

CITY of BARSTOW

ENVIRONMENTAL CHECKLIST FORM / INITIAL STUDY

1. **Project Title:**

Soapmine Road Area Nitrate Remediation Project – August 2012

2. **Lead Agency Name and Address:**

City of Barstow
220 East Mountain View Street
Barstow, CA 92311-2888

3. **Contact Person and Phone Number:**

Mr. Mark Murphy, Senior Management Assistant
City of Barstow
(760) 255-5160

4. **Project Location:**

As shown on Figure 1: *Regional and Project Location*, and Figure 2: *Specific Location Aerial Photograph*, the project site is located in the northeastern portion of Barstow adjacent the Mojave River, within both the City's corporate limits, and an unincorporated portion of the County of San Bernardino. The Soapmine Road area is bounded by Interstate 15 to the west, Soapmine Road to the north, the end of Nelson Road to the east, and the Mojave River to the south. Additional detailed information pertaining to the location of the project is included with the discussion under subheading 7, Description of Project below. Figure 3: *Project Detail*, illustrates the proposed project in relation to existing pipelines and pumps, while Figure 4: *Existing and Proposed Project Pipeline Location, Aerial Photograph, FIRM Flood Zone, City/County Boundary* further clarifies the projects location in relation to the surrounding area and jurisdictional boundaries. A key component of the project is a Fluidized Bed Reactor (FBR) treatment system that will be located at the City of Barstow Water Reclamation Facility (WRF).

5. **Project Sponsor's Name and Address:**

City of Barstow
220 East Mountain View Street
Barstow, CA 92311-2888

6. **City of Barstow General Plan / Zoning Designation:**

The project area includes the following City of Barstow General Plan Designations, with associated Zoning Classifications, (for the northern segment on Webster these are San Bernardino county classification): Desert Living/Specific Plan, and Public/Quasi-Public, for parcels owned by the City of Barstow and used for the City Wastewater Treatment Plant, see Figure 5: *Parcelization/Radius/General Plan/Zoning Map*.

7. **Description of Project:**

This project entails the construction and operation of a remediation system designed to treat nitrate-contaminated water in a floodplain aquifer at the boundary of the Centro and Baja Subareas of the Mojave River Groundwater Basin underlying that portion of the City of Barstow commonly referred to as the Soapmine Road area, see Figure 1, Location Map. The Project is undertaken pursuant to a directive from the Lahontan Regional Water Quality Control Board (LRWQCB) to implement a plan for remediation per the May 18, 2007 order *Comments on March 2007 Remedial Investigation Report and Order to Submit Additional Technical Information in Accordance with Section 13267 of the California Water Code, City of Barstow Groundwater Investigation, San Bernardino County, WDID No. 6B360101001*. The goal of this project is to remove up to 1.44 million gallons a day (mgd) of nitrate laden water from the Soapmine Road area, treat the extracted water, and discharge the treated water to the City of Barstow Water Reclamation Facility (WRF) for recharge back into the aquifer. The intended result is to lower existing nitrate levels to drinking water quality levels of below 10 parts per million (ppm) nitrate as nitrogen (N) and 45ppm nitrate as nitrate (NO₃). The actual extent of the nitrate pollution is not known. The project is anticipated to operate for a period of years until acceptable water quality levels are reached.

The current project is a follow-on to a Pilot Program that operated from October 2009 to January 2010 in which 4.77 million gallons of water was extracted, treated with a Fluidized Bed Reactor (FBR) technology, and discharged to the WRF over a 76-day period. The Pilot Program proved successful and is now proposed for expansion; the

expansion is the subject of the current environmental study. The Project involves the construction of 5 extraction wells, water conveyance piping, a possible booster pump, and a FBR water treatment system.

The CA Regional Water Quality Control Board—Lohanton held a public meeting with a presentation detailing past and future aspects of the subject nitrate-removal project on April 24, 2012; see *Soapmine Rd and Perchlorate Investigation & Cleanup Project Updates*; Memorandum from Mark W. Murphy, Senior Management Assistant to Charles C. Mitchell, City Manager and Public Presentation Slides, City of Barstow, May 2, 2012.

Background

In the summer of 2007, a failed septic system at the Hacienda Mobile Home Park on Soapmine Road was found to have groundwater nitrate levels exceeding the Federal Safety Standard of 10-milligrams per liter. This caused the LRWQCB to investigate whether the high nitrate levels were related to the City's historic use of many million gallons of treated effluent to irrigate alfalfa fields in the immediate area over a number of years. The actual amount of nitrate rich irrigation water used by the City is not known.

This northern irrigation field, located south of Soapmine Road, west of Webster Road and north of the Mojave River, was used from 1982 through 2003, when it was fallowed and no longer watered. The field, as well as several adjacent properties, are now under the control of a private development company (Pacific Holt Corporation) and are being considered for residential development. Scheduling for construction of the Pacific Holt housing project cannot be accurately determined at this time as there are currently no active development permits associated with the proposed housing development area; although background environmental documentation was completed several years ago. Future development plans will depend on national and regional economic factors that cannot be accurately predicted.

The Pilot Program pumped up to 100,000 gallons per day (gpd) of contaminated groundwater from an extraction well on the north side of the Mojave River to a small treatment facility within the Barstow WRF. It entailed construction of approximately 6,000 linear feet of 8-inch PVC pipeline buried at a depth of 3-feet below the ground surface. This pipeline runs adjacent to a small portion of the perimeter of the Pacific Holt controlled property, however it did not cross any area potentially subject to a building footprint. The proposed project does not include any new construction that would replace components of the Pilot Project adjacent to the Pacific Holt properties.

The two sections of the pipe are connected to an existing 12-inch pipeline that crosses under the Mojave riverbed. This existing pipeline had once provided water to the now dormant City operated alfalfa fields in the north that had been watered with reclaimed wastewater. The northeastern end of the subject pipe connects with existing Mojave Water Extraction Well EW-01 located adjacent the west side of Webster Road approximately 100-feet south of the intersection with Jolene Farms Lane. The southeastern end of the subject pipe connected to a FBR Treatment System, an enclosed approximately 10-foot square metal box with an approximately 15-foot cylindrical metal tower, located at the south-end of the WRF between the ponds into which the treated water was discharged; Figure 6c shows the FBR Treatment facility.

Proposed Project

The Project (see Figure 3: *Project Detail*) calls for a 2,617-foot total extension of 8-inch PVC pipeline that will be buried about 3-feet deep as follows:

- 1,031-feet in Webster Road, along the west side of the road within the City right-of-way from current extraction well EW-01 to a termination point approximately 150 feet north of the intersection of Webster Road and McGinnis Lane;
- 1,050-feet in Clay River Road, along the south side of the road within the City right-of-way, easterly from the Clay River Road intersection with Webster Road; and
- 536-feet within a service road at the WRF from the location of the Pilot Project Treatment Compound between Pond One and Two adjacent the south side of Pond Two to the southwest corner of Pond Three.

Four new wells and below ground pumps will be added to the current system. These will be located at each end of the Clay River Road pipeline and at the end of the pipeline extension in Webster Road, with an additional well/pump at the mid-point of the Webster Road pipeline extension. The pumps will operate 24-hours a day 7 days a week and will be located 60-feet below ground. The only evidence of the wells and pumps above ground will be metal marker posts, surrounding in ground concrete well vaults with steel doors, see Figure 6a.

The cumulative pumping rate for the five wells will be approximately 1.44mgd at a rate of 1,000gpm per well. This, for safety reasons, is below the actual capacity of the proposed delivery system. An 8-inch PVC pipe at 20psi can deliver approximately 1,200gpm i.e. approximately 1.73mgd with minimal pressure loss and noise.

An additional above ground booster pump placed within the WRF property at the southern 12-inch to 8-inch piping intersection in the south field may be necessary to overcome friction loss and maintain the projects anticipated maximum 1,000gpm flow rate. The need for this booster pump cannot be determined until preliminary testing is completed following installation of project pumps and piping.

The treatment facility itself, to be located at the WRF, between Ponds #1 and #2, is about the size of a standard marine/truck/rail-shipping container, and will be a larger version of the facility shown on Figure 6c; i.e. the proposed FBR will be about 20-feet long by 30-feet wide. The operation is entirely self-contained and will not be visible from any private property or public right-of-way.

Construction Activities:

Construction activities associated with the proposed project will include: well boring, trenching, pipe laying, provision of electrical service, (both overhead and below ground), backfilling, radio communication (telemetry) installation, and asphalt patching for street repair. No ground surface grading is involved in project construction.

Well drilling involves a truck mounted drilling rig and typically two support vehicles. The soil (cuttings) removed from the well drilling is considered clean and are typically spread on the adjacent shoulder of the roadway. However, if City inspectors determine that there will be excess soil spread on the roadside, cuttings can be transported to the WRF facility and spread there at a convenient location. Approximately three days are needed for the construction of a single well and approximately three weeks are needed for all well construction activity.

Pipe laying involves the use of a backhoe, forklift, front-end loader and a few support vehicles. About three weeks will be needed to lay the pipe for this project.

Electrical installation will entail standard field tools, without any heavy equipment being used other than a bucket-lift that the electric company might use. This activity will take approximately one week.

The entire project is expected to take about three months to complete.

