# LOCAL AGENCY FORMATION COMMISSION
# COUNTY OF SAN BERNARDINO

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**DATE:** **FEBRUARY 1, 2010**

**FROM:** **SAMUEL MARTINEZ, Senior LAFCO Analyst**

**TO:** **KATHLEEN ROLLINGS-McDONALD, Executive Officer**

**SUBJECT:** **Environmental Review for LAFCO 3084 – Hi-Desert Water District Expansion of Service under its Authorized Sewer Function to Include Collection, Treatment, Reclamation and Disposal**

I have completed the California Environmental Quality Act (CEQA) review for LAFCO 3084 for the Commission. LAFCO 3084 is proposal to expand the Hi-Desert Water District's sewer function to include collection, treatment, reclamation and disposal services.

The District's environmental consultant prepared an Initial Study and Mitigated Negative Declaration for its review of the Hi-Desert Water District Water Reclamation Facility, Wastewater Treatment Plant, and Sewer Collection System Project (State Clearinghouse No. 2009061035). The Notice of Availability/Notice of Intent to Adopt a Mitigated Negative Declaration was circulated for review and comment from June 9, 2009 through July 9, 2009. The Final Mitigated Negative Declaration, which incorporates the original initial study, the response to comments, and the Mitigation Monitoring and Reporting Program (MMRP), was adopted by the Hi-Desert Water District at its August 5th 2009 Board meeting.

Based on my review of the proposal, it is my recommendation that the Commission rely upon the Final Mitigated Negative Declaration that was adopted by the District. The environmental document examines the consequences of constructing and installing a wastewater reclamation facility, a wastewater treatment facility, and a collection system, which also addresses the expansion of the District's services related to its active sewer function. The document provides sufficient information and analysis to support the action that the Commission must take to authorize the services related to collection, treatment (i.e. regional wastewater treatment plant as identified in the project including package treatment plants that the Hi-Desert Water District may assume operation and/or maintenance responsibility in cooperation with the Colorado River Basin

Control Board), reclamation, and disposal of wastewater. In essence, the Mitigated Negative Declaration provides the Commission with sufficient information to fully comply with CEQA for LAFCO 3084.

Therefore, the Commission would make its decision as a CEQA Responsible Agency for LAFCO 3084. It is my conclusion that the Final Mitigated Negative Declaration prepared by the District demonstrates that the proposed project will not result in or contribute to significant adverse environmental impacts with the implementation of the mitigation measures that were identified in the Mitigation Monitoring and Reporting Program (MMRP). In accordance with the State and LAFCO CEQA Guidelines, I it is my recommendation that, as CEQA Responsible Agency, it is appropriate for the Commission to cite the Final Mitigated Negative Declaration as adequate documentation for its environmental determination.

If the Commission chooses to approve LAFCO 3084, it is therefore my recommendation that it take the following actions:

1. Indicate that the Commission and its staff have independently reviewed the District's Initial Study and Mitigated Negative Declaration, and found them adequate for its decision on LAFCO 3084;

2. Indicate that the Commission has considered the Mitigated Negative Declaration and the environmental effects, as outlined in these documents, prior to reaching a decision regarding the District's proposed expansion of its authorized sewer function;

3. Indicate that it does not intend to adopt alternatives or mitigation measures for this project. The District adopted a MMRP for the project. However, the mitigation measures included in the District's environmental document, are the responsibility of District and/or others, not the Commission;

4. File a Notice of Determination for this action as a Responsible Agency with the County Clerk of the Board of Supervisors.

# Notice of Determination

Receipt #387188

**To:** ✔ Office of Planning and Research
State Clearinghouse
1400 Tenth Street
Sacramento, CA 95814

and

✔ County of San Bernardino
Clerk of the Board of Supervisors
385 North Arrowhead Avenue
San Bernardino, CA 92415

**From:** Hi-Desert Water District
55439 Twentynine Palms Highway
Yucca Valley, CA 92284

DATE FILED & POSTED

Subject: Filing of Notice of Determination in compliance with Section 21108 or 21152 of the Public Resources Code.

CLERK OF THE BOARD
OCT 13 2009
COUNTY OF
SAN BERNARDINO

Hi-Desert Water District's
Water Reclamation Facility, Wastewater Treatment Plant and Sewer Collection System Project
**Project Title**

| SCH #2009061035 | Mr. Joe Glowitz | (760) 365-8333 |
|---|---|---|
| **State Clearinghouse Number** (If submitted to Clearinghouse) | **Lead Agency Contact Person** | **Area Code/Telephone/Extension** |

**Project Location:**
The proposed project is located within the Town of Yucca Valley in the County of San Bernardino. The proposed interim wastewater treatment plant facilities will be located approximately 1,000 feet south of State Route 62 (SR 62) (Twentynine Palms Highway), east of Indio Avenue, north of Sunnyslope Drive, and west of La Contenta Road.

**Project Description:**
This project consists of the construction and installation of the following components. The District intends to initially sewer the central portion of the Town of Yucca Valley to convey an annual average flow of 2 MGD of wastewater to the Wastewater Reclamation Facility (WRF) currently discharged to septic tanks. This initial project is referred to as Phase 1. In the future, if the Phase 1 facilities do not adequately protect groundwater quality, or if the RWQCB requires more areas to be sewered, or if additional capacity is needed, the collection, treatment and disposal facilities will be expanded to collect an additional 1 MGD of sewage. The additional facilities are referred to as Phase 2 facilities. Phase 3 facilities will be designed to collect an additional 1 MGD of wastewater flow for a total system capacity of 4 MGD. Ultimate build-out in the District's Yucca Valley service area could be as high as 6 MGD, but due to the area's slow rate of growth, this is not forecast to occur until the distant future. The wastewater will be treated to meet Title 22 recycled water standards/ requirements and will be delivered to recharge basins operated by the District on the WRF site to percolate the treated effluent into the Warren Valley Groundwater Basin (Basin).

The Hi-Desert Water District is seeking funds from the U.S. Bureau of Reclamation (BOR) to partially pay for constructing the facilities. The BOR has made a separate environmental determination for this project consistent with the requirements of the National Environmental Policy Act (NEPA) and based on the analysis and findings contained in the final document package.

## Notice of Determination, page 2 of 2

This is to advise that the Hi-Desert Water District has approved the above described
■ Lead Agency ☐ Responsible Agency

project on 10/07/09 and has made the following determination regarding the above described project:
(Date)

1. The project [☐ will ■ will not] have a significant effect on the environment.
2. ☐ An Environmental Impact Report was prepared for this project pursuant to the provisions of CEQA.
   ■ A Negative Declaration was prepared for this project pursuant to the provisions of CEQA.
3. Mitigation measures [■ were ☐ were not] made a condition of the approval of the project.
4. A Statement of Overriding Considerations [☐ was ■ was not] adopted for this project. This is to certify that the Initial Study and record of project approval is available to the General Public at:

Hi-Desert Water District, 55439 Twentynine Palms Highway, Yucca Valley, CA 92284

| | | |
|---|---|---|
| Ed Muzik | General Manager | 10.8.09 |
| *Signature* (Public Agency) | *Title* | *Date* |

RECEIVED
OCT 14 2009
LAFCO
San Bernardino County

**Certification of Board Action**

**It is hereby certified** that at the regular meeting held October 7, 2009 that the following action was taken by the Board of Directors of the Hi-Desert Water District:

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MSC[1] (Graham/Munsey) unanimously approved to adopt Resolution 09-22, Approval of the Wastewater Treatment Plan, Water Reclamation Facility, and Collection System project and direct staff to file the CEQA Notice of Determination.

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**Be it further certified** that the above action has not been amended or repealed.

Deputy Secretary of the Hi-Desert Water District and its Board of Directors

Dated: October 9, 2009

(SEAL)

[1]MSC (Motion, seconded, carried)

3084

**RESOLUTION NO. 09-22**

**A RESOLUTION OF THE BOARD OF DIRECTORS OF THE HI-DESERT WATER DISTRICT APPROVING THE HI-DESERT WATER DISTRICT WATER RECLAMATION FACILITY, WASTEWATER TREATMENT PLANT AND COLLECTION SYSTEM PROJECT**

**WHEREAS**, the Hi-Desert Water District ("District") is a local water district serving the greater Yucca Valley area in Southern California; and

**WHEREAS**, the District wishes to construct and install a water reclamation facility, wastewater treatment plant, and collection system to eliminate existing septic systems (the "Project"), thereby reducing the amount of nitrate contamination and ensuring the protection and ultimate enhancement of water quality within the District's service area; and

**WHEREAS**, Phase 1 the proposed Project would involve the construction and installation of a wastewater treatment facility designed for an initial two (2) million gallons per day (MGD) treatment capacity; a sewage collection system that will serve the core developed area of the Town of Yucca Valley; and percolation basins used to return treated effluent to the Warren Valley Groundwater Basin; and

**WHEREAS**, Phase 2 of the proposed Project, if needed to protect groundwater quality and expand sewer capacity, would expand the collection, treatment, and disposal facilities to collect an additional one (1) MGD of sewage; and

**WHEREAS**, Phase 3 of the proposed Project, if needed, would include facilities designed to collect an additional one (1) MGD of wastewater flow for a total system capacity of four (4) MGD; and

**WHEREAS**, the proposed Project site would be located approximately 1,000 feet south of State Route 62 (Twenty-nine Palms Highway), east of Indio Avenue, north of Sunnyslope Drive, and west of La Contenta Road in the Town of Yucca Valley in San Bernardino County, California; and

**WHEREAS**, the proposed Project improvements would satisfy current wastewater collection, treatment, and disposal demands and are consistent with approved local planning; and

**WHEREAS**, pursuant to the California Environmental Quality Act ("CEQA") (Pub. Res. Code, § 21000 et seq.) and the State CEQA Guidelines (Cal. Code Regs, tit. 14 § 15000 et seq.), the District is the lead agency for the proposed Project; and

**WHEREAS**, District staff reviewed the Project and determined that it is subject to the requirements of CEQA and prepared an Initial Study/Environmental Assessment; and

**WHEREAS**, on August 5, 2009 The Hi-Desert Water District adopted the Mitigated Negative Declaration, pursuant to the California Environmental Quality Act; and

**WHEREAS**, all of the findings and conclusions made by the District pursuant to this Resolution are based upon the oral and written evidence before it as a whole; and

**WHEREAS**, all other legal prerequisites to the adoption of this Resolution have occurred;

**NOW THEREFORE,** the Board of Directors does hereby resolve as follows:

**SECTION 1.** Compliance with the California Environmental Quality Act. As the decision making body for the Project, the Board of Directors has reviewed and considered the information contained in the MND, Initial Study/Environmental Assessment, and administrative record, on file with the District and available for review at the District office, 55439 Twentynine Palms Highway, Yucca Valley, California 92284. The Board of Directors finds that the MND and Initial Study/Environmental Assessment have been completed in compliance with CEQA and the State CEQA Guidelines.

**SECTION 2.** Findings on Environmental Impacts. In the District's role as the lead agency under CEQA, the Board of Directors approves of the above project, and will file a Notice of Determination with the County of San Bernardino Clerk's office.

**SECTION 3.** Custodian of Records. The documents and materials that constitute the record of proceedings on which these findings are based are located at the Hi-Desert Water District office, 55439 Twenty-nine Palms Highway, Yucca Valley, California 92284. Mr. Joseph Glowitz, District Engineer, is the custodian of the record of proceedings.

**SECTION 4.** Execution of Resolution. The President of the Hi-Desert Water District and its Board of Directors shall sign this Resolution and the Secretary of the Hi-Desert Water District and its Board of Directors shall attest and certify to the passage and adoption thereof.

PASSED, APPROVED, AND ADOPTED this 7th day of October, 2009 by the following vote:

Ayes: Graham, Hough, Mayes, Munsey
Noes:
Abstain: Stadum
Absent:

Sheldon Hough, President of Hi-Desert Water District
and its Board of Directors

ATTEST:

Ed Muzik, Secretary of Hi-Desert Water District
and its Board of Directors

(Seal)

**Certification of Board Action**

**It is hereby certified** that at the regular meeting held August 5, 2009 that the following action was taken by the Board of Directors of the Hi-Desert Water District:

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MSC[1] (Munsey/Graham) unanimously approved to adopt Resolution 09-16, Mitigated Negative Declaration for the Water Reclamation Facility, Wastewater Treatment Plant and Collection System project.

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**Be it further certified** that the above action has not been amended or repealed.

Deputy Secretary of the Hi-Desert Water District and its Board of Directors

Dated: August 27, 2009

(SEAL)

[1]MSC (Motion, seconded, carried)

**RESOLUTION NO. 09-16**

**A RESOLUTION OF THE BOARD OF DIRECTORS OF THE HI-DESERT WATER DISTRICT ADOPTING A MITIGATED NEGATIVE DECLARATION AND A MITIGATION MONITORING AND REPORTING PROGRAM AND APPROVING THE HI-DESERT WATER DISTRICT WATER RECLAMATION FACILITY, WASTEWATER TREATMENT PLANT AND COLLECTION SYSTEM PROJECT**

**WHEREAS**, the Hi-Desert Water District ("District") is a local water district serving the greater Yucca Valley area in Southern California; and

**WHEREAS**, the District wishes to construct and install a water reclamation facility, wastewater treatment plant, and collection system to eliminate existing septic systems (the "Project"), thereby reducing the amount of nitrate contamination and ensuring the protection and ultimate enhancement of water quality within the District's service area; and

**WHEREAS**, Phase 1 the proposed Project would involve the construction and installation of a wastewater treatment facility designed for an initial two (2) million gallons per day (MGD) treatment capacity; a sewage collection system that will serve the core developed area of the Town of Yucca Valley; and percolation basins used to return treated effluent to the Warren Valley Groundwater Basin; and

**WHEREAS**, Phase 2 of the proposed Project, if needed to protect groundwater quality and expand sewer capacity, would expand the collection, treatment, and disposal facilities to collect an additional one (1) MGD of sewage; and

**WHEREAS**, Phase 3 of the proposed Project, if needed, would include facilities designed to collect an additional one (1) MGD of wastewater flow for a total system capacity of four (4) MGD; and

**WHEREAS**, the proposed Project site would be located approximately 1,000 feet south of State Route 62 (Twenty-nine Palms Highway), east of Indio Avenue, north of Sunnyslope Drive, and west of La Contenta Road in the Town of Yucca Valley in San Bernardino County, California; and

**WHEREAS**, the proposed Project improvements would satisfy current wastewater collection, treatment, and disposal demands and are consistent with approved local planning; and

**WHEREAS**, pursuant to the California Environmental Quality Act ("CEQA") (Pub. Res. Code, § 21000 et seq.) and the State CEQA Guidelines (Cal. Code Regs, tit. 14 § 15000 et seq.), the District is the lead agency for the proposed Project; and

**WHEREAS**, District staff reviewed the Project and determined that it is subject to the requirements of CEQA and prepared an Initial Study/Environmental Assessment; and

**WHEREAS**, on the basis of the Initial Study/Environmental Assessment, which concluded that the Project will not have significant impacts on the environment with mitigation, the District determined that a Mitigated Negative Declaration ("MND") should be prepared for the Project, and an MND was prepared pursuant to CEQA and the State CEQA Guidelines; and

**WHEREAS**, the District provided copies of the draft MND and Initial Study/Environmental Assessment to the public and the State Clearinghouse for a thirty-day review and comment period beginning on June 9, 2009 and ending on July 9, 2009 pursuant to Public Resources Code section 21091(b), and written comment letters were received by the District; and

**WHEREAS**, as contained here, the District has endeavored in good faith to set forth the basis for its decision on the proposed Project; and

**WHEREAS**, all of the findings and conclusions made by the District pursuant to this Resolution are based upon the oral and written evidence before it as a whole; and

**WHEREAS**, the District's Board of Directors has reviewed the MND, Initial Study/Environmental Assessment, and all other relevant information contained in the record regarding the Project; and

**WHEREAS**, on July, 15 2009 at a duly noticed special District Board meeting, further consideration of the proposed Project was postponed to allow staff to respond to additional public comments on the MND; and

**WHEREAS**, all other legal prerequisites to the adoption of this Resolution have occurred;

**NOW THEREFORE,** the Board of Directors do hereby resolve as follows:

**SECTION 1.** Compliance with the California Environmental Quality Act. As the decisionmaking body for the Project, the Board of Directors has reviewed and considered the information contained in the MND, Initial Study/Environmental Assessment, and administrative record, on file with the District and available for review at the District office, 55439 Twentynine Palms Highway, Yucca Valley, California 92284. The Board of Directors finds that the MND and Initial Study/Environmental Assessment have been completed in compliance with CEQA and the State CEQA Guidelines.

**SECTION 2.** Findings on Environmental Impacts. In the District's role as the lead agency under CEQA, the Board of Directors finds that the MND and Initial Study/Environmental Assessment contains a complete and accurate reporting of the environmental impacts associated with the Project. The Board of Directors further finds that the documents have been completed in compliance with CEQA, the State CEQA Guidelines, and the District's Local CEQA Guidelines. The Board of Directors further finds that all environmental impacts of the Project are either insignificant or can be mitigated to a level of insignificance pursuant to the mitigation measures outlined in the MND, Initial Study/Environmental Assessment, and the Mitigation Monitoring and Reporting Program. The Board of Directors further finds that there is no substantial evidence in the record supporting a fair argument that the Project may result in significant environmental impacts, and that all comments received regarding the Project have been examined and determined

to not modify the conclusions of the MND or the Board of Directors. The Board of Directors finds that the MND contains a complete, objective, and accurate reporting of the environmental impacts associated with the Project and reflects the independent judgment of the Board of Directors.

**SECTION 3.** Adoption of Mitigated Negative Declaration. The Board of Directors hereby approves and adopts the MND prepared for the Project.

**SECTION 4.** Adoption of the Mitigation Monitoring and Reporting Program. The Board of Directors hereby approves and adopts the Mitigation Monitoring and Reporting Program prepared for the Project and included in the MND.

**SECTION 5.** Custodian of Records. The documents and materials that constitute the record of proceedings on which these findings are based are located at the Hi-Desert Water District office, 55439 Twenty-nine Palms Highway, Yucca Valley, California 92284. Mr. Joseph Glowitz, District Engineer, is the custodian of the record of proceedings.

**SECTION 6.** Execution of Resolution. The President of the Hi-Desert Water District and its Board of Directors shall sign this Resolution and the Secretary of the Hi-Desert Water District and its Board of Directors shall attest and certify to the passage and adoption thereof.

PASSED, APPROVED, AND ADOPTED this 5th day of August, 2009 by the following vote:

Ayes: Munsey, Mayes, Hough, Graham
Noes:
Abstain:
Absent: Stadum

Sheldon Hough, President of Hi-Desert Water District
and its Board of Directors

ATTEST:

Ed Muzik

Ed Muzik, Secretary of Hi-Desert Water District
and its Board of Directors

(Seal)

# HI-DESERT WATER DISTRICT
# WASTEWATER RECLAMATION FACILITY, WASTEWATER TREATMENT PLANT AND SEWER COLLECTION SYSTEM PROJECT
# MITIGATION MONITORING AND REPORTING PROGRAM

| Mitigation Measure | | Source | Implementation Schedule | Responsible Party | Verification | Status / Date / Initials |
|---|---|---|---|---|---|---|
| **Air Quality** | | | | | | |
| 4.1-1 | The construction site disturbed areas will be watered twice daily for short-term surface stabilization, and more times if winds are sufficient to loft dust from the construction site. | Initial Study / Environmental Assessment (IS/EA) | This requirement shall be included as a condition or stipulation of the construction contract and the watering shall be implemented while bare ground is exposed during project construction. | Hi-Desert Water District (HDWD) | A copy of the contract shall be retained by HDWD and construction field inspectors shall verify that watering is occurring during construction activities and under active wind conditions. Field notes verifying compliance shall be retained in the project file. | |
| 4.1-2 | Chemical, vegetative or mechanical (compaction or paving) will be used for surface stabilization upon completion of grading activities, if subsequent site uses are not proposed. | IS/EA | Following completion of grading activities within project areas, the ground cover or paving shall be installed as soon as possible, but no later than one week from completion of grading. | HDWD | A copy of the construction erosion control plan shall be provided prior to initiating ground disturbance and retained in the project file. Field inspectors shall verify the installation and effectiveness of ground cover in accordance with the plant throughout the duration of project construction. Field notes verifying compli-ance shall be retained in the project file. | |

# HI-DESERT WATER DISTRICT
# WASTEWATER RECLAMATION FACILITY, WASTEWATER TREATMENT PLANT
# AND SEWER COLLECTION SYSTEM PROJECT
# MITIGATION MONITORING AND REPORTING PROGRAM

| Mitigation Measure | | Source | Implementation Schedule | Responsible Party | Verification | Status / Date / Initials |
|---|---|---|---|---|---|---|
| **Air Quality (continued)** | | | | | | |
| 4.1-3 | Trackout onto paved roads will be minimized, and removed (swept or washed from paved surfaces) if substantial soil material accumulates on paved surfaces. Cleanup of project-related trackout or spills on paved roads will be removed daily. | IS/EA | This requirement shall be included as a condition or stipulation of the construction contract. This measure shall be implemented each day when construction activities are underway and construction traffic utilizes paved roadways in the project area. | HDWD | A copy of the contract shall be retained by HDWD, and construction field inspectors shall verify that sweeping is occurring daily during construction activities when roadways are being used in support of project construction. Field notes verifying compliance shall be retained in the project file. | |
| 4.1-4 | Haul trucks will be covered. | IS/EA | This requirement shall be included as a condition or stipulation of the construction contract. This measure shall be implemented each day when construction activities are underway and construction traffic utilizes paved roadways in the project area. | HDWD | A copy of the contract shall be retained by HDWD, and construction field inspectors shall verify that haul trucks are covered daily during construction activities. Field notes verifying compliance shall be retained in the project file. | |
| 4.1-5 | Grading and soil movement activities will be minimized when winds exceed 30 miles per hour at the local airport or at an onsite wind monitoring system. | IS/EA | This requirement shall be included as a condition or stipulation of the construction contract. This measure shall be implemented each day when construction activities are underway and local winds exceed 30 miles per hour. | HDWD | A copy of the contract shall be retained by HDWD, and construction field inspectors shall verify that construction activities are minimized when wind speeds exceed 30 mph . Field notes verifying compliance shall be retained in the project file. | |

| Mitigation Measure | | Source | Implementation Schedule | Responsible Party | Verification | Status / Date / Initials |
|---|---|---|---|---|---|---|
| **Air Quality (continued)** | | | | | | |
| 4.1-6 | Efficient scheduling of equipment use, with a phased construction schedule to reduce the number of units operating simultaneously. | IS/EA | This requirement shall be included as a condition or stipulation of the construction contract. This measure shall be implemented when construction activities are underway and air pollutant emitting equipment is scheduled to support construction activities. | HDWD | A copy of a construction equipment scheduling plan shall be provided prior to initiating ground disturbance and retained in the project file. Field inspectors shall verify the use of equipment in accordance with this plan. Field notes verifying compliance shall be retained in the project file. | |
| 4.1-7 | Performing regular engine maintenance on all equipment. | IS/EA | This requirement shall be included as a condition or stipulation of the construction contract. This measure shall be implemented prior to and when construction activities are underway. | HDWD | A copy of the contract shall be retained by HDWD, and engine maintenance records documenting compliance for all onsite equipment shall be provided to the District quarterly. The maintenance records shall be retained in the project file. | |
| 4.1-8 | Provision of local equipment storage areas so that equipment trips to the sites can be reduced. | IS/EA | This requirement shall be included as a condition or stipulation of the construction contract. This measure shall be implemented prior to and when construction activities are underway. | HDWD | A construction equipment location plan shall be provided prior to initiating ground disturbance and retained in the project file. Field inspectors shall verify the use of storaga location in accordance with this plan. Field notes verifying compliance shall be retained in the project file. | |

| | Mitigation Measure | Source | Implementation Schedule | Responsible Party | Verification | Status / Date / Initials |
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| **Air Quality (continued)** | | | | | | |
| 4.1-9 | Construction personnel shall be encouraged to ride share to reduce vehicle trips to construction sites, including incentives for carpooling among construction employees. | IS/EA | This requirement shall be included as a condition or stipulation of the construction contract. This measure shall be implemented prior to and when construction activities are underway. | HDWD | A copy of the contract shall be retained by HDWD, and a rideshare program shall be provided to the District prior to initiating construction. A quarterly rideshare participant report shall be submited to the District monthly. The reports shall be retained in the project file. | |
| 4.1-10 | Shut down equipment when not in use for more than 10 minutes. | IS/EA | This requirement shall be included as a condition or stipulation of the construction contract. This measure shall be implemented when construction activities are underway. | HDWD | A copy of a construction contract shall be retained in the project file. Field inspectors shall verify compliance with this measure during field inspec-tions. Field notes verifying compliance shall be retained in the project file. | |
| 4.1-11 | To the extent feasible, the District shall select landscaping that is fast-growing to create a windbreak buffer along the peri-phery of the WRF site. A minimum of two rows shall be installed at different times and plants shall be installed and grown in stages; periodically harvested; and replanted to maintain carbon sequestration. Alternatively or concurrently, the District may install solar power systems to partially or fully offset operational electricity demand | IS/EA | Prior to initiating operations, the HDWD shall indicate which option will be imple-mented and what the reduction in GHG emissions will be through implementing the proposed option. The District shall begin installing any landscaping or solar systems prior to initiating wastewater collection and | HDWD | Documentation of GHG emission reductions (photos of onsite landscaping or solar systems) shall be acquired and retained in the project file. An annual report of GHG emission reductions shall be compiled and retained in the project file. If credits are purchased, evidence of the purchase shall be retained in the project file. | |

| Mitigation Measure | | Source | Implementation Schedule | Responsible Party | Verification | Status / Date / Initials |
|---|---|---|---|---|---|---|
| **Air Quality (continued)** | | | | | | |
| 4.1-11 (cont.) | of the WRF. As a final alternative, the District may choose to purchase annual or permanent carbon credits from the available carbon banks at the time the facility begins operation. | | treatment. Purchase of any credits shall be completed prior to initiating wastewater collection and treatment. | | | |
| 4.1-12 | The District shall require the installation of odor control facilities as part of the facility design. These facilities shall be state of the art and shall control odors to ensure that adjacent properties are not exposed to significant odor concentrations, except during an emergency/upset condition at the WRF. | IS/EA | The specific odor control equipment shall be defined prior to initiating construction; shall be installed during construction; and shall be operated and maintained during wastewater collection and treatment operations | HDWD | Verification that the odor control system is state of the art when the plant is installed shall be retained in the project file. As built engineering drawings of the odor control system shall be retained in the project file, and system operation and maintenance data shall also be retained in the project file. | |
| 4.1-13 | The District shall establish an odor complaint response phone number that shall be clearly posted on the exterior fence of the treatment plant facility. If odor complaints are received, the District shall respond within 24 hours to correct the problem, and provide a response to the complainant within 12 hours of notification identifying what actions were taken and how long was or will be required to control the odor problem. Sources of odors shall be corrected in as timely a manner as possible. | IS/EA | The odor complaint response program shall be in place prior to receipt of wastewater and initiating of treatment operations. A log of odor complaints and responses shall be retained by the HDWD. A log of time required to control any odor excursions shall be retained. | HDWD | A copy of the program shall be retained in the project file and a summary of excursions shall be presented to the District Board on an annual basis. Logs of complaints, responss and time required to control odor excursions shall be retained in the project file. | |

| | Mitigation Measure | Source | Implementation Schedule | Responsible Party | Verification | Status / Date / Initials |
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| **Hydrology and Water Quality** | | | | | | |
| 4.2-1 | The District shall prepare a Storm Water Pollution Prevention Plan (SWPPP) and a Water Quality Management Plan (WQMP) that will achieve no net loss of topsoil from the project sites and prevent runoff from causing erosion on adjacent property during construction. The SWPPP and WQMP shall be provided to the construction contractor and the contractor shall implement the SWPPP during all construction activities at the site. | IS/EA | The SWPPP shall be approved and ready for implementation prior initiating ground disturbance activities. The SWPPP shall be implemented through completion of the construction period. | HDWD | A copy of the SWPPP shall be retained in the project file and HDWD field inspectors shall verify that the BMPs are being implemented during construction of all treatment facilities, the pipelines and related support facilities. | |
| 4.2-2 | The SWPPP prepared for the project site shall include a spill response program for accidental release of water pollutants during construction that shall, at a minimum, meet the following performance standards: adequate resources shall be maintained on the site by the contractor to control any release of pollutants; if a spill occurs, the pollutant shall first be contained, second the spill shall be reported to appropriate authorities, third the pollutant contaminated material (soil, water, etc.) shall be collected in proper containers, fourth the pollutant contaminated material shall be delivered to a facility with the capability to treat or dispose of the contaminated material in accordance with existing laws and regulations in place at the time of the accidental spill; fifth the area contaminated by the spill shall be cleaned (remediated) to background conditions, or alternatively to a level | IS/EA | The SWPPP containing the required spill response program shall be approved and ready for implementation prior initiating ground disturbance activities. The SWPPP shall be implemented through completion of the construction period. | HDWD | A copy of the SWPPP shall be retained in the project file and HDWD field inspectors shall verify that the all actions required by the spill response program are being implemented during construction of all treatment facilities,the pipelines and related support facilities. | |

| Mitigation Measure | | Source | Implementation Schedule | Responsible Party | Verification | Status / Date / Initials |
|---|---|---|---|---|---|---|
| **Hydrology and Water Quality (continued)** | | | | | | |
| 4.2-2 (cont.) | that meets the requirements of existing laws and regulations at the time of the clean-up and that does not leave any residual threat to humans or the environment in which the spill occurs. | | | | | |
| 4.2-3 | The District shall prepare the WQMP and include a Spill Prevention Control Counter-measures Plan that will minimize the potential for release of any hazardous or toxic chemicals to the environment. This Plan shall include a requirement to retain material safety data sheets (MSDS) for all hazardous materials or substances at the site and measures that outline the responses that will be implemented should an accidental spill of hazardous materials onsite occur. Based on the list of hazardous materials/substances that will be utilized at the plant, the District Plan shall identify handling procedures and management options for any accidental releases to the environment until such accidentally released material is properly disposed of or treated so that no residual harm remains from the accidental release. | IS/EA | The WQMP and/or Business Plan containing the required spill prevention control countermeasures program shall be approved and ready for implementation prior receipt and treatment of wastewater. The WQMP shall be implemented over the life of the facility and updated with any major changes in operations. | HDWD | A copy of the WQMP shall be retained in the project file and HDWD managers shall verify that the all actions required by the WQMP are being imple-mented during operations. An annual report of Plan imple-mentation shall be submitted to the District Board. | |

| | Mitigation Measure | Source | Implementation Schedule | Responsible Party | Verification | Status / Date / Initials |
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| **Hydrology and Water Quality (continued)** | | | | | | |
| 4.2-4 (cont.) | The District shall restore any channel crossing locations with a comparable quantity or quality of habitat to that disturbed or removed during construction of the proposed project. Because no sensitive riparian or wetland habitat will be affected, the project will not be required to create such habitat or acquire mitigation bank credits. Channel restoration in the area of the pipeline crossing is considered adequate by the District to fully mitigate effects on altering the stream bed on the project site. The District must acquire a 1602 Streambed Alteration Agreement and may have to acquire a WDR from the Regional Board, and shall implement the requirements of the WDR and Agreement as long as it is not less that identified above. | IS/EA | Prior to installing pipeline across any jurisdictional channel, a restoration plan shall be approved by HDWD and CDFG and the plan shall be implemented immediately following closure of any channel crossing. Any regulatory permits shall be obtain prior to crossing any jurisdictional channel.<br><br>Annual monitoring shall be conducted at each crossing to verify plan implementation until specific design goals are achieved. | HDWD | A copy of each regulatory permit and channel crossing restoration plan shall be retained in the project file. Field personnel shall verify the restoration is installed in a timely manner. Annual monitoring reports shall be retained in the project file until the plan's success is verified by a qualified biologist and the CDFG. | |
| 4.2-5 | The District shall install one or more monitoring wells downstream of the WRF. The well(s) shall be monitored for elevation of the groundwater table below the ground surface (bgs). If the groundwater table downstream of the WRF recharge site approaches 100 feet bgs, the District shall initiate pumping to control the groundwater level. The groundwater extracted may be discharged to the surface if the water quality is acceptable to the regulatory agencies, or it may be further treated and made available to the District's domestic water supply system. The performance | IS/EA | The location of monitoring well and the well to be installed shall be completed prior to discharge of treated effluent from the WRF. If the elevation of the groundwater table rises above 100 feet bgs, the specific actions required to maintain this level shall be documented during operations. The manner of handling any water pumped to the surface shall be documented. | HDWD | As built drawings of the monitoring well and well location shall be retained in the project file. Copies of documentation for controlling groundwater level at 100 feet or greater bgs shall be retained in the project file. An annual report of groundwater elevation in the monitoring well shall be provided to the District Board and the report shall be retained in the project file. | |

| Mitigation Measure | | Source | Implementation Schedule | Responsible Party | Verification | Status / Date / Initials |
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| **Hydrology and Water Quality (continued)** | | | | | | |
| 4.2-5 (cont.) | standard to be achieved is that the ground-water table downstream of the WRF recharge facilities shall not rise above the 100 foot bgs threshold. | | | | | |
| 4.2-6 | The District shall install one or more monitoring wells downstream of the WRF. The well(s) shall be monitored at least annually for all drinking water standards and compared to maximum contaminant levels (MCLs) for public drinking water standards. If concentrations approach any MCL, the District shall install additional treatment at the WRF to modify the treated effluent by lowering or removing the pollutant of concern to a level that will prevent the MCL from being exceeded. The performance standard to be achieved is that the groundwater quality shall not be allowed to exceed any MCL for a domestic or public drinking water supply. | IS/EA | The location of monitoring well and the well to be installed shall be completed prior to discharge of treated effluent from the WRF. A water quality sampling plan shall be also be approved prior to discharge of treated effluent from the WRF. If the groundwater quality in the well exceeds any MCL to which the WRF contributes, the specific actions required to modify the treated effluent shall be documented during operations. The manner of controlling any MCL exceeding contaminant shall be documented. | HDWD | As built drawings of the moni-toring well and well location shall be retained in the project file. A copy of the monitoring well sampling plan shall be retained in the project file. A copy of the annual sampling analysis shall be retained in the project. An annual report of groundwater quality in the monitoring well shall be provided to the District Board and the report shall be retained in the project file. | |

| | Mitigation Measure | Source | Implementation Schedule | Responsible Party | Verification | Status / Date / Initials |
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| **Hydrology and Water Quality (continued)** | | | | | | |
| 4.2-7 | The District shall provide a drainage report that defines the 100-year flood elevation on the site and shall either elevate the treatment plant facilities above this level with two feet of freeboard or shall provide protection of the site with a boundary levee that protects the facilities from exposure to flooding from the 100-year flow across the property. The final treatment plant facility design shall provide a means of re-routing any storm flows, including the 100 year flow, around the facility and back into the existing natural channel on the north side of the site without causing significant erosion in the channel. | IS/EA | The drainage study shall be completed prior to approving final design of the WRF. The design required to ensure the WRF is not located within the 100-year flood hazard area shall be retained in the project file. The drainage study shall verify that the WRF design will not increase downstream flows or flow velocity. If flows or flow velocity will be altered, the HDWD shall install downstream drainage improvements approved by County Flood Control to prevent downstream damage from altered flows. | HDWD | A copy of the drainage study and WRF site design for drainage shall be retained in the project file. The as built drawings verifying that the site can pass the 100-year flood and not cause damage downstream shall be retained in the project file. | |
| **Transportation / Traffic** | | | | | | |
| 4.5-1 | The construction contractor will provide adequate traffic management resources, such as protective devices, flag persons, and police assistance for traffic control, to maintain safe traffic flow on local streets affected by facility and pipeline construction at all times. | IS/EA | The contractor shall prepare a traffic management plan for implementation at all construction sites on the local or area circulation system. This plan shall be completed and approved prior to initiating construction and its implementation shall be verified during construction. | HDWD | A copy of the traffic management plan shall be retained in the project file and field inspections during construction shall verify that the plan measures are being implemented. | |

| Mitigation Measure | | Source | Implementation Schedule | Responsible Party | Verification | Status / Date / Initials |
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| **Transportation / Traffic (continued)** | | | | | | |
| 4.5-2 | The construction contractor will identify traffic hazards created by construction, such as rough road or potholes, freshly paved locations, and minimize total traffic and vehicle speed through such hazards. | IS/EA | The contractor shall prepare a traffic management plan for implementation at all traffic hazard locations related to construction sites on the local or area circulation system. This plan shall be completed and approved prior to initiating construction and its implementation shall be verified during construction. | HDWD | A copy of the traffic hazards management plan shall be retained in the project file and field inspections during construction shall verify that the plan measures are being implemented. | |
| 4.5-3 | The construction contractor will ensure that traffic safety hazards, such as uncovered or unfilled open trenches, will not be left in roadways during period of time when construction personnel are not present, such as nighttime and weekends. | IS/EA | This requirement will be included in the traffic management plans for construction and traffic hazard areas. This plan shall be completed and approved prior to initiating construction and its implementation shall be verified during construction. | HDWD | A copy of the traffic hazards management plan shall be retained in the project file and field inspections during construction shall verify that the plan measures are being implemented. | |

| Mitigation Measure | | Source | Implementation Schedule | Responsible Party | Verification | Status / Date / Initials |
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| **Transportation / Traffic (continued)** | | | | | | |
| 4.5-4 | The construction contractor will repair all roads adequately after construction to ensure that traffic can move in the same manner as before construction. | IS/EA | Within project-related construction areas, the contractor shall prepare a roadway restoration plan for implementation when construction within an area is completed. This plan shall be completed and approved prior to initiating construction and its implementation shall be verified during construction. | HDWD | A copy of the roadway restoration plan shall be retained in the project file and field inspections during construction shall verify that the plan measures are being implemented, both in terms of design and timeliness of restoration. | |
| 4.5-5 | At all times during construction, the contractor will ensure that emergency fire, police or medical vehicles are able to access all adjacent areas. Additionally, construction equipment or activities must not obstruct or hinder traffic that might be generated during an evacuation. | IS/EA | The traffic management plan shall contain a section on emergency access during construction or during an evacuation. The contractor shall prepare a traffic management plan for implementation at all construction sites on the local or area circulation system. This plan shall be completed and approved by the Town or emergency service providers prior to initiating construction and its implementation shall be verified during construction. | HDWD | A copy of the traffic management plan, including emergency and evacuation access shall be retained in the project file and field inspections during construction shall verify that the plan measures are being implemented. | |

