintenance-related activities will generally be undertaken between the hours of 7:00 a.m. and 6:00 p.m. Monday through Friday and may not be undertaken anytime on Saturdays, Sundays or holidays unless necessary due to a rain event that would warrant maintenance activities. Therefore, noise generated by the heavy equipment will not violate ordinances standards or requirements.

Additionally, no noise impacts would occur from operations of the existing facilities. However, to ensure that impacts will be less than significant, **Mitigation Measure NOI-1** will be implemented.

d) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

Less Than Significant. As stated above, there are no sensitive receptors near the Project site. The maintenance activities would not expose persons to or generate excessive groundborne vibration or groundborne noise levels. The noise related to operations and maintenance would include those generated from the use of heavy equipment at the site or vehicles transporting materials. Activities that could generate groundborne vibration include pile-driving and demolition, but these activities are not proposed as part of routine maintenance. Therefore, excessive groundborne vibrations are not anticipated, and the impacts will be less than significant.

e) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

Less Than Significant. The Project is to maintain existing facilities in the manner as they have been maintained for several decades. The Project will not introduce new noise levels or generate a substantial increase in permanent noise. Noise associated with maintenance activities would be short-term and not represent an increase in permanent noise. Additionally, as previously stated, the nearest sensitive receptor is approximately 1 mile from the existing facilities. Therefore, the impact is less than significant.

f) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

Less Than Significant. The Project is to maintain existing facilities in the manner as they have been maintained for several decades. There will be short-term increases in noise during periodic maintenance activities. The short-term noise is not substantial, and the nearest sensitive receptor is approximately than 1 mile from the Lenwood facilities. Therefore, the impact is less than significant.

g) 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 expose people residing or working in the project area to excessive noise levels?

Less Than Significant. The nearest airport to the Project site is the Barstow-Daggett Airport, which is located at 39500 National Trails Highway, Daggett, CA 92327, approximately 19 miles from the Project site. However, the Project site is not located within an airport land use plan. The noise generated by the equipment performing the routine maintenance activities is short-term, and would not expose people residing in the area to excessive noise levels. Therefore, less than significant impacts would occur.

h) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

No Impact. There are no private airstrips in the vicinity of the Project. Therefore, no impact would occur.

Mitigation Measures:

- NOI-1** Construction activities will be limited to daylight hours (approximately 7:00 A.M. to 6:00 P.M.). During night hours, no activities that would unnaturally increase the light or noise within adjacent occupied habitat will occur.

Noise Impact Conclusions:

No significant adverse effects are anticipated with the inclusion of the above mitigation measure.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
XIII. POPULATION AND HOUSING: Would the project:				
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)?				X
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?				X
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?				X

Environmental Setting

The Project is to maintain existing food control facilities. The Project does not involve housing, the construction of structures for housing, or the displacement of existing housing.

Impact Analysis

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)?*

No Impact. The purpose of the Project is to maintain existing flood control facilities. Groundwater recharge in the flood control basins is a benefit of the Project and does not induce growth. Therefore, the Project does not indirectly induce an increase in population.

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

No Impact. The facilities to be maintained have existed for several decades. Maintenance will occur within the footprint of the existing District facilities, and does not require new or existing housing. Therefore, the proposed Project will not displace any housing, or require the construction of replacement housing.

c) *Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?*

No Impact. The facilities to be maintained have existed for several decades. Maintenance does not require the construction of new or replacement housing. The Project can be constructed with workers who live in the area; thus, no new housing is required for workers. Therefore, the Project will not displace people or necessitate the construction of replacement housing.

Mitigation Measures:

No mitigation measures are required.

Population and Housing Impact Conclusions:

No significant adverse impacts are identified or anticipated, and no mitigation measures are required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
XIV. 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:				
Fire protection?			X	
Police protection?			X	
Schools?				X
Recreation/Parks?				X
Other public facilities?			X	

Environmental Setting

The Project facilities will be served by the City of Barstow and County of San Bernardino police and fire departments, depending on the location of the emergency. The Project is to maintain the existing flood control facilities.