Resident Concerns

Resident concerns pertaining to depletion of existing water wells because of remediation well extraction have been previously addressed by the City of Barstow. They are detailed in the report: *Second Supplement to the May 2010 Feasibility Study and Remedial Action Plan: City of Barstow California CRWQCB WDID No. 6b360101001*. DPR, Inc. Escondido, California 92029 February 24, 2012. This issue is also discussed in subsection IX(b) Hydrology and Water Quality, in this report and was not found to be environmentally significant.

8. Surrounding Land Uses and Setting:

Most of the properties adjacent to the project are vacant and undeveloped with the exception of single-family farmsteads located south of Clay River Road and east of Webster Road, opposite the point where the subject pipe makes a right angle turn off the Webster Road alignment. Figure 2: *Aerial Photograph*, as well as Figures 6a, 6b and 6c: *Site Photographs*, illustrates existing land use both within and surrounding the project development area.

The project is located entirely within public right-of-way adjacent three groupings of non-contiguous parcels. These parcels, as well as parcels within 500-feet of the project, include:

Possible booster pump site: 0424-081-18 and 74;

Webster Road pipe extension and pumps: 0424-051-09, 26, 27 and 31, and 0424-081-05, 10, 16, 62, 63, 77 and 78.

Clay River Road pipe and pump: 0424-051-15, 23, and 0424-061-03, and 0424-081-10 and 18.

See Figure 5: *San Bernardino County Assessors Parcel Maps*; shows the above noted parcels within 500-feet of the proposed pipeline and pumps, as well as a number of parcels in the surrounding area. The location of the possible booster pump and proposed treatment facility are also identified on Figure 5, as are existing pipelines installed as part of the Pilot Program.

9. Other Public Agencies Whose Approval is Required:

- San Bernardino County Flood Control District
- Lahontan Regional Water Quality Control Board
- San Bernardino County
- Mojave Water Agency

10. California Environmental Quality Act (CEQA) Compliance:

This report has been prepared in compliance with *Title 14. California Code of Regulations. Chapter 3. Guidelines For Implementation of the California Environmental Quality Act, Article 10. Considerations in Preparing EIRs and Negative Declarations.*

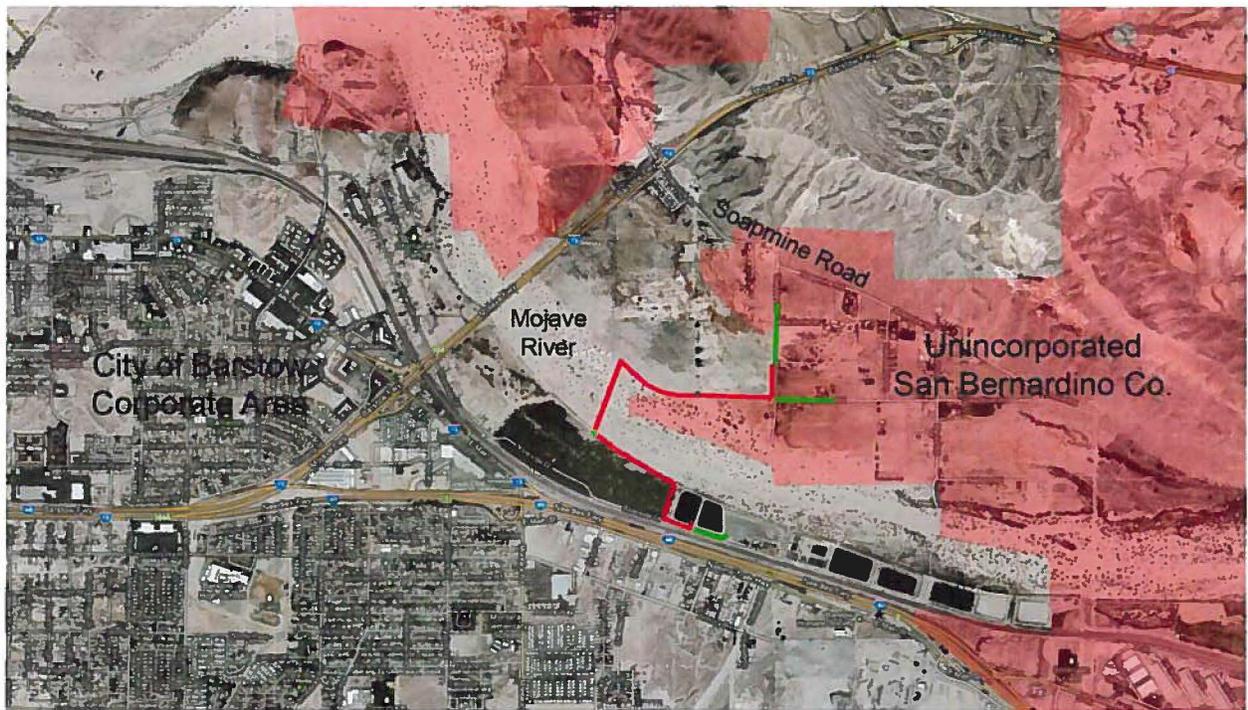
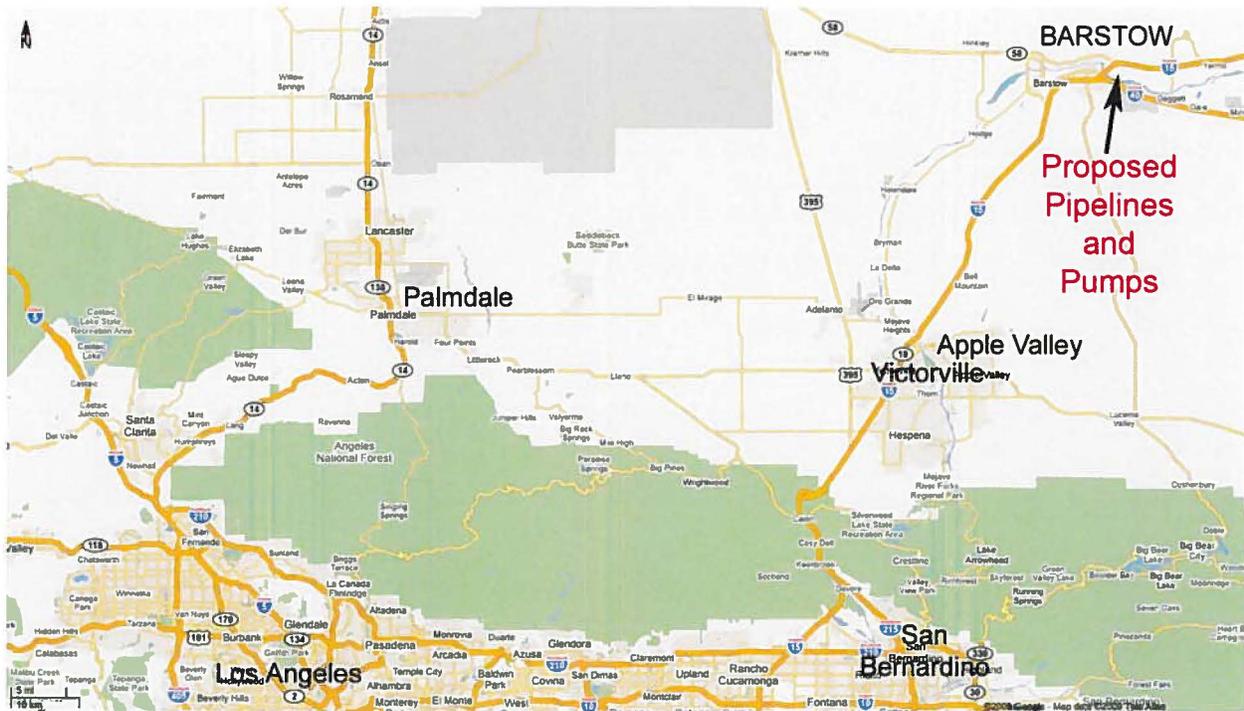
The subject project could be considered as meeting *CEQA Categorical Exemption Section 15308 Actions by Regulatory Agencies for Protection of the Environment*, i.e. “. . . actions taken by regulatory agencies, as authorized by state or local ordinance, to assure the maintenance, restoration, enhancement, or protection of the environment where the regulatory process involves procedures for protection of the environment. . . ” and / or *Section 15330 Minor Actions to Prevent, Minimize, Stabilize, Mitigate or Eliminate the Release or Threat of Release of Hazardous Waste or Hazardous Substances, (9) “Construction of interim or emergency ground water treatment systems.”*

However, the subject project is part of an effort that may exceed \$1,000,000 (see CEQA Section 15330) and therefore may not qualify for a *CEQA Categorical Exemption(s)* as defined above.

In addition, development proposals in the Soapmine Road area have, over the last several years, generated considerable public interest and scrutiny.

For these reasons, a determination was made by the City of Barstow to undertake a full and transparent environmental review of the subject project and to ensure that all potential environmental factors were adequately addressed.

Note that *CEQA Article 5. Preliminary Review of Projects and Conduct of Initial Study Section 15060 Preliminary Review (4)* state that: “*The existence of public controversy over the environmental effects of a project will not require preparation of an EIR if there is no substantial evidence before the agency that the project may have a significant effect on the environment.*”



Source: Google Maps 2012

- Existing Pipelines (Pilot Project 2009)
- Proposed Pipelines and Pumps (2012)

Figure 1 - Regional and Project Location
 Soapmine Road Nitrate Remediation Project



Figure 2
2012 Nitrate Remediation Project
Specific Location Aerial Photograph

- New well/pump (EW-01 is existing)
- New 8" PVC pipeline
- Existing 8" PVC pipeline

Note: This project will also include 535' of new 8" pipeline at the Barstow Sewage Treatment Plant, and a possible above ground booster pump where existing pipelines cross the Mojave River.