# HI-DESERT WATER DISTRICT
# WASTEWATER RECLAMATION FACILITY, WASTEWATER TREATMENT PLANT AND SEWER COLLECTION SYSTEM PROJECT
# MITIGATION MONITORING AND REPORTING PROGRAM

| | Mitigation Measure | Source | Implementation Schedule | Responsible Party | Verification | Status / Date / Initials |
|---|---|---|---|---|---|---|
| **Natural Resources – Biological Resources** | | | | | | |
| 4.6-1 | Once the final pipeline alignments are engineered and surveyed, and the waste-water reclamation facility site boundaries finally established, a qualified biologist will inventory the numbers and types of cacti, creosote bushes, and Joshua Trees that are to be impacted and removed. Salvaging of individual Joshua tree and cacti plants within these final alignments will be done in compliance with Town and County ordinances. | IS/EA | The qualified biologist's inventory shall be completed before ground disturbance within any pipeline alignment. The District shall retain a qualified Joshua tree and cacti salvage firm and this firm shall compile a plant relocation plan and complete any relocations prior to initiating construction in the area of these resources. | HDWD | A copy of the inventory shall be retained in the project file. A copy of the plant relocation plan shall be retained in the project file. Field inspections during relocation and after relocation shall verify that the plan measures are implemented and that any maintenance measures for the plants are being implemented. | |
| 4.6-2 | Any grubbing or brushing to occur as part of the project will be conducted outside of the State-identified bird breeding season of February 15th through September 1. Alter-natively, a qualified biologist may survey the project impact area and if no native bird nests are discovered, the development may proceed. A report of findings will be provided to the California Department of Fish and Game if construction in the vicinity of bird nests must be conducted during nesting season. | IS/EA | If grubbing and site clearance are proposed during nesting season, the qualified biologist's survey data and findings shall be completed prior to implementing site clearance. If approved by CDFG, constuction can proceed by following any nesting bird protection measures. | HDWD | The District shall document the time when construction will occur for all project components (WRF, pipelines, or pump stations). Any biologist nesting surveys and recommendations shall be retained in the project file after approved by CDFG. Field inspections during site clearance shall verify that the bird protection measures are being implemented. | |

| | Mitigation Measure | Source | Implementation Schedule | Responsible Party | Verification | Status / Date / Initials |
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| **Natural Resources – Biological Resources (continued)** | | | | | | |
| 4.6-3 | If the above work cannot be done according to this schedule, prior to the initiation of any ground disturbance, a qualified biologist will determine what birds are nesting in the shrubs or trees to be removed or are within 500 feet of the area that will be under construction. | IS/EA | If ground disturbance is proposed during nesting season, the qualified biologist's survey data and findings shall be completed prior to implementing site clearance. If approved by CDFG, construction can proceed by following any nesting bird protection measures. | HDWD | Any biologist nesting surveys and recommendations shall be retained in the project file after approved by CDFG. Field inspections during site clearance shall verify that the bird protection measures are being implemented. | |
| 4.6-4 | Mitigation for impacts to jurisdictional water of the State shall be offset by revegetating the pipeline alignment across the wash with equivalent habitat. This requirement shall be memorialized in the 1602 Streambed Alteration Agreement obtained for this project prior to disturbing the alignment. | IS/EA | Prior to ground disturbance within any State jurisdictional water, the existing habitat and plant community shall be documented and a revegeta-tion plan developed and approved by CDFG. | HDWD | A copy of the existing habitat characteristics shall be retained in the project file and a copy of the approved revegetation plan shall also be retained in the project file. HDWD shall monitor compliance with all revegetation plan requirements and provide annual monitoring reports to the file and any other agency requesting a copy. | |

| | Mitigation Measure | Source | Implementation Schedule | Responsible Party | Verification | Status / Date / Initials |
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| **Natural Resources – Biological Resources (continued)** | | | | | | |
| 4.6-5 | Prior to initiating site clearing and grading activities on the WRF project site, a pre-construction desert tortoise and burrowing owl survey shall be conducted within 30 days of initiating ground disturbance at the administrative building. Assuming no tortoise are found, the District may install a tortoise exclusion fence around the WRF site or retain a qualified biologist to monitor the project area one time per week during the duration of active construction activities on the WRF site. If either species (tortoise or burrowing owl) is discovered on the administrative building site, a qualified professional biologist shall implement measures, including possible acquisition of an incidental take permit, to remove any individuals of either species from this site. | IS/EA | The preconstruction occupancy survey shall be conducted within 30 days prior to initiating ground disturbance at the WRF project site. Based on findings, either a tortoise fence shall be installed, or measures shall be implemented to obtain an incidental take permit for tortoise or properly relocate any burrowing owl prior to initiating ground disturbance in accordance with CDFG procedures | HDWD | The findings of the WRF preconstruction survey shall be retained in the project file. If tortoise or owl are found occupying the site, the ground shall not be disturbed until authorization is obtained from the US Fish and Wildlife Service and CDFG for tortoise, and CDFG for burrowing owl. All authorizations shall be retained in the project file. | |
| 4.6-6 | To minimize potential support for local raven populations, the District shall publish or make available a brochure to all employees (including contractor employees) that describes measures which can be implemented by residents to minimize habitat support for local raven populations. | IS/EA | The brochure shall be published and provided to all project and construction personnel prior to initiation of construction activities. | HDWD | A copy of the brochure shall be retained in the project file. Notes of meetings to educate the construction staff about raven populations shall be documented and retained in the project file. | |

| | Mitigation Measure | Source | Implementation Schedule | Responsible Party | Verification | Status / Date / Initials |
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| **Natural Resources – Biological Resources (continued)** | | | | | | |
| 4.6-7 | To prevent introduction of exotic, non-native plant species that could damage the local plant community, a qualified biologist shall compile a list of species that shall be prohibited from use in landscaping within the project area. | IS/EA | The list shall be compiled and made available to the landscape designer and contractor prior to initiation of construction. | HDWD | A copy of the list shall be retained in the project file. The HDWD shall have a qualified biologist review the landscape plants proposed for installation at the project site and shall have the installed landscaping reviewed for introduction of exotics. The field survey findings shall be documented and retained in the project file. | |
| 4.6-8 | Worker education programs, defined construction areas, habitat mitigation, and well-defined operational procedures shall be implemented regarding desert tortoise and local wildlife. | IS/EA | Each of these program elements shall be presented to all District and contractor employees working on the WRF or support facilities prior to being allowed to work on the project. | HDWD | A copy of worker education programs, maps of defined construction areas, habitat mitigation areas and opera-tional procedures shall be retained in the project file. A log of training classes and attendees shall be retained in the project file. | |
| 4.6-9 | Unauthorized, public off-road use of any project areas shall be discouraged by posting of signs and by District inspectors monitoring the construction crew. | IS/EA | This requirement shall be included as a condition or stipulation of the construction contract. Signs prohibiting District or contractor employees from engaging in off-road activity shall be posted in project construction areas prior to initiating construction. | HDWD | A copy of the contract shall be retained in the project file. Field personnel shall document that signs have been posted and continue to be in place until construction is completed. Any violations of this requirement shall be noted by field inspectors and measures implemented by the District or contractor to stop such activity. | |

| | Mitigation Measure | Source | Implementation Schedule | Responsible Party | Verification | Status / Date / Initials |
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| **Natural Resources – Biological Resources (continued)** | | | | | | |
| 4.6-10 | Construction personnel or other persons related to the project shall not be permitted to bring pets or firearms into construction areas. | IS/EA | This requirement shall be included as a condition or stipulation of the construction contract. These requirements shall be included in the worker education program. | HDWD | A copy of the contract shall be retained in the project file. Field personnel shall document that workers do not bring dogs or fire arms to the work sites. Any violations of this requirement shall be noted by field inspectors and measures implemented by the District or contractor to stop such activity. | |
| 4.6-11 | Trash from construction crews and facility employees, especially food items or packaging, shall be disposed of in scavenger-proof containers and removed daily to avoid attracting desert tortoise predators to the area. | IS/EA | This requirement shall be included as a condition or stipulation of the construction contract. The contractor shall identify the specific trash containers that will be used to prevent scavenging prior to initiation of ground disturbance. | HDWD | A copy of the contract shall be retained in the project file. Field personnel shall document that the correct or a comparable trash container has been installed at all work sites where trash in generated. | |
| **Natural Resources – Geology and Soils** | | | | | | |
| 4.6-12 | Comprehensive geotechnical investigations shall be required prior to engineering and design development or structural and/or substantial rehabilitation of structures identified under Risk Class I & II, e.g., public facilities, as identified below:<br>• Risk Class I & II, Structures Critically Needed after Disaster: Structures that are critically needed after a disaster include important utility centers, fire | IS/EA | A geotechnical report detailing project-specific onsite geologic constraints, including risk tolerance classes, acceptable damage levels, multipliers, and appropriate design mitigation, will be completed prior to initiation of any groundbreaking activities for facilities that will be occupied or that must be | HDWD | A copy of the geotechnical report shall be retained in the project file, and HDWD project managers and field inspectors shall verify that the recommendations outlined in the report are being implemented during construction of facilities. | |

| Mitigation Measure | | Source | Implementation Schedule | Responsible Party | Verification | Status / Date / Initials |
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| **Natural Resources – Geology and Soils (continued)** | | | | | | |
| 4.6-12 (cont.) | stations, police stations, emergency communication facilities, hospitals, and critical transportation elements such as bridges and overpasses and smaller dams.<br>Acceptable Damage: Minor non-structural; facility should remain operational and safe, or be suitable for quick restoration of service.<br>• Risk Class III: High occupancy structures; uses are required after disasters (i.e., places of assembly such as schools and churches).<br>Acceptable Damage: Some impairment of function acceptable; structure needs to remain operational.<br>• Risk Class IV, Ordinary Risk Tolerance: The vast majority of structures in urban areas; most commercial and industrial buildings, small hotels and apartment buildings, and single family residences. | | functional following a seismic event. | | | |
| 4.6-13 | Any pipelines crossing the Alquist-Priolo Special Studies Zones for the Pinot Mountain, Eureka Peak and Burt Mountain Faults could be subject to damage due to ground rupture associated with these faults. Any construction of facilities in or pipelines crossing this zone is required to have detailed structural engineering studies to ensure designs that can safely accommodate the anticipated ground movement(s), or to be immediately repairable following a seismic event along any of the three fault. | IS/EA | A structural engineering report detailing design measures to protect pipelines crossing through the Alquist-Priolo Special Studies Zone shall be completed prior to installing pipelines in or across the Zone. The design measure(s) shall be installed when the pipeline is installed. | HDWD | A copy of the structural engineering report shall be retained in the project file, and HDWD project managers and field inspectors shall verify that the recommendations outlined in the report are being implemented during installation of pipelines within the Zone. | |

| | Mitigation Measure | Source | Implementation Schedule | Responsible Party | Verification | Status / Date / Initials |
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| **Natural Resources – Geology and Soils (continued)** | | | | | | |
| 4.6-14 | Construction specifications will include appropriate measures for stabilizing excavations based on recommendation of project geotechnical studies. | IS/EA | Construction specifications for stabilizing excavations shall be completed prior to conducting excavations. | HDWD | A copy of the construction specifications shall be retained in the project file. Field inspectors shall verify that the specifications are being implemented during excavations, where necessary. | |
| 4.6-15 | Trenches will remain open for as short a time as possible. | IS/EA | This requirement shall be included as a condition or stipulation of the construction contract. This requirement shall be implemented during installation of any trenches associated with the project. | HDWD | A copy of the contract shall be retained in the project file. Field inspectors shall verify that the trenches are being closed as soon as work has been completed within the trench. | |
| 4.6-16 | Soils, where exposed, will be stabilized with hay bales or aggregate cover. | IS/EA | This measure shall be implemented as part of the SWPPP and this specific measure shall be implemented during construction or until the soil has stablized without the cover. | HDWD | A copy of the SWPPP, including this requirement, shall be retained in the project file. Field inspectors shall verify that the exposed soils are stabilized as required during construction and until the soil has stabilized without the cover. | |
| 4.6-17 | Construction specifications will identify proper compaction for backfilled soils. | IS/EA | The construction specification shall be completed prior to any requirement to compact soils within construction areas. | HDWD | A copy of the required construction specification shall be retained in the project file. Field inspectors shall verify that the soils are compacted in accordance with the construction specification requirements. | |

| | Mitigation Measure | Source | Implementation Schedule | Responsible Party | Verification | Status / Date / Initials |
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| **Natural Resources – Visual Resources / Aesthetics** | | | | | | |
| 4.6-18 | A facility lighting plan shall be prepared and shall demonstrate that glare from operating and safety night lights that may create light and glare affecting adjacent occupied property are sufficiently shielded to prevent light and glare from spilling into occupied structures. This plan shall be implemented in conformance with the Town of Yucca Valley Night Skies Ordinance and it shall be reviewed and approved by the District staff prior to installation of the night lights. | IS/EA | The lighting plan shall be completed and reviewed and approved prior to installing the lighting system. | HDWD | A copy of the facility lighting plan shall be retained in the project file. Field inspectors shall verify that the lighting system has been installed in accordance with the approved lighting plan. | |
| **Cultural Resources** | | | | | | |
| 4.11-1 | In the event that subsurface historical, cultural or paleontological resources are accidentally exposed during onsite construction activities, construction will be stopped until a qualified professional evaluates the resources. If resources are encountered, adequate funding will be provided by the District to collect, curate and report on these resources. | IS/EA | This measure will be incorporated into the construction contract. Any accidentally discovered resources shall be immediately evaluated and any management actions for such resources shall be implemented within one year of the discovery. | HDWD | A copy of the contract shall be retained in the project file. Any accidental exposure shall be noted in the project file within 24 hours of the discovery. A copy of all reports regarding such a discovery shall be retained in the project file, including documentation that required management actions have been properly implemented. | |

| | Mitigation Measure | Source | Implementation Schedule | Responsible Party | Verification | Status / Date / Initials |
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| **Cultural Resources (continued)** | | | | | | |
| 4.11-2 | If any human remains are encountered during initial grading activities, all ground disturbing activities in the vicinity of the discovery will be terminated immediately and the County Coroner's office MUST be contacted within 24 hours at (909) 387-2543 to arrange for management of such remains. | IS/EA | This measure will be incorporated into the construction contract. Notification of the Coroner's office shall occur within 24 hours of any discovery. | HDWD | A copy of the contract shall be retained in the project file. Any accidental exposure shall be noted in the project file within 24 hours of the discovery. A copy of all reports regarding the disposition of human remains shall be retained in the project file. | |
| **Other Impact Issues – Noise** | | | | | | |
| 4.17-1 | Where noise sensitive receptors are present, construction will be limited to the daylight hours, typically 6 a.m. to 7 p.m. on weekdays, and between 9 a.m. and 6 p.m. on Saturday, and will not occur on Sundays or federal holidays, except in emergencies. | IS/EA | This requirement will be included in the construction contract and will be implemented from the time that noise generating construction activities are initiated. | HDWD | A copy of contract will be retained in the HDWD project file, and field inspections shall verify compliance with the scheduled hours of construction and document such verification in the project file. | |
| 4.17-2 | All construction vehicles and fixed or mobile equipment will be equipped with properly operating and maintained mufflers. | IS/EA | This requirement will be included in the construction contract and will be implemented from the time that noise generating construction activities are initiated. | HDWD | A copy of contract will be retained in the HDWD project file, and field inspections shall verify compliance with the requirement to have and maintain equipment mufflers. | |

| | Mitigation Measure | Source | Implementation Schedule | Responsible Party | Verification | Status / Date / Initials |
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| **Other Impact Issues – Noise (continued)** | | | | | | |
| 4.17-3 | All employees that will be exposed to noise levels greater than 75 dB over an eight hour period will be provided with adequate hearing protection devices to ensure no hearing damage will result from construction activities. | IS/EA | This requirement will be included in the construction contract and will be implemented from the time that noise generating construction activities are initiated. | HDWD | A copy of contract will be retained in the HDWD project file, and field inspections shall verify compliance with the requirement to have noise protecton devices in areas with sound levels greater than 75 dB over an 8-hour period. | |
| 4.17-4 | If equipment is being used that can cause hearing damage at adjacent noise receptor locations (distance attenuation will be taken into account), portable noise barriers will be installed that are demonstrated to be adequate to reduce noise levels at receptor locations below hearing damage thresholds. | IS/EA | Where required, sound attenuation equipment shall be available during construction, prior to carrying out the activity which could cause hearing damage. | HDWD | Field inspections shall be performed during periods when activities generate noise levels that can damage hearing to verify the attenuation devices are in place. | |
| 4.17-5 | Restrict the use of impulsive equipment such as jackhammers, pavement breakers, etc. between 7 p.m. and 5 a.m. | IS/EA | This requirement will be included in the construction contract and will be implemented from the time that impulse noise generating construction activities are initiated. | HDWD | A copy of contract will be retained in the HDWD project file, and field inspections shall verify compliance with the requirement to prohibit impulse equipment use to between 7 p.m. and 5 a.m. | |
| 4.17-6 | Erection of temporary berms or plywood barriers to create a break in the line-of-sight, or erection of a heavy fabric tent around the noise source. | IS/EA | Where required, sound attenuation equipment shall be available during construction, prior to carrying out the activity which could cause disruption of routine activity patterns. | HDWD | When justified, field inspections shall verify compliance with the requirements to break the line-of-sight between the noise source and the sensitive receptor. | |

| Mitigation Measure | | Source | Implementation Schedule | Responsible Party | Verification | Status / Date / Initials |
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| **Other Impact Issues – Noise (continued)** | | | | | | |
| 4.17-7 | Selection of as small a piece of equipment as possible that would still accomplish the task. | IS/EA | This requirement to utilize small or lower noise generating equipment to reduce noise levels will be included in the construction contract and will be implemented from the time that noise generating construction activities are initiated. | HDWD | Copy of contract will be retained in the HDWD project file, and field inspections shall verify compliance with the use of such equipment. Field notes verifying compliance shall be retained in the project file. | |
| 4.17-8 | As the District completes design of the WRF and pump stations systems, a noise study shall be completed that identifies noise levels for such systems, and identifies the specific design measures (attenuation walls, enclosures, berms, or other features) that must be incorporated into the facility design to prevent noise from exceeding the local significance threshold of 65 dBA CNEL at the sensitive receptor location. Appropriate nighttime noise reductions (walls, enclosures, mufflers, etc.) must be incorporated for any loud noise equipment that may cause this value to be exceeded. If the study indicates no attenuation is required, the District shall conduct a noise study after the facility(ies) are in operation to verify the study conclusions and implement noise attenuation features if necessary based on the measurements. | IS/EA | The noise study and design requirements for these specific facilities shall be completed prior to initiating construction of these facilities. Any noise attenuation design requirements shall be installed during construction. The after installation noise study shall be completed prior to placing the piece of equipment in routine operation. | HDWD | A copy of the noise study and design requirements shall be retained in the project file. A copy of the noise study after installation of the equipment shall also be retained in the project file. Field inspections shall verify compliance with the noise attenuation design requirements. Field notes verifying compliance shall be retained in the project file. | |

**TOM DODSON & ASSOCIATES**
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# MEMORANDUM

July 28, 2009

From: Tom Dodson

To: Mr. Joe Glowitz

Subj: Final Mitigated Negative Declaration Package for the Hi-Desert Water District Water Reclamation Facility Project (SCH#2009061035)

The Hi-Desert Water District (HDWD or District) received twelve written comments on the proposed Mitigated Negative Declaration for the Water Reclamation Facility Project. CEQA requires a Negative Declaration to consist of the Initial Study, copies of the comments, any responses to comments as compiled on the following pages; and any other project related material prepared to address issues evaluated in the Initial Study.

For this project, the original Initial Study will be utilized as one component of the Final Mitigated Negative Declaration (MND) package. The attached responses to comments, combined with the Initial Study and the Mitigation Monitoring and Reporting Program, constitute the Final MND package that will be used by the HDWD Board to consider the environmental effects of implementing the proposed project. The following parties submitted comments. These letters are addressed in the attached Responses to Comments:

1. California Department of Fish and Game
2. State Water Resources Control Board
3. California Regional Water Quality Control Board Colorado River Basin Region
4. San Bernardino County Department of Public Works
5. Joshua Basin Water District
6. United States Marine Corps
7. Ramon Alviso Mendoza
8. Wade White
9. Bill Horne
10. Morongo Basin Conservation Association
11. Additional comments from Ramon Alviso Mendoza
12. Mojave Desert Air Quality Management District
13. Office of Planning and Research, State Clearinghouse
14. Department of Toxic Substance Control
15. San Bernardino County Local Agency Formation Commission
16. Mr. Ben Sasnett, Jr.
17. Jill Giegerich
18. Lynda Rallo
19. Ramon Alviso Mendoza
20. David Mahaffey
21. David Mahaffey

Because mitigation measures are required for this project to reduce potentially significant impacts to a less than significant level, the Mitigation Monitoring and Reporting Program (MMRP) attached to this package is required to be adopted as part of this Final MND package. The MMRP has been incorporated by reference to this package for approval and implementation. Tom Dodson will be attending the HDWD public meeting (August 5, 2009) on this project to address any questions that the Board members or other parties may have regarding the adoption of the Mitigated Negative Declaration for the proposed project.

Do not hesitate to give me a call if you have any questions regarding the contents of this package.

Tom Dodson

Tom Dodson
Attachments

California Natural Resources Agency
DEPARTMENT OF FISH AND GAME
Inland Desert Region (IDR) & Habitat Conservation
407 West Line Street
Bishop, CA 93514
www.dfg.ca.gov

ARNOLD SCHWARZENEGGER, Governor
DONALD KOCH, Director

July 8, 2009

Mr. Joe Glowitz
Hi- Desert Water District
55439 Twentynine Palms Highway
Yucca Valley, CA 92284

Subject: Proposed Mitigated Negative Declaration (MND) Hi-Desert Water District Water Reclamation Facility, Wastewater Treatment Plant. SCH # 2009061035.

Dear Mr. Glowitz,

The Department of Fish and Game (Department) has reviewed the Mitigated Negative Declaration (MND) for the above referenced project. The Hi-Desert Water District (District) proposes to construct, install and operate sewer facilities in the central portion of the Town of Yucca Valley (Phase 1). If the District determines that Phase 1 does not adequately protect ground water quality, or if Regional Water Quality Control Board requires more areas to be sewered, or if additional capacity is needed, the collection, treatment and disposal facilities will be expanded to collect an additional 1 million gallons per day (MGD) of sewage. The additional facilities are referred to as Phase 2 facilities. Phase 3 facilities would be designed to collect an additional 1 MGD. It is proposed that the Town of Yucca Valley may require as much as 6 MGD handling capacity at ultimate build-out.

1-1 The Department is providing comments on the MND as the State agency which has statutory and common law responsibilities with regard to fish and wildlife resources and habitats. California's fish and wildlife resources, including their habitats, are held in trust for the people of the State by the Department (Fish and Game Code §711.7). The Department has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and the habitats necessary for biologically sustainable populations of those species (Fish and Game Code §1802). The Department's fish and wildlife management functions are implemented through its administration and enforcement of Fish and Game Code (Fish and Game Code §702). The Department is a trustee agency for fish and wildlife under the California Environmental Quality Act (see CEQA Guidelines, 14 Cal. Code Regs. §15386(a)). The Department is providing these comments in furtherance of these statutory responsibilities, as well as its common law role as trustee for the public's fish and wildlife.

1-2 Appendix 4 (Bio) identifies that desert tortoise and it's habitat are known to exist within the proximity of the proposed project. However, the general biological survey and focused desert tortoise survey indicates that "No desert tortoises were observed on the site. Because tortoise do not occur within the project are, consultation with the USFWS and CDFG will not be required." The Department cautions that the tortoise is a state and

**RESPONSES TO COMMENTS**
**LETTER #1**
**CALIFORNIA DEPARTMENT OF FISH AND GAME**

1-1 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project.

1-2 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project. A protocol tortoise survey of the WRF site was conducted in May 2008. The pipeline alignments were surveyed during the winter of 2008-2009, but most of these alignments are in existing roadways and directly adjacent to residential and commercial areas where no tortoise habitat occurs and where tortoise would be expected to occur. No critical tortoise habitat occurs within the project area. Based on the lack of tortoise resources or other sensitive plant species and the location of the WRF site and the pipeline alignments within the urbanized portion of the Town of Yucca Valley, the District concluded that mitigation for loss of the habitat on the WRF site does not rise to a level of a significant impact that would require mitigation.

1-2 cont. federally listed species, for which, any impacts to the tortoise or its *habitat* must be addressed under an Incidental Take Permit or the project proponent may be at risk of violating Fish and Game Code § 2080.

Although burrowing owls were not detected during the Initial Baseline Biological Survey it is identified as suitable habitat. A 30-day pre-construction survey for burrowing owl may be required as mitigation for the project, this mitigation is not adequate to reduce impacts to burrowing owl to less than significant levels if an owl is found. Also, owls may only be passive relocated at certain times of the year. The relocation process may need to be performed months prior to construction. Since burrowing owls are found on site to insure impacts are less than significant.

1. As compensation for the direct loss of burrowing owl nesting and foraging habitat, the project proponent shall mitigate by acquiring and permanently protecting known burrowing owl nesting and foraging habitat at the following ratio;

   a) Replacement of occupied habitat with occupied habitat at 1.5 times 6.5 acres per pair or single bird;

   b) Replacement of occupied habitat with habitat contiguous with occupied habitat at 2 times 6.5 acres per pair or single bird; and/or

   c) Replacement of occupied habitat with suitable unoccupied habitat at 3 times 6.5 acres per pair or single bird.

1-3 The project proponent shall establish a non-wasting endowment account for the long-term management of the preservation site for burrowing owls. The site shall be managed for the benefit of burrowing owls. The preservation site, site management, and endowment shall be approved by the Department.

2. All owls associated with occupied burrows, that will be directly impacted (temporarily or permanently) by the project, shall be relocated and the following measures shall be implemented to avoid take of owls:

   a) Occupied burrows shall not be disturbed during the nesting season of February 1 through August 31, unless a qualified biologist can verify through non-invasive methods that either the owls have not begun egg laying and incubation or that juveniles from the occupied burrows are foraging independently and are capable of independent flight.

   b) Owls must be relocated by a qualified biologist from any occupied burrows that will be impacted by project activities. Suitable habitat must be available adjacent to or near the disturbance site or artificial burrows will need to be provided nearby. Once the biologist has confirmed that the

1-3 The requirement for a pre-construction survey for both tortoise and burrowing owl is included in the Initial Study/Environmental Assessment (IS/EA) as measure 4.6-5. The District will implement this measure prior to any ground disturbing activity in support of the proposed project. If burrowing owls are discovered within the project area of potential effect, the measures outlined in this comment will be implemented as required by mitigation measure 4.6-5 of the IS/EA.

owls have left the burrow, burrows should be excavated using hand tools and refilled to prevent reoccupation.

c) All relocation shall be approved by the Department. The permitted biologist shall monitor the relocated owls a minimum of three days per week for a minimum of three weeks. A report summarizing the results of the relocation and monitoring shall be submitted to the Department within 30 days following completion of the relocation and monitoring of the owls.

1-3 cont.

3. A Burrowing Owl Mitigation and Monitoring Plan shall be submitted to the Department for review and approval prior to relocation of owls. The Burrowing Owl Mitigation and Monitoring Plan shall describe proposed relocation and monitoring plans. The plan shall include the number and location of occupied burrow sites and details on adjacent or nearby suitable habitat available to owls for relocation. If no suitable habitat is available nearby for relocation, details regarding the creation of artificial burrows (numbers, location, and type of burrows) shall also be included in the plan. The Plan shall also describe proposed off-site areas to preserve to compensate for impacts to burrowing owls/occupied burrows at the project site as required under Condition 1.

1-4 Lastly, wildlife linkages, corridors and general wildlife movements should be addressed in the final CEQA documentation as it pertains to the streambeds and/or washes. If washes will be impacted, the project may require a Streambed Alteration Agreement pursuant to Fish and Game Code §1600 et. seq. The Department has direct authority under Fish and Game Code §1600 et. seq. in regard to any proposed activity that would divert, obstruct, or affect the natural flow or change the bed, channel, or bank of any waterway. Departmental jurisdiction under §1600 et. seq. may apply to all lands within the 100-year floodplain. Early consultation is recommended, since modification of the proposed project may be required to avoid or reduce impacts to fish and wildlife resources.

Questions regarding this letter and further coordination on these issues should be directed to Mr. Eric Weiss, Environmental Scientist at (760) 246-8828.

Sincerely,

Tonya Moore

Tonya Moore, Senior Environmental Scientist
Habitat Conservation Branch

cc: Eric Weiss, CDFG
State Clearinghouse

1-4 The Department's role in reviewing any disturbance of a streambed is acknowledged in the IS/EA (refer to Sections 3.6 and 4.6 of the IS/EA). If the final design of the WRF requires disturbance of the stream channel crossing the property, HDWD will contact the Department to process and obtain a 1602 Streambed Alteration Agreement. Regarding the potential for this channel to serve as a wildlife movement corridor, the potential was assessed as being very low due to the existing surrounding development of the WRF site, which includes Sunnyslope Drive to the south and State Highway 62 to the north. These roadways and the lack of any riparian resource eliminate the potential for the onsite channel to serve as a major or significant wildlife movement corridor.

# State Water Resources Control Board

Linda S. Adams
*Secretary for Environmental Protection*

**Division of Financial Assistance**
1001 I Street, Sacramento, California 95814 • (916) 341-5700
Mailing Address: P.O. Box 944212 • Sacramento, California 94244-2120
FAX (916) 341-5707 • http://www.waterboards.ca.gov

Arnold Schwarzenegger
*Governor*

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STATE CLEARING HOUSE

Mr. Joe Glowitz
Hi-Desert Water District
55439 Twentynine Palms Highway
Yucca Valley, CA 92284

Dear Mr. Glowitz:

INITIAL STUDY/ENVIRONMENTAL ASSESSMENT (IS/EA) FOR THE HI-DESERT WATER DISTRICT (DISTRICT); WATER RECLAMATION FACILITY, WASTEWATER TREATMENT PLANT AND SEWER COLLECTION SYSTEM PROJECT (PROJECT); SAN BERNARDINO COUNTY; STATE CLEARINGHOUSE NO. 2009061035

We understand the District is not pursuing Clean Water State Revolving Fund (CWSRF) financing for this Project. The District may want to consider the CWSRF Program to provide funding for future construction. As a funding agency and a state agency with jurisdiction by law to preserve, enhance, and restore the quality of California's water resources, the State Water Resources Control Board (State Water Board) is providing the following information for the environmental document prepared for the Project.

The State Water Board, Division of Financial Assistance, is responsible for administering CWSRF funds. The primary purpose for the CWSRF Program is to implement the Clean Water Act and related state laws by providing financial assistance for wastewater treatment facilities necessary to prevent water pollution, recycle water, correct nonpoint source and storm drainage pollution problems, and provide for estuary enhancement, to protect and promote health, safety and welfare of state inhabitants. The CWSRF Program provides low-interest funding equal to one-half the most recent State General Obligation Bond Rates with a 20-year term. Applications are accepted and processed continuously. Please refer to the State Water Board CWSRF website at www.waterboards.ca.gov/water_issues/programs/grants_loans/srf/index.shtml.

2-1 The CWSRF Program is partially funded by the U.S. Environmental Protection Agency (USEPA) and requires additional "CEQA-Plus" environmental documentation and review. Three information sheets are included that further explain the environmental review process and some additional federal requirements in the CWSRF Program. In addition, an environmental form is included for the District to submit should it pursue State Water Board funding. The State Water Board is required to consult directly with agencies responsible for implementing federal environmental laws and regulations. Any environmental issues raised by federal agencies or their representatives will need to be resolved prior to State Water Board approval of a CWSRF funding commitment for the proposed Project. For further information on the CWSRF Program, please contact Ms. Michelle L. Jones at (916) 341-6983.

2-2 It is important to note that prior to a CWSRF funding commitment, projects are subject to provisions of the Federal Endangered Species Act and must obtain approval from the U.S. Fish and Wildlife Service (USFWS), and/or National Marine Fisheries Service (NMFS) for any potential effects to special status species. Please be advised that the State Water Board can consult with USFWS, and/or NMFS on behalf of the District regarding all federal special status species the Project has the potential to impact. The District will need to identify whether the Project will involve any direct effects from construction activities or indirect effects, such as growth inducement, that may affect federally-listed threatened, endangered, or candidate species that are known, or have a potential to occur on-site, in the surrounding areas, or in the service area, and to identify applicable conservation measures to reduce such effects.

2-3 In addition, the State Water Board has responsibility for ensuring compliance with Section 106 of the National Historic Preservation Act, and the State Water Board's Cultural Resources Officer (CRO) consults directly with the SHPO. SHPO consultation is initiated when sufficient information is provided by the CWSRF applicant for projects having potential to impact cultural resources. Note that the District will need to identify the Area of Potential Effects (APE), including construction, staging areas, and depth of any excavation for the specific portion of the Project to be funded. Please provide the CRO with a copy of a current records search for the proposed CWSRF-funded Project area, including maps that show all recorded sites and surveys in relation to the APE for the proposed CWSRF Project. The APE is three-dimensional and includes all areas that may be affected. The APE includes the surface area and extends below ground to the depth of any excavations. The records search request should be made for an area larger than the APE. The appropriate area varies for different projects but should be drawn large enough to provide information on what types of sites may exist in the area. Please contact State Water Board CRO Ms. Cookie Hirn, at 916-341-5690, with any questions on beginning the Section 106 compliance process.

Other federal requirements pertinent to the Project under the CWSRF Program include the following:

2-4 A. Compliance with the federal Clean Air Act: (a) Provide air quality studies that may have been done for the Project; and (b) if the Project is in a nonattainment area or attainment area subject to a maintenance plan; (i) provide a summary of the estimated emissions (in tons per year) that are expected from both the construction and operation of the Project for each federal criteria pollutant in a nonattainment or maintenance area, and indicate if the nonattainment designation is moderate, serious, or severe (if applicable); (ii) if emissions are above the federal de minimis levels, but the Project is sized to meet only the needs of current population projections that are used in the approved State Implementation Plan for air quality, quantitatively indicate how the proposed capacity increase was calculated using population projections.

2-5 B. Protection of Wetlands: Identify any portion of the proposed Project area that may contain areas that should be evaluated for wetlands or U.S. waters delineation by the U.S. Army Corps of Engineers (ACOE), or require a permit from the ACOE, and identify the status of coordination with the ACOE.

**RESPONSES TO COMMENTS**
**LETTER #2**
**STATE WATER RESOURCES CONTROL BOARD**

2-1 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project. The District is familiar with the State Board's "Evaluation Form for Environmental Review and Federal Coordination." The District has submitted application material and been assigned a tracking number to obtain a State Revolving Fund loan in the future. The data base generated in this IS/EA was designed to meet NEPA requirements and should be sufficient to fully respond to State Board's CEQA-Plus requirements.