Impact Analysis

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:

a) ***Fire protection?***

Less Than Significant. The proposed Project is not located within an area designated as high fire. The area contains large expanses of thick sage scrub vegetation, which can be prone to fire. Generally, the roads and basins are void of vegetation, or contain sparse vegetation, which act as natural fire breaks throughout the area. Routine maintenance activities will continue to control vegetation overgrowth and invasive species. District equipment, such as dozers and loaders, offer fire-fighting capability. District staff are trained in how to respond to a potential fire. The possibility exists for a work-related injury, but this type of occurrence is considered to be rare, and therefore, not create a substantial need for fire protection in the area. Therefore, the impact is less than significant.

b) **Police Protection?**

Less Than Significant. Maintenance of the existing facilities is not anticipated to require a significant need, or increase the need for, police services. The potential for an incident occurring at the proposed Project site that requires police intervention is considered low. Therefore, the impact is less than significant.

c) **Schools?**

No Impact. The Project does not involve the use, or need for, schools. Operation and maintenance personnel are anticipated to be local residents, where their school-aged children are already utilizing the existing schools. Therefore, there will be no impact to schools.

d) **Recreation/Parks?**

No Impact. There are no parks or recreational facilities in the area of the facility maintenance. The proposed Project does not require the use of, or interfere with, recreation and parks services. Therefore, there is no impact.

e) **Other Services?**

Less Than Significant. Operations and maintenance of these new facilities may involve work-related accident that would require the use of area hospitals or helicopters. On occasion, a contractor may be utilized to perform some routine maintenance activities. However, this occurrence is expected to be rare, and involve very few personnel. Public services exist in the area that can serve these types of incidents. Therefore, there is a less than significant impact to this criterion.

Mitigation Measures:

No mitigation measures are required.

Public Services Impact Conclusions:

No significant adverse impacts are identified or anticipated, and no mitigation measures are required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
XV. RECREATION:				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?				X
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?				X

Environmental Setting

The Project is to maintain existing flood control facilities. The existing facilities are not currently utilized for recreation purposes.

Impact Analysis

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?*

No Impact. Maintenance of the Lenwood facilities does not increase the existing population, which would in turn increase the use of neighborhood or regional parks. Additionally, there are no recreational facilities near the Project Area. Therefore, there is no impact.

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?*

No Impact. Maintenance of the Lenwood facilities does not require the construction or expansion of recreational facilities, as the maintenance of existing facilities does not induce population growth. The Project activities do not include the construction of new recreational facilities. Therefore, there is no impact.

Mitigation Measures:

No mitigation measures are required.

Recreation Impact Conclusions:

No significant adverse impacts are identified or anticipated, and no mitigation measures are required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
XVI. TRANSPORTATION / TRAFFIC: Would the project:				
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?			X	
b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?			X	
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?				X
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?				X
e) Result in inadequate emergency access?			X	
f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?				X

Environmental Setting

The Project is to maintain existing flood control facilities which are located in areas where public access is signed as restricted. The Project area is generally located west of the Interstate 15 freeway, south of National Trails Highway and south of Lenwood Avenue, at the northwest corner of Green Desert Drive and Salt Springs Avenue (dirt roads).

Impact Analysis

- a) ***Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of***

the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?

Less Than Significant. The facilities are not located on major roadways. The main access to both facilities are via dirt access roads. Therefore, the Project will not conflict with any applicable plan, ordinance, or policy that establishes the performance of the system. Since the Project does not create any inconsistency with applicable plans, ordinance or policy that establishes measures of effectiveness, there is a less than significant impact.

b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?

Less Than Significant. The facilities are not located on major roadways. Main access to the facilities is off Tumbleweed Drive, from Lenwood Road. Tumbleweed Drive is a dirt road. The spreading ground facilities can also be accessed off High Desert Road, Salt Springs Ave., Rock Springs Ave., and High Desert Road, all dirt roads. The channel can be also accessed by Sun Valley Road, a partially paved road, and National Trails Highway, a paved road. None of the roads in the area crossing the Lenwood facility are heavily utilized by the general public. The proposed Project would temporarily add trips onto local roadways during project implementation. However, the construction is temporary, and the impacts associated with it would be less than significant. Construction would take place per City and County traffic policy with the use of appropriate signage. Construction would not cause roads to be closed, traffic to be diverted, or otherwise impacted. For these reasons, impacts would be less than significant.

Maintenance activities will require that heavy equipment periodically use major roads or the interstate to transport equipment to and from the facilities and to transport material offsite. These activities will be temporary and not conflict with the congestion management program or significantly add to the existing traffic levels. Therefore, the Project will not conflict with an applicable congestion management program. The impact is less than significant.

c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?

No Impact. The Project is to maintain the existing channel and spreading basins at grade, as they have been for the past several decades. The Project does not propose structures that would result in a change in air traffic patterns. As previously stated, the nearest airport to the Project site is the Barstow-Daggett Airport, which is located at 39500 National Trails Highway, Daggett, CA 92327, approximately 19 miles from the Project site. Therefore, the Project will not result in a change of air traffic patterns or increase traffic levels or create a change in location that results in safety risk.