North is up.
 The new pipeline in Clay Road is 1050' long.

Source: City of Barstow, DPRA Engineering, Google Maps 2012, and Paul R. Secord.
 14May2012

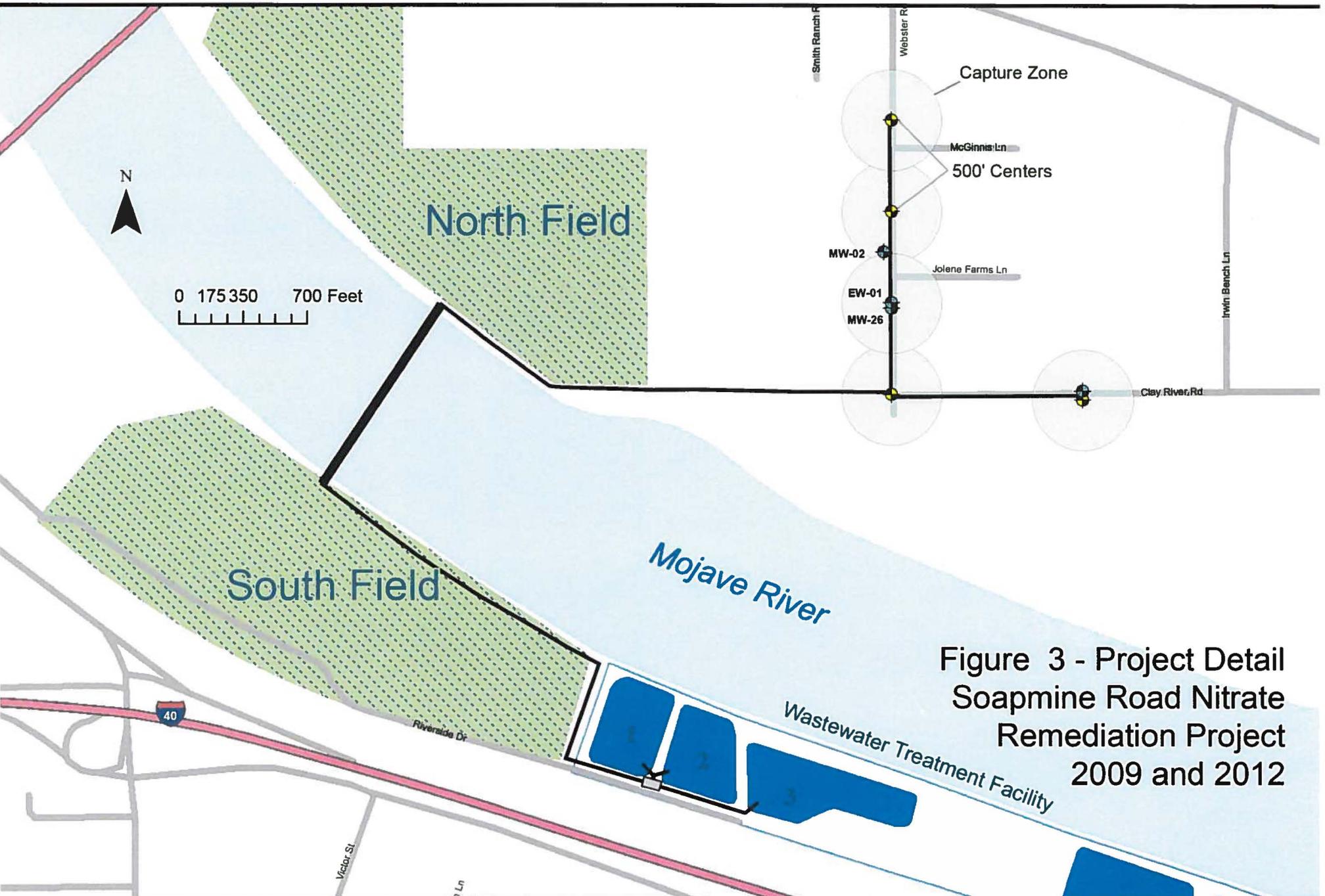
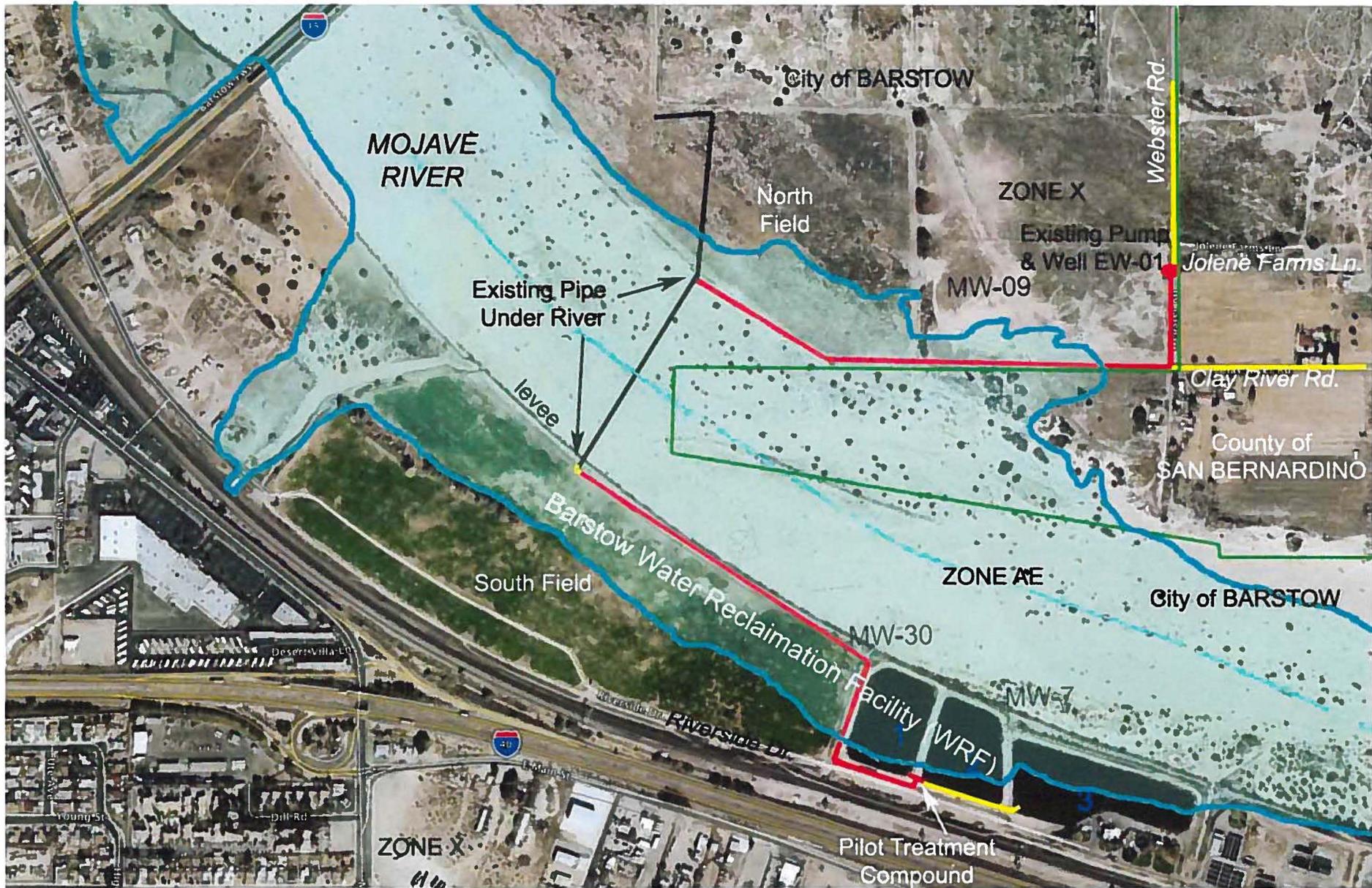


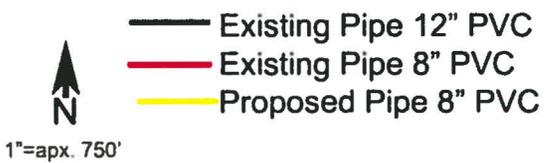
Figure 3 - Project Detail
 Soapmine Road Nitrate
 Remediation Project
 2009 and 2012

Legend		
	Concrete Pad	
	Existing Well	
	Proposed Extraction Well	

Fig Title: Proposed Groundwater Extraction Conveyance Schematic		
Job Num: 04573	Fig Num: 3	Date: 2/2/2012
Path: Proposed Groundwater Extraction Conveyance Schematic.mxd		