2-2 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project. No federal or state listed species were identified within the project area of potential effect (APE) and all areas will be re-surveyed prior to construction under mitigation measure 4.6-5, which requires a pre-construction survey 30 days prior to initiating ground disturbance in support of the project. If necessary, the Bureau of Reclamation will consult with the U.S. Fish and Wildlife Service (FWS) if determined necessary prior to allocating federal funding for this project.

2-3 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project. Based on previous interaction with the State Board staff, the cultural resources consulting firm that analyzed project cultural resources impacts (CRM TECH) compiled its report in a format that was designed to meet State Board and State Historic Preservation Office (SHPO) requirements. CRM TECH found no cultural resources within the project WRF or pipeline APE. However, the Bureau of Reclamation will consult with the SHPO if determined necessary prior to allocating federal funding for this project.

2-4 Because of Bureau of Reclamation involvement in this project, a federal conformity analysis was included in the air quality analysis for this project. The emissions for the project fall within the *de minimis* emission category for both construction and operation emissions. In addition, an analysis of greenhouse gases (GHG) was included in this IS/EA and mitigation measures were identified to offset future GHG emissions associated with operation of the facilities.

2-5 Although the project site is crossed by a stream channel, no riparian vegetation or wetlands occur on the project site. Also, because the project site is located in an area of isolated waters, no Corps nexus was identified. It is, however, anticipated that if the project

encroaches on the onsite stream channel, CDFG and Regional Board permits will be obtained, and the Corps will be contacted to verify the findings regarding jurisdiction over the stream channel.

2-6 C. Compliance with Section 7 of the Endangered Species Act: The District should provide a list of special status species likely or possible to occur at the planning sites, any biological assessments or special biological studies that may have been done for the area, and any other documents that disclose information about the planning areas effect on special status species.

2-7 D. Compliance with the Flood Plain Management Act: Identify whether or not the Project is in a Flood Management Zone and provide a copy of the Federal Emergency Management Agency flood zone maps for the area.

2-8 E. Compliance with the Wild and Scenic Rivers Act: Identify whether or not Wild and Scenic Rivers would be potentially impacted by the Project, and include conservation measures to minimize such impacts.

2-9 F. Compliance with the Farmland Protection Act: Identify whether or not the proposed Project will impact any important farmland or land under Williamson Act contract.

2-10 G. Compliance with the Migratory Bird Treaty Act: Identify whether or not the planning area is within jurisdiction of the Migratory Bird Treaty Act.

Following are specific comments on the District's IS/EA:

2-11 1. Page 28 of the IS/EA states "the ACOE guidelines would be followed in order to ensure ACOE approval of the Water Quality Certification." This is an incorrect statement since the ACOE has no jurisdiction to approve Water Quality Certifications issued by the Water Boards. Instead, the ACOE Clean Water Act (CWA) Section 404 permit requires a Clean Water Act 401 Water Quality Certification from the States. If that certification or waiver is not obtained, then the ACOE cannot issue its 404 Permit. Please correct that paragraph to more accurately state the regulatory setting.

2-12 2. Page 30 of the IS/EA states "Because these stream channels are isolated and ephemeral, the preliminary finding is that they are not subject to U.S. Army Corps of Engineers (Corps) Clean Water Act Section 404 jurisdiction i.e. they are not waters of the United States." If CWSRF funding is sought to fund this effort, please further define the federal delineation with more specificity since CWSRF funds have a nexus with federal USEPA funding, as indicated earlier. Even though the stream channels may not be considered waters of the United States, they are State waters and subject to the rules and regulations of California, including the Porter-Cologne Water Quality Control Act. As noted in the IS/EA, the State Water Boards can assert jurisdiction under their Porter-Cologne responsibilities. Beneficial uses are then described on pp. 31 and 36 of the Water Quality Planning section; however, there is no further discussion as to what impacts, if any, the Project might have to these beneficial uses. Beneficial uses are part of the water quality standards and the impact must be discussed in the Hydrology and Water Quality section that starts on p. 69.

2-6 No special status species were found on the project site although both the tortoise and burrowing owl could occur within the onsite creosote bush scrub habitat. Neither species was found to occupy the site, so no consultation with the FWS or CDFG is anticipated for this project.

2-7 At the present time the WRF facilities appear to be located outside of the onsite stream channel, which would qualify as 100-year flood hazard area. The final design will either stay out of the flood plain or provide adequate protection from the 100-year flood flows within the stream channel. In addition a limited amount of sewer pipeline will cross ephemeral stream channels that exist within the project area. All sewers will be protected and buried deep enough to avoid exposure by potential stream scour. All trenches across stream channels will be returned to their natural grade and revegetated to create habitat comparable to that which presently exists in each channel.

2-8 This issue is addressed in Sections 3.12 and 4.12 of the IS/EA. No wild or scenic rivers exist within the project area.

2-9 This issue is addressed in Section 3.15 and 4.15 of the IS/EA. No farmland of any quality occurs within the project APE.

2-10 The potential for migratory birds is addressed in the Biology discussion, 3.6.2 and 4.6.1. Mitigation is provided for potential burrowing owls (which do not presently occupy the WRF site or the pipeline alignments) presence when construction is initiated (measure 4.6-5) and for nesting birds (measure 4.6-2). With implementation of mitigation no significant adverse impact to migratory bird species is forecast to occur.

2-11 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project. The reference to the Corps will be modified to address Corps jurisdiction over the 404 Permit and Regional Board responsibility for the 401 Water Quality Certification.

2-12 As previously noted, a CWSRF application has been submitted to the State Board. Additional data regarding jurisdictional delineation will be provided to verify the finding that the onsite channel is not under the Corps' jurisdiction. Please note that the jurisdiction of the CDFG and Regional Board are acknowledged on pages 72 and 82. Regarding beneficial uses of the water resources within the project area, the project is specifically designed to protect the area

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2-13 3. Section 3.7, Page 48 of the IS/EA states "These surrounding uses are consistent with those found in the whole community and no particular unique income or ethnic group is known to occur within the general project vicinity. No community issues related to environmental justice or." Please include the missing conclusion to this paragraph in the Final IS/EA.

2-14 4. None of the appendices, including Appendix 4 – Biological Report and Appendix 5 – Cultural Resources Reports, were included in the IS/EA. If the District pursues CWSRF financing, the appendices will need to be provided.

Thank you again for the opportunity to review the District's IS/EA. If you have any questions or concerns, please feel free to contact me at (916) 341-5686, or by email at jhockenberry@waterboards.ca.gov.

Sincerely,

James Hockenberry
Environmental Scientist

cc: State Clearinghouse
(Re: SCH# 2009061035)
P. O. Box 3044
Sacramento, CA 95812-3044

groundwater resources for future potable water supply through elimination of subsurface septic tank and leach line systems that are contributing nitrate to the local groundwater aquifer. Through implementation of both short- and long-term BMPs the surface water quality and subsequent groundwater quality will be protected to meet assigned beneficial uses of groundwater resources in the Warren Valley Basin.

2-13 The text should read: "No community issues related to environmental justice or unequal treatment to a particular ethnic or low income group is forecast to occur from implementing the proposed project."

2-14 The appendices were included in the electronic copy of the CD provided to most parties on the distribution list. When the District submits a funding package to CWSRF, the appendices will be provided to the State Board Staff in hard copy for review and use.

COMMENT LETTER #3


# California Regional Water Quality Control Board
## Colorado River Basin Region

73-720 Fred Waring Drive, Suite 100, Palm Desert, California 92260
(760) 346-7491 • Fax (760) 341-6820
http://www.waterboards.ca.gov/coloradoriver

Linda S. Adams
*Secretary for Environmental Protection*

Arnold Schwarzenegger
*Governor*


July 9, 2009

Joe Glowitz
Hi-Desert Water District
54439 Twentynine Palms Highway
Yucca Valley, California 92284

Dear Mr. Glowitz:

**SUBJECT: INITIAL STUDY / ENVIRONMENTAL ASSESSMENT FOR HI-DESERT WATER DISTRICT WATER RECLAMATION FACILITY, WASTEWATER TREATMENT PLANT AND SEWER COLLECTION SYSTEM**

Regional Water Board staff has reviewed the subject document regarding a proposal to construct a wastewater treatment and collection system for residences and businesses serviced by the Hi-Desert Water District (HDWD) in the Town of Yucca Valley. The project is being proposed to prevent further degradation to ground water caused by waste discharges from septic tank systems. The treatment facility will be located on a 78 acre site owned by HDWD, located just south of the Twentynine Palms Highway, and west of La Contenta Road. The facility will employ an oxidation ditch for biological nutrient removal, secondary clarification, tertiary filters, and UV disinfection. Discharges from the facility will percolate into the Warren sub-basin through infiltration ponds constructed on site. Groundwater occurs approximately 370 feet below ground surface, and is good quality.

3-1 Regional Water Board staff will draft Waste Discharge Requirements (WDRs) for the wastewater reclamation facility for consideration of adoption by the Regional Board. However the District must also apply for, and obtain coverage under:

1. the General Construction National Pollutant Discharge Elimination System permit to construct the Plant; and
2. the Sanitary Sewer Overflow (SSO) General Order prior to operating the facility and collection system.

3-2 In addition, the District must obtain a 401 Water Quality Certification from our office if construction activities will result in a discharge of waste into waters of the United States.

3-3 Enclosed is our checklist for reviewing environmental documents with contact information for the various regulatory programs (permits/actions) mentioned above. Please call me at (760) 776-8959 if you have questions regarding this matter.

Sincerely,

Jon Rokke
Water Resources Control Engineer

Enclosure: HDWD CEQA Review Checklist

**RESPONSES TO COMMENTS**
**LETTER #3**
**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD**
**COLORADO RIVER BASIN REGION**

3-1 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project. The District intends to work closely with the Regional Board to obtain all three permits identified in this comment. An application for a waste discharge permit for the WRF has been submitted and draft waste discharge requirements will be forthcoming. Should the HDWD Board adopt the Mitigated Negative Declaration (MND) and make a decision to proceed with the proposed project, all of the identified permits will be obtained.

3-2 Please refer to responses to comments 2-5 and 2-7. As discussed on page 71 of the Initial Study and required by mitigation measure 4.2-4, the District does not believe that the channel crossing the property qualifies as water of the United States, so no 401 Certification should be needed. However, the stream channel is clearly waters of the State of California, and if the District will discharge any material into the channel, it will submit applications to CDFG (1602 Streambed Alteration Agreement) and to the Regional Board (Waste Discharge Requirements) under Porter-Cologne.

3-3 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project. HDWD will utilize the checklist as the basis for submitting applications to the Regional Board.

# California Regional Water Quality Control Board
## Colorado River Basin Region

Linda S. Adams
*Secretary for Environmental Protection*

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Arnold Schwarzenegger
*Governor*


July 9, 2009

Joe Glowitz
Hi-Desert Water District
54439 Twentynine Palms Highway
Yucca Valley, California 92284

Subject: INITIAL STUDY / ENVIRONMENTAL ASSESSMENT FOR HI-DESERT WATER DISTRICT WATER RECLAMATION FACILITY, WASTEWATER TREATMENT PLANT AND SEWER COLLECTION SYSTEM

Dear Mr. Glowitz,

Following a preliminary review of this project, Regional Water Board staff has determined that the following checked items may be relevant to this project.

☒ Waste Discharge Requirements or a National Pollutant Discharge Elimination System Permit is required to discharge treated wastewater and/or sludge.

☐ A National Pollutant Discharge Elimination System (NPDES) permit for storm water discharges associated with construction activities is required for projects disturbing one or more acres. An NPDES storm water permit is also required for projects that are part of a common plan and disturb one or more acres.

☐ Waste Discharge Requirements may be required to discharge processed or treated wastewater. Facilities commonly requiring waste discharge requirements include: car and truck washes; sand and gravel washing operations; concentrated animal feeding operations; aquatic animal production facilities; manufacturing facilities; and facilities using reclaimed wastewater for landscaping.

☐ Waste Discharge Requirements may be required for new subdivisions, grouped or community septic tank/seepage pit or leach field systems, particularly in vulnerable areas.

☐ An NPDES permit for storm water discharges associated with industrial facilities is required due to the facilities Standard Industrial Code (SIC).

Environmental Document
Comments

☒ General Waste Discharge Requirements may be required if the project involves: ☐ discharges of water used for hydrostatic testing of pipelines; ☐ a confined animal facility; ☐ discharges of extracted and/or treated groundwater; ☐ mobile home parks, ☒ sanitary sewer systems, ☐ other waste discharge facilities.

☒ Projects that impact "Waters of the U.S." require a Clean Water Act (CWA) Section 404 permit issued by the United States Army Corp of Engineers (Corps). A CWA Section 401 Water Quality Certification is required to obtain a Section 404 permit from the Corps.

☐ Projects using chemical dust control suppressants are reviewed on a case by case basis, and may require Waste Discharge Requirements.

If you have questions regarding your responsibility to protect water quality as it relates to your project, please contact the staff checked below, and obtain the appropriate permits (if any) prior to the discharge of waste.

| | | |
|---|---|---|
| ☐ | Storm Water, MS4 | **Jay Mirpour, WRCE (760) 776 - 8981** |
| ☒ | 401 Water Quality Certifications | **Jay Mirpour, WRCE (760) 776 - 8981** |
| ☒ | Storm Water, CalTrans, Construction, & Industrial | **Suhas Chakraborty, WRCE (760) 776 - 8961** |
| ☐ | NPDES (Discharges to Waters of the U.S.) | **John Carmona, Senior WRCE (760) 340 - 4521** |
| ☐ | Aquaculture, Feedlots, Dairy's | **John Carmona, Senior WRCE (760) 340 - 4521** |
| ☒ | Discharges to Land, Landfills, Biosolids | **Cliff Raley, Senior WRCE (760) 776 - 8962** |
| ☐ | New Development in Un-sewered Communities (Septic Systems) | **Cliff Raley, Senior WRCE (760) 776 - 8962** |
| ☐ | Chemical Dust Suppressants | **Cliff Raley, Senior WRCE (760) 776-8962** |
| ☐ | Geothermal Power | **Herbert Jackson, Engineering Geologist (760) 776-8947** |

Environmental Document
Comments

☐ Mobil Home Parks, Car / Truck Washes.....**Doug Wylie, Senior WRCE**
**(760) 346-6585**

☒ Sanitary Sewer Systems.....**Doug Wylie, Senior WRCE**
**(760) 346-6585**

**DEPARTMENT OF PUBLIC WORKS**
FLOOD CONTROL • SOLID WASTE MGMT • SURVEYOR • TRANSPORTATION

COUNTY OF SAN BERNARDINO
PUBLIC AND SUPPORT
SERVICES GROUP

825 East Third Street • San Bernardino, CA 92415-0835 • (909) 387-8104
Fax (909) 387-8130

GRANVILLE M. "BOW" BOWMAN, P.E., P.L.S.
Director of Public Works

July 8, 2009

File#10(ENV)-4.01

Mr. Joe Glowiz
Hi-Desert Water District
55439 Twentynine Palms Highway
Yucca Valley, CA 92284

**RE: NOTICE OF AVAILABILITY AND INTENT TO ADOPT MITIGATED NEGATIVE DECLARATION FOR RECLAMATION FACILITY, WASTEWATER TREATMENT PLANT AND SEWER COLLECTION SYSTEM PROJECT**

Dear Mr. Glowiz:

Thank you for giving the San Bernardino County Department of Public Works the opportunity to comment on the above-referenced project. The environmental document was circulated to the other Divisions within the Department and the following are those comments received.

**Water Resources Division**, Mary Lou Mermillod, Public Works Engineer II, 909-387-8213.

4-1 The proposed water reclamation and sewer plans will impact all of the Flood Control District facilities (Yucca Creek, Quail Wash, Joshua Tree Wash, Coyote Creek Wash, Quail Wash Levee, Old Woman Springs Creek, Water Canyon Channel, Long Canyon Channel, Covington Wash Channel, Hospital Channel, High School Channel and Burnt Mountain Wash) located in the Town of Yucca Valley.

According to the most recent FEMA Flood Insurance Rate Maps, Panels 8120H and 8140H, 8160H and 8180H, dated August 28, 2008, portions of the project lie within Zones X, shaded and unshaded, Zone A, Zone AE and the regulatory Floodway. Also, in June of 1999, John Tettemer and Associates, on behalf of the San Bernardino County Flood Control District, prepared a Master Plan of Drainage for the Town of Yucca Valley.

4-2 1. We recommend that the proposed water reclamation and sewer lines be constructed in a manner not to alter the direction, elevation or capacity of any existing drainage course, and that the lines be placed below all drainage scour depths.

4-3 2. We recommend that no temporary or permanent obstructions be placed in any drainage course.

4-4 3. One of the benefits of the Master Plan of Drainage is to identify the alignment of future drainage and flood control facilities. It is hoped that the Town will continue to use this document to protect the alignment of future facilities. There may be some flexibility at this time regarding the alignment of these facilities. We recommend that you contact the Flood Control District's Planning Division at 909-387-8120.

4-5 4. We recommend that the Town of Yucca Valley establish adequate provisions for intercepting and conducting the accumulated drainage around or through the sites in a manner which will not adversely affect adjacent or downstream properties.

4-6 5. Prior to any activity on Flood Control District right-of-way, a permit shall be obtained from the District's Flood Control Operations Division, Permit Section. Other off-site or on-site improvements may be required which cannot be determined at this time.

4-7 6. We recommend that the most current FEMA regulations, for construction within established floodplains, be enforced by the local jurisdictions.

**RESPONSES TO COMMENTS**
**LETTER #4**
**SAN BERNARDINO COUNTY**
**DEPARTMENT OF PUBLIC WORKS**

4-1 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project. Sections 3.2 and 4.2 acknowledge the presence of the ephemeral stream channel crossing the project site. Based on a review of the "Town of Yucca Valley Master Plan of Drainage, Final Report" (Tettemer 1999), the channel crossing the western portion of the WRF site is called Covington Wash. The preliminary WRF site design indicates that the WRF facilities will be located east of the Wash, and the current design should allow the estimated 11,500 cubic feet per second (cfs) 100-year storm flows to pass without affecting the WRF. However as a contingency, mitigation measure 4.2-7 requires a detailed drainage report at the time of final WRF design that will verify whether any measures are required to elevate the WRF above the 100-year flood hazard zone, or whether any channel protection is required adjacent to the site. HDWD's goal is to locate the WRF outside of the 100-year flood hazard zone and, if not possible, to protect the future facility from exposure to flood hazards. Note that the FEMA map for the WRF site is provided as Appendix 6 to the IS/EA and it was also used in this evaluation.

4-2 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project. The District concurs with these recommendations and will include them as design and contract stipulations for construction of all project-related facilities.

4-3 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project. It is HDWD's intent to minimize any temporary or permanent obstructions within any surface runoff channel that will be affected by the proposed project. Note that temporary obstructions may be unavoidable where sewer pipelines cross channels and trenching is the most appropriate means of installing the pipeline.

4-4 As the final design for above ground facilities is developed, HDWD will have its engineering consultants confer with Department and the Town of Yucca Valley before finalizing design plans that may affect any flood control facilities.

4-5 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project. HDWD has

included mitigation (measure 4.2-4 and 4.2-7) to ensure that all surface runoff from any temporary or permanent areas of disturbance will be managed in a manner that will not adversely affect adjacent or downstream properties. As is typical for most wastewater reclamation facilities, all surface runoff within a WRF is collected and delivered to the headworks for treatment and is not discharged from the site.

4-6 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project. Any permits required from the Flood Control District will be obtained as recommended. However, it is HDWD's intent to confer with the Flood Control District as detailed engineering designs for all project-related facilities are finalized. This will allow incorporation of any Flood Control District design requirements prior acquisition of encroachment permits.

4-7 As noted above, HDWD's objective is avoid placing any above ground facilities within jurisdictional waters of either the United States or State of California, i.e., stream channels. However, as part of final engineering where such facilities must be placed within flood hazard areas, such as pipelines crossing perpendicular to a stream channel, FEMA regulations for construction within established flood plains, or comparable design standards, will be implemented.

**Environmental Management Division**, Brandy Ulrich, Ecological Resource Specialist, 909-387-7971.

4-8 Protocol desert tortoise surveys are supposed to be conducted during the tortoise's most active periods, April through May and September through October. On page 4 of the General Biological Survey (GBS), it states that surveys were conducted from May 2008 through February 2009; however, there are no dates to cover the September through October time period. As such, it appears that all surveys were coducted outside of the protocol time period and there is no indication of consultation or approval from the United States Fish and Wildlife Service for this survey period. Furthermore, there is a confusion regarding the temperatures during the surveys. On page 4, 3rd paragraph, of the GBS, the temperature range for the surveys was between 58° F and 64° F. However, on page 6 of the GBS, the temperature range was 41° F to 72° F, but there is no temperature data shown on the Survey Form Data Sheets in Appendix B. Additionally, due to the ectothermic nature of the species, activity is highest when temperatures are above 69° F (20.5° C) but below 101° F (40° C). Therefore, activity during the survey based on the temperature ranges shown in the GBS would be naturally low.

4-9 While the Biological Resources section of the Initial Study document states that desert tortoise is not found on the project site, there is recent known population of desert tortoise just east of the project site, south/east of Highway 62 and La Contenta Road (Circle Mountain Biological Consultants 2004). This location would be within the zone of influence of this project.

4-10 On pages 7-8 of the GBS, it states; "The survey included 100-percent coverage of the proposed administration facilities, and any areas proposed for the collector system that is not disturbed." However, it should be noted that burrowing owls, desert tortoise, as well as other species, are commonly found in areas/habitat that is disturbed. As such, it is recommended that the disturbed areas also be surveyed for the species mentioned.

4-11 The CNDDB results, as well as the biological report, did not include several rare plants that have a good potential for being present on the project site. Such rare plants are: Latimer's woodland-gilia (*Saltugilia latimeri*), Little San Bernardino Mountains linanthus (*Linanthus maculates*), and Parish's club-cholla (*Grusonia parishii*).

4-12 Finally, every Survey Form Data Sheet included in Appendix B is lacking information that should have and would be potentially beneficial to the report. There are no listed perennial plants, annual plants, reptiles, birds, or mammals entered as observed, and as stated before, there was no beginning or ending temperatures. It is difficult to provide detailed comments when complete information is not included in the actual field data sheets.

Please provide the Department with a copy of the responses; or, if the document is revised, we would appreciate a copy for our review. Thank you.

Sincerely,

**NARESH P. VARMA**, P.E., Chief
Environmental Management Division

NPV:FM:mb/CEQA Comments_HDWD_Water Reclamation ETAL

cc: Frank Molina
GMB/ARI Reading File

4-8 Please refer to response to comment 1-2. A protocol tortoise survey of the WRF site was conducted in May 2008 during the most active period for tortoises. The pipeline alignments were surveyed during the winter of 2008-2009 due to the fact that pipeline alignments were identified just prior to this date. Regardless, most of the pipeline alignments are located in existing roadways and directly adjacent to residential and commercial areas where no tortoise habitat occurs and where no tortoise would be expected to occur. No critical tortoise habitat occurs within the project area. Based on the lack of tortoise resources or other sensitive plant species and the location of the WRF site and the pipeline alignments within the urbanized portion of the Town of Yucca Valley, the District concluded that loss of the habitat on the WRF site does not rise to a level of significant impact that would require mitigation.

4-9 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project. As the commenter is aware, when existing development intervenes between a project site and a zone of influence area, the protocol recommends terminating the zone of influence survey. Intervening development, including roadways, schools, industrial facilities, commercial development, highways and residences, resulted in the survey being terminated to the north, east and southeast of the site. Also, please note that specific measures (4.6-5, 4.6-7, 4.6-8, 4.6-9, 4.6-10 and 4.6-11 will be implemented to ensure that no take of a wandering tortoise will occur from project implementation.

4-10 Please note that pre-construction surveys for all areas of potential effect will ensure that no tortoise or burrowing owl occupy any of the project construction areas. Alternatively, if either of these species migrate to the project site prior to project implementation, appropriate incidental take permits will be obtained prior to ground disturbance.

4-11 The survey forms have been augmented from field notes and will be included in the final Mitigated Negative Declaration package approved by the HDWD Board.

RECEIVED 7/10/09 4:45

# JOSHUA BASIN WATER DISTRICT

P.O. BOX 675 • 61750 CHOLLITA ROAD • JOSHUA TREE • CALIFORNIA 92252
TELEPHONE (760) 366-8438 FAX (760) 366-9528

July 9, 2009

Joe Glowitz
Hi-Desert Water District
55439 29 Palms Highway
Yucca Valley, CA 92284

**RE: Hi-Desert Water District Initial Study / Environmental Assessment: Water Reclamation Facility, Wastewater Treatment Plant and Sewer Collection System Project.**

Dear Mr. Glowitz:

We appreciate the opportunity to provide comments on your Initial Study/Environmental Assessment (IS/EA) on the proposed Water Reclamation Facility, Wastewater Treatment Plant and Sewer Collection System Project. The proposed project would construct a centralized wastewater collection and treatment system for the town of Yucca Valley. Although we support efforts to protect groundwater and to augment water supplies through recharge, we have some concerns over the analysis provided in the IS/EA. These concerns are provided below.

5-1 1. Page 1 – Section 1.2 states that Hi-Desert Water District (HDWD) will decide whether a Negative Declaration or Environmental Impact Report (EIR) will be pursued. The IS/EA does not describe how to comment on the IS/EA, where to send comments or to whom they should be addressed. Furthermore, the IS/EA does not apprise the public of the HDWD's intent. No Notice of Intent to Adopt a Mitigated Negative Declaration is included with the IS/EA. No Mitigated Negative Declaration is included with the IS/EA. Therefore, pursuant to Sections 15072 and 15073 of the CEQA Guidelines, the HDWD

**RESPONSES TO COMMENTS**
**LETTER #5**
**JOSHUA BASIN WATER DISTRICT**

5-1 Joshua Basin Water District (JBWD) was provided a Notice of Availability and Intent to Adopt a Mitigated Negative Declaration along with all other agencies. This Notice contained all of the requisite information required to submit comments in a timely manner on the proposed Mitigated Negative Declaration. A copy of this Notice is provided as Attachment 1 to this set of responses to comments. According to the U.S. Post Office, JBWD received the Notice and Initial Study on June 10, 2009 which provided sufficient time for JBWD to comment on the proposed Negative Declaration. It appears that this comment refers to Section 15073(c) of the State CEQA Guidelines. Based on the contents of this section, a copy of the Negative Declaration and Notice of Intent is required only to be sent to Responsible, Trustee or agencies with jurisdiction by law over resource affected by the project. As far as is known, JBWD is not a Responsible or Trustee Agency and does not have jurisdiction by law over the implementation of HDWD's proposed WRF.

2. has failed to provide the appropriate public notice period for a Mitigated Negative Declaration. We are in receipt of a Notice of Intent Public Hearing, dated June 29, 2009. The Notice is ambiguous as to what action the Board will be considering, in that the first paragraph states that the Board "will conduct a public hearing . . . on the proposed
5-2 Mitigated Negative Declaration," but the fourth paragraph provides instructions as to how to comment on the Initial Study/Environmental Assessment. With the comment period closing on July 9, this does not provide sufficient public review time of the IS/EA pursuant to CEQA Guidelines Section 15073. We feel that it would be inappropriate and contrary to CEQA requirements to adopt a Mitigated Negative Declaration based on the circulation of this IS/EA.

3. Page 72 – The IS/EA suggests that groundwater quality would not be adversely affected since model estimates conducted by the USGS suggest that TDS levels after 16 years of percolation would be below secondary MCL standards. The data provided in the IS/EA in Appendix 3 provides clear evidence that the groundwater basin would indeed be
5-3 degraded. One would suspect that the degradation would increase over time beyond the 16 year model period. The IS/EA does not mention the RWQCB's anti-degradation policy. The IS/EA fails to disclose the need for a variance from the Regional Water Quality Control Board's Anti-Degradation Policy or provide rationale for approving such a variance.

4. The IS/EA does not identify the location of drinking water wells that could be affected by this change in water quality. The IS/EA does not identify depth to groundwater at the project site or provide any discussion on the size of the basin or existing water quality of the groundwater at the project site. This lack of detail suggests that little information has been compiled to assess impacts and that the finding of less than significant is based on
5-4 little evidence. The analysis and conclusions rely exclusively on one 20-page USGS letter that is a summary of a numeric groundwater flow transport model run conducted for the project. Could groundwater quality continue to degrade after 16 years? The IS/EA should assess potential impacts for the expected life of the project which will more likely be greater than 50 years.

5. The impact discussion does not mention the potential for pharmaceuticals, endocrine disruptors or other common wastewater constituents to enter the groundwater. The project description leads one to believe that the treatment process will remove these non-
5-5 regulated constituents. The IS/EA should evaluate the potential for percolation of tertiary treated water to provide a more efficient conduit to the groundwater for pollutants including TDS, nitrates, and "emerging contaminants" not provided by individual septic systems due to the volume of water percolating.

5-2 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project. As noted in response to comment 5-1, JBWD received the environmental document for review and comment June 10, 2009. Since the close of comment period was on July 9, 2009, this is exactly 30 days which is fully consistent with the requirements in Section 15073 of the State CEQA Guidelines. In addition, JBWD could have requested additional time for comment, but made no contact with HDWD to request such an extension. HDWD has fully complied with the CEQA procedural review requirements for the proposed project and can proceed to make a decision based on the circulation of the IS/EA.

5-3 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project. The analysis contained in the Initial Study concluded that groundwater would be degraded, but that the identified degradation would not rise to a level of significant adverse impact. The issue is that future groundwater quality would not exceed the thresholds (Maximum Contaminant Levels, MCLs) used to determine whether the degradation would be significant and adverse. After input from the Colorado Regional Board, the forecast change in water quality from operating the WRF will be required to meet both the MCL threshold and to protect assimilative capacity in the Warren Basin, ensuring protection of the downstream groundwater aquifer that serves Joshua Tree community. Thus, as stated above, the appropriate conclusion reached based on the best modeling data available is that degradation would occur, but it would not be significant and adverse because the degree of degradation will not compromise the assigned beneficial uses to the Warren Valley Basin, and downstream groundwater basins.

HDWD disagrees that modeling beyond the first sixteen years would demonstrate significant further degradation. As shown in Figures 2A and 2B and Figures 5A through 7B of Appendix 3 of the IS/EA (the USGS model), the curve of change in water quality has flattened to the point that exceedance of the MCLs, especially with mitigation measure 4.2-6, which requires the installation of additional treatment equipment if water quality of the treated effluent exceeds the forecast contained in Appendix 3. Since the concentration of chemicals of concern will not exceed MCLs on their own, and must also meet the Regional Board's waste discharge requirements, which will include protection of assimilative capacity within the Basin, the assumption of degradation above a significant level is not justified.

Please note that the USGS letter summarizing modeling results contained a minor error that did not change any conclusions. This

revised Appendix 3 and the USGS explanation is provided in this document as Attachment 2.

Regarding anti-degradation, it is not an absolute concept, or every discharge of wastewater with chemical content greater than background water quality would cause a violation of this concept. As generally applied, the State looks at the beneficial uses of the affected water resource, in this instance the underlying groundwater basin, and the quality of water required to maintain the beneficial uses, with protection of assimilative capacity in the Basin. Table 2-1 identifies the anticipated effluent discharge limitation for the HDWD WRF and compliance with these limitations was judged adequate to meet the anti-degradation requirements. The treatment system designed will, and must, meet these requirements or more stringent requirements of the Regional Board. Based on these facts and analysis, the potential for degradation of water quality is judged to be a less than significant impact. This is concluded to be the appropriate finding for the forecast change in future groundwater quality based on the best modeling and regulatory data available.

5-4 The USGS collected two background samples in the East Hydrogeologic Unit of the Warren subbasin in 2009 (USGS 7/24/09 letter: table 1). Water-quality collected from seven wells in the North and East Hydrogeologic Units are in the USGS NWIS database (http://nwis.waterdata.usgs.gov/). Based on data in Appendix 3, the current groundwater level beneath the project site is approximately 370 feet. The location of groundwater production wells relative to the proposed WRF percolation basins are shown on the attached map (Attachment 3). This issue was not further addressed in the Initial Study because no production wells are located within the 6 month/500 foot detention criteria for discharge of treated effluent. The USGS completed travel time contours for the discharge of treated effluent into the onsite percolation ponds. After one year of travel time, the percolated effluent did not intercept any current production well. Although this project is not a recycled water recharge project, the discharge of treated effluent will meet all regulatory requirements for time and distance from the discharge point, as summarized above. Further, as noted above, the quality of the wastewater discharged to the percolation ponds is not forecast to cause significant degradation of water quality in the aquifer relative to the drinking water standards, beneficial uses of the Basin, and Regional Board requirements.

Also, it is important to realize that the purpose of the treatment plant is to eliminate already identified significant nitrate degradation of the Warren Valley Basin groundwater aquifer. This degradation is attributed to nitrate released from the existing individual subsurface septic tank leach systems for domestic wastewater. Relative to the

existing groundwater quality degradation, the proposed project will substantially improve the quality of wastewater discharges within the Warren Valley Basin, and based on the best modeling data available, it will not cause significant degradation of the drinking water aquifer in this Basin or downstream.

Response to comment #5-3 addresses the issue of longer term models and the need for such data. As the USGS model demonstrates the degradation of Basin water quality begins to approach equilibrium at the end of 16 years, and based on the only modeling data available, the discharge and percolation of the treated effluent from the WRF is not forecast to exceed the drinking water MCLs, with adequate assimilative capacity protected by the Regional Board. Regardless as noted above, mitigation has been incorporated as a contingency to monitor the quality of the groundwater (measure 4.2-6) and if the HDWD finds that water quality is degrading in a manner different than the model forecasts, then additional treatment can and must be installed to further ensure that groundwater quality does not approach or exceed MCLs and assimilative capacity for the Basin for all constituents of the WRF effluent discharge.

5-5 The issue of concern raised is of non-regulated constituents, such as pharmaceuticals and personal care products (PPCPs) and endocrine disrupter chemicals (EDCs). This comment ignores the existing environmental setting. Any and all contaminants in the wastewater discharged from individual subsurface septic tank leach line systems, including pharmaceuticals, are being discharged into the groundwater or the vadose zone. So these materials are already a constituent of the wastewater being discharged in the Warren Valley Basin aquifer. The only attenuation of these pollutants under present conditions is that treatment provided in the soil by soil bacteria and/or adsorption on soil particles.

So what happens under the proposed HDWD wastewater treatment system? By providing for tertiary treatment, with a long residence time in the extended aeration ponds, HDWD has taken into account these non-regulated chemicals. First, HDWD has selected an ultraviolet disinfection system, which is important because it eliminates the production of chlorine disinfection byproducts, which is one of the "emerging" contaminants. Second, the extended aeration system allows biodegradation of the organic chemicals encompassed by PPCPs and EDCs. The destruction of such materials is inherently greater than under the existing condition. (This finding assumes that any natural soil treatment of such organic materials occurs equally for both treatment systems.) The extended aeration system reduces concentrations of PPCPs and EDCs. Thus, with HDWD's proposed wastewater treatment system, the existing and future groundwater

quality conditions for these contaminants will be better protected than under the present conditions. Thus, for this issue, future water quality will benefit from the proposed project, and not be adversely impacted.

5-6 6. If degraded water leaves the basin, HDWD needs to evaluate how percolated effluent will impact water quality in downstream groundwater basins. TDS levels estimated by the USGS in Appendix 3 are substantially greater than current levels in Joshua Basin. In the future, if monitoring wells identify that an MCL has been exceeded, wellhead treatment may be needed to mitigate the problem. Monitoring wells do not provide mitigation for water quality impacts. HDWD should agree to install wellhead treatment as mitigation if water quality impacts are experienced at local wells as a result of the project.

5-7 7. The project provides a mechanism for reducing pollutants reaching the local groundwater from septic wastewater return flows. However, the project could also be seen as collecting these pollutants and moving them down-gradient in the watershed. A more detailed assessment of the potential for the project to impact groundwater quality over the life cycle of the project is necessary in order to adequately compare the project's benefits with the potential adverse impacts.

5-8 8. Furthermore, this project appears to be a Groundwater Recharge Reuse Project (GRRP), as defined by the California Department of Public Health (CDPH), California Code of Regulations (CCR) Title 22 Water Recycling Criteria. A GRRP is defined as "*a project that uses recycled municipal wastewater, has been planned and is operated for the purpose of recharging a groundwater basin designated in the Water Quality Control Plan [defined in Water Code section 13050(j)] for use as a source of domestic water supply, and has been identified as a GRRP by the RWQCB*" (CDPH draft regulations, August 2008). Accordingly, the IS/EA is lacking discussion about the Title 22 requirements that would apply to this project as a GRRP, including blending requirements (diluent water blended with treated effluent prior to recharge), minimum underground residence times for recharged water prior to pumping water for potable use, and development of a monitoring plan.