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

No Impact. The Project proposes to maintain existing flood control facilities that are not located on main roads or trails. Public access is restricted to the facilities. The Project does not involve creating new roads or maintaining existing roads where there would be public access. Therefore, no impacts would occur in this regard.

e) *Result in inadequate emergency access?*

Less Than Significant. Access to the facilities is primarily off of Tumbleweed Road off Lenwood Road. However, there are several secondary dirt roads from which to access the facility. Maintenance equipment will utilize the interstates and other arterials to travel to and from the facilities and to transport some earthen material to the Transportation Yard stations. However, the equipment travels short distances within the facility and there are multiple points of ingress egress and will not block or create inadequate emergency access. The facilities are located off public roads and a rather remote location and would not inhibit general emergency access. Less than significant impacts would occur.

f) *Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?*

No Impact. Project activities would not conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities. Therefore, no impacts would occur in this regard.

Mitigation Measures:

No mitigation measures are required.

Transportation/Traffic Impact Conclusions:

No significant adverse impacts are identified or anticipated, and no mitigation measures are required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
<p>XVII. TRIBAL CULTURAL RESOURCES: 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:</p>				
<p>a) 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</p>			X	
<p>b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.</p>			X	

Environmental Setting

Assembly Bill (AB) 52 signed on September 25, 2014 and effective on July 1, 2015 established a formal consultation process for California Native American tribes as part of CEQA. AB 52 requires that CEQA Lead Agencies, such as the County of San Bernardino, provide California Native American tribes with notice of projects under CEQA consideration by Lead Agency; the Lead Agency is required to provide notice only to those Tribes that previously requested to be notified by the Lead Agency.

On February 29, 2016, the County of San Bernardino Department of Public Works Environmental Management Division mailed a 14-day project notice to the San Manuel Band of Mission Indians in accordance with AB52. The Tribe expressed interest in consulting on the project and requested that a cultural resources study be completed and forwarded to them. On April 8, 2018, the District forwarded a cultural resources report to the Tribe which was prepared by BCR Consulting. No cultural resources were identified and the report recommended that no further action be taken. The Tribe indicated that with the inclusion of incidental finds conditions, that they considered consultation under AB52 to be concluded on September 25, 2018. Should any resources be found during maintenance activities, mitigation measures have been incorporated in the Cultural Resources section of this document, specifically as **Mitigation Measure CUL-2** and **Mitigation Measure CUL-4**.

Impact Analysis

- a) ***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)?***

No Impact. There are no resources that have been identified as eligible to the California Register of Historic Places. Therefore, there is no impact.

b) 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?

No Impact. There are no resources supported by substantial evidence, to be significant to the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. Therefore, there is no impact.

Mitigation Measures:

No mitigation measures are required.

Tribal Cultural Resources Impact Conclusions:

No significant adverse impacts are identified or anticipated, and no mitigation measures are required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
XVIII. UTILITIES AND SERVICE SYSTEMS: Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?				X
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?				X
c) Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?		X		
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?			X	
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?				X
f) Be served by a landfill(s) with sufficient permitted capacity to accommodate the project's solid waste disposal needs?			X	
g) Comply with federal, state, and local statutes and regulations related to solid waste?				X

Environmental Setting

The purpose of the project is to maintain existing flood control facilities. The District utilizes existing staff, or contractors, to accomplish the maintenance activities.

Impact Analysis

a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board.

No Impact. The proposed Project will not result in the generation of wastewater that will require treatment. Therefore, there will be no impact to the waste water treatment system.

b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

No Impact. The proposed Project will not result in the generation of wastewater that will require treatment. Therefore, there is no impact to this criterion.

c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

Less Than Significant with Mitigation Incorporated. The proposed Project is to maintain existing flood control facilities. No new impervious surfaces will be constructed as part of the maintenance. Environmental impacts are evaluated throughout this IS/MND with mitigation measures provided where applicable; therefore construction impacts would be less than significant with mitigation incorporated, already identified through various measures in this IS/MND.

d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?

Less Than Significant. The maintenance of the existing facilities would not require additional water supplies. Maintenance activities may require water for some activities, including dust suppression and washing down streets or paved areas. However, the District's existing entitlements and resources would be adequate to support potential needs. The proposed Project would have sufficient water supplies, and no new or expanded entitlements would be needed.

e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

No Impact. The proposed Project will not result in the generation of wastewater that will require treatment. Therefore, there will be no impact to the waste water treatment system and therefore, will not require a service determination from the wastewater treatment provider.

f) Be served by a landfill(s) with sufficient permitted capacity to accommodate the project's solid waste disposal needs?

Less Than Significant. The proposed Project area would be served by the Barstow Sanitary Landfill. According to the California Integrated Waste Management Board website, the Barstow Sanitary Landfill has adequate remaining capacity. Maintenance activities may generate small amounts of solid waste, inert materials, and green waste. Removed sediment will be used for dike, channel, and access road maintenance. Some sediment is sold and the rest is used for maintenance. Sediment is only sold when there is a market, so some sediment may sit for a year or two in designated stockpile locations, and therefore, not all waste will be routed to the landfill. All waste would be properly disposed of in accordance with federal, state, and local statutes and regulations. Maintenance activities are not anticipated to have a significant impact on solid waste disposal needs; therefore, the proposed activities would not involve major demolition that could generate a significant amount of solid waste.

g) Comply with federal, state, and local statutes and regulations related to solid waste?