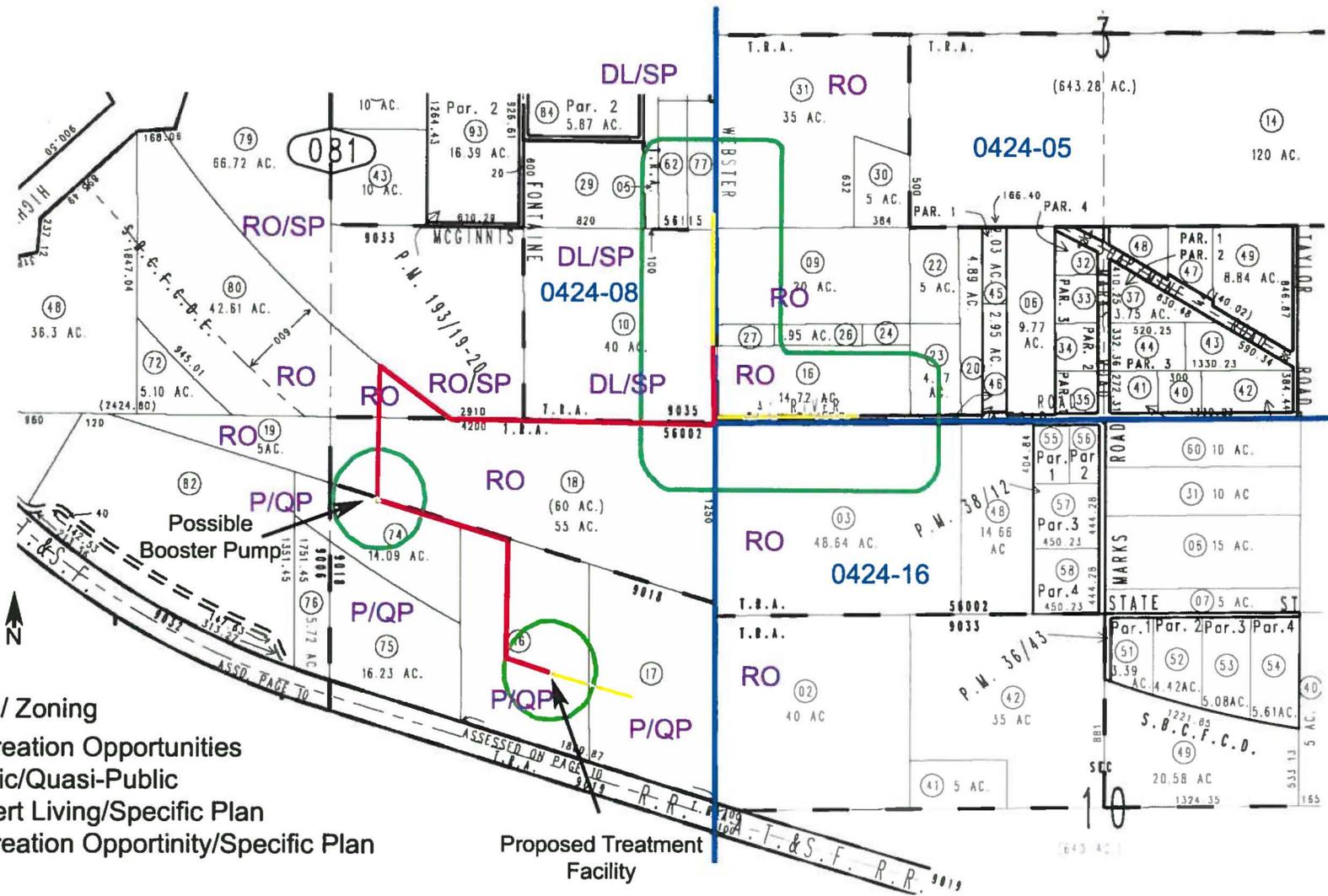


Source: City of Barstow, LFR Engineering, Google Maps 2008, FIRM Map Panel 06071C3938H, 28 Aug 08. Prepared by: Paul R. Secord, AICP 12 Apr 09, updated, 25 May 12.



City/County Corporate Boundary
 FIRM Zone AE

Figure 4
 Soapmine Road Nitrate Remediation Project
 Existing and Proposed Project Pipeline Location,
 Aerial Photograph, FIRM Flood Zone, City/County Boundary



General Plan / Zoning

- RO = Recreation Opportunities
- P/QP = Public/Quasi-Public
- DL/SP = Desert Living/Specific Plan
- RO/SP = Recreation Opportunity/Specific Plan

Proposed Treatment Facility

Source: San Bernardino County Assessor, May 2012; City of Barstow

- Parcel Map Book Boundary
- Existing Pipeline
- Proposed Pipeline
- 500-foot Radius from Proposed Pipeline

Figure 5
 Soapmine Road Nitrate Remediation Project
 General Plan / Zoning, 500-foot Radius Map
 and San Bernardino County Parcelization



Webster Road - Northern most proposed extraction well location (just below mailbox at lower left) looking north.



Webster Road - Extraction well #01 at southern end of proposed pipeline extension on Webster Road. Typical of proposed future well installations.

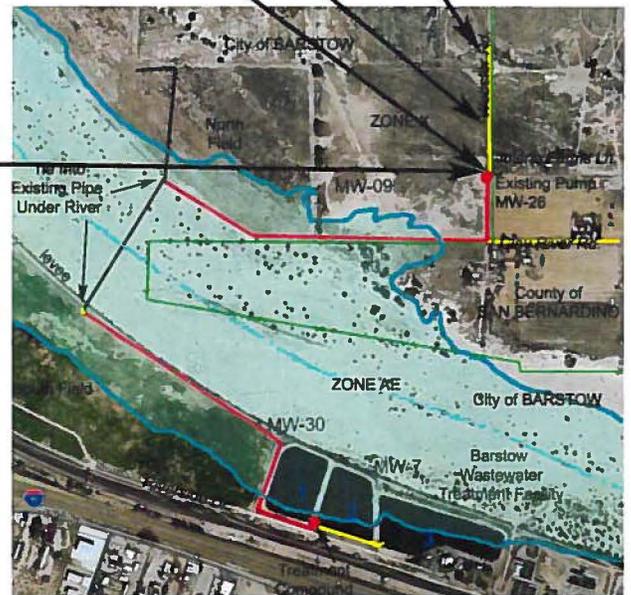


Figure 6a
 Soapmine Road Nitrate Remediation Project
 Project Site Photographs

Source: Paul R. Secord, AICP and Mark Murphy 23 May 2012



Clay River Road from Webster Road looking east. Proposed pipeline alignment is adjacent to the north side of the pavement.

Clay River Road looking west from the easterly most pump location and proposed pipeline location. Proposed pipeline alignment is adjacent to the north side of the pavement.

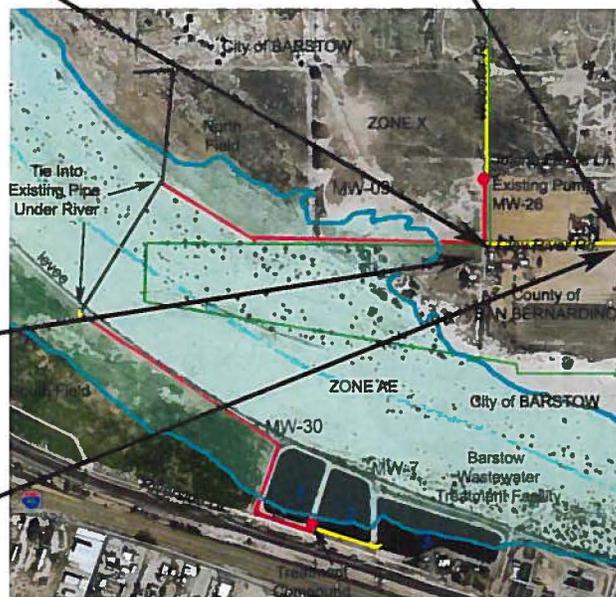


Figure 6b
Soapmine Road Nitrate Remediation Project
Project Site Photographs

Source: Paul R. Secord, AICP and Mark Murphy 24 May 2012



Potential booster pump site looking east. Existing pipeline and connection to cross river pipeline is buried in roadbed at the lower left corner of the photograph.



Pilot Program FBR Treatment Facility (10' x 10') between ponds 1 and 2. The proposed FBR will be of essentially the same configuration, although larger (20' x 30') and will also be located between ponds 1 and 2 as indicated by the arrow.

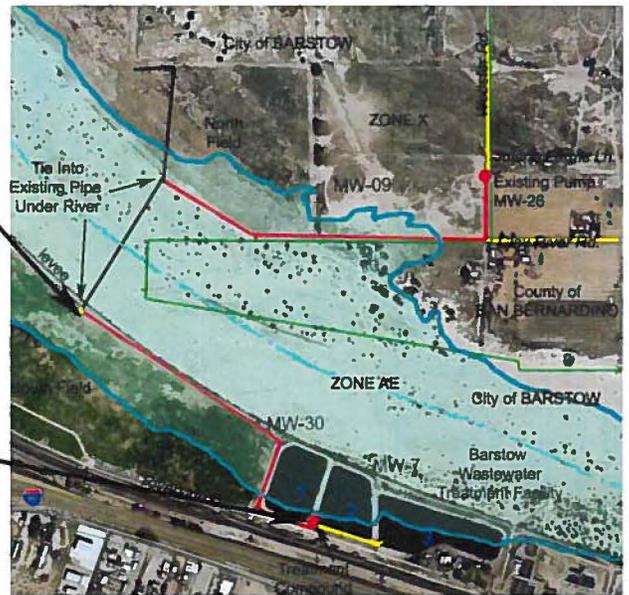


Figure 6c
 Soapmine Road Nitrate Remediation Project
 Project Site Photographs

Source: Paul R. Secord, AICP and Mark Murphy 24 May 2012

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The following information describes any potential environmental impacts associated with this project that could reach a level of significance and must be mitigated. The City of Barstow General Plan, available at Barstow City Hall, 220 East Mountain View Street, Barstow, sets the basic structure of project-specific mitigations.