The Preliminary Design Report (PDR) (Appendix A) mentions that a Title 22 engineering report is being prepared, as required for a GRRP. However, on page 4-1 of the PDR is the following statement:

- An assumption had been previously made that the Regional Water Quality Control Board (Regional Board) would subject the disposal of effluent from this plant to the Department of Public Health's (DPH) groundwater recharge regulations. Since then the Regional Board staff has indicated that the discharge permit will be subject to effluent disposal limitations, and not to groundwater recharge regulations.

The IS/EA should clearly explain why the project is not going to be subject to groundwater recharge regulations if this is still true. The Title 22 engineering report should be completed and summarized in the IS/EA before conclusions are made

5-6 Actually, the groundwater model forecasts that the volume of groundwater leaving the Warren Valley Basin over the Yucca Barrier will be about 134 acre-feet per year after 16 years and without any future pumping, compared with the current estimate of 83 acre-feet per year, an estimated increase of about 51 acre-feet per year. Lewis (1972) estimated that there were a total of 144,000 acre-feet of storage in the upper 150 feet of the Joshua Tree aquifer. The groundwater underflow rate (134 acre-feet per year) is small compared to the total groundwater in storage. The potential adverse impact of the groundwater underflow is not considered significant, particularly since the groundwater traversing the Yucca Barrier will protect existing beneficial uses, such as municipal water supply. As acknowledged in the environmental document and further discussed above, the quality of this groundwater will be degraded, but it not forecast to exceed drinking water MCLs, with an appropriate protection of assimilative capacity as will be determined by the Regional Board. Please note that the measures requiring monitoring include active performance requirements to address any adverse effects that exceed the model forecasts. Thus, if HDWD finds that water quality is degrading faster than forecast in the USGS model or is approaching any MCL/assimilative capacity threshold established by the Regional Board at a rate different than that identified in the USGS model, it is required that HDWD to install treatment that will reduce the concentration of such constituent (s). The mitigation includes a performance based standard that will prevent the HDWD WRF from exceeding any drinking water MCL. Standard treatment units are available to control the various pollutants of concern (including reverse osmosis systems, ozonation systems, peroxide/UV treatment systems, activated carbon systems, ion exchange, etc.) Note. however, that the forecast is that these additional treatment systems will not be required in the future because the existing treatment system will be protective of public drinking water requirements.

5-7 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project. Please refer to responses to comments 5-3 through 5-6 that address the issues raised in this comment. The following points are reiterated from the above responses. First, the USGS modeling focused on the rise in groundwater elevation and water quality degradation. The model indicated that the trends in these two parameters reached a point where the curve flattens and only limited future changes in these parameters will occur after 16 years. Second, mitigation measures 4.2-5 and 4.2-6 require the HDWD to monitor groundwater depth and quality <u>and</u> implement adaptive management measures, including extraction of the groundwater to maintain adequate depth

to groundwater and removal of additional contaminants from the wastewater, to ensure these parameters do not rise to a level of significant adverse impact from treatment operations as forecast in the USGS model. Finally, the model data indicate that the amount of groundwater crossing the Yucca Barrier is forecast to be a maximum of 134 acre feet, compared to the Joshua Basin groundwater storage value of 144,000 acre-feet. Thus, based on the management requirements within the Warren Valley Basin for future discharges of treated effluent and the large volume of groundwater storage in the Joshua Basin, the potential for significant degradation in either Basin remains a less than significant adverse impact.

5-8 At this time the HDWD does not propose to implement a Title 22 program because the key issue of concern is installing a centralized WRF in accordance with clear direction from the Regional Board. Such a program may be implemented in the future, but it will be subject to independent review by the HDWD, regulatory agencies, and CEQA requirements. Regardless, at this time the proposed project does not meet two of the three conditions required to meet the definition of the groundwater recharge reuse project (GRRP):

- The purpose of the project is to treat, dispose and percolate wastewater, i.e., a reclamation program, not a recycled water program.

- As noted above, the RWQCB has not identified the project as a GRRP.

The reference in the Predesign Report to preparation of a Title 22 report predates the decision by the RWQCB staff that the project is not a GRRP. For that reason, the Title 22 report was not completed. Because the project is not a GRRP, there will be no blending of effluent with dilution water.

5-9 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project. HDWD believes sufficient qualitative and quantitative data have been developed to determine that implementation of the proposed HDWD WRF project will not cause significant degradation of groundwater quality within the Warren Valley Basin and/or the Joshua Tree Basin. Based on this substantial evidence, HDWD still finds that an EIR is not required for this project. This finding includes mitigation measures that require monitoring and adaptive management to ensure that the elevation of groundwater below ground surface and quality of groundwater do not exceed defined management thresholds at any time over the life of the project.

regarding the potential effect to public health and groundwater quality. Moreover, the IS/EA containing those results should be circulated for public review and comment prior to any Board action.

The PDR also mentions that "the blending ratio of 80 units dilution water to 20 units treated wastewater effluent would have been required as an initial value by California Department of Public Health (DPH) if the project were subject to the groundwater recharge regulations" (page 4-7, Appendix A). The IS/EA does not mention blending or a potential source of diluent water for the project, or an explanation of why diluent water would not be required.

5-8 cont.

Although the general location of the Hi-Desert Water District's extraction wells is described in the IS/EA, there is no illustration of the location of existing wells relative to the proposed treatment plant to prove the distance is sufficient to comply with the Title 22 required residence times.

The IS/EA does not explain the location of the Warren Valley Groundwater Basin relative to neighboring basins or the potential (or lack of) migration of groundwater between any basins. Accordingly, there is no discussion regarding potential effects of the project to groundwater quality in neighboring basins and neighboring water districts.

5-9 Based on these concerns, we request that HDWD delay taking any action on the proposed Mitigated Negative Declaration, undertake further analysis regarding the potential for the project to adversely affect down-gradient groundwater basins, and consider whether a Mitigated Negative Declaration is sufficient or whether an Environmental Impact Report should be prepared.

We appreciate the opportunity to comment on this document and look forward to receiving responses. If you have any question please contact me at Joshua Basin Water District (760) 366-2042.

Sincerely,

Joe Guzzetta

Joe Guzzetta, General Manager
Joshua Basin Water District

COMMENT LETTER #6

**UNITED STATES MARINE CORPS**
MARINE AIR GROUND TASK FORCE TRAINING COMMAND
MARINE CORPS AIR GROUND COMBAT CENTER
BOX 788100
TWENTYNINE PALMS, CALIFORNIA 92278-8100

5726
G-5
6 Jul 09

Mr. Joseph Glowitz
District Engineer
Hi-Desert Water District
55439 Twentynine Palms Highway
Yucca Valley, CA 92284

Dear Mr. Glowitz:

6-1 The purpose of this letter is to comment on the proposed Hi-Desert Water District Water Reclamation Facility, Wastewater Treatment Plant, and Sewer Collection System Project. The Initial Study Environmental Assessment (EA) finds there will be a significant impact on traffic on State Route 62 (SR 62) particularly during the period of construction. Inadvertently, this impact will affect military vehicle traffic management along SR 62. In order to reduce the impact on military vehicle traffic management, the Combat Center requests the actual dates of construction as well as details regarding traffic diversion plans and or other traffic related obstructions so we may notify the Combat Center's training and tenant commands and community. We respectfully request this data is submitted directly to the G-5:

G-5, Community Plans Liaison Office
Attn: Mr. Jim Ricker
Box 788105
Marine Air Ground Task Force Training Command
Marine Corps Air Ground Combat Center
Twentynine Palms, CA 92278-8105

Thank you for providing us the opportunity to comment on the EA. Any questions regarding this matter may be directed to Bob Johnson at 760-830-3786, or robert.a.johnson2@usmc.mil.

Sincerely,
J. M. Ricker
G-5 Community Plans and Liaison Office, Marine Corps Air Ground Combat Center

**RESPONSES TO COMMENTS**
**LETTER #6**
**UNITED STATES MARINE CORPS**

6-1 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project. The environmental document contains mitigation measures that require preparing and implementing traffic management plans when any of the project facilities will be located within public road rights-of-way. The construction of the project, primarily pipelines, that could adversely affect public roads are likely to occur in 2011 or 2012 at the earliest. Copies of the traffic management plan(s) can be made available to the Marine Corps when approved by local jurisdictions or Caltrans as requested. These plans are typically reviewed at the time encroachment permits are obtained form the appropriate agency.

# Ramon Alviso Mendoza

58692 Los Coyotes Drive Yucca Valley, CA 92284 Tel. 760.228.2792


25 June 2009

Hi-Desert Water District
55439 29 Palms Highway
Yucca Valley, California 92284-2503
Attention: Mr. Joe Glowitz

This letter is to submit my comments regarding the California Environmental Quality Act phase of public input to the Hi-Desert Water District proposed Wastewater Treatment and Reclamation project.

7-1 First, I am in opposition to the project as planned for the reasons of it not being the best choice nor the best cost effective way to deal with the mandate of managing human solid and liquid waste, (only if we want to build out further or ignore a maintenance of septic systems throughout the base of the land use authority of The Town of Yucca Valley).

My comments are part of this introduction letter.

7-2 Details include economics, concern for the accuracy of decisions made from simulated data about conditions that are not static. Most of the decisions and mitigation measure given by this CEQA process have dynamic consequences if decisions are not made from Water Survey's using scientific site specific methods, as opposed to flow models based solely on geological conditions.

7-3 It is also noted that my imagination is that neither the Hi-Desert Water District, nor the Town of Yucca Valley took the EPA report on Water Survey's (2004) being needed seriously, thus when the California Water, Colorado Regional Quality Control staff ultimately took action to prohibit septic tanks, manage package plants and force the Town and the Water District to take action in 2008...the community was not able to respond to hydrogeological status of the existing.

7-4 The single hydrogeological test at the east end of the Town found earthquake faults near the proposed wastewater treatment site. This concerns me that the project potentially can contaminate the Warren Water Basin and the Joshua Tree Community with pharmaceuticals and/or nitrates that could be in the earthquake faults discovered near the test site. Also that the sewer treatment would not effectively eliminate pharmaceuticals from the recharge water entering the East hydrogeological Warren Basin/Joshua Tree Retreat/Mental Physics.

The latter condition would break the impunity of liability of the Town of Yucca Valley and the Hi-Desert Water District.

Respectively, Ramon Alviso Mendoza

**RESPONSES TO COMMENTS**
**LETTER #7**
**RAMON ALVISO MENDOZA**

7-1 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project.

7-2 It is not clear what is meant by this comment, but in response the "EPA/Clean Watersheds Needs Survey 2004 Report to Congress," actually published in January 2008, was reviewed by the HDWD environmental consultant. This document (a report prepared in response to Section 516(b)(1) of the Clean Water Act) is compiled by the federal Environmental Protection Agency (EPA) based on input from states and other parties and it contains "a detailed estimate...of the cost of construction of all needed publicly owned treatment works in all of the States..." It contains nine (9) categories of capital facility needs, including secondary wastewater treatment and advanced wastewater treatment. It is not clear whether this comment refers to the commenter's belief that the HDWD's WRF needs to be included in this Survey or whether it is referring to the Regional Board's independent position that the community must install a centralized wastewater treatment facility to address historic contamination of groundwater and the "vadose zone" (the unsaturated soil/sediment that occurs between the ground surface and the water table) due to reliance on subsurface septic tank leach line wastewater systems. Regardless, the following two points can be made in response to this comment: first, under most circumstances economic issues are not part of the environmental review process (State CEQA Guidelines 15131); and second site specific scientific data were used in the IS/EA prepared for this project, including the water flow model implemented by the U.S. Geological Survey (USGS) (see Attachment 2). No information regarding a "Water Survey" was found within the 2004 EPA report referenced above. However, detailed water quality data, physical parameters of the groundwater aquifer of the Warren Groundwater Basin, geology data, and other site specific parameters were included in the overall evaluation of impacts contained in the IS/EA.

7-3 As was evidenced at the recent HDWD public meeting on the proposed WRF (July 15, 2009), the Regional Board has independent authority under the Porter-Cologne Act to regulate the discharges from septic tanks where they are directly contaminating groundwater or contributing indirectly to future contamination by causing a buildup of contaminants in the vadose zone. It is not required to rely upon the EPA report as a basis for action. Also, clearly the District's development of an engineering design for a wastewater treatment

system (WRF, sewer collection system, pump stations), preparation of environmental documentation for compliance with CEQA, and applications for grants and loans from the State Revolving Fund (SRF) indicates that the community has responded to the hydrogeological issues related to continuing discharge of wastewater through septic systems.

7-4 Please refer to responses to comments 5-5 and 5-6. The fault barrier identified by the USGS does not appear to have any direct relationship to water quality. As noted in the referenced responses, the groundwater within the Warren Valley Basin will be affected by the proposed project; it will result in a higher concentration of dissolved solids and nitrate, but based on the comments by the Regional Board at the July 15 meeting, the amount of degradation will be controlled to ensure that drinking water quality standards (and beneficial use designation for the Warren Valley Basin) will not be exceeded, and actual groundwater will be protected to allow for adequate assimilative capacity as indicated by the Regional Board at the meeting. Since both the Joshua Tree Community and the Town of Yucca Valley and their wastewater discharges, existing and future, are under the jurisdiction of the Regional Board, the Board must require a level of treatment to ensure that no "significant" degradation will result from implementation of the centralized wastewater treatment plant proposed by HDWD. These physical thresholds have been identified in the IS/EA.

7-5

Please see the attached CEQA report for additional arguements. The appendices are what Montgomery Watson Herzog prepared. The CEQA document takes on what was given and repeats what was said by organizing the MWH/USGS studies. There may be some differences in the statement, but they are pretty much the same.

If we look at the **EPA/ Clean Watersheds Needs Survey 2004 Report to Congress**...we will be able to show *the need for the Water Survey, that so far precludes being able to rely on the USGS reports that are limited to what HDWD have paid for.* Therefore; the impact of this omission makes the issue open to explain why this has not happened and if believed to be mitigatable, please explain by what standard or method.

2. Section 1.1—This initial project is referred to as Phase 1. In the future, if the Phase 1 facilities do not adequately protect the groundwater quality, or if the RWQCB requires more areas to be sewered, the collection, treatment and disposal facilities will be expanded to collect an additional 1 mgd of sewage. The additional facilities are referred to as Phase 2 facilities. Likewise, Phase 3 facilities will collect an additional 2 mgd wastewater flow for a total system capacity of 4 mgd. Ultimate build out in the Yucca Valley service area could be as high as 6 mgd, but that would not occur until the distant future. If a wastewater collection system is required **in the Yucca Mesa portion of the District's service area** in the future, the assumption has been made that that would be treated a(s) a separate facility in the Yucca Mesa area.

7-6

Ramon comment: This would maximize seismic event potential to pollute the ground water due to long runs of pipe transporting blackwater to the treatment site. "Closed Loop Systems" and "Localized Treatment" would reduce this environment specific problem of design choices and less expensive.

3. Section 1.2 --OBJECTIVES
The following are the key objectives of District's wastewater program:

1. Construct a wastewater collection system to reduce the quantity of leachate from septic tank systems flowing into aquifers used for the District's potable water supply.

7-7

Ramon response: There is no current science that can show this to be a problem. There is no scientific data concerning leachate from septic tanks. No procedure for testing, and sample collection.

7-5 As described in response to comment 7-1, the fact that there may be no reference in the EPA Survey 2004 Report to Congress (i.e., omission), does not preclude an independent requirement by the Regional Board to direct the Town of Yucca Valley and the HDWD to prepare engineering plans for a centralized wastewater treatment facility to manage wastewater generated by the existing and future population of the community. The engineered treatment system and the data analysis and model compiled under HDWD direction have received and will continue to receive peer review until approved by the Regional Board. Regardless of what party funds the technical report, the data and designs generated are based on factual information that demonstrates the system, when installed, can meet the standards/criteria established and required by the Regional Board to adequately protect groundwater quality of the Warren Valley Basin and the downstream aquifer in Joshua Tree Basin.

7-6 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project. Regarding potential for seismic events to cause pipelines to break and release untreated wastewater, mitigation measure 4.6-13 requires any pipelines crossing potential fault rupture locations (zones) to be designed with special measures to prevent significant release of untreated wastewater. This can be accomplished in a variety of ways (shut off valves, flex connections, etc.), and the final engineering design for pipelines crossing such locations must be approved by the HDWD to meet this mitigation requirement.

7-7 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project. There are several ways of testing the concentration of contaminants in leachate. First, the wastewater itself can be sampled. Second, when contaminants reach the groundwater (either from percolation to the groundwater table or from a rising groundwater table) from the leach system through the vadose zone, the contamination can be measured. Finally, soil samples can be taken and analyzed for contamination. In this instance, the regulatory agency with responsibility over the wastewater discharges, the Regional Board, has concluded that it has sufficient data to demonstrate a water quality problem and it has the authority to require replacement of the septic tank systems, as it has indicated it intends to do. The USGS has also indicated that the source of nitrate is septic tanks, not natural sources or other sources.

2. Treat wastewater to a level such that percolated effluent will not degrade groundwater quality.

7-8 Ramon response: All tests at the discharge site were accomplished under static conditions (no recent or existing water shed experience. Hence, the septic flow dynamics have not been accounted for. The well at the Joshua Tree Mental Physics/JT Retreat upper level gets watershed out of the Covington Flat area. At this time it is showing to be clean water and is separate from the watershed crossing the Yucca Barrier.

3. Provide the core infrastructure for expansion of the collection, treatment and disposal system as needed either to further protect groundwater, or to accommodate growth in the District's service area.

7-9 Ramon response: The "Closed Loop Systems" and "Localized Treatment" concept provides least cost and best case design to reduce seismic event damage and create water within the localized community.

4. Maximize the total water supply available to the District.

7-10 Ramon response: There are concerns that treated wastewater will leave the Warren Basin district. The district has given that the water will be stored for 16 years. Flow models are all simulated and have not considered real characteristics as would be available by accomplishing a Water Survey as recommended in 2004 when reporting to Congress on the subject of Water Survey being needed in the South West. We also know that with the pharmaceutical and other drug problems, occurring nation wide, are serious problems can become deleterious to life, which would not be detected at the doctors office.

5. Minimize any adverse economic and environmental impacts on the community.

7-11 Ramon response: There is no model regarding the dynamics of economic impact.

There is a high probability of pharmaceutical contamination as well as not controlling or planning to control total nitrogen in the water; thus increasing the potential for nitrate contamination.

7-12 While there is evidence that the HDWD is testing for bacteria since 2008, the procedure and frequency is not scientifically derived. Also given is that the

7-8 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project. The USGS modeling for the discharge site incorporated dynamic conditions based on assumed WRF operations. Septic tank flow dynamics is a term that is not defined to allow a substantive response. Regardless septic tank issues are not pertinent at the discharge site because there are no septic systems on the property and the density of such systems upstream of the proposed project site is very low. The USGS did not find high concentrations of nitrate or other septic tank contaminants in the groundwater beneath the WRF site. The Mental Physics Retreat well is not within the project area of potential effect (APE) and the conclusion regarding the source of groundwater at this well is not documented. Further discussion of this site would be speculative on our part because no detailed investigation of the cause has been carried out by HDWD or USGS.

7-9 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project. These systems were not given further consideration because the Regional Board has directed that a centralized WRF be installed to address the community's wastewater discharge issues. However, even assuming that such facilities could be installed, it would be almost impossible to install such systems without adverse impacts, particularly to existing domestic water wells. The site location of the proposed WRF was carefully selected because there is sufficient depth of sediment, depth to groundwater, and distance from water production wells to ensure adequate time and distance travel, in accordance with Title 22 and Department of Public Health requirements, i.e., six month detention before intercepting a potable water well and a minimum distance of 500 feet. Based on these minimum criteria, locating treatment systems throughout the Basin without causing a significant adverse water quality impact would be problematic. Please refer to the Pre-Design Report for the cost analysis data and discussions of economies of scale.

7-10 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project. Based on the USGS model analysis cited in the IS/EA, some of the treated effluent discharged by the WRF would leave the Warren Basin, unless captured by downstream wells at some point in the future. The flow model was dynamic and based on extensive factual data about the Basin obtained by the USGS as part of the modeling effort. Regarding non-regulated contaminants, such as PPCPs and EDCs, please refer to responses to comments 5-4 through 5-8.

7-11 As previously noted, economic effects are not generally analyzed in an environmental document. Regarding concentrations of both PPCPs and nitrogen in the raw wastewater, the concentrations are fairly high under the existing circumstances and the wastewater discharges through the septic tank systems provide for little attenuation of these contaminants. A centralized wastewater treatment system, as proposed, provides attenuation of both of these contaminants, as well as the other contaminants found in the raw wastewater. Refer to response to comment 5-5.

7-12 It appears that this comment relates to imported water from the Mojave Water Agency (MWA) and it is not valid. See the water test data provided in Attachment 4. Nitrate concentration in the imported water is less than 1 milligram per liter (0.43 mg/L). The Department of Water Resources (DWR) maintains sampling stations throughout the State Water Project, up to and including the turnout for the Morongo Basin pipeline, which is a closed system that does not accrue additional nitrates. These test results and monitoring program have been explained to the community previously, and the data can be accessed on the DWR website. No significant adverse concentration of contaminants is identified on this website. Further, before the imported water can be used, it is recharged to the groundwater basin and when pumped it is treated to eliminate any significant concentrations of bacteria.

7-12 cont.

MWA tests the water before sending it to the Mesa Tank, yet there is no evidence **that total Nitrogen and Ammonia are are tested, including fecal chloroform heterotrophic plate count and that what is tested has no written procedure or defined quality assessment levels, meaning that quality control is subjective at best.**

Respectfully, Ramon Alviso Mendoza

# Taken from Appendix 3 (USGS).pdf, June 2009

Water-quality samples were collected on February 4 and 5, 2009 from the piezometer at monitoring site YVUZ-5 (1N/6E-32G01S) and from a production well located on the Mental Physics property (1N/6E-28N01S). The sampling of two wells within the East HGU was deemed sufficient to establish background water-quality conditions in the East HGU by HDWD's CEQA consultant, Tom Dodson (Tom Dodson and Associates, personal commun., 2009).

The February 2009 and available historical water-quality results are presented in Tables 1 and 2. Samples from the wells were sampled for general chemistry (table 1), nutrients (table 1), selected isotopes (table 1) and pharmaceuticals (table 2).

7-13 Ramon comment: note the absence of bacteria in tests taken. (heterotrophic plate count).

These data can be compared with data collected after the initiation of the proposed wastewater recharge to determine the effect of the recharged wastewater on water quality in the East HGU. All constituents analyzed had concentrations below the U.S. Environmental Protection Agency (EPA) maximum contaminant level (MCL) with the exception of nitrate plus nitrite analyzed in the February 2009 sample from 1N/6E-28N01S. The nitrate plus nitrite concentration in the sample collected at 28N1 was 18.4 mg/L as N; the EPA MCL for nitrate is 10 mg/L. Table 2 shows the pharmaceutical results for well 32G1 only because an insufficient volume of water was available from well 28N1. As shown in the table, none of the pharmaceuticals analyzed exceeded detection levels.

7-14 Ramon comment: Would flow dynamics from another source than discharged treated wastewater, modify the nitrogen levels? Other sources; like watershed from any source and from rain or upstream septic discharge.

***The existing groundwater-flow and transport model developed by Nishikawa et al. (2003) was <u>used to estimate the effects of the proposed project on water levels and water quality.</u>***

The groundwater-level threshold is the maximum groundwater-level altitude that is acceptable in the East HGU without intercepting septic-tank seepage.

7-15 Ramon comment: What is the potential that development could change this?

The effluent flows and water quality are presented in tables 3 and 4, respectively. MWH stated that the percolation ponds will have a <u>total area of 4.3 acres</u> and each model cell is about 500 ft by 500 ft which is equal to 5.7 acres; therefore, ***<u>it was assumed all effluent was recharged into one model</u> cell using the MODFLOW recharge package.*** The groundwater-level threshold was 100 ft bls (Jeffrey Mohr, MWH, personal commun., 2009).

7-16 Ramon question: What is the margin of error in these assumptions? How would a Water Survey in the MODFLOW model be improved with testing of the model?

Three 16-year simulations were performed using the existing groundwater-flow and transport model. This model has three layers; layer 1 represents the upper and middle aquifers, layer 2 represents the lower aquifer, and layer 3 represents the deep aquifer. The

7-13 Background sampling was designed for the model to test for three parameters within future discharges. The objective was to determine whether future concentrations of these parameters would exceed maximum contaminant levels in the future treated effluent that percolates to the groundwater. Bacteria were not considered because of the extremely low concentration of bacteria allowed in the treated effluent discharge. There are no specific criteria for concentrations of bacteria in groundwater, only a requirement to treat the water to eliminate bacteria before delivery to drinking water customers.

7-14 Natural precipitation and subsequent surface water runoff contains very little nitrate or TDS for that matter, unless contaminated once it reaches the ground. Other than the septic tanks, there is no other known major source of nitrogen/nitrates in the watershed. With regard to nitrates, the legacy of nitrates from historic discharge of wastewater through septic tank systems may attenuate over time (bacterial decomposition), but it cannot be eliminated as a potential source of contamination in the near future. However, the location of the WRF, including percolation basins, and the depth at which groundwater will be maintained (more than 100 feet below the ground surface) will prevent interception of nitrate in the vadose zone by the discharge plume from the WRF. For additional information, please refer to the following report: Nishikawa, Tracy, Densmore, J.N., Martin, Peter, and Matti, Jonathan, 2003, Evaluation of the source and transport of high nitrate concentrations in ground water, Warren subbasin, California: U.S. Geological Survey Water-Resources Investigations Report 03-4009, 133 p. http://pubs.er.usgs.gov/usgspubs/sir/sir20045267

7-15 Given the Regional Board's stated intent to establish a prohibition on septic tank systems for handling future wastewater discharges, the potential for future development to change the assumptions is considered very low to non-existent.

7-16 The margin of error refers to a sampling program, not part of the modeling simulation. A Water Survey would not alter the modeling effort because the USGS model was based on physical data regarding water quality, depth to groundwater, onsite percolation and the characteristics of the sediments gleaned from the boring data at the site and other well logs in the Basin. The physical data required to implement the model was provided by test data obtained by the USGS at the project site. Therefore, a Water Survey would not provide

additional pertinent data for carrying out the modeling of the Basin related to percolation of the treated effluent.

model was updated using pumping and recharge data [ Ramon: citation? Where can this be reviewed?] through 2008. The year 2008 pumping and recharge patterns used in the model-calibration process was repeated for the 16-year simulation. ***The effluent flow rate for the new recharge pond was provided by MWH (table 3)***. The recharge rate of the model cells that are defined as the phase 1 sewered areas, was set equal to zero.

7-17 Ramon questions: is this for calibration of the model assumed here? If so, what is the margin of error?

***That is, recharge from septic tanks was assumed to be negligible immediately after the operation of the wastewater-treatment plant within the phase 1 sewered areas.*** The groundwater-level distribution at the end of 2008 is used as the initial condition for the 16-year simulation. The new recharge pond was assumed to be located at model cell row 9 column 65 (9,65) and the observation points H1 (9,63), H2 (9,67), H3 (7,65), and H4 (11,65) are located around the new recharge pond (fig. 1). The simulated hydrographs for the observation points and the water-level contours for selected times for model layers 1 and 2 are presented in figures 2 and 3.

The hydrographs indicate that the simulated water levels do not reach the water-level threshold of 100 ft bls after 16 years of recharge; therefore, no new production wells are needed to control water levels during the 16-year simulation period.

7-18 Ramon comment and question: please explain simulated water levels and the 100 foot metric. What is the purpose or goal being accomplished with this metric?

However, the simulated rate of water level rise indicates that the water-level threshold will be exceeded in the future if wastewater recharge is continued and there is no pumpage from the East HGU. This is confirmed by linearly extrapolating the simulated water levels beyond the 16-year time horizon. The extrapolated simulated water levels indicate that new wells may be needed between 15 and 16 years for a water-level threshold of 150 ft bls and between 20 and 21 years for a water-level threshold of 100 ft bls.

7-19 Ramon comment and question: This part predicts water level to rise. Why not provide a timeline and potential results? Why not provide testing before going further?

The extrapolated results are given relative to a 150-ft bls threshold because data collected from the USGS monitoring site YVUZ-2 (Elks Club) indicate that high-nitrate water is as deep as 150 ft bls. The simulated waterlevel contours show increasing water-level altitudes with time and that the faults to the north and west of the HGU hydraulically separates the HGU from the neighboring HGU's (fig. 3). ***The time-varying flux across the Yucca Barrier is shown in figure 4. Prior to the start of recharge operations the flux across the Yucca Barrier is about 85 acre-ft/yr.*** The flux increases linearly to about 134 acre-ft/yr by year 16 (fig. 4). The transport of three constituents was simulated individually: ***TOC, total nitrogen (simulated as nitrate or NO3), and TDS. The background concentrations for TOC, NO3,*** and TDS ***were assumed to equal 0 mg/L, 2 mg/L, and 290 mg/L, respectively.*** The effluent concentrations of treated wastewater for TOC, NO3, and TDS are 11 mg/L, 44 mg/L (10 mg/L as nitrogen), and 450 mg/L, respectively (table 4). Longitudinal dispersivity, horizontal transverse dispersivity, and vertical transverse dispersivity for all constituents **are assumed to be 750 ft, 250 ft and 2.5 ft, respectively**. ***Retardation factor was assumed to be equal to one.*** The simulated concentrations for each constituent at the observation points is shown for the 16-year simulation period in figures

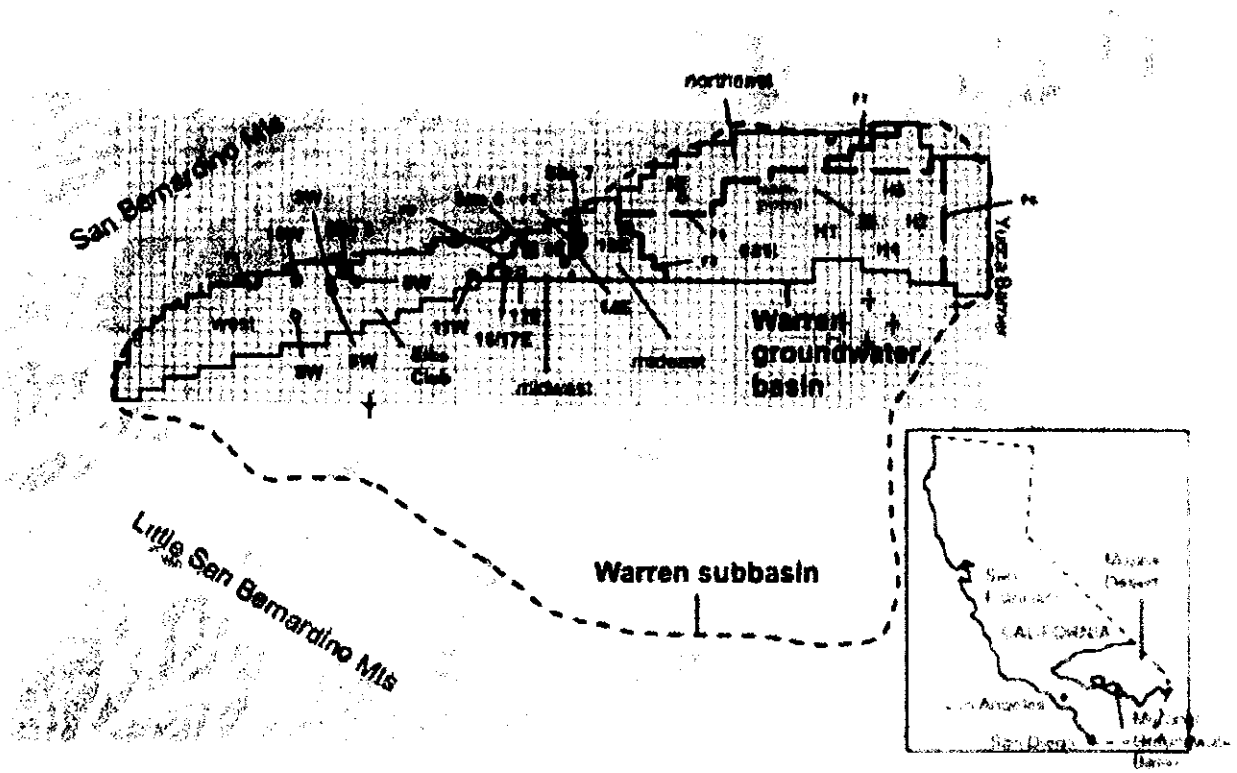
7-17 The updated pumping and recharge data can be obtained from HDWD upon request. The recharge data from MWH is the assumed volume of treated effluent delivered to the recharge ponds at the WRF, up to 2 mgd during the first phase. The margin of error would be very small assuming the plant operates at its rated capacity after it becomes operational.

7-18 The 100-foot below ground surface (bgs) elevation has been used to eliminate or substantially reduce the potential for the treated effluent plume to intercept septic tank system discharges or to pose a liquefaction problem during a major seismic event.

7-19 It is not clear to what this comment specifically refers. HDWD and USGS did conduct a test of percolation before modeling the effect of discharging the treated effluent to the onsite percolation ponds, from which the treated effluent will percolate into the underlying sediments and ultimately to the groundwater table approximately 370 feet bgs. Thus, the model does include the results of a pilot percolation study, which enhanced the reliability of the modeling results.

5-7. The "stairstep" breakthrough curves at H2 in model layer 2 (2,9,67) is a numerical artifact resulting from the numerical approach, specifically particle tracking, that is used to simulate advective solute transport (George Hornberger, USGS, personal commun., 009). The maximum simulated TOC concentration was about 9 mg/L in layer 1 and 0.5 mg/L in layer 2 (fig. 5). The maximum NO3 concentration was about 35 mg/L in layer 1 and about 2 mg/L in layer 2; ***the layer 1 NO3 concentration is approaching the MCL but has not yet reached this level (fig. 6).*** The maximum simulated TDS concentration was about 420 mg/L in layer 1 and about 300 mg/L in layer 2; the secondary MCL for TDS is 500 mg/L (fig. 7).

7-20 The Yucca Barrier has been questioned in the past. The riparian nature of the watershed in this wash would suggest that since percolation plants have flourished. Would not it be wise to test this area thoroughly and provide meaningful water survey of the actual hydrological conditions? Would it not be wise to create more rock impact on the floodwaters in order to control the footprint of this wash?



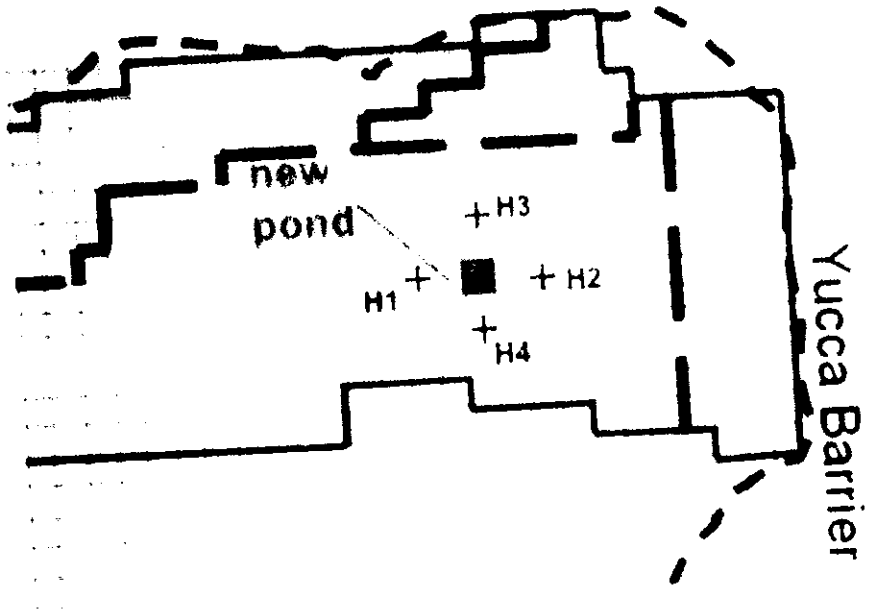



**Figure 1**: Figure showing the simulated recharge pond and observation points in the Warren groundwater basin (A) and a close-up view of the simulated recharge pond and observation points (B).

7-20 We discussed the issue of riparian "nature" of the watershed within the desert at the July 15, 2009 meeting. At locations where there is sufficient surface flow or a high groundwater table, certain types of water dependent vegetation can grow. Typical riparian species are dependent on a continuous source of water and include water dependent plants such as willows, reeds, and other trees such as alders and cottonwoods. There are certain desert plants, such as smoke trees, desert willow and other plants that can survive long droughts as long as they receive some runoff within a channel periodically. As far as is known, water-dependent riparian habitat does not occur within the project area. The model provides sufficient data to assess the future hydrological conditions at the Yucca Barrier and factual data on the expectations of future flows over the barrier are provided in the USGS report and cited in the IS/EA. Groundwater flowing over the Yucca Barrier is forecast to increase from about 85 acre-feet per year to 134 acre-feet per year at the end of the model period, unless wells are installed to capture this flow.