No Impact. All solid waste generated by the Project during operation and maintenance activities would be handled in accordance with all applicable Federal, State, and local statutes and regulations. Therefore, no impacts would occur under this criterion as a result of future Project activities. The operation of the Project would consist of routine maintenance and emergency repairs. These activities are not expected to generate solid waste; however any solid waste generated by the Project during operations would be

handled in accordance with all applicable Federal, State, and local statutes and regulations. Therefore, no impacts from operations would occur under this criterion as a result of the Project.

Mitigation Measures:

No mitigation measures are required.

Utilities and Service Systems Impact Conclusions:

No significant adverse impacts are identified or anticipated, and no mitigation measures are required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
XIX. MANDATORY FINDINGS OF SIGNIFICANCE:				
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?		X		
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?		X		
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?		X		

Impact Analysis

- a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?**

All impacts to the environment, including impacts to habitat for fish and wildlife species, fish and wildlife populations, plant and animal communities, rare and endangered plants and animals, and historical and pre-historical resources were evaluated as part of this IS/MND.

There are potentially significant impacts associated with habitat for sensitive species located adjacent to existing facilities. However with the biological mitigation measures incorporated, which are listed below, these impacts would be less than significant. Section IV, *Biological Resources*, addresses the potential impacts and mitigation measures in detail.

There are potential significant impacts associated with paleontological resources. However, with mitigation measure incorporated and listed below, these impacts would be less than significant. Section V, *Cultural Resources*, addresses the potential impacts and mitigation measures in detail.

- 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)?**

As discussed throughout this IS/MND, implementation of the proposed Project has the potential to result in effects to the environment that are individually limited, but not cumulatively considerable. In all instances where the Project has the potential to contribute to a cumulatively considerable impact to the environment, mitigation measures have been imposed to reduce potential effects to less-than significant levels. As such, with incorporation of the mitigation measures imposed throughout this IS/MND, the Project would not contribute to environmental effects that are individually limited, but cumulatively considerable, and impacts would be less than significant.

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

The Project's potential to result in environmental effects that could adversely affect human beings, either directly or indirectly, has been discussed throughout this IS/MND. In instances where the Project has potential to result in direct or indirect adverse effects to human beings, mitigation measures have been applied to reduce the impact to below a level of significance. With required implementation of mitigation measures identified in this IS/MND, construction and operation of the proposed Project would not involve any activities that would result in environmental effects which would cause substantial adverse effects on human beings, either directly or indirectly.

XX. SUMMARY OF MITIGATION MEASURES

The following mitigation measures were identified to reduce impacts to less than significant:

AIR QUALITY

AIR-1

Dust Control Measures

- Apply soil stabilizers such as hay bales or aggregate cover to inactive areas.
- Prepare and implement a high wind dust control plan when winds exceed 25 mph and reduce non-essential earth-moving activity under high wind conditions.
- Stabilize previously disturbed areas if subsequent construction is delayed.
- Water exposed surfaces and haul roads 3 times/day.
- Stockpiles shall be roller compacted, periodically watered, or treated with appropriate dust suppressants
- Reduce speeds on unpaved roads to less than 15 mph.
- Trenches shall be left exposed for as short a time as possible.
- Identify proper compaction for backfilled soils in construction specifications.
- Take actions sufficient to prevent project-related trackout onto paved surfaces.

AIR-2

Exhaust Emission Controls

- Require 90-day low-NOx tune-ups for off-road equipment.
- Limit allowable idling to 5 minutes for trucks and heavy equipment.

BIOLOGICAL RESOURCES

Multiple Species Measures

Pre-Construction

BIO-1

Good quality vegetation communities providing habitat for desert tortoise and other species habitat will be avoided to the extent possible by the installation of desert tortoise exclusion fence, clearance surveys and containing all project activities within the exclusion fence. For those areas that are desert tortoise habitat and would be disturbed or removed by the proposed project, the District will provide compensatory mitigation. Habitat provided will include nested mitigation for burrowing owl and LeConte's thrasher.