This Initial Study found that construction and operation of the Project was unlikely to result in any "Potentially Significant Impact" of any of the environmental factors listed below; although standard mitigation for Cultural Resources is included in the event that archaeological or historical remains are uncovered during excavation activities:

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

Determination:

On the basis of this initial evaluation:

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



 Signature

August 2012

 Date

Mike Massimini, City Planner

 Printed Name

City of Barstow

 For

EVALUATION OF ENVIRONMENTAL IMPACTS

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

SUPPORTING DOCUMENTATION USED IN THE PREPARATION OF THIS REPORT AND INCORPORATED BY REFERENCE

- (1) City of Barstow, *Barstow General Plan*, updated through January 1, 2012, including General Plan Elements, Technical Reports and Final Environmental Impact Report and associated Environmental Documentation.
- (2) City of Barstow, *Standardized Emergency Management System Multifunction Hazard Plan (SEMS MFHP)*, adopted July 18, 2011.
- (3) *Phase 1 Environmental Site Assessment, City of Barstow Properties, Portion of Section 4, T.9N, RIW, S.B.B. & M., The Southern Side of Interstate Highway 15, Barstow, California 92311*, Krazan & Associates, Inc. Bakersfield, CA, prepared for Pacific Holt Corporation, February 10, 2006.
- (4) *Geotechnical Engineering and Liquefaction Investigation With Percolation Evaluation, Proposed 151 Acre Residential Tract, Interstate Highway 15 At The Mojave River, Barstow, California*, Krazan & Associates, Inc. Bakersfield, CA, prepared for Pacific Holt Corporation, April 20, 2006.
- (5) *Barstow Groundwater Nitrate Pollution, Fact Sheet*; California Regional Water Quality Control Board, Lahontan Region, April 24, 2012.
- (6) *Public Information Meeting Handout*; California Regional Water Quality Control Board, Lahontan Region, April 24, 2012.
- (7) *Soapmine Rd and Perchlorate Investigation & Cleanup Project Updates*; Memorandum from Mark W. Murphy, Senior Management Assistant to Charles C. Mitchell, City Manager and Public Presentation Slides, City of Barstow, May 2, 2012.
- (8) *Second Supplement to the May 2010 Feasibility Study and Remedial Action Plan*; City of Barstow, CRWQCB WCIC No. 6B3601010001, Prepared by DPRA, Inc., February 24, 2012.
- (9) *Biological Assessment of the Soapmine Road Nitrate Remediation Project*, Paul R. Secord, AICP and Mark Murphy, City of Barstow on April 1, 2009, resurveyed May 18 and 21, 2012 by Mark Murphy; reevaluated by Paul R. Secord on May 21, 2012 and Julian P. Donahue, Los Angeles County Museum of Natural History.
- (10) *Biological Survey (Desert Tortoise, Burrowing Owl, and Mojave Ground Squirrel)*, Kent R. Beaman, Consulting Biologist, July 10, 2009.
- (11) *Cultural Resources Assessment of the Soapmine Road Nitrate Remediation Project*, Archaeological Information Center at the San Bernardino County Museum. Project site walkover survey by Paul R. Secord, AICP and Mark Murphy, City of Barstow on April 1, 2009; reevaluation May 21, 2012
- (12) Federal Emergency Management Agency (FEMA), Flood Insurance Rate Map (FIRM) Map Panel Number 06071C3938H - 28 Aug 2008.

These documents are available for review, and as a copy at cost, at the Barstow City Hall, Planning Department, 220 East Mountain View Street, Barstow, CA 92311-2888, attn: Michael Massimini, City Planner, (760) 255-5152.

ENVIRONMENTAL CHECKLIST AND DISCUSSION

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

Explanation of Checklist Judgments:

- I (a). **No Impact** - The project is buried pipelines and pumps and will not be visible, except for a possible small above ground pump, as well as a self contained treatment facility, located on City property at the WRF nearly a mile from the nearest residential structure. Above ground power lines are currently in place resulting in no change from existing conditions. (1)
- I (b). **No Impact** - No scenic resources are impacted as there are no scenic resources near the project area. (1)
- I (c). **No Impact** - No state scenic highways are impacted as there are no scenic highways near the project area. (1)
- I (d). **No Impact** - No new lighting is associated with the subject project.

II. <u>AGRICULTURAL RESOURCES</u>	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
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. Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	-	-	-	<u>X</u>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	-	-	-	<u>X</u>
c) Involve other changes in the existing environment which, because of their location or nature, could result in conversion of Farmland to non-agricultural use?	-	-	-	<u>X</u>

Explanation of Checklist Judgments:

- II (a). **No Impact** – The project consists of three sections of buried pipelines and pumps within the public right-of-

way and will not impact farmland. No parcels are prime, unique or farmland of statewide importance or Williamson Act designation will be impacted. (1)

II (b). **No Impact** – No Williamson Act properties are impacted by the proposed project.

II (c). **No Impact** - No farmland properties that could be converted to non-farmland use will be impacted by the proposed project.

III. <u>AIR QUALITY</u>	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
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:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	–	–	–	<u>X</u>
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	–	–	–	<u>X</u>
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)?	–	–	–	<u>X</u>
d) Expose sensitive receptors to substantial pollutant concentrations?	–	–	–	<u>X</u>
e) Create objectionable odors affecting a substantial number of people?	–	–	–	<u>X</u>

Explanation of Checklist Judgments:

III (a). **No Impact** - Since the proposed project will not alter the land use of the project area there will be no impacts to the implementation of the applicable air quality plan, which has been developed based on existing zoning and land use designations. Construction activities, i.e. trenching, drilling, pump installation and pipe-laying will be undertaken over a period of three months will not be extensive enough to trigger air quality permits, nor will potentially significant air emissions be generated based on the criteria used for calculating such emissions, i.e. the California Emissions Estimator Model (CalEEMod). (1)

III (b). **No Impact** – Construction activities are of such a limited nature that they do not trigger measurable local or regional air quality concern. Project operation is by electrical pumps that do not generate air pollutants.

III (c). **No Impact** – Construction activities are of such a limited nature that they do not trigger measurable local or regional air quality concern. Project operation is by electrical pumps that do not generate air pollutants.

III (d). **No Impact** - Construction activities are of such a limited nature that they do not trigger measurable local or regional air quality concern. Project operation is by electrical pumps that do not generate air pollutants. There are no sensitive receptors in the vicinity of the project area. (1)

III (e). **No Impact** - Construction activities are of such a limited nature that they do not trigger measurable local or regional air quality concern. Project operation is by electrical pumps that do not generate air pollutants. Neither project construction, nor operation will generate objectionable odors. Nitrates removed by the project are odorless.

IV. <u>BIOLOGICAL RESOURCES</u>	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
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 Game or U.S. Fish and Wildlife Service.	-	-	-	<u>X</u>
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.	-	-	-	<u>X</u>
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?	-	-	-	<u>X</u>
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?	-	-	-	<u>X</u>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	-	-	-	<u>X</u>
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?	-	-	-	<u>X</u>

Explanation of Checklist Judgments:

IV (a). **No Impact** - The entire length of the project site was subject to a walkover survey by Paul R. Secord, AICP and Mark Murphy, City of Barstow on April 1, 2009, resurveyed on May 18 and 21, 2012 by Mark Murphy and reevaluated by Paul R. Secord on May 21, 2012. The 2012 surveys were entirely within public right-of-way and found the location for the subject pipelines and pumps to be devoid of vegetation. The pipeline locations are all within the sandy shoulder of paved roads. No significant or potentially significant vegetation or animal life was identified. The plant community on the site was sparse and highly disturbed; in most cases it was essentially non-existent. The dominant plant, a non-native invasive species, is Russian Thistle / Tumbleweed (*Salsola sp.*). See the City of Barstow General Plan Master Environmental Assessment Technical Assessment II-5 for a discussion of listed sensitive and endangered species in Barstow and the surrounding area. (9)

There was no evidence of desert tortoise on the site, as the soils were too sandy and devoid of vegetation to serve a suitable tortoise habitat. The project site is not regulated by a Habitat Conservation Plan, Wildlife Movement Corridor or other designated area likely to result in impact to native wildlife. This project will not impact the Mojave River floodway. (1, 9) Figures 6a, 6b, and 6c, *Site Photographs* shows existing vegetation on the project site. Once the project construction is complete, a period expected to take three months or less, the site will be essentially unchanged from its current condition.