# Ramon Alviso Mendoza

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21 June 2009
First Requested 18 September 2008...response was not nor has been forthcoming

Questions for USGS: re. data from Waste Water Treatment and Reclamation site

My questions are as follows:

1. Statement: Recharge very little
   - Please expand on the data to narrow this down. That is, how much is very little and how deep was this tested?
   - 7-21 As it has not rained sufficiently, wouldn't this observation be expected at shallow depths?
   - Does this follow the USGS conclusions about the whole area due to very limited test data?
2. Statement: Nitrate Concentration Low
   - Please explain why and how much. That is, how much is low and how much would be high?
   - 7-22 Could this be because the community (waste water discharge from septic tanks) is at least a mile away from this site?
   - Would rainfall change this statement?
3. Statement: Structure/Fault detected
   - 7-23 Will this observation be tracked as to direction and length it exists?
4. Statement: Too close to surface
   - 7-24 Please expand on this as to what it means. I am assuming that we are talking about water levels at the test site.
5. Statement: Not much water going east out of district (USGS est. of 85 acre feet).
   - 7-25 This I assume is based on data other than the test site for the Wastewater and Reclamation plant.

Discussion:

Based on other tests in the district and the JBWD this information is given:

A peer review was conducted that discussed a prior USGS report from 2004 that studied the recharge to the Joshua Tree and Copper Mountain Basins. The group recalled a figure of 40% of recharge comes from the HDWD.

The report states,

> "...Data collected during the study were used to develop and calibrate a ground-water flow model of the Joshua Tree and Copper Mountain ground-water subbasins. The simulation period of the ground-water flow model was 1958–2001. The ground-water flow model was developed using MODFLOW-2000. The model cell size was about 820 ft by 820 ft and was discretized vertically into three layers (the upper, middle, and lower aquifers). Recharge was simulated using the net infiltration estimates from the watershed model. The model was

7-21 A total of about 30 acre-ft of water was recharged over a 220 day recharge experiment at a 0.1 acre pond at the proposed HDWD wastewater treatment plant site. The quantity of applied water was sufficient to determine the recharge characteristics of the 370 foot unsaturated zone at the proposed recharge site.

7-22 HDWD public supply water was recharged at the pond during the experiment. Therefore, nitrate concentrations were not monitored during the experiment. A groundwater sample collected from the water table beneath the recharge pond had a nitrate concentration of 0.46 mg/L reported as nitrogen. This concentration is significantly lower than the EPA maximum contaminant level of 10 mg/L. Recharge from the direct infiltration of precipitation is minimal in Yucca Valley. Tritium has not been detected in samples collected from nearby wells in the Midwest and Mideast hydrogeologic units (Warren Valley Basin), indicating that the aquifer system is not receiving recent recharge (Nishikawa and others, 2003).

7-23 No active faults have been mapped at the location of the proposed wastewater treatment plant. However, the area does contain a number of east-west and north-south active faults. All modeling was conducted by taking into consideration the effects of area faults on the future flow of the treated effluent once it has percolated into the Warren Valley Basin.

7-24 The depth to groundwater measured in the monitoring well constructed at the proposed wastewater treatment is 370 feet below land surface. This is not too close to the surface, but a key issue evaluated and addressed in the IS/EA is the potential for the percolated treated effluent to rise too close to the ground surface. Please refer to responses to comment 5-4 through 5-8.

7-25 The groundwater-flow model developed by the USGS and calibrated to measured water-level data collected from 1956-2001 indicates that prior to the start of recharge operations the flux across the Yucca Barrier is about 83 acre-ft/yr. The flux increases linearly to about 134 acre-ft/yr after 16 years of recharging 1.4 to 1.85 million gallons per day of treated effluent. This can be compared to the 144,000 acre-feet of groundwater estimated to be in storage in the upper 150 feet of the Joshua Tree Basin.

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calibrated using a trial-and-error approach using water-level data collected between 1958 and 2001; however, the MODFLOW-2000 sensitivity process was used for the sensitivity analysis. In order to better match the measured data, little flow was allowed to cross the Pinto Mountain Fault, thereby compartmentalizing the Joshua Tree and Copper Mountain ground-water subbasins. ***The calibrated total natural inflow was about 207 acre-ft/yr, consisting of 123 acre-ft/yr of recharge and 84 acre-ft/yr of underflow from the adjacent Warren subbasin.*** The simulated value of recharge is very close to those values estimated using measured temperature differences (71 acre-ft/yr) and a distributed-parameter watershed model (158 acre-ft/yr). The cumulative volume of water pumped from the ground-water subbasins between 1958–2001 was 42,210 acre-feet (acre-ft); of this total pumpage, the model simulated that 99 percent (41,930 acre-ft) was removed from ground-water storage. (USGS SIR 2004 5267)"

As given, the peer review data recalled this: That the inflow to JT from the Warren subbasin makes up 41% of their natural recharge (84/207=41%). So Tracy's 85 acre-ft reported the other evening correlates with the 84 acre-ft from the 2004 simulation.)

7-26 Would it provide better methods to test this by retrieving data from wells nearer to the "Yucca Barrier" area to validate the results concluded? In other words, to look at the "probability" of the information (reliability factor)? Note, What I am looking for is the "Reliability factor" based upon the quality of the test model (as discretized), and not the margin of error. The conclusions seems to assume that the model cell size of 840 square feet (site specific unknown) represents a tested area then discretized based on the three layers presumed to be representative to the: "... Quarternary alluvial deposits [that] were divided into two aquifers (referred to as the "upper" and the "middle" alluvial aquifers), which are about 600 feet (ft) thick, and the Tertiary sedimentary and volcanic deposits were assigned to a single aquifer (referred to as the "lower" aquifer), which is as thick as 1,500 ft." In other words, does this model accurately represent the flow from Yucca Valley (Warren Basin) into the Joshua Tree Retreat (also Warren Basin), or is it the only data available?

It is my feeling that until the USGS has sufficient data to correlate with Dr. Joe Bergman's study and that data that Cadiz has come up with (basically that the USGS model is very conservative)...that the basin data is off by a factor of 10, site specific data is far better than stating flow based upon models that create questions.

Respectfully, Ramon

7-26 The rate of groundwater discharge was simulated with the groundwater flow model developed by the USGS (Nishikawa and others, 2003). The model was calibrated to water-level and groundwater pumping data collected from 1956-2001. A groundwater-flow model developed for the Joshua Tree area (Nishikawa and others, 2005) supports the 85 acre-ft/yr groundwater underflow from the Warren to Joshua Tree groundwater subbasins. The USGS had sufficient data available to have a high level of confidence in the model results.

## Chapeter 1 Purpose and Need

**1.1 INTRODUCTION**
(Omitted, with no comment)
**1.2 PURPOSE OF THE ENVIRONMENTAL ASSESSMENT**
(Omitted, with no comment)
**1.3 PURPOSE AND NEED**
The proposed project has five general objectives:
1. Construct a wastewater collection system to reduce the quantity of leachate from septic tank systems flowing into the Warren Valley Groundwater Basin (Basin) used for the District's potable water supply.

7–27 Ramon: There is no scientific data to show this to be a problem today. Additionally, test data and procedure, location of test and lab reports verifying this have not been produced.

2. Treat wastewater to a level such that percolated effluent will not degrade groundwater quality. The enhancement of groundwater quality is proposed to be achieved by reducing the amount of nitrate rich leachate from septic tanks in the area percolating into the Basin groundwater aquifer.

7–28 Ramon: Treated wastewater can attract algae and create percolation problems. No information regarding control of algae (green or black) is stipulated. Additionally the uncovered treatment of water can attract mosquitoes that can carry West Nile Virus. Such has been reported in the Salton Sea open water area.

3. (Omitted, with no comment)

4. Maximize the total water supply available to the District.

7–29 Ramon: Since the district has failed to respond to the EPA Water Survey need, presented to Congress in 2004, the total local water supply is unknown, and approximated total water shown by USGS, done by simulating the water model is only a model.

The Fenner Valley Study and the study done by the Hi-Desert Water District (Dr. Joe Birman/Hydrologist), concerning the water dispute between Big Horn/Desert View Water District, Ames Valley, showed that the USGS model was off by a factor of 10. USGS signed off on the Cadiz Study but has not changed the total water available figure in the Warren Basin shown by Dr. Birman to have the same hydrogeological characteristics as Cadiz/Fenner Valley.

5. Minimize any adverse economic and environmental impacts to the community.

7–30 Ramon: Since the local economy is already in a decline, and no way to measure this impact is given, blight and economic impact has not been sufficiently addressed. Re. Dr. Kings comments on the economy of Yucca Valley, in the WalMart CEQA court case where the opponents position was upheld by the court, thus, denying the Super WalMart project.

In addition to these general objectives, specific objectives for the Phase 1 treatment facilities are as follows:

1. (Omitted, with no comment)

2. (Omitted, with no comment)

7-27 Please refer to response to comment 7-7. The Regional Board and USGS have concluded that sufficient information is available to demonstrate that a problem exists today. The primary factual finding is that nitrate contamination from septic tanks causes nitrate concentrations within the local aquifer to exceed nitrate thresholds. This finding was based on laboratory tests of well water pumped by HDWD wells and other information. For additional information, please refer to the following report: Nishikawa, Tracy, Densmore, J.N., Martin, Peter, and Matti, Jonathan, 2003, Evaluation of the source and transport of high nitrate concentrations in ground water, Warren subbasin, California: U.S. Geological Survey Water-Resources Investigations Report 03-4009, 133 p. http://pubs.er.usgs.gov/usgspubs/sir/sir20045267

7-28 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project. Routine maintenance of the percolation ponds requires control of algae and vectors, and periodic tilling of the soil to restore the percolation rate at the bottom of the pond. To address this issue, the following measure will be implemented to mitigate potential impacts of operating the basins: HDWD shall prepare a pond maintenance plan that will include specific methods for controlling algae and vectors so they do not become a nuisance or adversely affect water quality. This maintenance plan shall also identify the method(s) that will be used to maintain percolation rates in the ponds over time. This will be addressed in the Water Reclamation Facility Operations Plan, which will be prepared prior to initiating operations at the WRF.

7-29 Please note that the EPA Clean Watersheds Needs Survey 2004 Report to Congress was published in January 2008 and subsequently submitted to Congress. Please refer to response to comment 7-1, which indicates that the Regional Board has separate authority to protect water quality regardless of whether the project is in the 2004 Report. Further, applications for funding to construct the proposed WRF and sewer collection system have been submitted to and are being processed by agencies with the ability to authorize grants and loans for the proposed project.

The Bureau of Land Management (BLM) and Metropolitan Water District (MWD) published a Draft EIR/EIS for the Cadiz Project on November 16, 1999. At the request of the BLM, the U.S. Geological Survey (USGS) reviewed the Draft EIR/EIS. The USGS review showed that the Draft EIR/EIS overestimated the natural recharge to the basin by 5 to 25 times the values estimated by the USGS using similar methods. The USGS review concluded that the proposed groundwater

pumpage of indigenous ground water for the project would exceed the natural recharge to the watershed, and that the project would cause long-term impacts on water levels and natural groundwater discharge (evaporation and spring discharge) in the watershed. Although MWD believes that natural recharge is higher than estimated by the USGS, MWD and BLM convened discussions among experts to determine if the technical disagreements could be resolved. Participating in these discussions were MWD, BLM, National Park Service, USGS, Cadiz Inc., and the County of San Bernardino. The parties agreed that the overriding objective was to ensure the protection of critical resources, and that this objective would best be accomplished through the development and implementation of a ground-water monitoring and management plan (Management Plan). The Management Plan was designed to govern water use, storage and extraction for the Cadiz Project and ensure that project operations and future irrigation under the Cadiz Valley agricultural development would be conducted without any adverse impacts to critical resources.

Regarding the referenced USGS studies, these are irrelevant to the USGS modeling study used in support of the IS/EA. The referenced studies were of different focus (water supply/availability compared to application of a model to determine the character and direction of flows from percolating treated effluent into percolation basins at the WRF site) and the analogy of these studies in other basins sheds no light on the modeled data contained in the USGS report.

7-30 As indicated at the July 15, 2009 meeting, the issue is not between the proposed project and no action. The economic issue relates to whether an identified water quality problem will be solved on a community-wide basis (a centralized treatment system) or on a case-by-case basis through enforcement to stop wastewater discharges from individual septic tanks. The costs for managing the wastewater discharge issue will be borne either individually or collectively, so the issue is not whether solving the water quality problem will occur or not (in contrast to the WalMart project). It will; and now it is a matter of how the community chooses to fund the solution.

Comments by:
**Ramon Alviso Mendoza**
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# INITIAL STUDY / ENVIRONMENTAL ASSESSMENT: HI-DESERT WATER DISTRICT WATER RECLAMATION FACILITY, WASTEWATER TREATMENT PLANT AND SEWER COLLECTION SYSTEM PROJECT

**Project Proponent and CEQA Lead Agency:**
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JUNE 2009
REVIEW PERIOD: June 9, 2009 through July 9, 2009

The installation of this wastewater system infrastructure is considered essential to the District in order to continue meeting the public health and safety requirements for water supply within its service area and to meet the water quality objectives of the Colorado River Basin Regional Water Quality Control Board (Regional Board or RWQCB).

7-31 Ramon: The wastewater treatment system selected by the HDWD is not cost effective for the Yucca Valley community and better systems that are cost effective have been given, but have not been looked at by the district in order to change the course of this plan to a more effective and economical choice.

## Chapter 2 PROPOSED ACTION, INCLUDING ALTERNATIVES

### 2.1 PROPOSED ACTION SUMMARY

(Note: some parts of this have been deleted because there was no comment needed or germaine to the elements discussed in this section/subsection)

As previously described this project consists of the construction and installation of the following components. The District intends to initially sewer the central portion of the Town of Yucca Valley to convey an annual average flow of 2 MGD of wastewater to the WRF currently discharged to septic tanks. This initial project is referred to as Phase 1. In the future, if the Phase 1 facilities do not adequately protect groundwater quality, or if the RWQCB requires more areas to be sewered, or if additional capacity is needed, the collection, treatment and disposal facilities will be expanded to collect an additional 1 MGD of sewage. The additional facilities are referred to as Phase 2 facilities. Phase 3 facilities will be designed to collect an additional 1 MGD of wastewater flow for a total system capacity of 4 MGD. Ultimate build-out in the District's Yucca Valley service area could be as high as 6 MGD, but due to the area's slow rate of growth, this is not forecast to occur until the distant future. If a wastewater collection system is required in the Yucca Mesa-portion of the District's service area in the future, the assumption has been made that a separate treatment facility will be located within the Yucca Mesa area. The wastewater will be treated to meet Title 22 recycled water standards/requirements and will be delivered to recharge basins operated by the District to percolate into the Warren Valley Groundwater Basin (Basin).

7-32 Ramon: This plan is too subjective as given and commits money and effort that would require extraordinary financial expenditure and "fair share" revenue that is not yet defined. The risk is placed upon the customers and by manipulating of all of Yucca Valley residents not shown in either phase 1, 2 or three areas. For example, the Sky Harbor project, El Cielo project on the West End and the Mesa are not shown with the risk of being included in the "fair share" and/or building of another treatment plant that would further complicate the economic viability of this project.

#### 2.1.1 Location

The proposed project is located within the Town of Yucca Valley in the County of San Bernardino. The proposed interim wastewater treatment plant facilities will be located approximately 1,000 feet south of State Route 62 (SR 62) (Twentynine Palms Highway), east of Indio Avenue, north of Sunnyslope Drive, and west of La Contenta Road (see Figure 2-1).

7-33 Ramon: This location is in a water flow area that supplies the Joshua Retreat/Mental Physics facility that is part of the Warren Basin while being outside of the municipal district of Yucca Valley. The water storage tanks and pumps (two shut down) in the wash are contaminated with nitrates. The pump and small storage tank south of the wash is pumping water coming down from Covington Flats. During a rainfall, the watershed can contaminate the so called water in storage at the treatment site. This could be validated by a water survey of this area, rather than relying on static test and simulated flow models.

#### 2.1.2 Environmental Setting

Yucca Valley, San Bernardino County is located in the Morongo Basin portion of the Mojave Desert, approximately 70 miles east of the City of San Bernardino (refer to Figure 1-1). Access to the region is by SR 62 which extends west to Interstate 10 and east to the Colorado River and the Arizona state line from Yucca Valley. The proposed trunk sewer pipeline alignments and wastewater

7-31 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project. Further, based on Regional Board input, a non-centralized solution to the water quality concerns in the project area does not appear to be available.

7-32 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project. The basis of the plan is to concentrate on the core of the community where the density is sufficient to result in the current method of wastewater management inefficient and ineffective, based on resultant contamination. This is a classic case where the number of septic tanks within a certain area exceeds the carrying capacity of the underlying sediment to serve as an effective method of treating the resultant volume of wastewater. For certain areas of the community, the Regional Board has indicated (7/15/09 Board meeting) the density of septic tanks appear not to exceed the carrying capacity of the septic tank method of treating wastewater to the point that it is degrading the underlying groundwater aquifer. Thus, the concept of "fair share" also has to be considered in light of whether an appropriate nexus for regulating the discharges is justified.

7-33 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project. As noted above, rainfall and subsequent surface water runoff has very low concentrations of TDS and contaminants, unless it encounters contamination as it flows across the ground surface. The upstream area of the proposed WRF contains very low density development and a very low potential for contamination of the treated effluent percolated into the area aquifer. The quality of the groundwater, which represents historic percolation of rainfall/surface runoff upstream of the WRF site, indicates that little or no contamination has occurred in the past and is not anticipated in the future based on the USGS water tests. As previously noted, the model has adequately taken these natural factors, such as historic rainfall and percolation of surface runoff, into consideration.

treatment plant facilities generally occur in alluvial deposits derived from the Little San Bernardino Mountains to the south. The alluvial fan slopes to the north at a 1-2 percent gradient at a general elevation of approximately 3,300 feet above sea level. (*!)The Pinto Mountain fault (considered active) is located about one-quarter mile north of the proposed treatment plant site. No other geologic hazards are known to occur in the project area. (*2)The only topographic feature within the project site is an ephemeral desert wash area, vegetated with Joshua tree-creosote scrub, intermixed with Mormon tea. All water supplies are extracted from the local Warren Valley Groundwater Basin by Hi-Desert Water District, with supplemental water consisting of State Water Project (SWP) water imported from the State Aqueduct in Hesperia by agreement with the Mojave Water Agency (MWA). Water quality issues are managed by the Colorado River Basin Regional Water Quality Control Board (Regional Board). Project area land uses consist of a mix of open space, residential, commercial, and limited industrial uses. (*3)A Joshua tree-creosote bush scrub plant community occurs in the general area, and desert tortoise are also known to inhabit the general area. At the present time the plant site is open desert with typical human disturbance from being located near existing residences. The climate in the project area is that of a subtropical upland desert with annual precipitation less than 10 inches, averaging 6.44 inches. Temperatures can vary from 0°F in winter to above 110°F in the summer. Mean summer temperature is 88°F and in winter is 49°F. Air quality in the region is good, but during the summer transported pollutants from the South Coast Air Basin (SoCAB) can cause ozone concentrations to violate federal and state standards on rare occasions. The project area is located within the Mojave Desert Air Basin (MDAB or Basin) and the Mojave Desert Air Quality Management District (MDAQMD) manages air quality for this Basin. Access to the project site can be obtained from the main area roadway, SR 62 (Twentynine Palms Highway), which traverses east-west through the Town of Yucca Valley to the north of the treatment plant site. The north-south cross streets are Indio Avenue on the west and La Contenta Road on the east of the proposed WRF site. The project site can be accessed from La Contenta off of SR 62, then west on Sunnyslope to the project site.

Ramon: 7-34 (*1). Faults were found by USGS west of the sewer treatment plant proposed site

7-35 (*2). This is not ephemeral in nature, and contains cats claw and catalpa up stream and down stream of this "blueline" riparian wash. Re. California Fish and Game, Rebecca Jones (2008) and Town of Yucca Valley, Hydrogeological Status, California Regional Water Quality Control Board Technical Advisory Committee Members David Mahaffey and Ramon Alviso Mendoza--15 January 2009 Basic

7-36 (*3). Being located "near existing upstream residences creates the potential from septic leachate and toxic flow into the area given as suitable to store treated water for 16 years. How this will occur in a blueline area, with faults is unknown and needs to be explained.

### 2.1.3 Project Characteristics

The proposed project is the construction and installation of a wastewater reclamation facility (Hi Desert WRF) with an initial treatment capacity of 2 MGD and an build-out treatment capacity of 6 MGD. Phased development of the Hi Desert WRF envisions the initial facility size as capable of processing up to 2 MGD of wastewater; a second phase, Phase 2, would expand the WRF to 3 MGD; Phase 3 envisions a treatment capacity of 4 MGD; and the build-out WRF would have a treatment capacity of up to 6 MGD.

7-37 Ramon: Should this not require a water survey in order to determine flow characteristics? To continue with a simulated flow model seems inappropriate. How does this protect ground water or increase the probability of build out occurring upstream of the proposed site for the WRF?

The Phase 1 sewer collection system will focus on the urban development in close proximity to State Highway 62 (Twentynine Palms Highway). The Phase 2 collection system would expand to the majority of urban development within the existing District service area. Phase 3 would connect much of the remaining existing residential and commercial development within the Town of Yucca Valley to the WRF.

7-38 Ramon: Given that the Town of Yucca Valley limits impact fees, would this not transfer

7-38 cont. burden to the residents and existing homeowners to fund new development?

Infill development within the Town of Yucca Valley is forecast to create an ultimate demand for 6 MGD of treatment capacity. If approved by the community, the 2 MGD capacity WRF would be installed in the near future, perhaps coming on line in 2012. Implementation of future phases would be dependent upon the pace of connections dictated by the Regional Board and actual future growth.

7-39 Ramon: Given the risk management of this subjective at best, should not test wells be installed upstream and downstream from the WRF?

**Table 2-1**
**ANTICIPATED EFFLUENT DISCHARGE LIMITATIONS**
**FOR THE HI-DESERT WRF**
**Parameter Value Units**
Omitted with no comments

**Table 2-2**
**SUMMARY OF SCREENED TECHNOLOGY**
**Screening Category Remaining Alternatives**
(Omitted, with no comment)

**Table 2-3**
**ALTERNATIVE 1 EXTENDED AERATION SIZING CRITERIA**
**Parameter Value**
(Omitted, with no comment).

**Table 2-4**
**POWER DEMANDS BY PLANT AREA**
**Equipment Load Drive Type Number on**
**Standby Power**
**Headworks Area**
(Omitted, with no comment)**Table 2-5**

**PHASE 1 PIPELINES**
(Omitted, with no comment)

**2.2 CONSTRUCTION SCENARIO**
(Omitted, with no comment, including sub sections)

**2.3 ALTERNATIVES**
**2.3.1 No-Action Alternative**
The No-Action alternative will result in wastewater treatment facilities not being installed as outlined ....

The No-Action alternative does not contribute to the protection and enhancement of the District's water quality as envisioned in both the Regional Water Management Plan (Mojave Water Agency 2004) and the District's Strategic Plan (2008). Nitrate contamination in the area would still be produced and percolate into the local groundwater aquifer in conflict with the Regional Board's Basin Plan (2005).

Ramon: the No-Action alternative does support protection and enhancement of the District's water quality as envisioned...etc. (2005).

7-40 Alternative methods have been explained, offered and in some cases attempts to explain have been stopped by the HDWD-directors at the regular meetings by agency directors. (re. comments made by Ramon Alviso Mendoza, David Mahaffey, and William Horne). Comments and methods have repeatedly been discussed concerning options (presented in public form

7-34 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project. A fault and/or fault barrier was identified to the west of the proposed WRF site. This was taken into consideration in the modeling conducted for the future operation and percolation of treated effluent at the WRF site. Please refer to response to comment 7-23.

7-35 The term "ephemeral stream" is defined as "*A stream or portion of a stream which flows briefly indirect response to precipitation in the immediate vicinity, and whose channel is at all times above the water table.*" (Dictionary of Geological Terms, Bates and Jackson, Eds., 1976) Also, please refer to response to comment 7-20. The channel onsite has been evaluated as constituting waters of the State of California, but it is probably not waters of the United States based on recent federal Supreme Court decisions. Regardless, the onsite stream is ephemeral as defined above.

7-36 Please refer to response to comment 7-32. Due to the very low density of upstream development and the depth to groundwater, the potential for contamination of the treated effluent plume from the upstream area has a very, very low probability of occurring. The volume of wastewater generated in the upstream area is so small so as not to pose a hazard to future WRF operations.

7-37 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project. Regarding the WRF, the estimated discharges and their downstream effects do not require a "Water Survey." The modeling conducted for the future WRF operations, based on the assumptions which are in turn based on measured physical conditions, is considered sufficient to assess potential water quality effects downstream of the WRF site. The WRF is not forecast to change future growth or development within the Town, which has had no constraints in the past and has experienced very low growth rates due to location and lack of job inducing growth.

7-38 It is not clear how limited impact fees imposed by the Town would effect implementation of the WRF. Impact Fees, assessed by the Town of Yucca Valley, do not contribute to the Water and Wastewater Enterprises, operated by the Hi-Desert Water District. The Wastewater Capacity Buy in Charge, will provide, compliant with Proposition 218 and the California Constitution, that only after a nexus has been determined, will the fair share and equitable cost be attributed, by user class and by phase, for the capacity buy in charges and service acquisition fees, established by a Public Hearing Rate process by the Hi-Desert Water District.

7-40 cont. 20 April 2009, Yucca Room, Town of Yucca Valley) and have been generally educating the public concerning the alternative proposed to cost under 2% of the projected cost of 1mgd treatment facility of this proposed project. Evidence of the filmed meeting would verify that the directors have not been open to hearing the evidence.

The No-Action alternative would result in the fewest direct natural environmental effects of available alternatives, because no physical changes to the environment within the area of potential impact would result from construction activities. However, the result of emplementing this alternative is the continued degradation of groundwater quality due to nitrates in the Warren Valley Groundwater Basin and possibly in downstream aquifers. Therefore, this alternative is not considered a feasible or reasonable alternative for consideration by the District.

7-41 Ramon: Ramon: the No-Action alternative does support protection and enhancement of the District's water quality as envisioned...etc. (2005).

Alternative methods have been given to the HDWD at the regular meetings of the agency's directors by Ramon Alviso Mendoza, David Mahaffey, and William Horne. Comments and methods have repeatedly been discussed options (presented in public form 20 April 2009, Yucca Room, Town of Yucca Valley) and have been generally educating the public concerning the alternative proposed to cost under 2% of the projected cost of 1mgd treatment facility of this proposed project. Evidence of the filmed meeting would verify that the directors have not been open to hearing the evidence.

So far as a reasonable alternative, less than 2% of the cost seems to be a very reasonable alternative. This would be called a localized treatment facility that produces pure clean water, electricity for operations with clean waste charcoal...available locally.

**2.3.2 Individual Treatment Systems**

The MWH PDR included a discussion of an alternative of installing individual treatment systems. The text of this discussion, presented above, is repeated here for information. Nitrate removal from wastewater requires some form of treatment and some form of managing the nitrate after it is separated from wastewater or chemically modified during treatment. Most of the existing residences and businesses currently manage their domestic wastewater with underground septic tank and leach systems or seepage pits. It is from these individual systems that the nitrate is entering the local groundwater aquifer. There are individual advanced underground wastewater treatment systems that can be installed, but the effectiveness of such systems in removal of sufficient nitrate and the process of imposing such systems is beyond the scope of this analysis. The summary of treatment technologies screened in the PDR are provided in Table 2-2 (Table 3-1 of the PDR). Tables 3-2 through 3-6 of the PDR (Appendix 1) contain a fatal flaw analysis of the system-wide treatment alternatives and of specific technologies.

The MWH PDR contained the following conclusion for options related to onsite treatment technologies. The MWH evaluation concluded: "*Options such as no-flush toilets and gray water separation would require extensive and disruptive modification of toilets and plumbing in all existing buildings in the service area.*

7-42 Ramon: The cost of connection to the sewer treatment and recurring costs within a special district is forever. A onetime cost of a system realized at less than 2% of the hookup cost and recurring expenses forever would be more attractive to the rate payers' already contacted. It is interesting to note that the HDWD has a waterless urinal.

*Decentralized treatment is not cost effective for an area such as Yucca Valley where development has occurred in single, coherent area. Piping sewage to a neighboring agency would be very expensive to construct the sewers, and would result in the permanent loss of the water that could otherwise be used for groundwater recharge. For these reasons, only centralized treatment of wastewater within the District's service area is considered a viable alternative."*

7-43 Ramon: Ms. Ann Denier has proposed a localized treatment concept. This will reduce threat of pipeline leaks created from seismic activity. It is far less expensive and can be purchased

7-43 cont. in 325K gpd to 1 mgd systems. Given this, Ann estimates doing the entire district for 4.5 million dollars, as opposed to an estimated cost of 300 million dollars for a 1 mgd treatment and reclamation project, storing for 16 years, discharged treated water in a blueline flood plane.

**2.3.3 Other Alternatives**
(Some parts of this sub-section have been omitted because they were not needed to address this element)

... Only sites that are not directly upstream of domestic water wells and that have sufficient depth of vadose zone (the area between the ground surface and the groundwater table) were deemed adequate for siting the WRF. Due to the shallow vadose zone to the west, south and north portions of the Warren Valley Basin, a site in the east-central portion of the Basin was deemed essential.

7-44 Ramon: Please explain how the vadose zone is identified without a water survey or soil test at depths meeting the defined area: Vadose Zone -- The zone between land surface and the water table within which the moisture content is less than saturation (except in the capillary fringe) and pressure is less than atmospheric. Soil pore space also typically contains air or other gases. The capillary fringe is included in the vadose zone.
(re. http://www.teachmefinance.com/Scientific_Terms/Vadose_Zone.html

Therefore, based on the large acreage of undeveloped area, depth of vadose zone, and lack of wells immediately downstream, the project site or another site in the immediate vicinity was determined to be the only location in the Basin available to support the proposed WRF. Since the environmental variables at the selected site represent those of the surrounding area, the project location was judged to be representative of the available sites in the Basin. Thus, this alternative will not be given further consideration.

7-45 Ramon: The first site selected was north of state route 62 highway in Paradise Valley, and relocated to a site south of the state route, parallel with the first site and then moved to the current location for unknown reasons.

Alternative Treatment Systems
Although the treatment system options would be installed at the same proposed WRF site, there are minor variations in the amount of area and amount of energy required for each system. The following comparative evaluation of the treatment system alternatives is abstracted from the PDR. Minor editing has been included for clarity.

Matrix Comparison of Treatment Alternatives
Each of the four alternatives were compared against each other using weighted criteria. This method involves three steps:
1. Establish a set of criteria and assign a weight to each criteria based on level of importance to the District. The total of the criteria weights should be equal to 100%.
2. Score each of the alternatives on a scale of 1 - 10 for each criteria.
3. Multiple each score by the corresponding weights; those produce are then added together to give a total weighted score for each alternative.

7-46 Ramon: there are no criteria for parameters of an assessment in terms of value for each of each of the subjective methods given. Therefore, the results are not statistically weighted in terms of a stated value to the community as a whole. Neither qualitative or quantitative data with metrics for value have been provided for clarification of the subjective terms explaining this element.

The list of criteria for the matrix evaluation of the treatment alternatives are listed in Table 2-9 along with the criteria weighting.

**Table 2-9**
**CRITERIA WEIGHTING**
**Criteria Weight**

7-39 The Regional Board may require an upstream groundwater monitoring well to maintain a record of water quality and groundwater depth as a control. From a CEQA perspective, such data could be used to compare to a downstream monitoring well, but the purpose would be different than the downstream well, which is designed to provide feedback on any changes in water quality and the groundwater depth to allow adaptive management to protect the beneficial uses of the groundwater aquifer. A monitoring program will be an integral part of the Water Reclamation Facility Operations Plan.

7-40 Not only do the water quality data contradict this statement, the Regional Board has made it unequivocally clear that a no action alternative is unacceptable and could lead to severe enforcement consequences within the project area. Regarding alternative methods of managing wastewater (which is not the same as a No Action Alternative), an upgraded septic tank system that could remove nitrates and other contaminants is expected to cost more per unit (estimated to be about $25,000 to install and operate) and the Regional Board has made clear that this is not an acceptable alternative. An alternative system based on selective location of package treatment plants is problematic as described in response to comment 7-9, and again consideration of an alternative other than a centralized wastewater treatment system is precluded (infeasible) due to the Regional Board's direction to only consider a centralized system. Based on this infeasibility, an alternative such as described was not given further consideration.

7-41 Please refer to response to comment 7-40. The cost issue is a very important political and economic decision for the community, but is not a major concern in an environmental document for the reasons previously presented.

7-42 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project. Waterless urinals are now well accepted and common. Such urinals, however, are not being used in private homes to any significant extent, and do not address the need for toilets, where a waterless alternative has not become common and accepted.

7-43 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project. As previously noted, pipeline breaches due to seismic events can be controlled by engineering design, as noted under response to comment 7-6.

7-44 The vadose zone is physically determined at any location where a well exists. Then, using the data from all wells and other geophysical methods of data collection, groundwater contours can be drawn that reasonably estimate the elevation of the groundwater table throughout a basin. By comparing the groundwater elevation and actual ground surface elevation, the vadose zone throughout the Basin can be estimated fairly accurately, leading to groundwater elevation contours relative to the ground surface.

7-45 The WRF site was relocated, after a Blue Ribbon Panel reviewed site options, with extensive public outreach. The original site, had opposition from local neighbors. The technical merit of the original site and current site are well documented.

7-46 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project. The parameters were weighted and the alternatives scored using the best professional judgment of the engineering consultant.

Low Initial Capital Cost 15%
Low O&M Cost 35%
Small Footprint 5%
High Treatment Reliability 15%
Simple O&M 10%
Flexibility for Future 20%
The results of a weighted matrix evaluation of the four alternatives are shown on Table 2-10.

7-47 Ramon: How were these values obtained in terms of objective evidence for the weight assumed?

**Table 2-10**
**MATRIX COMPARISON RESULTS FOR TREATMENT ALTERNATIVES**
**Treatment Alternative Weighted**
**Score Dif.**
Alternative 1 - Extended Aeration 6.85 98%
Alternative 2A - High Rate MBR 5.90 84%
Alternative 2B - Extended Aeration MBR 7.00 100%
Alternative 3 - Conventional Activated Sludge 5.35 76%

7-48 Ramon: Ramon: How were these values obtained in terms of objective evidence for the weight assumed? Please include method and written procedure approving the test procedure.

Risk Assessment of Treatment Alternatives
The comparison described above is based on the expected performance requirements, site conditions, and other assumed factors. In reality, the project faces a number of risks that are not directly addressed in the comparison. Table 2-11 lists a number of risks, and which alternatives would be less than impacted by them.

7-49 Ramon: What are the quality levels? How tested to determine mean time between system components failure and system attributes...in order to provide reliability factors to define risk?

**Table 2-11**
**TREATMENT ALTERNATIVE RISK ASSESSMENT**
**Risk Likelihood Impact Preferred Alternative(s)**
1. Geotechnical Low Medium 2A- High Rate MBR
2B- Ex Aeration MBR
2. Material Cost Increases Medium Low 2A- High Rate MBR
2B- Ex Aeration MBR
3. Low Perc Rate/High Dilution Req Low High None
4. Energy Availability Medium Medium 1- Extended Aeration
5. Vendor Reliability Low High 1- Extended Aeration
6. Emerging Contaminants Medium High 1- Extended Aeration
2B- Ex Aeration MBR
7. Future Treatment Requirements Medium High 2A- High Rate MBR
2B- Ex Aeration MBR
1. Geotechnical Risks - A geotechnical investigation will need to be completed prior to the construction of a treatment plant. These unknown condition may influent the placement of the treatment facility on the site. Facilities with a large footprint have a higher risk that unfavorable geotechnical conditions will impact either the cost of the facilities or even the ability to built the facilities all together. The high rate and extended aeration MBR alternatives are the preferred alternative when it comes to the risk associated with geotechnical issues due to the small footprint of these treatment trains.
2. Material Cost Increases - Facilities with big structures require large quantities of concrete and rebar for construction. The last decade has shown large relative increases in the cost of both concrete and steel. Such increases could increase the final bid cost for the project. Therefore, treatment trains with a small footprint and lower concrete requirement will reduce the risk

7-47 Refer response 7-46. The values were based on best practices, experience, industry standards and concurrence from the HDWD professional staff.

7-48 Refer to responses 7-46 and 7-47. The evaluation comprised a rating system for which methods and procedures that might be appropriate for a test procedure, do not apply.

7-49 The alternatives were assumed to all be constructed to the same level of quality and reliability. The differences in reliability, therefore, reflect the nature of each alternative.