Project Feature	Quality of Existing Desert Tortoise Habitat (Figure 8)	Acres Affected	Mitigation Ratio	Acres
Lenwood spreading grounds	Creosote bush – white bursage, less disturbed (moderate or good)	132.0	1:1	132.0
	Creosote bush – white bursage, highly disturbed or unvegetated	65.8	0:1	0.0
Lenwood channel	Creosote bush – white bursage, less disturbed	26.7	1:1	26.7
	Creosote bush – white bursage, highly disturbed or unvegetated	58.7	0:1	0.0
Lenwood spillway	Creosote bush – white bursage, highly disturbed or unvegetated	0.2	0.0	0.0
<i>Proposed acres to be provided as compensatory mitigation</i>				<i>158.7*</i>

*Final compensatory mitigation ratios will be arrived at during the regulatory permitting processes, and included in the Streambed Alteration Agreement prepared under Section 1602 of the Fish and Game code. This mitigation measure is intended to satisfy mitigation requirements for CEQA and under all State and federal permitting.

BIO-2 A pre-construction survey will be conducted to determine the current status and location of:

- ◆ Nesting birds to determine species, nest location and status, anticipated fledge date and/or buffers.
- ◆ Desert tortoise sign to determine any need for fence adjustment or need to obtain additional permits if impacts to desert tortoise cannot be avoided by fencing.
- ◆ Burrowing owl to determine any active burrow locations and nesting status, and
- ◆ Any other sensitive species that are recorded to determine additional avoidance measures that can be implemented

During project implementation

BIO-3 The District will prepare a Worker Environmental Awareness Plan (WEAP) that will be given to all personnel at the site, documented by sign-in sheets. Refresher WEAP will be conducted at least annually, and whenever a biological non-compliance is documented. The WEAP will include a discussion of each species, all applicable laws, the permit conditions, and the potential consequences.

Nesting Bird and Burrowing Owl Measure

Pre-construction and during project implementation

- BIO-4** The District will prepare a *Nesting Bird and Burrowing Owl Management Plan*. this plan will include measures for avoidance of nests including seasonal avoidance and species-specific buffers. This plan will also address minimization of impacts through construction of artificial burrows along the southern portion of the spreading grounds.

Jurisdictional Waters Measure

Pre-construction

- BIO-5** The District will consult with the USACE and CDFW to formally permit the temporary impacts to waters under their respective jurisdiction. At a minimum a Streambed Alteration Agreement will be completed under section 1602 of the California Fish and Game Code and all measures included in that permit will be completed by the District.

Desert Tortoise Measures

During project implementation

- BIO-6** Desert tortoise habitat disturbance will be limited by the installation of desert tortoise exclusion fence, as show in Figure 7, including appropriate tortoise-proof access points and shade structures placed outside the fence. Fence installation will be monitored by a qualified biologist.
- BIO-7** Activities conducted outside the exclusion fence will be monitored where good quality habitat is being removed in the Lenwood channel until the completion of vegetation removal. After vegetation removal and in areas of poor-quality habitat, areas will be spot checked as appropriate to the activity, its timing and duration.
- BIO-8** Equipment staging, temporary stockpiling and personnel will within the exclusion fence.
- BIO-9** Speeds will be kept to under 20 mph in unpaved areas outside desert tortoise exclusion fence at all times.
- BIO-10** Trash will be kept in closed containers at all times and routinely removed from maintenance areas.
- BIO-11** Construction activities will be limited to daylight hours (approximately 7:00 A.M. to 6:00 P.M.). During night hours, no activities that would unnaturally increase the light or noise within adjacent occupied habitat will occur.

Mojave Fringe-toed Lizard Measure

- BIO-12** All areas of potential Mojave fringe toed lizard habitat that could be affected by the project will be restricted from project access by placement of temporary visual barriers such as snow fence.

CULTURAL RESOURCES

- CUL-1: Archaeological Resources.** No significant impacts related to archaeological or historical resources is anticipated and no further investigations are recommended for the proposed Project unless:

- the proposed Project is changed to include areas not subject to this study;
- cultural materials are encountered during Project activities.

Although the current study has not indicated sensitivity for cultural resources within the Project boundaries, ground disturbing activities always have the potential to reveal buried deposits not observed on the surface during previous surveys. Prior to the initiation of ground-disturbing activities, field personnel should be alerted to the possibility of buried prehistoric or historic cultural deposits. In the event that field personnel encounter buried cultural materials, work in the immediate vicinity of the find should cease and a qualified archaeologist should be retained to assess the significance of the find. The qualified archaeologist shall have the authority to stop or divert construction excavation as necessary. If the qualified archaeologist finds that any cultural resources present meet eligibility requirements for listing on the California Register or the National Register, plans for the treatment, evaluation, and mitigation of impacts to the find will need to be developed. Prehistoric or historic cultural materials that may be encountered during ground-disturbing activities include:

- historic artifacts such as glass bottles and fragments, cans, nails, ceramic and pottery fragments, and other metal objects;
- historic structural or building foundations, walkways, cisterns, pipes, privies, and other structural elements;
- prehistoric flaked-stone artifacts and debitage (waste material), consisting of obsidian, basalt, and or cryptocrystalline silicates;
- groundstone artifacts, including mortars, pestles, and grinding slabs;
- dark, greasy soil that may be associated with charcoal, ash, bone, shell, flaked stone, groundstone, and fire affected rocks;

- CUL-2: Unanticipated Tribal Resources.** In the event that Native American cultural resources are discovered during project activities, all work in the immediate vicinity of the find (within a 60-foot buffer) shall cease and a qualified archaeologist meeting Secretary of Interior standards shall be hired to assess the find. Work on the on the other portions of the project outside of the buffered area may continue during this assessment period. Additionally, San Manuel Band of Mission Indians will be contacted if any such find occurs and be provided information and permitted/invited to perform a site visit when the

archaeologist makes his/her assessment, so as to provide Tribal input. The archaeologist shall complete an isolate record for the find and submit this document to the applicant and Lead Agency for dissemination to the San Manuel Band of Mission Indians.

If significant Native American historical resources, as defined by CEQA (as amended, 2015), are discovered and avoidance cannot be ensured, an SOI-qualified archaeologist shall be retained to develop a cultural resources Treatment Plan, as well as a Discovery and Monitoring Plan, the drafts of which shall be provided to San Manuel Band of Mission Indians for review and comment. All in-field investigations, assessments, and/or data recovery enacted pursuant to the finalized Treatment Plan shall be monitored by a San Manuel Band of Mission Indians Tribal Participant(s). The Lead Agency and/or applicant shall, in good faith, consult with San Manuel Band of Mission Indians on the disposition and treatment of any artifacts or other cultural materials encountered during the project.

- CUL-3: Worker Environmental Awareness Training Prior to Ground Disturbance.** Construction personnel shall be trained regarding the recognition of possible subsurface paleontological resources and protection of paleontological resources during construction. Training will emphasize the general paleontological items, including paleontology and geology of the area and include pictures of typical fossils found during construction, applicable laws, and what to do in case an unanticipated discovery is made.
- CUL-4: Paleontological Resources.** Monitoring shall occur during spillway and levee/slope rock construction if excavation exposes Older Quaternary Alluvium. If fossils are discovered, a qualified paleontologist (or paleontological monitor) shall recover and fully document them. In the instance of an extended salvage period, the paleontologist shall work with the construction manager to temporarily direct, divert, or halt earthwork to allow recovery of fossil remains in a timely manner. A final summary report shall be completed that includes discussions of the methods used, stratigraphic section(s) exposed, fossils collected, photographs, and significance of recovered fossils.
- CUL-5: Human Remains.** If human remains or funerary objects are encountered during any activities associated with the project, work in the immediate vicinity (within a 100-foot buffer of the find) shall cease and the County Coroner shall be contacted immediately pursuant to State Health and Safety Code §7050.5 and that code enforced for the duration of the project. The County Coroner will make a determination of origin and disposition pursuant to Public Resources Code Section 5097.98. If the remains are determined to be prehistoric, the Coroner will notify the Native American Heritage Commission (NAHC), which will determine and notify a Most Likely Descendant (MLD). With the permission of the landowner or his/her authorized representative, the MLD may inspect the site of the discovery. The MLD shall complete the inspection within 48 hours of notification by the NAHC.

HAZARDS AND HAZARDOUS MATERIALS

- HAZ-1 Hazardous Materials.** A hazardous spill prevention plan to minimize the likelihood of a spill shall be prepared prior to construction. The plan shall state the actions that would be required if a spill occurs to prevent contamination of surface waters and provide for cleanup of the spill. The plan shall follow Federal, state, and local safety guidelines and standards to avoid increased exposure to these pollutants.
- HAZ-2 Hazardous Materials.** If a contaminated area is encountered during construction, construction shall cease in the vicinity of the contaminated area. The construction contractor shall notify all appropriate authorities, including the EPA and the District. If necessary, the contaminated site shall be remediated to minimize the potential for exposure of the public and to allow the project to be safely constructed.