IV (b). **No Impact** – No riparian areas are impacted by the proposed project. (1, 9)

IV (c). **No Impact** - No federally protected wetland are impacted by the proposed project. (1, 9)

IV (d). **No Impact** - No wildlife corridors are impacted by the proposed project. (1, 9)

IV (e). **No Impact** - No local biological resource protection policies or ordinances are impacted by the proposed

project. (1, 9)

IV (f). **No Impact** - No local, regional or state habitat conservation plans are impacted by the proposed project. (1, 9)

V. <u>CULTURAL RESOURCES</u>	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?	-	-	-	<u>X</u>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	-	<u>X</u>	-	-
c) Disturb any human remains, including those interred outside of formal cemeteries?	-	-	<u>X</u>	-

Explanation of Checklist Judgments:

- V (a). **No Impact** – A Cultural Resources Survey for the project site was conducted in May 2012 by Paul R. Secord, AICP. This consisted of a review of cultural resources site maps on file at the City of Barstow Community Development Department that are derived from records at the Archaeological Information Center at the San Bernardino County Museum. The project site was subject to a walkover survey by Paul R. Secord, AICP and Mark Murphy, City of Barstow on April 1, 2009, with a reevaluation in May of 2012. No historic or prehistoric remains, or indications that such remains, have been discovered within or in the immediate vicinity of the project area. (10)
- V (b). **Less Than Significant Impact With Mitigation Incorporated** – (See V(a)) No significant cultural resources (i.e. archaeological or historic sites) are known within the immediate vicinity of the project area. Archaeological monitoring is not necessary unless cultural resources are found during construction excavation. While no further actions or studies are required prior to development activities by the City of Barstow, the following recommendations/mitigation are provided here to ensure that no potential cultural resources are compromised:
- (1): Archaeological monitoring does not appear necessary unless cultural resources are found during construction excavation.
 - (2): In the event buried archaeological/historical remains are uncovered during excavation, all ground disturbing activities in the area of the find shall immediately cease. A qualified archaeologist shall examine the find and make an initial identification of the remains and initiate the process required by State law in compliance with CEQA. If human remains are uncovered during construction, the coroner and a qualified archaeologist shall be notified immediately in accordance with State law.
- V (c). **Less Than Significant Impact** - No evidence of human remains exists on the project site and there is no reason to believe that human remains exist on the project site. However, in the event human remains are discovered, all ground disturbing activities shall cease and the coroner shall be notified immediately, in accordance with California Resources Code Section 5097.9. Compliance with existing statutory law regarding the treatment of any remains discovered will adequately address any unanticipated discoveries. (10)

VI. <u>GEOLOGY AND SOILS</u>	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
Would the project:				
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?	-	-	-	<u>X</u>
b) Result in substantial soil erosion or the loss of topsoil?	-			<u>X</u>
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	-	-	-	<u>X</u>
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risk to life or property?	-	-	-	<u>X</u>
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?	-	-	-	<u>X</u>

Explanation of Checklist Judgments:

- VI (a). **No Impact** - The project is buried pipelines and pumps. Compliance with state and local seismic safety standards will adequately reduce potential earthquake hazards and no other site-specific mitigation is required. The project site is flat, and thus not subject to landslides. You should reach a less than significant conclusion given that you are complying with standards to reduce any potential impacts. See also Section IX(b) for a discussion of groundwater removal and reinjection; and City of Barstow, *Barstow General Plan, updated July 7, 1997, Hazards Element*, pg. III. 4; and *Earthquake and Flood Hazard Technical Report*, pgs. III. 2. 1-6.
- VI (b). **No Impact** - Erosion is a broad term that refers to the “wearing away“ of the land surface by the detachment and transport of surface soil and rocks. The primary agents of this process are water and wind. The proposed project will leave the ground surface in its current state and will not increase erosion potential, as wells and pumps are below ground and the FBR treatment facility will be on a concrete pad at grade level. The FBR pad requires minimal surface preparation for construction.
- VI (c). **No Impact** - Soils on the site, at the surface and extending to the 3-foot depth of proposed excavation, are primarily unconsolidated fluvial and windblown dune sands. Following construction of the proposed buried pipeline the site will be essentially identical to its current condition. While wind blown sand is a concern along the Mojave River, the proposed project will not exacerbate or substantially alter existing conditions. Blow-sand also occurs on Webster Road, however, it will not be associated with the proposed project and is addressed by normal City of Barstow street maintenance. Construction activities are of such a limited extent and duration (i.e. intermittent shallow trenching, rapid backfilling and compaction over a period of three months) as to not exacerbate potential blow-sand. In addition ground water removal and reinjection is not expected to have any noticeable surface effects given the 60-foot depth of project wells. (1)
- VI (d). **No Impact** - The project site is not subject to expansive soils; all soils are sandy and do not expand when wet. (4)
- VI (e). **No Impact** -This issue does not apply to the subject project. (5)

VII. <u>GREENHOUSE GAS EMISSIONS</u>	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	-	-	<u>X</u>	-
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	-	-	<u>X</u>	-

Explanation of Checklist Judgments:

VII (a). **Less Than Significant Impact** – Greenhouse gas emissions would be limited to construction as the operation of the proposed project is entirely dependent on electrical motors that have essentially no air emissions.

Construction activities, see 7. Description of Project, will total up to three months, although trenching and drilling equipment will operate only intermittently during the construction period. Construction will not be extensive enough to trigger air quality permits, nor will potentially significant air emissions be generated based on the criteria used for calculating such emissions, i.e. the *California Emissions Estimator Model (CalEEMod)*. Greenhouse gas emissions would therefore be less than significant. (1)

VII (b). **Less Than Significant Impact** – The proposed project will not conflict with any greenhouse gas plans, policies or regulations. (1)

VIII. <u>HAZARDS AND HAZARDOUS MATERIALS</u>	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	-	-	-	<u>X</u>
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?	-	-	-	<u>X</u>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	-	-	-	<u>X</u>
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?	-	-	-	<u>X</u>
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?	-	-	-	<u>X</u>
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?	-	-	-	<u>X</u>
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	-	-	-	<u>X</u>
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?	-	-	-	<u>X</u>

Explanation of Checklist Judgments:

VIII (a). **No Impact** – There are no hazardous materials associated with the proposed project. A preliminary Phase One Assessment, (*Phase 1 Environmental Site Assessment, City of Barstow Properties, Portion of Section 4, T.9N, R1W, S.B.B. & M., The Southern Side of Interstate Highway 15, Barstow, California 92311*, Krazan & Associates, Inc. Bakersfield, CA, prepared for Pacific Holt Corporation, February 10, 2006) did not reveal any hazardous, or potentially hazardous, materials within or adjacent the project site. (2 - 8)

Nitrate laden water, in and of it self, is not hazardous. The hazard is associated with biological entities ingesting the water, and where oxygen in water is reduced by excess nitrogen. (5 - 8)

VIII (b). **No Impact** - Nitrate laden water pumped to the proposed treatment facility will be entirely within enclosed pipes and will not be released to the surrounding environment. (2 - 8)

VIII (c). **No Impact** - The project site is not within 1/4 mile of an existing or proposed school. (1)

VIII (d). **No Impact** - This project is not located on a California Environmental Protection Agency Cortese - listed hazardous waste site. <http://www.envirostor.dtsc.ca.gov/public/default.asp> (1)

VIII (e). **No Impact** - The nearest airport to the project area is the Barstow-Daggett Airport, located 5 miles to the east. The project is not located within an airport land use plan, source: City of Barstow, *Barstow General Plan*, updated July 7. 1997, Noise Element Technical Report, pg. III.4.9. (1)

VIII (f). **No Impact** – There are no private airstrips in the vicinity of the project site. (1)

VIII (g). **No Impact** - The City of Barstow has adopted a State of California mandated *Standardized Emergency Management System Multifunction Hazards Plan (SEMS MFHP)*. Section Five of this Plan, *Threat Summary and Assessments*, discusses in detail the various potential emergencies with which the City of Barstow might be confronted. The project will not impair nor interfere with an emergency response or evacuation plan. (2)

VIII (h). **No Impact** - The project site is not within an identified wildfire hazards area. (1)

IX. <u>HYDROLOGY AND WATER QUALITY</u>	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
Would the project:				
a) Violate any water quality standards or waste discharge requirements?	-	-	-	<u>X</u>
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)?	-	-	<u>X</u>	-
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 on- or off-site?	-	-	-	<u>X</u>
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 on- or off-site?	-	-	-	<u>X</u>
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?	-	-	-	<u>X</u>
f) Otherwise substantially degrade water quality?	-	-	-	<u>X</u>
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?	-	-	-	<u>X</u>
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	-	-	-	<u>X</u>
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?	-	-	-	<u>X</u>
j) Inundation by seiche, tsunami, or mudflow?	-	-	-	<u>X</u>

Explanation of Checklist Judgments:

IX (a). **No Impact** - The project is being undertaken in response to a directive from the Lahontan Regional Water Quality Control Board (LRWQCB) to develop, and implement, a plan for the remediation of nitrate contaminated water. This entails the extraction of contaminated groundwater by water well pumping, with

aquifer recharge by reabsorption of cleaned water to the underground aquifer through the use of existing sewage treatment percolation basins. There will be no visible impact at the ground surface. The proposed project will not alter the vacant nature of the project area. The project will improve water quality with excessive nitrate levels (currently about 17.5 mg/L) that exceed State and Federal Standards to levels that better the standard of 10 mg/L to approximately 6 mg/L; see 7. Description of Project. (4-8)

Construction will conform with the California State Water Resources Control Board, *Stormwater Pollution Prevention Plan* (SWPPP), requirements and guidelines.

- IX (b). **Less Than Significant Impact** – Concerns pertaining to the potential depletion of groundwater by the nitrate removal project were carefully evaluated during test phases and not found to be warranted. A test in January 2012 observed a water drawdown of 26-feet at a test well, but the observed groundwater elevation reductions were only 2-feet at observation wells located approximately 11-feet and 29-feet from the pumping well. The drawdown was only 0.50-feet at an observation well located about 275-feet from the pumping well. Once pumping stopped, groundwater returned to pre-pumping levels in approximately 5-minutes. This is because of the large volumes of water flowing underground in close proximity to the Mojave Riverbed where the project wells are located. The lack of drawdown is a key factor in why subsidence is not expected to be a concern. (5-8)

The treated water is returned to the aquifer from the WRF percolation ponds, so there is minimal loss of groundwater resulting from the proposed project. Any loss that occurs will be minimal due to evaporation during summer months.