7-50 The highlighted portions of the text were in draft versions of the document. The final table does not have any such highlights. Please refer to the previous four comments regarding methods, procedures and logic. The detailed information is presented in the Pre-Design Report.

Monitoring of air quality in the San Bernardino County portion of the MDAB is the responsibility of the MDAQMD headquartered in Victorville. Because of the low population density within the MDAQMD, limited monitoring resources are distributed over a relatively large geographic area. The heaviest concentration of measurement is in the area of greatest development, the Mojave River corridor. Air quality monitoring for ozone, the primary ingredient in regional photochemical smog, nitrogen oxides, sulfur oxides, carbon monoxide, and respirable particulate matter (PM10) is conducted at the Twentynine Palms monitoring station, which is closest station to the Yucca Valley project area. Data for 2000-2002 for some parameters are shown on Table 3-2. No violations of the federal one-hour ozone standard occurred at this station in this period, but days exceeding the federal eight-hour standard were 4-13. The number of days exceeding the state standard for ozone ranged from 3-16. No violations of federal standards for PM10 occurred in this period, but the State PM10 standard of 50 ug/m3 was exceeded on 1-16 days.
As summarized above, ozone and particulates are seen to be occasional air quality concerns in the Yucca Valley area. Exceedances of the more stringent state standard for Ozone and PM10 have occurred periodically in the area. Although the magnitude of violations of ozone standards is much less severe than in the SoCAB, the combination of the downwind location of Yucca Valley, and the continued growth of upwind communities in Riverside and San Bernardino Counties as a pollution source area for the project area, suggests that currently observed violations will continue until the SoCAB meets ambient air quality standards. Violations of particulate standards in the project area have been linked more to localized soil disturbance and windstorms than the organic particulate matter from vehicle exhaust found in the more heavily populated areas of southern California. Violations of particulate standards due to inorganic soil materials are thought to be less unhealthful than those generated by combustion sources such as industry and motor vehicles. Clean air attainment planning requirements, however, do not distinguish between organic and inorganic pollutants. Because of the occasionally high levels of respirable particulate matter (PM10) associated with strong wind events, substantial portions of the MDAB are designated as a federal non-attainment airshed for PM10. While "imported" pollutants such as ozone and, to some extent, particulate matter do on occasion exceed standards, locally generated pollutants such as carbon monoxide (CO) or nitrogen oxides (NOx) are low within the Yucca Valley area because background levels never exceed allowable levels and the sources of such emissions within the project area are limited. The Mojave Desert area experiences very low baseline levels of primary (other than photochemically reacted) automobile pollution such that the local airshed appears capable of accommodating identified future growth with very nominal localized air quality concerns. Although the dispersive capacity of the atmosphere in the desert is limited when cool air pools near the surface at night during the cooler months, a much larger level of development, such as occurs in Las Vegas or Phoenix (one plus million people), is needed to create violations of CO or NOx standards. Comparison of the size of forecast population growth (population of 19,200 people in Yucca Valley in 2000, with a conservatively high 3% annual growth rate, would increase to 25,804 by 2010) with the scope of development needed to create a significant air quality impact indicates that this growth is not forecast to generate significant impacts from CO or NOx.

7-51 Ramon: Buildout numbers provide for a 6 mgd treatment facility with potentially another built on the mesa and being considered for Joshua Tree. The JTNP currently is the most polluted park in the national park system. Please explain how the conclusions of no significant impacts from CO or NOx was determined?

**Table 3-1**
**STATE OF CALIFORNIA AIR RESOURCES BOARD AMBIENT AIR QUALITY STANDARDS**
(Omitted without comment)

**Table 3-2**
**AIR QUALITY DATA**
**FOR TWENTYNINE PALMS MONITORING STATION**
**Parameter Days Exceeding**
**Federal Standard**
**Days Exceeding**
**State Standard Maximum Reading**
(Omitted without comment)

7-51 The basis for concluding that the proposed project will not cause significant pollution is the *"De Minimis"* pollutant generation thresholds provided on page 62 of the IS/EA. First, there are no CO ambient air quality violations within the Mojave Desert Air Basin, i.e., the Basin is in attainment for this pollutant. Second, the MDAB is also in attainment for nitrogen oxides (NOx). The concern regarding NOx emissions is their contribution to ozone and particulate pollution. However, the overall emissions from future plant operations (NOX) fall well below the *"De Minimis"* threshold. The pollution problem in the Town and Joshua Tree National Park is due to pollutants being transported into the project area from the South Coast Air Basin. Since most NOx emissions are associated with power generation (which is dispersed throughout the western United States), the proposed project was concluded to not cause significant air quality impacts.

### 3.1.5 Air Quality Planning
(Omitted without comment)

## 3.2 HYDROLOGY AND WATER QUALITY
### 3.2.1 Regulatory Setting
(Omitted without comment)
### 3.2.2 Surface Water
The project area encompasses the sewer collection system and the Hi-Desert water reclamation facility (WRF) site. There are no perennial or permanent water bodies, lakes or streams, within the project area. There are several ephemeral or intermittent stream channels within the project area. None of these eight-to-ten ephemeral channels in the project area are formally named on the United States Geological Survey (USGS) Topographic maps of the project area.

7-52 Ramon: The USGS has not tested the Yucca Valley Township and there has not been a water survey of the town. This could account for no evidence from the given agency. However, there is evidence of washes that display the physical characteristics of riparian and/or blueline watershed. Ref. Mahaffey & Mendoza report on the existing hydrogeological status submitted to the CRWQC-TAC showing watershed from the Joshua Tree National park that has a greater rainfall than the Morongo Valley, nonetheless, that watershed create plant life that qualifies as riparian in nature. Additionally the watershed into the east most Warren Basin minimum water user, The Institute of Mental Physics/Joshua Tree Retreat exhibits meaningful habitat and watershed though the Yucca Barrier to sustain the riparian stream running west to east.

The streams originate in the Little San Bernardino Mountains to the south and in the Sawtooth Mountain ridge that bounds the project area to the north. The largest stream is locally referred to as "Yucca Wash." During major precipitation events it collects flows from the tributary "blue line" stream channels shown on these USGS Topographic Maps (Yucca Valley North and South, and Joshua Tree North and South, 7.5' Topographic Maps).

7-53 Ramon: The origin of water coming out of the Covington Flats and the west end of the JTNP have already been given to have riparian water shed streams, as evidenced by what remains of riparian growth in the alluvial fan reseeding into the basin where the water saturated aquifers exist as defined by USGS reports.

For most of the WRF site and most of the remaining project area, surface runoff occurs as sheet flow that ultimately enters the alignment of the ephemeral channels. Note the term "blue line" refers to a stream channel with a defined bed and bank as it is shown on a USGS Topographic Map. Refer to Figure 2-1.

7-54 Ramon, the Army corps of Engineers and the State of California define blueline differently however San Bernardino County USGS blue-line creeks or through field verification ordinance. It is also noted that the Town of Yucca Valley also defines blueline consistent with State of California Fish and Game definition. Therefore, I disagree with the conclusions of the paragraph in question.

The proposed WRF site contains one surface water feature, a blueline, ephemeral desert wash, which traverses the western portion of the site. This ephemeral stream originates in the Little San Bernardino Mountains to the south. The wash flows southwest to northeast across the property and exits the property where it flows beneath SR 62. From there, this dry desert wash extends to the northeast until it has a confluence with Yucca Creek Wash and continues to flow east into the Community of Joshua Tree.

7-55 Ramon: in light of previous statements already discussed, this paragraph too is flawed in content and matter. Additionally this comment is extended to the yellow highlighted statements below, as either being wrong in or validating the issue of the riparian definition for the Hi-Desert Morongo Basin Region.

From there Yucca Creek Wash then flows north to dry lakes, which are considered isolated waters of

7-52 Please refer to response to comment 7-35. As previously stated, the Town does not contain any true riparian vegetation, such as that found in the Big Morongo County Park. No adverse effect to the onsite stream channel or downstream stream channels is forecast to result from project implementation based on the current WRF design and footprint. If some of the habitat along the stream channel on the west side of the proposed WRF site is adversely impact, it must be offset through mitigation required in measure 4.2-4.

7-53 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project. None of the referenced sites are located on the proposed WRF site or downstream. Therefore, no adverse impacts to them can occur.

7-54 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project. Please refer to previous comments, including 7-35. The referenced statement is accurate.

7-55 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project.

the United States. The wash receives flows primarily from the upland areas south of the site that extend to the front of the north facing slopes of the Little San Bernardino Mountains. According to the biological assessment conducted by Frank Hovore & Associates in July 2004, the wash is sparsely vegetated by Joshua tree-creosote scrub in the upland areas, desert willow within the wash bottom, annual wildflower species in the open terraces along the bottom margins, and Mormon tea, which dominates the overall drainage. For the remainder of the project area, the future sewer lines will occasionally cross an ephemeral stream channel along its alignment. In most cases these crossing will occur within existing paved and graded road rights-of-way. Based on the field survey of the sewer line alignment, no wetlands or riparian habitats are located within the proposed project area or along the pipeline alignments. Because these stream channels are isolated and ephemeral, the preliminary finding is that they are not subject to U.S. Army Corps of Engineers (Corps) Clean Water Act Section 404 jurisdiction, i.e., they are not waters of the United States. On the other hand the channels appear to be waters of the State of California and are within the jurisdiction of the California Department of Fish and Game (CDFG). A CDFG 1602 Streambed Alteration Agreement will need to be obtained for any disturbances of the ephemeral stream channels within the project area. Finally, it is also probable that the California Regional Water Quality Control Board, Colorado River Basin (Regional Board) will assert jurisdiction under its Porter-Cologne responsibilities and require waste discharge requirements for these disturbances.

According to the Town of Yucca Valley General Plan (1995) Exhibit V-3, the WRF project site is located within a Zone A flood hazard area, which designates areas of 100-year flooding. As presently envisioned, the WRF will be located to the east of the 100-year flow line, but based on final engineering the WRF facilities may encroach within this area.

### 3.2.3 Groundwater

The water supplied to Yucca Valley is extracted from the Warren Valley Groundwater Basin and the Ames Basin. The District is the principal water purveyor servicing the Yucca Valley area. The District obtains all of its water supplies from 13 active wells that pump groundwater from the Warren Valley Groundwater Basin. Fifteen of these wells are generally located along the Yucca Wash or Creek, with two located on the Mesa to the north. Current estimated production is approximately 3,000 acre-feet per year (acre-ft/yr). According to the District, it also has rights for up to 800 acreft/ yr from the adjacent Ames Valley Basin. The District also receives imported water from the Mojave Water Agency (MWA) and the State Water Project (SWP) to supplement local groundwater supplies. This water is piped to the project area and recharged into the Warren Valley Basin through a series of recharge basins in Town of Yucca Valley along Yucca Creek Wash.

7-56 Ramon: It is believed that the majority of the water that is consumed for drinking is now purchased water from local grocery stores or from bottled water sources.

According to a U.S. Geological Survey study, published in 1972 (USGS 1972), the Warren Valley Groundwater Basin was reported to be small and not exceeding 200 acre-ft/yr of natural recharge.

7-57 Ramon: The comparison to the Fenner Valley/Cadiz study and the test well in the Ames Basin by Dr. Joe Birman has already been discussed as showing the USGS model of the 1972 model to be "very conservative" as explained by Dr. Birman concerning the differences in geological status and test for hydrological conditions to support claims made in litigation between the HDWD and the Big Horn/Desert View Water District. The error factor was given as being off by a factor of 10; hence the 200 acre feet figure would be 2 million acre feet or enough water for more than 8 million people one year. In other words, 10 years of water without counting normal recharge. Normal recharge can be verified by a Water Survey, as recommended by the EPA 2004 to Congress.

Groundwater pumped from wells in the 1950s and 1960s was used chiefly for domestic uses. The groundwater in storage in 1958 was computed to be 106,000 acre-ft. It was surmised that the consumptive-use in the basin since 1958, i.e., until 1972, still yielded at least 96,000 acre-ft of groundwater in storage. Since the late-1990s the District has been importing and recharging groundwater in recharge basins constructed for this purpose. The imported water has been used to offset and eliminate any continued cumulative contribution to overdraft of District operations.

7-56 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project.

7-57 Please refer to response to comment 7-29. Common sense should indicate that the Warren Valley Basin does not receive 2 million acre-feet of annual recharge. Why, because it just does not make sense. Assume the Warren Valley Basin contains 100 square miles. To receive 2 million acre-feet of annual recharge (about 35,000,000,000 gallons) would require each square mile to receive over 20,000 acre-feet per year, or about 375 inches of rainfall per year, assuming no losses to evaporation or transpiration or outflow. As noted, this is patently absurd when the community typically receives between 4-5 inches of precipitation per year. Even at 1,000 square miles of drainage basin, it still requires 37.5 inches of rainfall to equate to 2 million acre-feet of annual recharge. The USGS did not develop a groundwater flow model for the Ames Basin in 1972. The USGS developed a groundwater flow model for the Warren subbasin utilizing measured aquifer property data (transmissivity and storage) and water-level data. The model was calibrated to 1956-2001 conditions. The calibrated model indicates that natural recharge to the Warren subbasin is about 83 acre-feet per year.

7-58 Ramon: the issue of overdraft is an assumed condition that has no Water Survey science to support the conclusion. In fact there is more related data that would conclude that supporting data is contrary to the conclusions made.

### 3.2.4 Water Quality

According to the Regional Board's Water Quality Control Plan (page 2-3), the groundwater resources in the Warren Valley Groundwater Basin are considered suitable for municipal or domestic water supply. The Warren Valley Groundwater Basin is part of the Joshua Tree Hydrologic Unit (708.00 Area Code) and is designated as the Warren "Hydrologic Area" (HA) (708.20 Area Code) on the Colorado River Hydrologic Basin Planning Area Map. Table 2-5 identifies the beneficial uses of groundwaters in this Basin to support municipal (MUN) and industrial (IND) beneficial uses. Regarding water quality, the Warren Valley Groundwater Basin was considered to be historically low in dissolved solids. Concentrations ranged from approximately 120 to 250 mg/L, and averaged about 160 mg/l, according to data from a 1972 study (USGS 1972). Fluoride concentrations in that time period ranged from 0.2 to 1.0 mg/L, and averaged 0.4 mg/L. No concentrations of ions in excess of the limits recommended by the U.S. Public Health Service at that time were reported. A more recent study (USGS 2002) focused on lithologic and water quality data for the years 1992-1998. Two monitoring stations were developed in the Warren Groundwater Basin, YV-1 and YV-2. Dissolved solids for station YV-1, depths of 230-570 feet below-ground surface, ranged from 158-502 mg/L. Dissolved solids for station YV-2, depths of 300-570 feet below-ground surface, ranged from 179-309 mg/L. Dissolved nitrogen (NO2 and NO3) levels, expressed as mg/L of N, ranged from 2-30.3 mg/L for station YV-1 and from 1.09-11.2 mg/L for station YV-2. Concentrations of nitrate above 10 mg/L are considered unhealthy for routine human consumption, and small babies may be at risk with even lower concentrations.

7-59 Ramon: It is noted that the HDWD did not test for bacteria hetre.-plate count until 2008, which is known to identify the probable cause of nitrate and can be used to control and eliminate the nitrates from even blackwater.

*In support of the evaluation of potential adverse effects from implementing the proposed Hi-Desert WRF, the U.S. Geological Survey (refer to Appendix 3) recently collected water quality samples from the piezometer at the monitoring site (1N/6E-32G01S) and from a production well located on the Mental Physics property (1N/6E-28N01S). Both are located within the East hydrologic unit of the Warren Groundwater Basin. The water samples from the wells were analyzed for general chemistry, nutrients and selected isotopes and pharmaceuticals. The water quality data are presented in Tables 3-3 and 3-4. According to the analysis of water quality presented by the U.S. Geological Survey, All of the constituents analyzed had concentrations below the U.S. Environmental Protection Agency (EPA maximum contaminant level (MCL), with the exception of nitrate plus nitrite analyzed* in the February 2009 sample from 1N/6E-28NP1S (the Mental Physics well).

This nitrate plus nitrite concentration was analyzed to be 18.4 mg/L as N; The EPA MCL for nitrate is 10 mg/L. The pharmaceutical results were available only for Well 32G1 (WRF onsite piezometer) because insufficient volume of water was available from well 28N1. As shown in Table 3-4, none of the pharmaceuticals analyzed exceeded detection levels.

According to the Town of Yucca Valley General Plan Water Resources Element, there are several sources for groundwater contamination within the area, including septic tank systems, underground oil and gas storage tanks, and a District well, which has already been capped and filled.

7-60 The Mental Physics site has three wells. The two wells in the Yucca Wash are not in use because of nitrate contamination. The well nearest to the state highway 62 is being currently used. The report does indicate that the well in use at Mental Physics exhibited high amounts of nitrate (1N/6E-28N01S). This well takes water coming from the Covington Flats Area.

There is no scientific proof that septic tanks are the cause of these nitrates. There is evidence that water was percolated too fast and caused recharge water to reach septic tanks in the recharge area (off of Old Women Springs Road. There is also the question of test data regarding the septic tank systems involved with this finding. There is no mention that the septic tanks were tested at the Mental Physics site.

7-58 The water pumping data clearly indicate that prior to importing State Project Water, the water table was declining, in some cases substantially. The overdraft finding is consistent with published data. Measured water-level data indicate that the water table declined by as much as 300 feet from the 1940's-1994. The decline in water levels indicates that there was an imbalance between recharge and discharge (overdraft). As previously noted, science and a mathematically validated model were used to make the forecasts regarding the proposed project's groundwater effects. A "Water Survey" is not necessary to make the forecasts contained in the USGS model.

7-59 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project. Please refer to response to comment 7-27. The cause of the nitrate problem has been well established by previously published study.

7-60 Please refer to response to comment 7-7. Available water-quality data (nitrate and chloride) indicate that the source of elevated nitrate concentration is septic-tank leachate. The nitrate and chloride concentrations have more than doubled from 1999 to 2009. The fact that the concentration of septic tanks is leading to a substantial accumulative of contaminants, of which nitrates are just the first identified, is both reasonable and substantiated by data on the content of septic tank wastewater discharges. Please refer also to response to comment 7-27

### 3.2.5 Water Quality Planning

The Water Quality Control Plan, or "Basin Plan," for the Colorado River Basin Region (California RWQCB 1994) describes the beneficial uses and water quality objectives for both surface and groundwaters within its jurisdiction. As noted above, the proposed project is generally located in the Morongo Basin, more specifically in the Joshua Tree Hydrologic Unit (HU) and the Warren [Basin].

7-61 Ramon: The Warren Basin extends into the Joshua Tree community, but all of the Warren Basin is required to be monitored by the HDWD, where samples may be subject to suspect due to lack of procedure and monitoring are stipulated by the court adjudication on the Warren Basin. The Joshua Tree community may be receiving contaminated water flowing across the so-called Yucca Barrier.

**Table 3-3**
**GENERAL CHEMISTRY, NUTRIENTS, AND SELECTED ISOTOPES FOR WELLS 1N/6E-29N1 AND 1N/6E-32G1**
(Omitted without comment)

**Table 3-3 (page 3 of 3)**
(Omitted without comment)
**Table 3-4**
(Omitted without comment)

### 3.2.6 Water Supply Planning

(Omitted without comment)

### 3.3 UTILITIES / SERVICE SYSTEMS

(Omitted without comment)

### 3.3.1 Domestic Water

(Omitted without comment)

**Table 3-5**
**GROUNDWATER PUMPING RIGHTS IN ACRE-FEET PER YEAR**
**Party to the Adjudication Pumping Right (AF/Yr)**
(Omitted without comment)

**Table 3-6**
**CURRENT AND PLANNED WATER SUPPLIES IN ACRE-FEET**
**Water Supply Sources 2005 2010 2015 2020 2030**
(Omitted without comment)

**Table 3-7**
**ACTUAL AND PROJECTED WATER CONSUMPTION IN ACRE-FEET**
**2005 2010 2015 2020 2030**
(Omitted without comment)

### 3.3.2 Sewage Treatment

Onsite subsurface septic tank-leach systems are used throughout the Yucca Valley area, for residential, commercial and industrial operations. There is no regional wastewater treatment facility. However, due to the effects of these individual systems on nitrates and total dissolved solids levels in groundwater resources, the District constructed a Nitrate Removal and Blending Plant, which treats multiple groundwater wells. Operations began in 2002. Some larger commercial or residential developments may utilize package wastewater treatment systems.

7-62 Ramon: The nitrate problem cannot be shown to exist at some wells and the cause has already been discussed. The problem can be controled by testing for bacteria , total nitrogen and ammonia.

### 3.3.3 Solid Waste Disposal

7-61 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project.

7-62 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project. Testing does not control a contamination problem. Specific action, such as the proposed HDWD WRF, is required to control a contamination problem, such as the nitrate pollution identified within the Basin.

(Omitted without comment)

**3.3.4 Natural Gas**
(Omitted without comment)

**3.3.5 Electric Power**
(Omitted without comment)

**3.4 LAND USE / PLANNING**
**3.4.1 Regulatory Setting**
(Note that parts of this were omitted, to focus on the element effected by the comment given.)
The proposed project is located within the Town of Yucca Valley in San Bernardino County. The project area is subject to regional and local planning guidance and regulations. The only federal and state land use policies or regulations that would potentially affect the project are those for specific resources (such as for mineral and biological resources).

7-63 There are federal endangered species issues, habitat, and blueline exhibited conditions that are federal responsibilities.

Otherwise, the project area is subject to county-wide and regional planning efforts in regional growth management and environmental management, particularly for congestion management (transportation) and solid waste management issues. The project area is also subject to regional planning efforts, in which regional comprehensive plans for growth management, mobility/transportation, and air quality management apply. The governing land use documents are the San Bernardino County General Plan and the Town of Yucca Valley General Plan and associated Zoning Ordinances and Development Codes. Applicable plans will be described in the following section, in the context of consistency of the proposed project with these plans.

Consistency with State, Regional and Local Plans
There are currently no adopted Habitat Conservation Plans, Natural Community Conservation Plans, or other approved local, regional, state habitat conservation plans associated with the proposed project area. Therefore, no potential exists for conflicts with any such plans from implementing the proposed project. There are no designated Wild and Scenic Rivers in the project area. The area is not within a Coastal Zone Management Area.

Therefore, the federal and state plans associated with such designated areas do not apply to the proposed project.

7-64 Ramon: Disagreement on the stated conclusion has already been given. In addition the Open Space Planning Group locally has given that habitat corridors exists in the project area. About 75% of the project is within the land planning authority of the Town of Yucca Valley, with the Mental Physics site under the land use authority of the San Bernardino County. This dual responsibility for land use decision is a problem for management of the ground water and raises many questions as to proper water testing and realization of water management to state and local standards due to lack of a test plan and quality control attributes and metrics.

**3.5 TRANSPORTATION / TRAFFIC**
(Omitted without comment)

**3.5.2 Local Area Circulation System**
(Omitted without comment)

**3.6 NATURAL RESOURCES**
**3.6.1 Regulatory Setting**
This section of the document discusses ecological system and natural community issues of concern. The focus of this section is on biological communities, not individual plants or animal species. This section also includes information on wildlife corridors and habitat fragmentation. Wildlife corridors

7-63 The referenced issues are addressed in their respective sections. For example, endangered species regulations are discussed under biology and stream channel regulations are discussed under both hydrology and biology. The federal government does not have any direct land use or planning authority within the project area.

7-64 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project. The Regional Board is responsible for water quality issues, the Department of Public Health is responsible for overseeing public water supply systems, and water rights are under the authority of the State Water Resources Control Board or the courts. Regarding land use and planning in relation to water resources, the local land use jurisdiction, be it the Town or County, is responsible for balancing potential development with water resource availability.

are areas of habitat used by wildlife for seasonal or daily migration. Habitat fragmentation involves the potential for dividing sensitive habitat (unique natural communities or natural communities of concern) and thereby lessening its biological value. Habitat areas that have been designated as critical habitat under the Federal Endangered Species Act are discussed in a following section which addresses threatened and endangered species, and wetlands and other waters of the United States and State of California are also discussed in a following section of this document. Wetlands and other waters are protected under a number of laws and regulations. At the federal level, the Clean Water Act (33 U.S.C. 1344) is the primary law regulating wetlands and waters. The Clean Water Act (CAA) regulates the discharge of dredged or fill material into waters of United States, including wetlands. Water of the United States include navigable waters, interstate waters, territorial seas and other waters that may be used in interstate or foreign commerce. To classify wetlands for the purposes of the CAA, a three-parameter approach is used that includes the presence of hydrophytic (water-loving) vegetation, wetland hydrology, and hydric soils (soils subject to saturation/inundation). All three parameters must be present, under normal circumstances, for an area to be designated as a jurisdictional wetland under the CAA. Section 404 of the CAA establishes a regulatory program that provides that no discharge of dredged or fill material can be permitted if a practicable alternative exists that is less damaging to the aquatic environment or if the nation=s waters would be significantly degraded. The Section 404 permit program is run by the U.S. Army Corps of Engineers (Corps) with participation and some oversight by the federal Environmental Protection Agency (EPA).

The Executive Order for the Protection of Wetlands (EO 11990) also regulates the activities of federal agencies with regard to wetlands. Essentially, this EO states that a federal agency, such as the FRA, cannot undertake or provide assistance for new construction located in wetlands unless the head of the agency finds: (1) that there is no practicable alternative to construction and (2) the proposed project includes all practicable measures to minimize harm. At the state level, wetlands and waters are regulated primarily by the California Department of Fish and Game (CDFG) and the Colorado River Regional Water Quality Control Board (Regional Board or RWQCB). Sections 1600-1607 of the Fish and Game Code require any agency that proposes a project that will substantially divert or obstruct the natural flow of or substantially change the bed or bank of a river, stream, or lake to notify CDFG before beginning construction. If CDFG determines that the project may substantially and adversely affect fish or wildlife resources, a Lake or Streambed Alteration Agreement will be required. CDFG jurisdictional limits are usually defined by the tops of the stream or lake banks, or the outer edge of riparian vegetation, whichever is wider. The Regional Boards were established under the Porter-Cologne Water Quality Control Act to oversee water quality. This is done through the issuance of water quality certifications in compliance with Section 401 of the Clean Water Act when the area of potential effect is located in waters of the United States. When only State waters are involved in the discharge of dredged or fill material, the Regional Board can review and issue waste discharge requirements (WDR) under the Porter-Cologne Act to achieve the same water quality protection objectives.

7-65 Ramon: Disagreement on the conclusions as stated here have already been discussed; additionally, the issue of habitat now known and the issue of riparian notes that these issues are arguable under the laws of the Environmental Justice process.

### 3.6.2 Biological Resources

As part of the work for the General Plan, the Town of Yucca Valley and surrounding areas were categorized and mapped for Biological Resources Values (Tierra Madre Consultants, 1994). The proposed WRF project site is considered to be in a High Biological Resource Value area, due to the fact that it is an undeveloped area vegetated by native scrub and woodland habitat. A blueline, [and] ephemeral desert wash traverses the western portion of the project site. The wash originates from the southeast corner of the property and receives flows from the Little San Bernardino Mountains and alluvial upland areas to the south. The WRF site remains undeveloped at this time. According to the General Plan (1995), surveys of vacant lands must be completed and project proposals are reviewed and evaluated to assure minimal impacts to existing habitat and wildlife. Most of the sewer collection system will be placed in existing paved or graded roadway alignments. All of the sewer alignments shown on Figure 2-2 were surveyed by biologists and support staff of Tom Dodson & Associates. Biology surveys of both the 80-acre proposed WRF site and the sewer pipeline alignments are provided as Appendix 4 to this IS/EA. The following characterizes the general plant community (ies) and wildlife habitat that occurs within the proposed WRF and sewer

7-65 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project.

pipeline project areas.

Flora

The project's general area of potential impact is located within the predominant plant communities of the Town, Joshua Tree Woodland and Creosote Bush Scrub. The Joshua Tree Woodland is a state designated Community of Highest Inventory Priority. According to the Biological Assessment completed for the General Plan (Tierra Madre Consultants ,1994) the Joshua Tree Woodland community is an open woodland with the Joshua tree (*Yucca brevifolia*) as the only tree-like species, and with numerous shrub species between 3-13 feet tall. These shrubs include: the Mojave yucca (*Yucca shidigeria*), California juniper (*Juniperus californica)*, peachthorn (*Lycium cooperia*), boxthorn (*Lycium andersonii*), joint-fir (*Ephedra* spp.), creosote bush (*Larrea tridentata*), burrobush (*Ambrosia dumosa*), goldenbush (*Haplopappus* spp.), cheesebush (*Hymenoclea salsola*), and cacti (*Opuntia* spp. and *Echinocereus* spp.). This plant community also contains many annual plants, perennial grasses, and introduced plants from local landscaping activities. The Creosote Bush Scrub community also occurs in the general area of the project and is similar to the Joshua Tree Woodland, but it is dominated by the creosote bush with scattered Joshua Trees. It is sometimes difficult to distinguish the two.

The Town of Yucca Valley requires developers to salvage native joshua trees and shrubs for incorporation in project landscaping or to transplant trees to other sites. The Town has a Joshua Tree Removal permit process. The District would be subject to these requirements. Additionally, San Bernardino County Ordinance 3175 recommends that all creosote bush rings greater than 10 ft. in diameter be preserved. Native plants such as cactus are to be salvaged. The proposed WRF site contains several Joshua Trees, creosote bush, Mojave yucca, cheesebush, annual plant species, and cacti. A site-specific biological assessment was conducted for this area and is provided as Appendix 4 to this document. The proposed pipeline routes are located primarily along previously disturbed road rights-of-way. However, in certain areas both the sewer pipelines and pump stations cross undisturbed areas, including ephemeral stream channels which are described in the surface water hydrology discussions above (Section 3.2). A site-specific biological assessment was conducted for the sewer line alignments and is provided as Appendix 4 to this document.

The biological assessments indicated that the plant community at the proposed WRF site is Creosote Bush Scrub, dominated by the creosote bush (*Larrea tridentata*), cheesebush (Hymenoclea salsola), Joshua trees (*Yucca brevifolia*), desert senna (*Senna armata*), and mormon tea (*Ephedra nevadensis*). Hedgehog cactus (*Echinocereus Engelmanii*), teddy-bear cholla (*O. Bigelovii)*, pencil cactus (*O. Ramosissima*), buckhorn cholla (*O. Acanthocarpa*) and beavertail (*Opuntia basilaris var. basilaris*) also occur in the wastewater treatment plant site. The wash area is also dominated by Creosote Bush Scrub intermixed with Mormon tea. The wash bottom is inhabited by desert willow (*Chilopsis linearis*) and a variety of annual wildflower species. Refer to the species list in Appendix 4 which shows all plants identified at the wastewater treatment plant site. The same general list of plant species were found along the pipeline alignments where these alignments crossed undisturbed or disturbed natural communities. Refer to the species list in Appendix 4.

Fauna

Several sensitive and one listed (i.e., threatened or endangered) animal species occur within the Town, as associated with the above plant communities. Those species included in the biological survey for the General Plan (Tierra Madre Consultants, 1994) included: 42 species of reptiles – desert spiny and fence lizards, snakes (gopher snake and several types of rattlesnake), and the threatened desert tortoise and sensitive San Diego horned lizard; 235 species of birds – the sensitive burrowing owl, loggerhead shrike and LeConte's thrasher, as well as numerous raptor and songbird species; 59 mammal species–several types of bats, desert cottontail, jackrabbit, ground squirrels, kangaroo rats, coyote, raccoon, bobcat, mountain lion, and mule deer. A focused Desert Tortoise Survey (following the survey protocol established by the USFWS) was conducted by Frank Hovore & Associates in 2004 as part of the biological survey. No tortoises and no recent or historical signs of tortoises (burrows, scat, carapaces) were observed on the project site or in its zone of influence. The Burrowing Owl (*Speotyto cunicularia*) and LeConte's thrasher are federal and state Species of Special Concern. Due to the use by off-road vehicles throughout the Town and project area, these species are not expected to be present on the project site. In addition, there was no evidence of use of the project area by these species. However, cactus wren (*Campylorhynchus brunneicapillus*), house finch (*Carpodacus mexicanus*), Gambel's quail (*Callipepla gambeli*), blackthroated sparrow (*Amphispiza bilineata*), lark sparrow (*Chondestes grammacus*), western

meadowlark (*Sturnella neglecta*), and mourning dove (*Zenaida macroura*) bird nests were encountered in the project area, as well as nesting behavior observed in other bird species. The State of California prohibits the take of active bird nests (California Fish and Game Code Sections 3503 and 3503.5). Other bird species observed within the project area (both sewer line alignments and WRF site) include common raven (*Corvus corax*), northern mockingbird (*Mimus polyglottos*), European starling (*Sturnus vulgaris*), Brewer's sparrow (*Spizella breweri*), ash-throated flycatcher (*Myiarchus cinerascens*), western kingbird (*Tyrannus verticalis*), and American kestrel (*Falco sparverius*). The most common reptile observed was the side-blotched lizard (*Uta stansburiana*). Other reptiles observed onsite were the Great Basin desert whiptail lizards (*Cnemidophorus t. tigris*), yucca night lizard (*Xantusia v. vigilis*), and long-nosed leopard lizard (*Gambelia wislizenii*). The only snakes observed on the WRF site were two red racers (*Masticophis flagellum piceum*). Wildlife on the WRF site included species observed directly or by indicative sign (scat, tracks, burrows, nests or calls). Mammals included the kangaroo rat (*Dipodomys* sp.), Audubon's (desert) cottontail (*Sylvilagus audubonii*), antelope ground squirrel (*Ammospermophilus lsucurus*), Botta' Pocket Gopher (*Thomomys bottae*), and desert woodrat (*Neotoma lepida*).

As a result of the desert tortoise protocol surveys of the WRF site and the sewer line alignments, no desert tortoise were identified with project areas of potential effect. Refer to Appendix 4 for a complete species list and discussions of other sensitive animal species.

### 3.6.3 Geology and Soils

Regulatory Setting

The key federal law related to these issues is the Historic Sites Act of 1935, which established a national registry of natural landmarks and protects "outstanding examples of major geological features."

Hazards as they relate to public safety are also concerns for project design. Of primary importance to the project area is that of seismic hazards. The anticipated Maximum Credible Earthquake (MCE) and location of fault zones are important criteria that drive the design and retrofit of structures. The state, county and local hazards overlays are used to assess the risks of proposed projects.

Affected Environment

Geologically, the project area and surrounding vicinity are at the boundary of the Transverse Ranges and the Mojave Desert Geomorphic Provinces. The hills and mountains trend in an eastwest direction, with the Pinto and Eagle Mountains to the east and the Santa Monica and Santa Ynez Mountains to the west. The immediate valley in the Town of Yucca Valley is bounded by the Little San Bernardino Mountains on the south and the Sawtooth Mountains to the north. The valley floor contains Quaternary alluvial deposits and older superficial sediments, including sand and gravel eroded from the adjacent highlands. Alluvial soils consist of unconsolidated sand and gravel with minor amounts of clay and silt, estimated to be 100 feet or less in thickness. Older alluvium consists of coarse-grained sediments, including cobbles, pebbles and coarse sand. This alluvium extended to greater than 500-foot depth, particularly in the north and east (General Plan EIR 1995). The existing fault that represents the greatest local threat in the project area is the Pinto Mountain Fault, with an estimated maximum Richter magnitude earthquake event of 7.4 and peak ground acceleration of 0.60 (g), with an estimated duration of strong ground shaking of 31 seconds. The proposed WRF project is not located within a mapped fault rupture zone or Alquist-Priolo Special Studies Zone (Seismic Safety Element of the General Plan, Exhibit V-1, 1995). The sewer pipeline alignments will cross the Pinto Mountain Fault, which is located north of SR 62 and other inferred faults.

Regional seismicity appears to be dominated by the San Andreas Fault (west of the Morongo Basin) and the Johnson Valley Fault (the Landers Fault System approximately 3 miles north of Yucca Valley). Both of these faults run north-south, or northwest-southeast, and pose no direct ground rupture hazards within the project area. However, the 1992 Landers earthquake on the Johnson Valley Fault caused "sympathetic ground ruptures" along the Pinto Mountain Fault (Leighton and Associates, Inc. 1993). This earthquake damaged 40 percent of the District's subsurface water distribution lines and over $100 million of other property damage, according to the Seismic Safety Element of the General Plan (1995). Liquefaction can occur when loose, unconsolidated and saturated sandy soils are subjected to ground shaking during a seismic event. This causes the soils to "liquefy." This is not seen as a general hazard in the in the Yucca Valley area, due to the depth of

200 feet or more to the groundwater table. In addition, soils within the project area are coarse alluvial soils, i.e., sandy. Expansive soils are not considered to be a concern in the Yucca Valley, as these would contain significant amounts of clay. The project area is also located in a "low" susceptibility zone for rockfalls and landslides (General Plan 1995).