HYDROLOGY AND WATER QUALITY

- HYD-1 Compliance with Water Quality Permits.** Prior to construction, the San Bernardino County Flood Control District shall obtain a Water Quality Certification from the Lahontan Regional Water Quality Control Board prior to construction. The Water Quality Certification identifies measures to be implemented to meet the State Regional Water Quality Board requirements in accordance with the Federal Clean Water Act.
- HYD-2 Stormwater Pollution Prevention Plan (SWPPP).** Prior to construction, unless the project qualifies for a waiver based on rainfall erosivity factors established by the EPA, the San Bernardino County Flood Control District shall prepare a Storm Water Pollution Prevention Plan (SWPPP) that includes project Best Management Practices which will include but not be limited to the following:
- BMP 1 Avoid Channel Work during the Rainy Season to the Greatest Extent Practicable.** The greatest potential to transport pollutants or debris/soil/sediment from work activity occurs while water is present in Lenwood channel. Within the County of San Bernardino's diverse watersheds, the rainy season is typically from October through April, with summer monsoons occurring in the desert during the summer months. If work must occur within the channel, clear water diversion structures will be placed to protect water quality downstream.
- BMP 2 Clear Water Diversion.** Routine maintenance will occur outside of low flow channels within the spreading grounds during winter season. Clear water diversion structures will be employed to protect water quality downstream as needed, such as diversion ditches, berms, dikes, cofferdams, slope drains, rock, gravel bags, filter fabric or turbidity curtains, drainage and interceptor swales, pipes or flumes.
- BMP 3 Avoid Spills and Leaks.** The District will ensure that equipment operating in and near the facility is in good working condition and free of leaks.

No equipment maintenance and/or refueling will occur within District Facilities. Equipment used during routine maintenance activities will be parked outside of channels and/or washes on the road tops and/or adjacent roadway. All operations staff working with heavy equipment have been trained in the use of the equipment, and in spill containment and response for any unforeseeable accidents that may occur; further, a spill kit will be kept on site at all times. Special care will be taken to prevent liquid paint from entering aquatic resources while painting associated with graffiti removal is conducted. Any spills that occur shall be reported to California State Warning Center (Cal OES) at (800) 852-7550. Additionally, a copy of the Cal OES California Hazardous Materials Spill/Release Notification Guidance will be kept on-site while all maintenance activities take place. Further, if necessary, operations staff will need to follow up with the appropriate agencies as outlined in the Cal OES guidelines, which can be located on the Cal OES website at www.calema.ca.gov.

BMP 4 Avoid Road Base Discharge. The District will implement measures in order to prevent the discharge of road base, fill, sediment, concrete, and/or asphalt beyond the previously established roadbed when maintaining existing driveways and dirt access roads within the maintenance activity area.

BMP 5 Concrete Washout Protocols. The District will implement the appropriate waste management practices during on-site concrete repair operations. Waste management practices shall be applied to the stockpiling of concrete, curing, and finishing of concrete as well as concrete washout operations. Waste management practices shall be adequate to ensure that all fluids associated with the curing, finishing, and washout of concrete shall not be discharged into any area with the potential to enter an aquatic resource. Further, all concrete waste will be stockpiled separately from sediment and protected with erosion control measures to ensure that concrete dust and/or debris is not discharged into an aquatic resource. The District will determine the appropriate waste management practices based on considerations of flow velocities, site conditions, availability of stockpile locations, availability of erosion control materials, construction costs, and other requirements that may be outlined within the District's MS4 permits.

BMP 6 Location of Temporary Stockpiles and Staging Areas. Stockpile locations and staging areas will be located within the disturbed/graded areas outside of the facility bottom and at the tops of the levees/banks to the greatest feasible extent. Silt fences, berms, or other methods of erosion control may be used if stockpiles are to remain in designated areas for longer than 10 days. Materials may be stored temporarily within the facilities during excavation activities if placed outside of watercourses and storm drain inlets. Additionally, heavy equipment may be staged on the access roads within the maintenance activity area, but will be confined to those locations where potential pollutants cannot enter into an aquatic resource.

BMP 7 Location of Permanent Stockpiles. This project will include permanent or long-term stockpiles onsite that will be located outside of areas identified as Waters of the State and Waters of the U.S. Any material not placed

onsite will be removed by a District contractor and placed at the nearest Operations yard.

BMP 8 Application of Pesticides, Herbicides, and Fertilizers. The District Aquatic Pesticides permit outlines a schedule of monitoring requirements, BMPs, and conditions designed to promote the reduction of pollutants in stormwater discharges. This permit (Order Number 2013-0002-DWQ) requires the District to manage pesticides and herbicide applications under specific criteria.

General Requirements. Apply pesticides and herbicides in accordance with California Department of Pesticide Regulation requirements: (1) Read and follow manufacturers' label requirements before each application; (2) Check sprinkler system for overflows into the streets and storm drain; (3) As much as possible, utilize safer alternatives such as insecticidal soaps and horticultural oils (also see Appendix E).

Herbicide Applicator Training Requirement. The San Bernardino County Department of Agriculture/Weights and Measures (Ag) is contracted by the District to spray various flood control facilities throughout the County for vegetation control. Many times the Ag spray rigs are not able to spray close to fence lines and in tight areas. Spotty re-growth also occurs and is required to be re-sprayed.