See: *Second Supplement to the May 2010 Feasibility Study and Remedial Action Plan*; City of Barstow, CRWQCB WCIC No. 6B3601010001, Prepared by DPRA, Inc., February 24, 2012. (4-8) Make sure all reports are referenced here.

- IX (c). **No Impact** – The drainage pattern of the project site will not be altered in a way that impacts erosion or siltation. (4-8)
- IX (d). **No Impact** - The drainage pattern of the project site will not be altered in a way that impacts surface runoff. (4-8)
- IX (e). **No Impact** – Runoff from the project site will not be impacted by the proposed project. (4-8)
- IX (f). **No Impact** – The subject project is specifically designed to improve water quality with unacceptable levels of nitrates to applicable drinking water standards as described in Section 7. Description of Project. In addition, the reader is referred to Supporting Documents (5) through (8) listed on page 15,
- IX (g). **No Impact** – The proposed project does not involve any housing.
- IX (h). **No Impact** - Federal Emergency Management Agency (FEMA), Flood Insurance Rate Map (FIRM) Map Panel Number 06071C3938H - 28 Aug 2008, covers the entire project area, see Figure 4. The current project is completely designated as being within Zone X. Zone X is defined by FEMA as: “*areas outside the 100-year floodplain or SFHA, areas of 100-year sheet flow flooding where average depths are less than one foot, areas of 100-year stream flooding where the contributing drainage area is less than one square mile, or areas protected from the 100-year flood by levees. No Base Flood Elevations or depths are shown within this zone. Flood insurance is not mandatory and will be issued at preferred rates. FEMA Elevation Certificates are not required for construction within these areas.*” (11)

In addition, the existing and proposed pipelines are completely buried, and are not subject to impacts from surface flooding. Figure 4 *Proposed Project Pipe Location, Aerial Photograph* illustrates flood prone areas as presented on the FIMA map. (1, 11)

- IX (i). **No Impact** – No persons will be exposed to flooding risk as a result of the proposed project as it is essentially entirely composed of buried pipeline. (1, 11)
- IX (j). **No Impact** – These factors do not apply to the project area. (1, 11)

X. <u>LAND USE AND PLANNING</u>	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
Would the project:				
a) Physically divide an established community?	-	-	-	<u>X</u>
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?	-	-	-	<u>X</u>
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	-	-	-	<u>X</u>

Explanation of Checklist Judgments:

- X (a). **No Impact** - The project is buried pipelines and pumps and will not be visible, except for a possible small above ground pump at the Barstow WRF. The entire project is to be constructed within City of Barstow and San Bernardino County public street right-of-way. The project does not involve any residences. (1)
- X (b). **No Impact** - The proposed project will not result in any change in existing land use plans or policy (i.e. General Plan Designations or Zoning Districts) and is in conformance with said Designations and Districts, see Figure 5. Portions of project are adjacent to several single-family residences as well as vacant parcels. After completion, the project will not be visible, as it consists entirely of buried pipeline and below ground surface pumps. The FBR treatment facility is entirely on City property.
- X (c). **No Impact** - As described under subsection IV. Biological Resources, the project will not have adverse effects on any biological resources, nor will it impact any habitat conservation plans, as no such plans apply to the project site.

XI. <u>MINERAL RESOURCES</u>	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
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?	-	-	-	<u>X</u>
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?	-	-	-	<u>X</u>

Explanation of Checklist Judgments:

- XI (a). **No Impact** – The project site is in an area designated as Mineral Resource Zone (MRZ) 4, indicating it contains no known mineral resources, source: City of Barstow, *Barstow General Plan*, updated July 7, 1997, Natural Factors Element, pg. II.5 and Mineral and Soil Resources Technical Report, pg. II.2.3. (1)
- XI (b). **No Impact** - The project site is in an area designated as Mineral Resource Zone (MRZ) 4, indicating it contains no known mineral resources.

XII. <u>NOISE</u>	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
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?	-	-	-	<u>X</u>
b) Exposure of persons to or generation of excessive ground-borne vibration or ground borne noise levels?	-	-	-	<u>X</u>
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	-	-	-	<u>X</u>
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	-	-	<u>X</u>	-
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?	-	-	-	<u>X</u>
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?	-	-	<u>X</u>	-

Explanation of Checklist Judgments:

- XII (a). **No Impact** – All water extraction pumps are to be located 60 feet below the ground surface and will not be audible at ground level. In addition the possible booster pump site is on public owned property at the WRF and is well over a mile from the nearest private residence. It is not audible from a distance of approximately 50 feet. (1)
 Construction activities will be approximately three months will be controlled by applicable local codes and ordinances as identified in Response XII (d) below.
- XII (b). **No Impact** – Given that project pumps will be 60-feet below ground, and pipe flow rates are below potential maximum levels, there will be no surface vibration.
- XII (c). **No Impact** - The proposed project will not result in any change in existing noise levels. Construction impacts will be short term and controlled in conformance with the County noise ordinance. Project operation will not be audible from private property.
- XII (d). **Less Than Significant Impact** - Construction activities will be limited to a period of three months or less. Construction noise is short term in nature and its duration and timing are controlled through applicable local Codes and Regulations. It is not expected to reach a level of significance because the City of Barstow complies with San Bernardino County Section 83.01.080(c) of the County’s Development Code that sets forth performance standards for affected (receiving) land uses from stationary, during daytime (7 a.m. to 10 p.m.) and nighttime (10 p.m. to 7 a. a.m.) periods. See responses XII (a) and XII (c) above.
- XII (e). **No Impact** – There are no public air facilities located in the vicinity of the project site. See response VIII (e) and (f) above.
- XII (f). **No Impact** – There are no private air facilities located in the vicinity of the project site. See response VIII (e) and (f) above.

XIII. <u>POPULATION AND HOUSING</u>	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
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)?	-	-	-	<u>X</u>
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	-	-	-	<u>X</u>
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	-	-	-	<u>X</u>

Explanation of Checklist Judgments:

XIII (a). **No Impact** – The proposed project will not entail a change in the existing undeveloped condition of the subject site, nor is it expected to indirectly induce population growth by allowing for more water but only improves the existing water supply. (1)

XIII (b). **No Impact** - Implementation of the proposed project will not affect any housing units; the site is vacant.

XIII (c). **No Impact** - Implementation of the proposed project will not affect any persons living at the project site as the site is vacant.

XIV. <u>PUBLIC SERVICES</u>	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
Would the project:				
a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services?	-	-	-	<u>X</u>
b) Fire protection?	-	-	-	<u>X</u>
c) Police protection?	-	-	-	<u>X</u>
d) Schools?	-	-	-	<u>X</u>
e) Parks?	-	-	-	<u>X</u>
f) Other public facilities?	-	-	-	<u>X</u>

Explanation of Checklist Judgments:

XIV (a). **No Impact** - The proposed project will not result in a change on the existing character of the site, nor result in an increased need for services, including police, fire, street maintenance, code enforcement, refuse collection, schools, parks, or other public facilities/services. (1)

XIV (b) **No Impact** - See response XIV (a) above. The City of Barstow General Plan, updated July 7, 1997, Hazards

Element Technical Report states: “Fire protection, including fire prevention, fire safety and paramedic services to the Planning Area is provided by the Barstow Fire Protection District.” (1)

XIV (c). **No Impact** - See response XIV (a) above. According to the City of Barstow General Plan, updated July 7, 1997, Hazards Element, Technical Report, pgs. VI.3.3-4 and VI.2.18, “Police protection services are provided to the project site by the Barstow Police Department, the County of San Bernardino Sheriff’s Department, and the California Highway Patrol.” (1)

XIV (d). **No Impact** – No schools will be impacted by the proposed project. See response XIV (a) above.

XIV (e). **No Impact** - No parks will be impacted by the proposed project. See response XIV (a) above.

XIV (f). **No Impact** - No other public facilities will be impacted by the proposed project. XIV (a) above.

XV. <u>RECREATION</u>	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	-	-	-	<u>X</u>
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?	-	-	-	<u>X</u>

Explanation of Checklist Judgments:

XV (a). **No Impact** - The proposed project will not result in any new users of park and recreational facilities. (1)

XV (b). **No Impact** - The project does not include any recreational facilities, nor does it generate demand for recreational facilities. (1)

XVI. <u>TRANSPORTATION/TRAFFIC</u>	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
Would the project:				
a) Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume-to-capacity ratio on roads, or congestion at intersections)?	-	-	-	<u>X</u>
b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?	-	-	-	<u>X</u>
c) Result in a change in traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	-	-	-	<u>X</u>
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	-	-	-	<u>X</u>
e) Result in inadequate emergency access?	-	-	-	<u>X</u>
f) Result in inadequate parking capacity?	-	-	-	<u>X</u>
g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	-	-	-	<u>X</u>

Explanation of Checklist Judgments:

XVI (a). **No Impact** – The proposed project will not change the existing character of the site, or result in the extension of any existing roadways or transportation facilities. Both roads, Webster Road and Clay River Road, effected by the subject project are rural in nature, with minimal traffic. This condition is also reflected on the current City Transportation Plan, incorporated as part of the City of Barstow General Plan and County of San Bernardino Transportation Management Plan. Construction activities, will be limited to one side of a road outside of any vehicle travel lane and will therefore not impact vehicular flow. Construction will also be coordinated and designed to ensure that access to adjacent residences is maintained at all times. There are no public, commercial or industrial parcels impacted by the proposed project. (1)

XVI (b). **No Impact** – See response XVI (a) above. Congestion management planning is not associated with project roads. (1)