7-66 Ramon: In addition to the earthquake faults given, USGS reported faults slightly west of the WTF site. Statements made are assumed conclusions without test or science of the hydrogeological status.

**3.6.4 Mineral Resources**
(Omitted without comment)
**3.6.5 Visual Resources / Aesthetics**
The desert background consists of typical Joshua Tree woodland and creosote bush scrub alluvial fan areas with varying levels of human disturbance depending on proximity to the Yucca Valley urban corridor along SR 62. The proposed project site is located in the near vicinity of SR 62 within an area developed with mixed residential, commercial, and industrial uses. The SR 62 and SR 247 are designated as "eligible" for official Scenic Highway designation. Additionally, the Town of Yucca Valley has designated some local routes as Scenic Roadways (General Plan 1995, Exhibit III-13). According to the General Plan, any projects in the above named scenic corridors need to minimize impacts on scenic values. The proposed wastewater treatment plant design includes a 1,000-foot setback or more from SR 62. Night lighting occurs throughout the project area. Individual residences have exterior night lighting on the outskirts of the town and a combination of street lights and individual residential lighting occurs within the urban area of the town, i.e., closest to SR 62. Scenic views exist to the north and south to surrounding mountain ranges or ridges, but the project site itself has no significant or unique visual resources. Development in the surrounding area creates a human-dominated as opposed to a natural landscape visual setting.

7-67 Ramon: There has not been a Water Survey conducted in the "human-dominated areas upstream of the WTF site, leaving questions regarding the dynamics of existing septic response to watershed, either ephemeral or riparian in nature.

**3.7 POPULATION AND HOUSING**
The proposed wastewater treatment plant site is currently vacant. There are individual residences to the north. These include single-family homes. Generally, the project area can support more housing development, but this may be limited by location within the Pinto Mountain Fault Zone (where no new housing is encouraged).
The Town of Yucca Valley 2000 U.S. Census population was 17,200 persons. This was less than that predicted in area planning at that time. The District's Water Supply Plan of 1990 (John Egan and Associates) predicted 26,066-30,428 residents by the year 2000 and 30,250-40,131 by the year 2010 for its service area (which included Yucca Water Company service area). These estimates assumed a 5 percent annual growth prior to the year 2000, then 3 percent. For the purposes of planning, household sizes of 2.4-2.5 persons per dwelling unit were used. The Town's General Plan studies for the Housing Element (1995) indicated that population growth actually started slowing from 1990-1993 and the District Urban Water Management Plan estimates annual average growth from 2005 through 2030 to be about 2.3 percent. The Town had 18,336 persons in 1994, and was anticipated to have 20,000 by the year 2000. Household sizes were estimated to be similar to those used by the District, or 2.49-2.5 persons per dwelling unit. The District's 2005 population estimate was 26,000 persons based on water services within its service area which is
larger than the Town of Yucca Valley. Other trends that were described in the 1990s were: that the population would shift from older retirees to younger families with children, and that more multi-family housing would be developed. Trends have changed, due in part to the loss of population after the 1992 Landers earthquake, and the more recent increase in population due to military activities at Twentynine Palms and other area facilities. Overall, however, the population has not shown the substantial growth forecast envisioned in the 1990s. Buildout was given as 24,401 units in the General Plan (1995), of which the majority would be single-family housing with zero to 10 dwelling units per acre. In 1995, 79 percent of all housing was of the single-family type. At that time, there were 8,585 units. The District's service area encompasses more than the Town of Yucca Valley, which had 5,366 connections in 1990.
The community contains a mixture of retirees and a service economy geared to serve them. Many

7-66 The statements in the Geology and Soils discussion are based on the available data for the area's geology and soil resources and constraints. As such, the information is derived from field surveys by professional geologists that are considered to be scientists.

7-67 The area referenced in this comment is part of the Warren Valley Basin. The following publication is a key reference regarding water resources in the Warren Basin: Lewis, R.E., 1972, Ground-water resources of the Yucca Valley-Joshua Tree area, San Bernardino County, California,: U.S. Geological Survey Open-File Report 72-134, 86 p. http://pubs.er.usgs.gov/usgspubs/ofr/ofr72234. The Basin as a whole has been evaluated for water resources. The USGS obtained data at the proposed WRF site by installing a monitoring well and conducting other tests which provided sufficient data to evaluate the suitability of the site for the WRF. Water quality data from the well indicates no significant pollution or contamination, which indicates upstream areas are not generating substantial contamination. This is consistent with the low density of development and the substantial depth to the groundwater table in the project area.

retired residents live on fixed incomes and the majority of the community consists of low to moderate income residents. The WRF project site is located adjacent to commercial uses at the north end adjacent to SR 62. A few single family residences and one industrial facility are located in the immediate vicinity of the project site. These surrounding uses are consistent with those found in the whole community and no particular unique income or ethnic group is known to occur within the general project vicinity. No community issues related to environmental justice or...

7-68 Ramon: [sentence is incomplete]

**3.8 CONSTRUCTION**

The construction scenario for the project area has been summarized in the project description, but some aspects are further discussed in the following text. The main activities related to construction, that will be evaluated in the environmental consequences section of this report, include: site clearing, grading, excavation and trenching, and installation of treatment facilities and equipment, temporary lift station, pump stations, sewer pipelines and the operations building. All work will be conducted within the identified footprint of the proposed facilities or within disturbed road rights-of way. Temporary traffic management will be required as pipelines are installed within road rights-of-way. Construction activities will temporarily affect local traffic in these road rights-of-way, but will not affect traffic over the long term once the facilities are installed.

7-69 Ramon: Since the rights-of-way mapping and process is incomplete as of this writing, how will this be mitigated if the rights-of-way cannot be mitigated or resolved through the process?

**3.9 ENERGY ISSUES**

The project is located near existing developed areas and, thus, does not involve any need for extension of any new energy resources. The wastewater reclamation facilities and pump stations will require electricity to serve the proposed facilities, possible including night lighting and other support equipment. Southern California Edison (SCE) provides the electricity to serve the proposed WRF and related support facilities. There will be energy, primarily petroleum products and perhaps some electricity, consumed by the construction activities. During operations electricity will be consumed, and the project will have a back up diesel generator to provide power during an emergency loss of electrical power.

7-70 Ramon: It is noted that the alternatives proposed to the HDWD, include but not limited to "Localized Treatment" that produces it's own electricity for treatment of Wastewater that is dispersed "locally" for greywater applications.

**3.10 COASTAL ZONE MANAGEMENT ACT**

(Omitted without comment)

**3.11 CULTURAL RESOURCES**

**3.11.1 Regulatory Setting**

(Omitted without comment)

**3.11.2 Affected Environment**

(Omitted without comment)

**3.12 WILD AND SCENIC RIVERS**

(Omitted without comment)

**3.13 ENDANGERED SPECIES**

Please refer to the discussion of biological resources, in Section 3.6.1. The site specific biological surveys resulted in the finding that no state and federal listed species occur at the WRF site or along any of the sewer pipeline alignments.

7-71 Ramon: This has already been discussed, and the reports on this issue are flawed.

**3.14 FLOODPLAIN MANAGEMENT AND PROTECTION OF WETLANDS**

A blueline, [and] ephemeral desert wash traverses the proposed Hi-Desert property. The

7-68 Please refer to response to comment 2-13.

7-69 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project. The sewer collection system will be constructed in the public right-of-way, or through easements obtained on private property. This is the anticipated method. In the event that addition property is required, HDWD may purchase property rights. Based on past experience, adequate traffic management can be implemented for any roadway that will undergo temporary disturbance for installing pipelines, either by using detours or through use of traffic management resources (flagpersons, signs, etc.). Any future traffic management plan requires approval by the City, local emergency providers, and when State Highway 62 is involved, Caltrans. These agencies will ensure that access will continue to be provided during sewer pipeline construction..

7-70 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project.

7-71 Please refer to responses to comments 4-8 and 4-9. The field surveys of the WRF site and the pipeline alignments determined that no endangered species occur within the proposed project's APE. Further, preconstruction monitoring is required to verify this finding since animals, such as desert tortoise, do move around over time and it may be several years before the WRF and sewers are installed.

wastewater treatment plant site appears to be located immediately east of this wash. In addition, the proposed site is located within the 100-year floodplain of this channel, which originates in the Little San Bernardino Mountains (JTNP) to the south. No wetlands or riparian habitat occur within the project area of potential impact. The pertinent Federal Emergency Management Agency (FEMA) map of the project area is provided in Appendix 6.

**3.15 FARMLAND PROTECTION**
(Omitted without comment)

**3.16 COASTAL BARRIER RESOURCES**
(Omitted without comment)

**3.17 OTHER ENVIRONMENTAL ISSUES**
**3.17.1 Regulatory Setting**
(Omitted without comment)

**Table 3-8**
**SUMMARY OF HAZARDOUS MATERIALS REGULATORY AUTHORITY**
**Regulatory Agency Jurisdiction Authority**
***FEDERAL AGENCIES***
(Omitted without comment)

***STATE AGENCIES***
(Omitted without comment)

**3.17.2 Hazards and Hazardous Materials**
(Omitted without comment)

**3.17.3 Noise**
**3.17.3.1 Regulatory Setting**
(Omitted without comment)

**Table 3-9**
**LAND USE COMPATIBILITY FOR COMMUNITY NOISE ENVIRONMENTS**
**Community Noise Exposure**
**Ldn or CNEL, dB**
**Land Use Category**
(Omitted without comment)

**Table 3-10**
**FEDERAL NOISE ABATEMENT CRITERIA**
**Activity**
**Category**
**Noise Abatment**
**Criteria Level - Leq Description of Activity Category**
(Omitted without comment)

**3.17.3.2 Affected Environment**
(Omitted without comment)

**3.17.4 Public Services**
(Omitted without comment)

**3.17.5 Recreation and Section 4(f) Properties**
(Omitted without comment)

**3.17.6 Airport Hazards**
(Omitted without comment)

### 3.17.7 Environmental Justice

#### 3.17.7.1 Regulatory Setting

All projects involving a federal action (funding, permit, or land) must comply with Executive Order (EO) 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, signed by President Clinton on February 11, 1994. This EO directs federal agencies to take the appropriate and necessary steps to identify and address disproportionately high and adverse effects of federal projects on the health or environment of minority and low income populations to the greatest extent practicable and permitted by law.

7-72 Ramon: The current economy and the impact of the WRF project is inappropriate for a community who has an average income of $30,000.00 annually, is already burdened with the California Water Project that is not needed, a Nitrate Treatment Plant that has already cost over 2 milllion dollars and still does not work, hence; this burden too is more than can be afforded...especially since the whole HDWD customer base can be hooked up to the alternative proposal given the HDWD in the many public meetings where this was discussed...including the CRWQC-TAC meetings.

#### 3.17.7.2 Affected Environment

The project site is not located in a neighborhood that suffers from exposure to adverse human health or environmental conditions. There are no major industrial activities or sites in the area. The top employers generally are related to the school district, health care services and retail stores. Yucca Valley is still mostly a community with a lower than normal average annual income, due in part to retirees and part-time residents (seasonal).

7-73 Ramon: Pharmaceuticals may create more hazards to an existing problem for this community.

### 3.17.8 Unique Natural Features and Areas

(Omitted without comment)

### 3.17.9 Sole Source Aquifer

The EPA's Sole Source Aquifer (SSA) Program was established under Section 1424(e) of the Safe Drinking Water Act (SDWA). Since 1977, it has been used by communities to help prevent contamination of groundwater from federally-funded projects. The SSA program allow for EPA environmental review of any project which is financially assisted by federal grants or federal loan guarantees. Although nine sole source aquifers have been designated in California, the Warren Valley Groundwater Basin is not listed among these aquifers as of January 29, 2009. Groundwater is located several hundred feet beneath the project area of potential impact. The District obtains its water supply entirely from the Warren Valley Groundwater Basin. Although this Basin is the District's sole source of water supply, the aquifer is not designated by the federal EPA as a "sole source aquifer."

7-74 Ramon: The district also provides potable water exported from the Ames Basin, and most drinking water, with the exception of low income families, purchase bottle water for drinking.

### 3.17.10 Site Access and Compatibility

The land use designations on the properties adjacent to the project area of potential impact consist of a mix of commercial, industrial, and residential uses. Roads to be affected by the WRF project component include SR 62, Avalon Avenue, and Indio Avenue. Public access exists to all of the project area of potential impact, although graded dirt, unpaved, roads are common in the area. The vast majority of the proposed sewage collection system will be installed in these roadways and access is generally excellent to all of the proposed collection system pipelines. The project site for the WRF is currently a large area of open space that is considered valuable. This site is along the SR 62, which is designated as "eligible" for official Scenic Highway designation. The project is considered compatible with surrounding uses.

7-75 Ramon: as previously given, there are earthquake faults in these areas mentioned here, that are known to the Town of Yucca Valley and the USGS, not appropriately explained in this document.

7-72 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project.

7-73 Please refer to response to comment 5-5.

7-74 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project.

7-75 As previously noted, the fault identified by the USGS is not identified as an active fault, but as a fault barrier that exists below the ground surface. Please refer to responses to comment 7-23 and 7-34.

**3.18 INVASIVE SPECIES**
**3.18.1 Regulatory Setting**
On February 3, 1999, President Clinton signed Executive Order 13112 requiring federal agencies to combat the introduction or spread of invasive species in the United States. The order defines invasive species as any species, including its seeds, eggs, spores, or other biological material capable of propagating that species, that is not native to that ecosystem whose introduction does or is likely to cause economic or environmental harm or harm to human health. The California noxious weed list can be used to define the invasive plants that must be considered as part of the analysis for this project.

7-76 Ramon: how will this be dealt with or mitigated?

**3.18.2 Affected Environment**
Much of the project area has been disturbed, and contains non-native plant and animal species. The urbanizing portion of Yucca Valley abuts undeveloped desert habitat. Landscaping around residences is the primary cause of introduced plants (in other locales it might be agricultural practices). Residential "pets" such as dogs and cats are common. These are of concern, as they prey on native birds and mammals. Invasive species occur throughout the project area, including the WRF site. The biological survey contained in Appendix 4 lists the species found in the project area that fall under this category.

**Chapter 4 ENVIRONMENTAL CONSEQUENCES**
The proposed project, the construction and installation of a wastewater treatment plant; approximately 405,800 lineal feet of trunk sewer line of varying diameter (see Table 2-5); and three pump stations are intended to provide the District's service area with a wastewater treatment and collection system that must be installed to protect and enhance groundwater quality. Implementation of the proposed project will cause both temporary and permanent changes to the physical environment during construction; however, the addition of the proposed wastewater system infrastructure is essential to the District to continue meeting the public health and safety requirements for water quality within its service area. Based upon the existing environmental conditions outlined above in the "Affected Environment" discussion, this section of the Initial Study/Environmental Assessment (IS/EA) evaluates the effects of the project on the physical and human environment. The Environmental Consequences section is presented in the same order as the issues are presented in the previous discussion. The following issues are evaluated by using the questions posed for each issue in the standard California Environmental Quality Act (CEQA) Initial Study Environmental Checklist Form, which is included after the text portion of this document.

7-77 Ramon: The alternative plan (Localized Treatment) presented by MITI would not create any such problems as given here. The HDWD directors choose this system which is most intrusive, is most subject to earthquake problems that would be much greater an impact on ground water problems due to line ruptures, and is projected as worst case problems with drinking water contamination subject to pharmaceuticals that cannot be controlled by the WRF project.

**4.1 AIR QUALITY**
**a.** (Omitted without comment)

**Table 4-1**
**DESIGNATIONS AND CLASSIFICATIONS**
**Ambient Air Quality**
**Standards AVAQMD MDAQMD**
(Omitted without comment)

**Table 4-2**
**ELECTRICITY GENERATION EMISSIONS**
**Pollutant Emissions (lbs/day)**
**CO VOC NOx SOx PM10**
(Omitted without comment)

7-76 The potential introduction of invasive species is controlled by mandating that construction equipment brought to the area be properly cleaned so that it does not bring in seeds of invasive plant or animal species. In addition, delivery of construction materials or erosion control materials, such as straw bales, can be specified to be free of invasive species seeds. Many projects are now requiring that such materials be supplied to minimize introduction of invasive species. Of course, if such species are introduced, they can be controlled after the fact through use of approved pesticides or herbicides, which is obviously no a preferred alternative.

7-77 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project. Actually, treatment systems are available to reduce or eliminate contaminants. It is a matter of cost, compared to public health risk. Also, please note the treatment process does not create pharmaceuticals and the disinfection system selected for the HDWD WRF, ultraviolet, does not generate treatment byproduct chemicals, as does chlorine disinfection. Even an alternative treatment plant cannot avoid pharmaceuticals, which are in the wastewater already being discharged into the groundwater aquifer, as is nitrates.

**Table 4-3**
**SUMMARY OF PIPELINE CONSTRUCTION EMISSIONS**
**Pollutant Emissions (lbs/day)**
**CO VOC NOx SOx PM10**
(Omitted without comment)

**Table 4-4**
**SUMMARY OF TREATMENT PLANT**
**CONSTRUCTION EMISSIONS BY PHASE**
**Construction Phase**
**Pollutant Emissions (lbs/day)**
**CO VOC NOx SOx PM10**
(Omitted without comment)

**Mitigation measures to control fugitive dust**
***4.1-1 The construction site disturbed areas will be watered twice daily for short-term surface stabilization, and more times if winds are sufficient to loft dust from the construction site.***
***4.1-2 Chemical, vegetative or mechanical (compaction or paving) will be used for surface stabilization upon completion of grading activities, if subsequent site uses are not proposed.***

7-78 Ramon: this procedure does not guarantee stablilization. (re. settling of the Gatlin/Wal-Mart project where there is evidence of Liquefaction and settling that already presents a public danger in the event of future earthquake events.

***4.1-3 Trackout onto paved roads will be minimized, and removed (swept or washed from paved surfaces) if substantial soil material accumulates on paved surfaces. Cleanup of project related track-out or spills on paved roads will be removed daily.***
***4.1-4 Haul trucks will be covered.***
***4.1-5 Grading and soil movement activities will be minimized when winds exceed 30 miles per hour at the local airport or at an onsite wind monitoring system.***
**Mitigation measures to control construction equipment and mobile source emission impacts** [sentence is incomplete]

7-79 Ramon: Winds can get up to 60 to 80 miles per hour and cannot be mitigated as given.

***4.1-6 Efficient scheduling of equipment use, with a phased construction schedule to reduce the number of units operating simultaneously.***

7-80 Ramon: What is the maximum and how will this be enforced?

***4.1-7 Performing regular engine maintenance on all equipment.***
7-81 Ramon: how will this be enforced?

***4.1-8 Provision of local equipment storage areas so that equipment trips to the sites can be reduced.***
***4.1-9 Construction personnel shall be encouraged to ride share to reduce vehicle trips to construction sites, including incentives for carpooling among construction employees.***

7-82 Ramon: how will this be enforced? Is there a problem if not enforced? What would that problem be or expected to cause?

***4.1-10 Shut down equipment when not in use for more than 10 minutes.***
(parts a and b were not part of this document and the preamble was Omitted without comment)

**c. Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal state ambient air quality standards (including releasing emissions which exceed quantitative**

7-78 This comment does not address the issue being discussed. Stabilization in this instance refers to implementation of various methods to control fugitive dust by stabilizing the disturbed ground surface, and the mechanisms identified can and have been be successfully implemented to control fugitive dust.

7-79 When winds reach the levels identified in this comment, dust will be generated from even natural surfaces. The objective of this measure is to minimize construction activity exposing additional soil to wind erosion. By providing adequate watering or use of chemical stabilizers, fugitive dust from disturbed soil surfaces can be controlled, except under a severe wind condition.

7-80 Please refer to the Mitigation Monitoring and Reporting Program (MMRP). There is no pre-established number of pieces of equipment. The objective is to have the contractor think through the construction process and identify the minimum number of pieces of equipment required to accomplish the job.

7-81 Please refer to the Mitigation Monitoring and Reporting Program (MMRP).

7-82 Please refer to the Mitigation Monitoring and Reporting Program (MMRP). The objective of this measure is to reduce emissions from construction employee commute trips. The contractor is required to provide incentives for ride sharing (such as good parking places or financial rewards) and once an employee enters the program, the incentive is eliminated if the commitment is not fulfilled.

**thresholds for ozone precursors)?**

7-83 Ramon: how would this be enforced or controlled?

(Additional parts are Omitted without comment)

***4.1-11 To the extent feasible, the District shall select landscaping that is fast-growing to create a windbreak buffer along the periphery of the WRF site. A minimum of two rows shall be installed at different times and plants shall be installed and grown in stages; periodically harvested; and replanted to maintain carbon sequestration. Alternatively or concurrently, the District may install solar power systems to partially or fully offset operational electricity demand of the WRF. As a final alternative, the District may choose to purchase annual or permanent carbon credits from the available carbon banks at the time the facility begins operation.***

This measure is considered sufficient to reduce the project's contributions to GHG emissions to the maximum extent feasible. It will also assist with creation of a visual buffer between the WRF and surrounding land uses.

7-84 Ramon: There are no fast growing plants (native) suitable for this purpose. Suggest that a 10' buffer and sound containment wall be constructed instead.

**d. Would the project expose sensitive receptors to substantial pollutant concentrations?**
(there were no parts a, b, and c. all else was Omitted without comment)

**e. Would the project create objectionable odors affecting a substantial number of people?**
Use of construction equipment may result in some temporary and localized odors from use of diesel fuels. In addition, the wastewater treatment facilities and pump stations to be constructed as part of the proposed wastewater treatment plant and sewer system have the potential to generate odors. However, as described on page 10 of this document, specific odor control systems will be installed to control odors from each of the potential odor sources. These odor control systems are standard systems that are used at all WRFs and they are effective, except during upsets or accidents. Regardless, due to their distance from the existing residential development, potential offsite impacts are forecast to be less than significant. There are typical concerns from residents that a wastewater treatment facility causes significant

There are typical concerns from residents that a wastewater treatment facility causes significant odor effects. This is most commonly based on the assumption that the plant is handling material that has natural odors and that these odors will be propagated by the treatment plant operation. This is an incorrect assumption for ongoing, routine plant operations. When operating properly, such plants typically have an earthy/musty odor, but not a sick, anaerobic decomposition odor. During upset conditions, a plant can generate such odors, but the key to odor control is to ensure that plant operations are managed to eliminate or minimize such upset conditions. The following mitigation measure shall be implemented to ensure such conditions are minimized and that the local community is not exposed to adverse odor conditions for any substantial amount of time.

7-85 Ramon: These two paragraphs are subjective at best. There is historical data from wherever similar facilities, (old technology) are constructed or have been constructed to show objective evidence that much of what is said here cannot be controlled, can create health problems and is essentially not mitigated unless ther is a fund that is substantial enough and a process that would move such problems out of the area where the WRF site exists.

***4.1-12 The District shall require the installation of odor control facilities as part of the facility design. These facilities shall be state of the art (odor control to the maximum extent feasible) and shall control odors to ensure that adjacent properties are not exposed to significant odor concentrations, except during an emergency/upset condition at the WRF.***

***4.1-13 The District shall establish an odor complaint response phone number that shall be clearly posted on the exterior fence of the treatment plant facility. If odor complaints are received, the District shall respond within 24 hours to correct the problem, and provide a***

7-83 It is not clear what this comment is referencing. Equipment shutdown is enforced by HDWD onsite inspectors (refer to the MMRP).

7-84 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project. There are a number of native plants that can be used, including mesquite, desert willow, cottonwoods, and others. Note that this measure is designed not solely to create a buffer from surrounding land uses, but also to offset greenhouse gas emissions by sequestering carbon dioxide.

7-85 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project. Odor control is feasible based on the operation of a number of wastewater treatment facilities located within urban areas, including residential areas. Examples include the Big Bear Area Regional Wastewater Authority's plant adjacent to Baldwin Lake in Big Bear and the Mission Springs Water District's facility in Desert Hot Springs.

***response to the complainant within 12 hours of notification identifying what actions were taken and how long was or will be required to control the odor problem. Sources of odors shall be corrected in as timely a manner as possible.***
Thus, overall project construction and operation is not forecast to create any significant objectionable odor impacts. With incorporation of the above odor control measures as part of the project, the potential project odor impacts can be controlled to a less than significant impact.

7-86 Ramon: See "buy-out" clause above.

**No Project Alternative**

Regarding air quality effects, the no project alternative would eliminate all construction and all operating air pollutant emissions associated with the proposed project. Regarding conformity, the proposed project can be implemented consistent with the MDAQMD air quality management plans (AQMPs) and in conformity with the State Implementation Plan (SIP). Because the no project alternative would not cause any direct emissions in the short-term it would also remain consistent and in conformity with these plans. However, as nitrate concentrations increase in the future, treatment of groundwater to remove nitrate would generate emissions from electricity consumption, and if the Regional Board requires advanced individual treatment units for all existing septic tanks, the ground disturbance within the community from construction activities would be comparable to that of the proposed project. Such construction and electricity emissions could be implemented with comparable mitigation measures to control emissions and remain consistent with the AQMPs and in conformity with the SIP. Thus, no great benefit for air quality impacts would be achieved. The no project alternative will not generate any direct emissions so it cannot contribute to existing air quality violations. Indirectly, future treatment requirements for domestic water supply and individual advanced treatment systems may indirectly generate emissions. Mitigation measures comparable to those implemented for the preferred alternative would be sufficient to ensure the emissions would not contribute substantially to an existing or projected air quality violation or a cumulatively considerable volume of emissions. Under these assumptions the no project alternative would also not adversely affect any sensitive receptors.
It is in the area of odors that the no project alternative can eliminate potential adverse effects. The WRF can be routinely operated without generating noxious odors, but on rare occasions upset conditions can generate such odors. The only way the no project alternative could generate odors would again be indirectly, as a result of continuing to rely upon septic tanks. Such systems generate the same type of anaerobic decomposition odors when they fail. Regardless, a higher potential for adverse odor effects, although considered less than substantial, will occur at the proposed WRF.

7-87 Ramon: The MITI proposal that has been discussed with the HDWD district manager and staff will eliminate the issues discussed here in this part.

**4.2 HYDROLOGY AND WATER QUALITY**
(Note: some parts are omitted because they were not relevant to the discussion.)
**a. Would the project violate any water quality standards or waste discharge requirements?**
The proposed project operations will discharge effluent from the wastewater treatment plant to the District's proposed recharge basins. Therefore, since the proposed project will not discharge wastewater to surface waters, it has no potential to violate surface water quality standards or waste discharge requirements.

7-88 Ramon: The issue of standing water and potetial mosquito problems have been discussed. Included was the issue of contamination from pharmaceuticals that could create a health problem in the Eastern Warner Basin and in the JTWB district.

**Mitigation measures to reduce and control erosion and sedimentation**
***4.2-1 The District shall prepare a Storm Water Pollution Prevention Plan (SWPPP) and a Water Quality Management Plan (WQMP) that will achieve no net loss of topsoil from the project sites and prevent runoff from causing erosion on adjacent property during construction. The SWPPP and WQMP shall be provided to the construction contractor and the contractor shall implement the SWPPP during all construction activities at the site.***

7-86 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project.

7-87 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project.

7-88 Please refer to response to comment 7-28. Regarding pharmaceuticals, there is little or no evidence that treated effluent containing pharmaceuticals poses any health related problem for humans. This is why they are currently unregulated. Regardless, please refer to responses to comments 5-5 through 5-8.

7-89 Ramon: The HDWD does not currently have written procedures for testing or a quality assurance management system with accessed quality attributes, metrics or levels of acceptance. Hence, there is not at this time, an enforceable way to accomplish this mitigation measure, in order to say that this mitigation measure can be accomplished.

***4.2-2 The SWPPP prepared for the project site shall include a spill response program for accidental release of water pollutants during construction that shall, at a minimum, meet the following performance standards: adequate resources shall be maintained on the site by the contractor to control any release of pollutants; if a spill occurs, the pollutant shall first be contained, second the spill shall be reported to appropriate authorities, third the pollutant contaminated material (soil, water, etc.) shall be collected in proper containers, fourth the pollutant contaminated material shall be delivered to a facility with the capability to treat or dispose of the contaminated material in accordance with existing laws and regulations in place at the time of the accidental spill; fifth the area contaminated by the spill shall be cleaned (remediated) to background conditions, or alternatively to a level that meets the requirements of existing laws and regulations at the time of the clean-up and that does not leave any residual threat to humans or the environment in which the spill occurs.***

7-90 Ramon: How will this be measured, and enforced without a site monitor assigned full time during operations. What are the qualifications, procedure and other such methods asked for here, become part of this project as given?

***4.2-3 The District shall prepare the WQMP and include a Spill Prevention Control Countermeasures Plan that will minimize the potential for release of any hazardous or toxic chemicals to the environment. This Plan shall include a requirement to retain material safety data sheets (MSDS) for all hazardous materials or substances at the site and measures that outline the responses that will be implemented should an accidental spill of hazardous materials onsite occur. Based on the list of hazardous materials/substances that will be utilized at the plant, the District Plan shall identify handling procedures and management options for any accidental releases to the environment until such accidentally released material is properly disposed of or treated so that no residual harm remains from the accidental release.***

Implementation of these measures will ensure that the proposed project construction activities and treatment plant operations will be controlled to a sufficient level to prevent significant degradation of water quality.

7-91 Ramon: How will this be measured, and enforced without a site monitor assigned full time during operations. What are the qualifications, procedure and other such methods asked for here, become part of this project as given?

Note...no subpart a.

**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)?**

The proposed WRF will generate a higher quality of wastewater effluent, compared to the existing situation, that will be returned to the groundwater aquifer in the Warren Valley Basin. Approximately 80% of the effluent delivered to the WRF will be returned to the aquifer through the percolation ponds (accounts for plant losses and evaporation from the pond). General estimates of wastewater discharged from septic tank systems reaching the groundwater aquifer are about 50%, as some of the septic tank effluent remains in the vadose zone and other portions are evaporated or transpired into the atmosphere. Thus, the proposed project is not forecast to substantially deplete groundwater supplies or interfere substantially with groundwater recharge. The project will enhance such supplies and enhance recharge on the WRF property. No mitigation is required.

7-89 Please refer to the MMRP. Specific tests are integrated into the SWPPP and WQMP and will be carried out by HDWD staff or the contractor in accordance with the testing requirements.

7-90 HDWD will have full time inspectors overseeing the construction of the facilities, both the WRF and sewer pipelines. Further, the implementation of the referenced measure does not require full time oversight. For example, the inspector reviews the plans for BMPs and then reviews them when they have been installed and again after a rainfall event. This is usually done on a weekly, occasionally, a daily basis, but the inspections require only limited time each day. Qualifications for inspectors typically include certifications in implementing BMPs and conducting ongoing inspections and oversight over SWPPPs and WQMPs.

7-91 Please refer to response to comment 7-90.

Ramon: the intent of this statement is not clear and is subjective at best as it assumes conditions that may be possible in some cases. Such as the vadose zone and records (re. effluents from septic tank data—re. Action Pumping records).

7-92 There is a great question regarding the "storage" capability of the recharge (loss of water from the HDWD into the JTWD), mosquitoes in open recharge ponds, and other issues concerning the proximity of the Salton Sea (noted as having West Nile Virus problems) and in particular with the statement regarding enhancement of water percolated from the WRF that can have problems with pharmaceutical contamination and mixing "cocktails" that could be a health hazard.

**c. Would the project substantially alter the existing drainage pattern of the site or area, including through the**
**alteration of a stream or river, in a manner which would result in substantial erosion or siltation onsite or offsite?**

The existing drainage system for the project area of impact will effectively remain the same. The proposed pipeline alignments will cross many stream channels, mostly within existing paved or graded roadways. At some locations, including the stream channel (wash) located onsite, pipelines will cross either natural or man-made washes. Based on a field review of the sewer pipeline alignments, there is no wetland located within any of the channels, and it is anticipated that the only regulatory permits required will be a 1602 Streambed Alteration Agreement from the California Department of Fish and Game and waste discharge requirements from the Regional Board. Based on field review of the washes, the surface flows will continue unaltered after the pipelines are placed below the ground surface. Some minor modification of the channel that crosses the property may be required, if the channel segment adjacent to the WRF requires hardening to protect the WRF site from a 100-year flood hazard. It does not appear that channel modifications on the WRF site will be required because there appears to be sufficient room to install the WRF without encroachment on the channel, i.e. any flood protection can be installed within upland areas adjacent to the channel. However, if channel modifications are required, they will consist of hardening the channel wall adjacent to the WRF to ensure that it will not be eroded and expose the WRF facilities to flood hazards.

Regarding potential for erosion and siltation, implementation of the SWPPP will control erosion and sedimentation potential. Because the washes in Yucca Valley are isolated waters of the United States, it will probably not require a Corps of Engineers Section 404 Permit or a Section 401 certification from the Regional Board because the surface runoff occurs in an isolated basin, which has no connection to any waters of the United States. However, as noted above, the Regional Board may require waste discharge requirements (WDR) for this project based on separate Porter-Cologne requirements. To address any adverse effects of fill requirements or stream bed alterations within this wash, the following mitigation measure will be implemented:

***4.2-4 The District shall restore any channel crossing locations with a comparable quantity or quality of habitat to that disturbed or removed during construction of the proposed project. Because no sensitive riparian or wetland habitat will be affected, the project will not be required to create such habitat or acquire mitigation bank credits. Channel restoration in the area of the pipeline crossing is considered adequate by the District to fully mitigate effects on altering the stream bed on the project site. The District must acquire a 1602 Streambed***
***Alteration Agreement and may have to acquire a WDR from the Regional Board, and shall implement the requirements of the WDR and Agreement as long as it is not less that identified above.***

Implementation of this measure is adequate to reduce any adverse effects to the onsite wash to a less than significant impact level.

7-93 Ramon: Given that this has already been discussed (i.e., riparian area does exist in this watershed originating from the JTNP alluvial fans and Covington Flats, flowing into the district and specifically at the WRF site, channel crossings of pipe can liquefy the soil where the crossing is accomplished and cannot be compacted, which would make the pipe vulnerable and potentially subject to earthquake breakage, making all of the other mitigation meaningless.

7-92 Please refer to responses to comments 5-5 and 7-28. The factual data assembled by the USGS over a year of conducting tests, drilling a monitoring well and analyzing groundwater at the proposed WRF site, provides sufficient data to verify that the Warren Valley Basin has sufficient area to store the treated effluent that will be generated by the proposed project. Also, refer to response to comment 7-21.

7-93 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project. Please refer to responses to comment 7-6, 7-20 and 7-28.

**d. Would the project 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?**

As noted above, the wash on the project site will not be substantially altered and future runoff from upstream of the site will continue to flow in this wash to the downstream channel. The sewer pipelines will also cross channels. Where such pipeline crossings occur outside of paved roads, it may be necessary to obtain regulatory permits from CDFG (1602 Streambed Alteration Agreement) and the Regional Board (waste discharge requirements, WDR) as outlined under mitigation measure 4.2-4. Regarding runoff from within the WRF, it will be collected in a retention basin and discharged to the headworks for treatment prior to discharge. Thus, the proposed project is forecast to increase runoff from the existing site when the plant is installed, but the increased runoff is not forecast to cause a substantial alteration of the existing drainage pattern because the increase runoff will be retained and treated within the WRF itself. During construction the modified runoff will require implementation of the mitigation measures (4.2-1 through 4.2-3) identified above to control downstream water quality impacts. With implementation of these measures the potential for significant adverse impacts will be controlled to a less than significant impact level.

**e. Would the project 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?**

This project will not increase the peak discharge of surface runoff to the existing drainage area or provide a substantial additional source of polluted runoff. This finding is based on the fact that runoff from within the treatment plant site will be collected and returned to the plant for treatment before discharge. No mitigation is proposed.

**f. Would the project otherwise substantially degrade water quality?**

With implementation of the SWPPP and WQMP, the identified BMPs as outlined above, the project construction activities are not forecast to have any potential to substantially degrade surface water quality. Over the long-term the data indicates that percolation of the treated effluent or reuse as recycled water will not cause any substantial degradation within the Warren Valley Groundwater Basin. The analysis provided in the U.S. Geological Survey technical report in Appendix 3 verifies this finding is available upon request to the District. No mitigation is required beyond that already identified for the SWPPP and WQMP. The U.S. Geological Survey modeled the potential for recharge of the treated effluent into the onsite recharge ponds to assess future impacts to groundwater levels and groundwater quality under future discharge scenarios. Appendix 3 contains more detailed information regarding the model, model assumptions and the model runs. The assumptions included the assumed future effluent flows, effluent water quality, percolation pond sizes and groundwater-level threshold. The model conducted several 16-year simulations of the effects of the proposed project on the upper/middle aquifers, the lower aquifer and the deep aquifer. Year 2008 pumping and recharge patters were used in the model-calibration process.