The District consulted with Ag to develop a plan for weed abatement that is an extension of Ag's current weed abatement program; using the same herbicide (Monsanto Roundup Pro Concentrate or similar glyphosate product). The application process has been approved by Ag and is determined not to require a California State Qualified Applicator License (QAL) or Certificate (CAC) per 3CCR section 6504. The District application of herbicide will be under the constant monitoring of Ag, who will be dispensing the herbicide and conducting random monitoring inspections in the field. District staff will complete daily records of herbicide use by amount and location. These logs will be turned in to Ag monthly, to ensure no overuse of herbicides occurs.

At least annually, Ag will provide training to District staff consisting of:

5. Classroom instruction on the laws and regulations governing the application of herbicides in the State of California.
6. Review of the functions of the Department of Agriculture/Weights and Measures Pest Management Division Written Employee Training Program for Pesticide Applicators, Herbicide Applications; including:
 - a. Safety Procedures;
 - b. MSDS for Monsanto Roundup Pro Concentrate (or similar glyphosate product), signs, symptoms & effects of exposure;

- c. Pesticide Safety Series N1, N2, N4, N5, N7, N8;
 - d. Review of the Dept of Ag Pesticide Monitoring Inspection form;
 - e. Instruction on completing and submission of the required daily use log;
 - f. Practical demonstration of identification and proper use of items required for safe transport, mixing, pouring, application, clean up, storage, disposal of wastes, and emergency procedures associated with the Roundup Pro Concentrate (or similar glyphosate product) herbicide application procedure;
 - g. The required personal protective equipment and hygiene practices.
7. Employee will perform a proficiency demonstration of knowledge of the above training items.
8. Employee will successfully complete a verbal/written post test on the above training. Herbicides shall be applied by the District on a limited basis. Licensing standards and procedures are established by DPR and are described in:
- 1998 California Code of Regulations, Title 3 (Food and Agriculture); and
 - 1997 California Food and Agriculture Code (Divisions 6, 7, and 13).

BMP 9 Invasive Plant Removal Protocols. Invasive plant species shall be removed in a manner that prevents propagation of those species in the same location and/or in other locations throughout the facility and/or County. Where maintenance activities are required, Operations staff will spray and/or mow invasive plant species before seeds ripen. All cut/removed invasive vegetation shall be taken to an approved refuse facility as a load designated for destruction. Operations staff shall prevent cut stems and/or seed material from being transported downstream and/or being left behind to allow the seed to propagate. In the case of giant reed (*Arundo donax*) removal, the District shall minimize ground disturbance and use foliar glyphosate treatment on smaller infestations (see BMP 1.7.3 Aquatic Pesticide Applications, above). Stems shall be removed only when the plants are determined to be dead and unable to re-sprout and/or propagate.

BMP 10 Remove Debris. Remove litter and debris from facility as necessary.

BMP 11 Wind Erosion. Prevent dust and wind erosion by applying water or other dust palliatives as necessary to reduce or alleviate dust nuisance generated by construction activities.

HYD-3 Construction General Permit for Spillway. A Construction General Permit will be required prior to construction of the spillway improvements unless the project qualifies for a waiver based upon erosivity factors established by the EPA.

NOISE

- NOI-1** Construction activities will be limited to daylight hours (approximately 7:00 A.M. to 6:00 P.M.). During night hours, no activities that would unnaturally increase the light or noise within adjacent occupied habitat will occur.

XXI. REFERENCES

- BCR Consulting, March 13, 2017. *Cultural Resources Assessment, Lenwood Action Area Project, City of Barstow, San Bernardino County, California.*
- California Department of Conservation. California Important Farmland Finder. Accessed January 29, 2017.
- California Department of Toxic Substances Control. Envirostor. Accessed January 27, 2017.
- California Regional Water Quality Control Board – Santa Ana Region. February 3, 2010. *Waste Discharge Requirements for the County of San Bernardino and the Incorporated Cities of San Bernardino County, Order No. R8-2010-0036, NPDES No. CAS618036, Areawide Urban Storm Water Runoff.*
- CEQA Guidelines, 2018, Appendix G.
- City of Barstow, July 20, 2015. *City of Barstow Zoning Map, Ord. #934-2015.*
- County of San Bernardino Development Code, 2007 and Revised 2014.
- County of San Bernardino General Plan, Adopted 2007.
- County of San Bernardino Areawide Stormwater Program, Watershed Action Plan. November 5, 2014.
- Federal Emergency Management Agency Flood Insurance Rate Map and Flood Boundary Maps – 06071C8651H and 06071C8652H.
- Giroux and Associates, 2017. Air Quality and Greenhouse Gas Emission Data

Appendix A

Biological Resources Reports

Appendix B

Cultural Resources Report

Appendix C
Response to Comments (Reserved)