XVI (c). **No Impact** – See response XVI (a) above. Traffic patterns will not be impacted by the project. (1)

XVI (d). **No Impact** – See response XVI (a) above. No hazards will result from project design features. Above ground wellheads and service access will be clearly painted and marked, as well as protected by metal posts, if not completely buried; none will be within the roadway. (1)

XVI (e). **No Impact** - See response XVI (a) above. There will be no impact on emergency access. (1)

XVI (f). **No Impact** - See response XVI (a) above. There will be no impact on parking. (1)

XVI (g). **No Impact** - See response XVI (a) above. There will be no impact on adopted plans, policies or programs relating to alternative transportation plans. (1)

XVII. <u>UTILITIES AND SERVICE SYSTEMS</u>	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	-	-	-	<u>X</u>
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?	-	-	-	<u>X</u>
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?	-	-	-	<u>X</u>
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	-	-	-	<u>X</u>
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?	-	-	-	<u>X</u>
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	-	-	-	<u>X</u>
g) Comply with federal, state, and local statutes and regulations related to solid waste?	-	-	-	<u>X</u>

Explanation of Checklist Judgments:

- XVII (a). **No Impact** - The project is designed for groundwater remediation. The proposed project will not result in a change on the existing character of the site, nor result in an increased need for services, new water or wastewater facilities, new storm drainage facilities, additional water service/supplies, or solid waste production or collection. (8)
- XVII (b). **No Impact** - See response XVII (a) above. The proposed treatment facility will be essentially the same as has been located at the WRF since 2009; as discussed in 7. Description of Project and shown on Figure 6(c). (8)
- XVII (c). **No Impact** - See response XVII (a) above. There will be no impact on storm water drainage facilities as there are no storm drains crossed by the proposed project and the project will not alter drainage patterns or increase runoff. (1)
- XVII (d). **No Impact** - See response XVII (a) above. The project will not impact overall water supply as the net amount of water extracted for treatment will total the net amount of water subject to aquifer recharge. (5-8)
- XVII (e). **No Impact** - See response XVII (a) above. The project will add water to City wastewater recharge ponds that have been determined by the project engineers to have adequate capacity to handle an additional 1.44mgd of water. (5-8)
- XVII (f). **No Impact** - See response XVII (a) above. There will be no impact to landfills as no solid material subject to landfill disposal will be generated by operation of the proposed project. (1, 5-8)
- XVII (g). **No Impact** - See response XVII (a) above. The project will not generate solid waste and will therefore not be subject to solid waste regulations. (1, 5-8)

XVIII. <u>MANDATORY FINDINGS OF SIGNIFICANCE</u>	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
Does the project:				
a) 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?	-	-	-	<u>X</u>
b) 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.)	-	-	-	<u>X</u>
c) Have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	-	-	-	<u>X</u>

Explanation of Checklist Judgments:

- XVIII (a) **No Impact** – The project will not degrade the quality of the environment, and is in fact intended to improve water quality and will thus improve the environment. Construction and operation impacts are minimal, and will have no impact on native wildlife or plant communities. As more completely set out in the responses in Section V, Cultural Resources, above, there are no historical or cultural resources which are eligible for any Local, State or Federal listings on the proposed project site, and mitigations apply should cultural resources be discovered during construction activities.
- XVIII (b) **No Impact** – The proposed project is consistent with the land uses designation and zoning for the project site that includes an evaluation of potential future development. It is therefore not anticipated to have cumulatively considerable effects, nor will it directly effect any other development projects currently subject to active City of Barstow or County of San Bernardino permits. As a water treatment / remediation project the end result of the project is environmental enhancement by improving water quality for a local ground water aquifer; i.e. solving an existing water quality problem rather than being a direct inducement for additional growth.
- XVIII (c) **No Impact** – No environmental impacts causing substantial adverse effects on human beings, either directly or indirectly, have been identified. As noted above, the end result of the project is environmental enhancement by improving water quality for a local ground water aquifer.

Soapmine Road Area Nitrate Remediation Project

M-12-0001

Mitigation Monitoring Program

Date: August, 2012

1.0 MONITORING PROGRAM DESCRIPTION AND PURPOSE

1.1 LEGISLATIVE MANDATE

Public Resources Code Section 21081.6 under the California Environmental Quality Act (CEQA) requires public agencies to adopt mitigation monitoring or reporting programs for all projects for which an environmental impact report or "mitigated" negative declaration has been prepared. This law is intended to ensure the implementation of all mitigation measures adopted through the CEQA process.

The program defined in this document is intended to satisfy the spirit of the law, and is based on significant research of ongoing monitoring programs throughout the state.

1.2 PROJECT DESCRIPTION

The project entails the construction and operation of a remediation system designed to treat nitrate-contaminated water in a floodplain aquifer at the boundary of the Centro and Baja Subareas of the Mojave River Groundwater Basin underlying that portion of the City of Barstow commonly known as the Soapmine Road area. The project is undertaken pursuant to a directive from the Lahontan Regional Water Quality Control Board (LRWQCB) to implement a plan for remediation. The goal of this project is to remove 1.44 million gallons a day (mgd) of nitrate laden water from the Soapmine Road area, treat the extracted water, and discharge the treated water to the City of Barstow Water Reclamation Facility (WRF) for recharge back into the aquifer. A portion of this project (along Clay River Road) is located in the unincorporated county.

2.0 ROLES/RESPONSIBILITIES AND PROCEDURES

2.1 ROLES AND RESPONSIBILITIES

The Mitigation Monitoring Program (MMP) for the proposed project will be in place through all phases of implementation of the project.

The Environmental Monitor (EM) will share responsibility for the operation of the Monitoring Program with the City's Environmental Coordinator (EC). The EM is responsible for managing the technical advisors and coordinating monitoring activities with City Staff. The EM is responsible for directing the preparation of Compliance Reports and filing of same with the City's designated EC. The EC is responsible for coordinating the efforts of various City reviews and maintaining project files.

Monitoring Team

The following briefly outlines the key positions in the program and their respective functions:

Environmental Monitor (EM): Manager of monitoring program – City Planner

Technical Advisors: Experts in various fields to assist EM in monitoring effort. This team includes: biologist, project geotechnical engineer, traffic consultant, civil engineer, etc.

Environmental Coordinator (EC): Staff member assigned to receive and maintain files related to monitoring reports and coordinate City staff monitoring efforts. EC will receive monitoring reports from EM.

2.2 MITIGATION MONITORING PROCEDURES

The Environmental Monitor (EM) manages the efforts of all members of the non-City monitoring team and coordinates these efforts with key City staff. The City's Environmental Monitor (EC) will coordinate the activities of City staff.

Others require the help of a technical advisor or consultation with City staff. In all cases, it is the EM or EC's responsibility to inform all parties of the proper timing and completion of reports.

It is the intent of this program for the City Planner (or appointed designee) to oversee the monitoring and be responsible for submitting a mitigation report, as required by the City. The program is designed so that the Environmental Monitor and Technical Advisors complete the compliance reports and contact City inspectors and plan checkers as necessary.

2.3 PROGRAM OPERATIONS

Mitigation Measures shall be implemented as specified by the Mitigation Monitoring Program Matrix. During any project phase, unanticipated circumstances may arise requiring the refinement or addition of mitigation measures. The City Planner or designee (EM) of the City, with advice of staff or another City Department, is responsible for recommending changes to the mitigation measures, if needed. If mitigation measures are refined, the change will be documented by the City Planner (or designee) and the appropriate design, construction, or operations personnel shall be notified of the refined requirements.

3.0 AREAS IN WHICH MEASURES ARE TO BE MONITORED

The following issue areas require mitigation measures for the proposed pipeline project. The mitigation requirements are based on the analysis contained in the Environmental Analysis for the project. These measures are listed in the attached matrix, which shows the timing and responsibilities, for all mitigation measures adopted for the project.

Cultural Resources

Mitigation Monitoring Program / Soapmine Road Area Nitrate Remediation Project

Mitigation Requirements					
Number	Category	Mitigation Measure	Key City Department Responsibility	Timing	Sign-off Date
I	AESTHETICS	None.			
II	AGRICULTURAL RESOURCES	None.			
III	AIR QUALITY	None.			
IV	BIOLOGICAL RESOURCES	None.			
V	CULTURAL RESOURCES	<p>1. Archaeological monitoring does not appear to be necessary unless cultural resources are found during construction excavation.</p> <p>2. In the event buried archaeological/historical remains are uncovered during excavation, all ground disturbing activities in the area shall immediately cease. A qualified biologist shall examine the find and make an initial identification of the remains and initiate the process required by State law in compliance with CEQA. If human remains are uncovered during construction, the coroner and a qualified archaeologist shall be notified immediately in accordance with State law.</p>	Planning Department	During construction.	

Mitigation Monitoring Program / Soapmine Road Area Nitrate Remediation Project

VI	GEOLOGY AND SOILS	None.			
VII	HAZARDOUS MATERIALS	None.			
IX	HYDROLOGY AND WATER QUALITY	None.			
XII	LAND USE AND PLANNING	None.			
XIII	MINERAL RESOURCES	None.			
XIV	NOISE	None.			
XV	POPULATION AND HOUSING	None.			
XVI	PUBLIC SERVICES	None.			
XVII	RECREATION	None.			
XVIII	TRANSPORTATION AND TRAFFIC	None.			
XIX	UTILITIES AND SERVICE SYSTEMS	None.			

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