The following model results were reported in the U.S. Geological Survey evaluation. The simulated future water levels were determined to not reach the water level threshold of 100 feet below the ground surface (bgs) after 16 years of recharge. Therefore, no new production wells are needed to control water levels during the 16-year simulation period. However, the simulated rate of water level rise indicates that the water-level threshold will be exceeded in the future if wastewater recharge is continued and there is no pumpage from the East hydrogeologic unit. Therefore, wells will need to be installed in the future to ensure the 100 foot bgs threshold is not exceeded. An adaptive mitigation measure for this impact is presented below.

The modeling for water quality parameters concluded that the maximum simulated Total Organic Carbon (TOC) concentration was about 9 mg/L in the upper/middle aquifer; 0.5 mg/L in the lower aquifer. The maximum nitrate (NO3) concentration was about 35 mg/L in the upper/middle aquifer and about 2 mg/L in the lower aquifer. The maximum simulated Total Dissolved Solid (TDS) concentration was about 420 mg/L in layer 1 and about 300 mg/L in layer 2. The NO3 concentration is approaching the maximum contaminant level (MCL, 45 mg/L for NO3), but it does not exceed the MCL. The modeled TDS concentration does not exceed the secondary MCL for TDS, which is 500 mg/L. Based on the modeled data, the groundwater quality downstream of the WRF recharge ponds will

be degraded relative to the existing concentrations, but it is not forecast to exceed public drinking water standards. Because the public health will be protected by operation of the proposed WRF, the

project is not forecast to cause significant degradation of the existing groundwater quality in the groundwater aquifer downstream of the WRF site. Adaptive mitigation to ensure that maximum contaminant levels for public drinking water standards are not exceeded in the groundwater in the future.

***4.2-5 The District shall install one or more monitoring wells downstream of the WRF. The well(s) shall be monitored for elevation of the groundwater table below the ground surface (bgs). If the groundwater table downstream of the WRF recharge site approaches 100 feet bgs, the District shall initiate pumping to control the groundwater level. The groundwater extracted may be discharged to the surface if the water quality is acceptable to the regulatory agencies, or it may be further treated and made available to the District's domestic water supply system. The performance standard to be achieved is that the groundwater table downstream of the WRF recharge facilities shall not rise above the 100 foot bgs threshold.***

7-94 Ramon: For this to be meaningful, specific locations for the one or more monitoring wells must be made. The East hydrogeological unit must consider that water recharge from the Covington Flats area flows East and West of La Contenta/Yucca Mesa roads and is the source of water for the Joshua Tree Retreat, all the way to the Pinto Basin Wash. The wells in the Pinto Basin Wash that are part of the USGS report showing nitrate contamination are in all probability contaminated by water flowing across Yucca Mesa. Meaning that to date, the HDWD reports do not reflect that tests have shown nitrates coming from the one working well near highway 62.
The wells are identified as 28L1-2, 28K1 in the Pinto Basin Wash and 28N1 near state route 62 respectively.

In addition, the current plans do not reflect how the "further treated" water will be returned for treatment or returned to the District's domestic water supply. That includes provisions for monitoring the 100 foot bgs threshold. It is assumed that this would become another cost for the rate payers not yet given.

***4.2-6 The District shall install one or more monitoring wells downstream of the WRF. The well(s) shall be monitored at least annually for all drinking water standards and compared to maximum contaminant levels (MCLs) for public drinking water standards. If concentrations approach any MCL, the District shall install additional treatment at the WRF to modify the treated effluent by lowering or removing the pollutant of concern to a level that will prevent the MCL from being exceeded. The performance standard to be achieved is that the groundwater quality shall not be allowed to exceed any MCL for a domestic or public drinking water supply.***

With implementation of these measures, the water quality of the groundwater aquifer affected by the proposed project will not be degraded to a level of significant adverse impact.

7-95 Ramon: Given that the flow model provided by USGS is simulated, and that the model does not account for West to East flow of water through the Pinto Mountain Fault near the two wells in the wash, the once a year test is not sufficient for monitoring and to respond in a timely fashion.

It is also suggested that the County begin to create a Water survey in the East Hydrogeologic cells immediately in that this issue should have been tested when the EPA suggested that Water Surveys be done in 2004. It is also suggested that the Town of Yucca Valley also begin to create Water Surveys in the East Hydrogeologic area in order to determine the status of that area west of Yucca Mesa.

**g. Would the project 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?**

The project does not propose new housing but a portion of the WRF project site is within a 100-year flood hazard area. According to the Yucca Valley General Plan, the wastewater treatment plant site and pipeline alignment are in a "A" zone, for 100-year flood hazard potential. Based on the current site design, the treatment plant will be installed outside of or just on the eastern edge of the flood hazard zone. To ensure no damage from 100-year flood hazards, the proposed treatment plant will

7-94 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project. Please refer to response to comment 7-94.

7-95 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project. The model does refer to flows in the Basin. Refer to responses to comments 7-25 and 7-26.

have to be protected from the 100-year flood hazard by elevating the facility above the 100-flood level or by armoring the facility from exposure to such hazard. Mitigation is provided below to accomplish this.

***4.2-7 The District shall provide a drainage report that defines the 100-year flood elevation on the site and shall either elevate the treatment plant facilities above this level with two feet of freeboard or shall provide protection of the site with a boundary levee that protects the facilities from exposure to flooding from the 100-year flow across the property. The final treatment plant facility design shall provide a means of re-routing any storm flows, including the 100 year flow, around the facility and back into the existing natural channel on the north side of the site without causing significant erosion in the channel.***

Implementation of this measure is adequate to reduce any adverse effects to the treatment facilities from onsite flood hazards.

7-96 Ramon: For this to be effective, Water Surveys and implementation of this mitigation needs to be before construction of the WRF or at worst case, at least consistent with construction of the WRF.

**h. Would the project place within a 100-year flood hazard area structures which would impede or redirect flood flows?**

See the analysis provided in 4.2.g above.

7-97 Ramon: see the comment made on 4.2.g above.

**i. Would the project expose people or structures to a significant risk of loss, injury or death involving flooding, including flood as a result of the failure of a levee or dam?**

Based on the analyses in the three sections preceding this one, the proposed project has no potential to expose either people or structures to substantial loss or injury related to flooding, including failure of a levee or dam. No such existing facilities occur within the upstream area of the proposed project. No mitigation is proposed.

7-98 Ramon: This conclusion regarding no mitigation is only acceptable if the previous two section mitigations begin before or consistent with construction and completed before occupancy and startup of the WRF. Otherwise, there is a health and safety probability risk to people and property.

**j. Would the project cause or be exposed to inundation by seiche, tsunami, or mudflow?**

There are no water bodies or sources of inundation for the project area by seiche or tsunami. As within any desert environment, storm runoff can incorporate a substantial amount of sediment and a "flash flood" event can transport large volumes of sand and rocks, which is comparable to a mudflow. The mitigation required under issue g. above must include a "bulking" factor as part of the design to protect the treatment plant facilities from damage from such flows.

7-99 Ramon: Both seiche conditions and mud flows occur in the desert. Historically, Native Americans have records of such conditions. Willy Boys mother and father were both killed by such a condition.

At the least, such conditions can exasperate compacted soil or decomposed granite, such as has occurred at the Gatlin/WalMart site where structures and the parking lot are are settling.

**No Project Alternative**

Regarding hydrology and water quality effects, the no project alternative would eliminate all construction and all operating activities associated with the proposed project. However, the rationale for installing the WRF is the nitrate contamination caused by historic disposal of wastewater to subsurface septic tank leach systems. Thus, the no action alternative has a higher potential to contribute to or cause violation of water quality standards and to continue degrading water quality than the proposed project. This water quality standard violation is an adverse impact that would be substantial and non-mitigable, including potentially substantial adverse public health effects on the resident population of the District's service area.

7-96 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project. A simple upstream and onsite drainage report when final design of the WRF is completed, as required, will be sufficient to ensure that the WRF is protected from future 100-year storm runoff. Most of the data required for this 100-year storm runoff analysis is provided in the "Town of Yucca Valley Master Plan of Drainage Final Report" (June 1999) and the FEMA FIRM, which was used as the basis for making findings regarding potential flood hazards on the WRF site.

7-97 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project.

7-98 Please refer to responses to comment 4-1 through 4-7. The site design must ensure that storm runoff from upstream is passed through the WRF property without hazard to onsite facilities and with no change in downstream flows from the property. This is routinely done for every project, either by avoiding installation of facilities within the 100-year flood hazard area or by onsite design of the stormwater runoff system to ensure that the flows can be passed without adding runoff volume that will increase such flows downstream (detention or capture of excess onsite stormwater runoff).

7-99 It is not possible to have seiches occur unless there is a large body of surface water. No such water body occurs within the region. Regarding mud flows, these can occur in the project area and are managed by avoiding the areas in which such flows can occur, or by protecting facilities from such flows, as required by mitigation measure 4.2-7.

Ramon: The project alternative is not the only alternative. This has previously been discussed...that localized treatment of human solids and liquids can be accomplished costing 4.5 million dollars, rather than this project cost at 300 million dollars plus the cost for increasing the treatment from 1 mgd to 6 mgd for buildout. Additionally, the entire district can be treated rather than just 40% of the community should be connected to phase 1 and 2 at 2 mgd (WRF) as proposed with 60% of the community left out but expected to pay "fair-share" cost. We have no idea how much fair-share is at this time.

7-100 This conclusion given here is flawed in view of the options available that have not been exercised in a timely manner and now in a rush to address the septic prohibition wrongly given as the problem.

Concerns were reported to Congress by the EPA in 2004 (Water Surveys) as needs before issuing of landuse permits. In this case by the Town of Yucca Valley. Also HDWD was alerted to solutions at meetings with the CRWQC board in 2006 providing ideas that have not been considered for new construction.

The no project alternative would eliminate the modifications at the project site that are exposed to flood hazards. It is possible to mitigate these effects on the proposed WRF to a less than substantial level, but the no project alternative would eliminate these impacts from both a direct and indirect standpoint.

7-101 Ramon: Like wise this problem is also long standing even if not identified by the county of San Bernardino concerning flood control. There is no reason why this issue cannot be accomplished without this project as it a problem with long standing history.

The no project alternative would also eliminate the exposure of structures to any flood hazards or mudflows. Neither project alternative would be exposed to seiches or tsunamis.

7-102 Ramon: the issue of seiches has been discussed and is part of the flood control needs that can be done at anytime and is long overdue.

The no project alternative would eliminate the modifications at the project site that could result in erosion, sedimentation and other pollution. It is possible to mitigate these adverse effects on the environment to a less than substantial level, but the no project alternative would eliminate these impacts from both a direct and indirect standpoint at the project site and along the pipeline alignments.

7-103 Ramon: As given this too is not true, and the problem can be resolved anytime that the Town of Yucca Valley decides to do this. The 1% tax that the town can adopt would raise sufficient revenue from sales tax anytime the Town of Yucca Valley decides to take this issue up and do it!

**4.3 UTILITIES / SERVICE SYSTEMS**

**a. Would the project exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?**

(Note that some parts of this sub-section have been omitted to focus on the part being questioned or in need of other action.)

As described in the water quality discussion above, the proposed project will be subject to wastewater discharge requirements from the Colorado River Basin Regional Board, which must be met or the wastewater treatment facility cannot operate. As further discussed in Section 4.2 above, the WRF has been specifically designed to meet the anticipated waste discharge requirements. All effluent from the proposed wastewater treatment facilities will be discharged to the District's recharge basins and percolated into the local groundwater aquifer. The analysis of the water quality impacts to the Warren Basin groundwater resources is also presented in Section 4.2 above and determined to be a less than significant adverse impact. The non-point source discharges from the project will be from construction activities and they will be managed under the mitigation measures already identified in Section 4.2. Through implementation of the SWPPP and WQMP and use of

7-100 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project.

7-101 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project.

7-102 Please refer response to comment 7-99.

7-103 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project. In fact the no project alternative does eliminate site specific impacts from the WRF, sewer pipeline and pump station construction and operations. However, it does not solve the problems caused by continuing discharges of wastewater through the approximate 10,000 septic tanks.

identified BMPs for this project, no violations of any water quality objectives or wastewater treatment requirements is forecast to occur from implementing the proposed project. No additional mitigation is proposed.

7-104 Ramon: It is not clear how the Colorado River Basin Regional Board (CRBRB) will maintain oversight of this discussion. The HDWD does not have a quality assurance element to normal operations, hence; the reporting of quality assurance attributes that would confirm this enforceable and timely are not present. For some while, I have suggested and independent audit and assessment to provide a Total Quality Assurance Management plan that is systematically reported based upon levels of quality and metrics become part of the HDWD/Town of Yucca Valley normal management interface, and in this case to include the CRBRB.

**c. Would the project 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?**

As described in Section 4.2, stormwater flows within Yucca Valley may be altered by installation of the sewer pipelines or the proposed WRF. To address potential impacts to stormwater flows during construction, this document requires mitigation through effective implementation of best management practices during construction and operation. Once the pipelines are installed beneath roadways or across channels, no change in stormwater flow is forecast to occur during operation as a result of installing the sewer collection system. As described in Section 4.2, stormwater flow generated within the proposed WRF project site would continue to be discharged to the existing stormwater surface drainage system. No change in offsite downstream drainage facilities will be required from implementing the proposed project. Temporary stormwater management measures will be implemented during construction of the pipeline and wastewater treatment facilities. Long-term modification of the onsite portion of the existing dry wash that crosses the property will be required, including either rerouting the flows around the facilities or providing for continued flow of bulked storm flows through the property. No potential exists to require new major public stormwater facilities to be constructed or expanded downstream of the project site. No significant impact is forecast to occur and no mitigation is required.

7-105 Ramon: Because this CEQA is silent on riparian water flow (re. Gattlin/WalMart) shopping center, structure and parking lot collapsing due to liquefaction of "compacted" soil, and because this problem is a time bomb waiting to happen, what has been argued here is evidence that this issue remains a problem that can only be resolved by a Water Survey to depths consistent with alluvial fan dynamics for geology suitable for water flow; meaning hydrogeological status of the area, starting with the East Hydrological Unit of the Warren Basin/Pinto fault within the EHU..

**No Project Alternative**

The no project alternative would continue to contribute to water quality degradation in the Warren Valley Basin and to the potential exceedances of the nitrate standards in the future. The proposed project would constitute a major step in eliminating this water quality degradation. Thus, the no project alternative has a more substantial adverse effect on exceeding wastewater treatment requirements than the proposed project.

7-106 Ramon: As already given, there are alternatives that have been ignored such as localized treatment solutions for eliminating nitrates.

The no project alternative would not include any direct construction of water or wastewater facilities. As indicated above, the no project alternative indirectly has a potential to cause construction of new water treatment facilities and perhaps to require the installation of a large number of advanced individual treatment systems if the preferred alternative is not implemented. Thus, the no project alternative may also mandate construction of such facilities that could cause adverse environmental effects. Based on available mitigation, these no project facilities can probably avoid significant effects, but this could only be determined on a case-by-case evaluation in the future. Regarding capacity of wastewater treatment providers, the no project alternative has the same effect as the proposed action because no existing wastewater treatment provider exists within

7-104 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project. The Regional Board has jurisdiction over any human discharges to surface water or groundwater. During construction, the Regional Board enforces the SWPPP and it, along with the State Board, has oversight over long-term non-point source pollution through discharge permits it issues to counties and cities.

7-105 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project. As previously indicated, there is no such water called "riparian water flow." There is surface flow and groundwater can flow within an aquifer (underground). Where surface water or groundwater is present at the ground surface for a sufficient amount of time, riparian vegetation and wetlands can exist (such as that found in Big Morongo Park). Where an ephemeral stream channel carries enough water over the long-term, certain desert plant species, such as smoke trees, mesquite and other plants, can be sustained. But no riparian vegetation occurs within the project areas.

7-106 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project.

the District's service area at this time. The no project alternative would eliminate any need to construct stormwater drainage facilities at the WRF site. Although the proposed action would not cause any substantial adverse effects related to stormwater management issues, the no project alternative would have less impact because it will not require any modification to such facilities. Regarding sufficient water supplies, the no project alternative would eliminate any direct demand for local water supplies. However, over the long-term the implementation of the no project alternative would continue the current path of degrading the Warren Valley Basin aquifer and this would cause a substantial adverse impact to water supplies for existing and future uses. Therefore, the no project alternative's potential effects on water supplies is concluded to be substantial and more adverse than the proposed action. Under the no project alternative, the wastewater effluent solids are managed by individual subsurface septic tank/leach systems. Periodically, all septic tanks must be pumped and the waste is delivered to a landfill for management. Similarly, the solids from the WRF will be stabilized at the facility, and then disposed of to a landfill, to a composting facility, or directly to end users. Because of the increased potential for recycling wastewater effluent solids from the proposed action, it has a lower environmental effect on solids management than the no project alternative.

7-107 Ramon: this is subject to arguments already given.

**4.4 LAND USE / PLANNING**
**a. Would the project physically divide an established community?**
(Omitted with no comment)

**4.5 TRANSPORTATION / TRAFFIC**
**a. Would the project 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)?**
(Omitted with no comment, including sub elements)

**4.6 NATURAL RESOURCES**
(Omitted without comment, including all sub-elements, except those remaining with comment.)
***4.6-11***
**f. Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?**
There is currently no adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan associated with the proposed project site. Therefore, no mitigation measures need to be implemented and the project's impacts on such resources will be nonsignificant without mitigation.

7-108 Ramon: Please see the Sonaran/JTNP open space group study for the Habitat Conservation Planning currently ongoing since 2008.

**No Project Alternative**
The no project alternative would eliminate all potential to disturb listed or sensitive species, and would also eliminate the permanent loss of up to 30-35 acres of low quality creosote bush scrub habitat at the WRF site and the pump station locations. Approximately 10 acres of this habitat will be disturbed as a result of installing the pipelines that will cross stream channels. The stream channel disturbances and these impacts and requirement to obtain regulatory permits would also be eliminated under this alternative. Over the long-term the indirect effects of requiring installation of water treatment units to remove nitrate may cause the permanent loss of several acres of creosote bush habitat. Mitigation available for the proposed action would be sufficient to control future indirect adverse effects of the no project alternative to a less than substantial level, comparable to the proposed project.
The no project alternative would also eliminate any interference with movement of wildlife, conflicts with local policies protecting biological resources, or conflicts with adopted habitat management plans. No such plans apply to the project area.
**4.6.2 Geology and Soils**
**a.** (Omitted without comment, except to reiterate that comments made in the remaining parts of

7-107 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project.

7-108 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project. The point of the referenced text is that there are no formally adopted habitat conservation plans for the project area (adopted by an agency with authority to enforce the plan, such as a city, county, CDFG or USFWS).

this subsection have already been questioned regarding the assumptions that lack science and are assumed rather than tested.)

***• Risk Class IV, Ordinary Risk Tolerance: The vast majority of structures in urban areas; most commercial and industrial buildings, small hotels and apartment buildings, and single family residences.***

With implementation of the above measure, the proposed project will not subject humans to potential substantial adverse geologic constraints/effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault or strong seismic ground shaking. Measures to meet this seismic mitigation measure include enhanced foundation support; use of higher quality materials and more steel in the structures; and other similar measures that ensure the proposed WRF can function after a major seismic event. In addition, the proposed project is not located on steep slopes and is also not subject to landslides. There is little potential for liquefaction to occur in the project area, as depth to groundwater has been identified by the U. S. Geological Survey to be over 100 feet below the ground surface.

The 1995 Town of Yucca Valley Comprehensive General Plan, Seismic Safety Element Exhibit V-1, identifies two other local faults with identified Alquist-Priolo Special Studies Zones, the Eureka Peak Fault located west of the project site and the Burnt Mountain Fault, located west of the Eureka Peak Fault. Although these faults appear not to pose a rupture hazard for the WRF, the sewer collection system will cross these faults, in addition to the Pinto Mountain Fault. Future pipelines crossing any of these fault zones may experience damage from rupture associated with future seismic events on these faults. Mitigation is provided to address the future management of such damage to sewer pipelines crossing the three faults' Special Studies Zones.

***4.6-13 Any pipelines crossing the Alquist-Priolo Special Studies Zones for the Pinot Mountain, Eureka Peak and Burt Mountain Faults could be subject to damage due to ground rupture associated with these faults. Any construction of facilities in or pipelines crossing this zone is required to have detailed structural engineering studies to ensure designs that can safely accommodate the anticipated ground movement(s), or to be immediately repairable following a seismic event along any of the three fault.***

With implementation of the above measure, the potential degradation to the environment from fault rupture damage to the sewer collection pipelines crossing the identified Special Studies Zones can be controlled to a less than significant impact level.

7-109 Ramon: This does not consider the issue with soil that is in a state of liquefaction because the wash or area in a riparian blue-line underground stream bed.

***4.6-16 Soils, where exposed, will be stabilized with hay bales or aggregate cover.***

7-110 Ramon: Suggest straw bales rather than hay. That would eliminate the rat and rabbit population that would feast on the Hay.

**No Project Alternative**

The proposed action would construction and operation the WRF and a sewer collection system. By eliminating these facilities, the no project alternative eliminates the potential to expose structures and sewer pipeline to seismic or other geological hazards. This alternative also eliminates any direct soil erosion or sedimentation effects. Indirectly, future water treatment facilities and individual advanced subsurface systems will also disturb a substantial amount of land, which can also cause erosion and sedimentation. Available mitigation can control such impacts to a less than substantial level.

The no project alternative would have substantially greater impacts due to continued septic tank failures within shallow soils and soils with subsurface hardpan layers which contribute to such failures. The potential impacts from the no project alternative due to such soils is considered to be a substantial adverse impact.

7-111 Ramon: There is insufficient science to proclaim the issues given here. At this time, Action Pumping is finding evidence of nitrate where septic tanks do not exist. Additionally, there is also nitrate found at the well sites in the HDWD. There is also evidence of bacteria that is above the acceptable limits coming from tap water, tested as such by independent lab analsis. USGS, Appendix 3 has reported that Mental Physics was tested at one well that is no where near a septic tank, found to exhibit high nitrates above limits allowable by the Health Department and the CRWQCRB acceptable limits.

7-109 If pipelines must be installed in areas with potential liquefaction, special engineering design requirements would be implemented at such locations. Regarding stream channels, refer to responses to comments 4-1 through 4-7. Fundamentally, sewer pipelines across channels must be deep enough to avoid scour in the channel or hung above the channel, for example on a bridge, above the maximum high water mark. These factors will be taken into consideration when final engineering design of the sewer collection system is completed.

7-110 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project.

7-111 The Regional Board has concluded that there is sufficient data to support the findings in this portion of the text. Note that nitrates will move along with the septic tank discharge plumes, especially where the density of tanks is very high, as exists in the project area. This is how nitrates can be found at locations not immediately adjacent to septic tanks.

**4.6.3 Mineral Resources**
(Omitted without comment)

**4.6.4 Visual Resources / Aesthetics**
**a. Would the project have a substantial adverse effect on a scenic vista?**
The sewer collection system pipeline installation will not change land uses, or cause any aboveground visual impacts. The WRF site will change from open space with desert vegetation to above ground wastewater treatment facilities and recharge basins. The above ground facilities proposed would be located within an area that already contains interspersed developed lots, both residential and industrial. The proposed WRF facilities will be approximately the same height as surrounding structures and facilities, but will exhibit greater mass. In addition, the above ground pipe connections will clearly identify the facilities an(s) industrial in character. Regardless, the WRF facility will become part of the existing suburban setting. These changes in the visual setting after development of the WRF will be adverse, but the degree of change at the WRF site and surrounding area is not considered to substantially adverse. No significant adverse impact to scenic vistas will occur on an area-wide basis.

7-112 Ramon: the structures can be built "Desert Suitable" to maintain thermal mass, reducing the above grade impact, and to reduce both heating and cooling recurring cost for maintaining the working comfort of the occupants of the WRF.

**b.** (Omitted without comment)

**c.** (Omitted without comment)

**d.** (Omitted without comment)
***4.6-18 A facility lighting plan shall be prepared and shall demonstrate that glare from operating and safety night lights that may create light and glare affecting adjacent occupied property are sufficiently shielded to prevent light and glare from spilling into occupied structures. This plan shall be implemented in conformance with the Town of Yucca Valley Night Skies Ordinance and it shall be reviewed and approved by the District staff prior to installation of the night lights.***

7-113 Ramon: The Wastewater Advisory Group suggested bollard lighting for the normal walking route at night; possibly even using low voltage lamps. Additionally, shielded lamps sufficient to light up the site in the event of an emergency could also be added to use when needed.

**No Project Alternative**
(Omitted without comment)

**4.7 POPULATION AND HOUSING**
**a. Would the project 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)?**
This project is the construction and installation of wastewater treatment facilities, which are intended to improve the quality of regional groundwater supplies through the removal of septic tanks. It is intended only to provide services for existing and planned development. There is a limited potential for the provision of sewer service to encourage undeveloped parcels to develop within the Town of Yucca Valley. However, without the proposed project, those parcels could be developed anyway by installing advanced onsite wastewater septic systems where the proposed system is designed to remove no less than 50 percent of the nitrogen released in the effluent (Advanced Treatment, denitrifying systems). Costs for such systems are more expensive than the cost of hooking up to the District's WRF system, but they do provide an opportunity for development that is feasible.
The type and density of development in the District's service area is controlled by land use designations established by the agencies having jurisdiction over such issues; in the project area the Town of Yucca Valley controls land use. As such, this project is considered growth accommodating, not growth-inducing, in that it will help provide sewer service to development that

7-112 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project. It is assumed that the actual design of the WRF will take these factors into consideration.

7-113 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project. Such lighting would be consistent with the design requirements identified.

is approved or allowed by the agencies having jurisdiction over land use issues. Since an alternative means of treating sewage (individual advanced treatment, denitrifying systems) is available that would allow for development of vacant parcels, the proposed sewer system does not constitute or eliminate an unavoidable cap or constraint on future development.
The potential for growth inducement, discussed in detail in Chapter 6, related to infrastructure improvements is based on the elimination of some development constraint in place at a given time. As the discussion above and in Chapter 3 indicates, there are alternative ways to develop parcels of land within the Town because of the advanced individual subsurface treatment systems, or for large developments the installation of package treatment systems. Thus, the proposed wastewater infrastructure collection system is not forecast to result in growth inducement or any growth beyond that which could occur without the installation of this system. Implementation of the project has no potential to cause or induce any substantial or significant population growth, directly or indirectly.

7-114 Ramon: Localized Treatment can be applied to the entire community for a fraction of the WTF alternaitive. The extreme cost difference would be a development enhancement, in that the systems would be shared with others in any localized area or development. For example, a 325,000 gallon per day system can be increased to about 1 mgd system with less than substantial cost to do so. These systems are far less expensive to use and to buy into as development occurs in any localized or new area within the town. This would also reduce the cost of pipe and amount needed, reducing the size of the feed lines and the treatment facility; thus reducing risk of damage from seismic activity or events.

**b.** (Omitted without comment)

**c. Would the project displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?**
The project has no potential to impact any existing housing or cause the displacement of people. No impact is identified and no mitigation is required. The proposed wastewater treatment facilities have no potential to adversely impact any low income or ethnic communities, i.e., no environmental justice impacts.

7-115 Ramon: This is blatantly untrue! The ethenic groups in the community are amongst the lowest paid people, inclusive of single mothers with children, disabled and elderly people far under the average income. They would be forced to move or sell their homes in order to survive. There are increasing numbers of people and families that have lost their jobs, increasing the numbers of low income daily. This element could also include the numbers that are growing who are becoming homeless.

**No Project Alternative**
The no project alternative would have comparable effects on future growth and no known direct effects on existing housing resources. In a strange turn of events if this alternative were selected, a consequence could be a short-term moratorium on development, unless the Regional Board would accept individual advanced wastewater treatment systems for new development or through retrofit of existing development. Under this scenario the no project alternative could have a more adverse effect on both the existing and future local population, and possibly housing if abandoned, than the proposed action.

7-116 Ramon: The Regional Board already has been shown that most people are in compliance with reasonable cleaning schedules, with lab reports that show compliance with Regional Water Quality Control standards. Those showing lack of compliance are most often businesses and institutions such as schools and parks operated by local government or unified school districts, and other like institutions.
The statement is flawed as reasoned.

**4.8 CONSTRUCTION ASPECTS**
Construction impacts and related mitigation measures are described in various parts of Section 4 of this document. Many of the construction impacts addressed in this document are subject to mitigation and the proposed project can be implemented without any significant adverse short-term environmental effects. Specifically, air emissions, biological resources, cultural resources, geology

7-114 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project.

7-115 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project. The proposed project will not directly affect any existing housing. The indirect effect identified in this comment is an important economic issue and based on experience in other communities, the costs will need to be spread in a manner that does not force residents from their homes.

7-116 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project. The comment is accurate as to the powers of the Regional Board, and the presentation at the July 15, 2009 HDWD Board meeting supports the finding in the referenced text.

and soil constraints, management of construction hazards, management of construction storm water runoff, mineral resources, noise, and traffic effects have all been evaluation and determined to not cause substantial negative environmental effects. Please refer to the discussion of these specific issues in the pertinent sections of this document.

7-117 Ramon: please refer to pertinent section comments and issues where given in this document.

**No Project Alternative**
None of the direct construction impacts attributable to the proposed action would occur under the no project alternative. If it is assumed that implementation of the no project alternative must result in installation of individual advanced subsurface treatment systems and nitrate treatment facilities, some more limited indirect construction impacts would occur under this alternative in the future. As in the case of the proposed action, available mitigation measures are considered sufficient to reduce potential no project alternative construction effects to a less than substantial level.

7-118 Ramon: please refer to pertinent section comments and issues where given in this document. Specifically where the mitigation is argued as being inadequate or flawed in concept.

**4.9 ENERGY ISSUES**
Overall, the project will consume energy during the construction period, with the use of petroleum based fuels for equipment and vehicles. Electrical energy will be consumed for wastewater treatment operations and pump stations into the long-term future. An estimated 2.9 million KWhr of electricity will be required to operate each year, or about 8,000 KWhr per day. According to two California Energy Commission documents, the "2008 Integrated Energy Policy Report Update" and the "California Energy Demand 2008-2018 Staff Revised Forecast" adequate energy demand within the Southern California Edison and Southern California Gas service areas is forecast to grow by about 1.5% per year between 2008 and 2018. Adequate energy resources are available to serve the region, based on the assumption that new electricity power generation systems will be installed at an accelerated rate in accordance with the demand forecasts. Based on these reports, adequate energy resources can be made available to support forecast growth within the project area, which is located in both company's service areas. Thus, adequate electricity resources are assumed to be available from Southern California Edison to support operation of the WRF. The greenhouse gas (GHG) emissions related to electricity consumption are presented and determined to be a less than substantial adverse effect in Sub chapter 4.1. Thus, the proposed WRF use can be served through existing energy resources, such that energy impacts should be minimal.

7-119 Ramon: What is the cost impact of the projected energy demand that is given to be needed? What will be the delivery and use cost if divided by the current district population?

**No Project Alternative**
(Omitted because of no argument for the entire Alternative...starting at 4.17 comments are as given)

**4.17 OTHER IMPACT ISSUES**
(Omitted without comment)

**4.17.6 Environmental Justice**
The project site is located within a community that is generally below the economic level of other communities in the County, due to having a high percentage of retirees and seasonal residents. However, there are no industries or contaminated sites in or around the project area such that this project would comprise a new hazard and additional hazard to a particular population. The proposed project will temporarily impact those residents along the pipeline routes and in the vicinity of the treatment plant, but it has no potential to adversely impact any low income or ethnic communities in the long term. The project itself will be an improvement to area services that will benefit the population.

7-120 Ramon: Recently, USGS tested the most southern well at Mental Physics, which is not in the

7-120 cont. area of the wells in the Pinto Basin Wash. That well is identified in Appendix 3... "with the exception of nitrate plus nitrite analyzed in the February 2009 sample from 1N/6E- 28N01S. The nitrate plus nitrite concentration in the sample collected at 28N1 was 18.4 mg/L as N; the EPA MCL for nitrate is 10 mg/L. It is given here that this well is being contaminated from problems outside of the Mental Physics site and the cause needs to be addressed.

**No Project Alternative**

Due to the type of infrastructure project envisioned by the proposed action, no environmental justice issue have been raised by implementing proposed action. For the no project alternative no direct environmental justice issues have been identified. However, if it is assumed that implementation of the no project alternative may result in continued contamination of groundwater within the District's service area by nitrates and other constituents of the septic tank discharges, then the whole community, including those seniors and low-income residents could be substantially impacted by being forced to spend substantially more of their dollars for drinking water in the future.

7-121 Ramon: the option provided by Mahaffey Innovative Technology Inc., provides for clean water, at a substantially reduced cost to the rate payers, meaning that low income families can benefit from a no project alternative as given here. Thus by employing a no project alternative, the community can change direction with no impact to the low income residents of the community.

**4.18 INVASIVE SPECIES**

(Omitted without comment)

**Chapter 5 CEQA CHECKLIST FORM**

(Omitted without comment)

End of comments:

7-117 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project.

7-118 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project. All of the measures identified can be implemented and can reduce the potential project impacts for which the measures were designed.

7-119 The cost for energy issues is very important to the community and HDWD; however, the cost is not a CEQA issue. An operating cost spreadsheet is available from the HDWD, which shows power cost estimates for the system.

7-120 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project.

7-121 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project.

9 July 2009


Hi-Desert Water District
55439 29 Palms Highway
Yucca Valley, California 92284-2503

RECEIVED 7/9/09 11:15 AM.

Attention: Mr. Joe Glowitz

Reference: Initial Study/Environmental Assessment: Hi Desert Water Reclamation Facility, Wastewater Treatment Plant and Sewer Collection System Project June 2009

Dear Joe,

This letter is to submit my comments regarding the California Environmental Quality Act phase of public input to the Hi-Desert Water District proposed Wastewater Treatment and Reclamation Project described in the reference.

8-1 I am not satisfied with the proposed Project as described in the reference document. My concerns are summarized by the following major points, and to these points I have a lot of questions which are detailed by reference paragraph in the next following pages.

8-2 1) The document provides an incomplete showing that the Project will in fact satisfy all regulatory requirements for reclaimed water discharged to the Warren Valley East Groundwater Basin intended for in-ground storage, blended with imported water if required, and subsequent recovery, distribution, and potable reuse.

8-3 2) Description of required final treatment methods (if any), blending requirements, required pumping and distribution facilities, and quantity of reclaimed water to be recovered are not provided. It is not clear for sure whether reclaimed water will ever be reused in the proposed Project, how much, and at what cost.

8-4 3) Unsupported projections of future available long term water supply are given, which I believe are inconsistent with the Warren Basin Water Management Plan, and inconsistent with existing long term water supply contracts and conjunctive use agreements with Mojave Water Agency. Sufficiency of water supply to support the Project is not demonstrated.

8-5 4) I question whether the Project is affordable, or can be funded, and I am concerned that less costly approaches have not been sufficiently explored. A distributed system alternative approach is suggested which I believe now deserves serious reconsideration, especially in view of the expected high cost per connection of the proposed Project.

Thank you for your consideration of my detailed comments.

Sincerely,

Wade H. White

**RESPONSES TO COMMENTS**
**LETTER #8**
**WADE H. WHITE**

8-1 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project.

8-2 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project. At this time the HDWD does not propose to implement a Title 22 program because the key issue of concern is installing a centralized WRF to treat and dispose of treated effluent in accordance with clear direction from the Regional Board. Such a Title 22 program may be implemented in the future, but it will be subject to independent review by the HDWD, regulatory agencies, and CEQA requirements. Please refer to response to comment 5-8. The project is not planned to be operated for the purpose of recharging a groundwater basin. The purpose of the project at this time is to treat and dispose of wastewater currently being discharged from septic tanks.

8-3 Please refer to response to comment 8-2. At this time no blending, pumping or other operations or facilities will be installed as part of the proposed project. HDWD is focused on addressing the groundwater contamination problem and will consider a recycled water program at a later date.

8-4 The data was summarized from previous water management plans prepared for HDWD. The following data are summarized from the HDWD 2005 Urban Water Management Plan (UWMP or Plan): In 2005 the District had about 10,000 service connections, with 80% of the water extracted from the Warren Valley Basin and 20% from the Means Valley Basin. 2005 water demand was estimated at 2,669 acre-feet (AF). The annual household use was estimated to be 0.28 AF. The District assumed a 2.3% annual population growth rate. The 2005 estimated population was 26,000. Forecast population of the service area for five year increments were:

2010 = 30,676
2015 = 35,307
2020 = 38,218
2025 = 41,239
2030 = 44,260

Table 5 of the UWMP provides the future water supply and demand figures through 2046. The proposed project will recharge treated effluent to the Warren Valley Basin aquifer. At some time in the

future, as discussed in response to comment 8-2, HDWD can established a program to utilize the recharged effluent as long as it meets all drinking water quality standards, which the WRF is designed to achieve.

8-5 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project. Providing multiple treatment plants instead of a single central treatment plant is inconsistent with industry trends. Treatment plants are very much subject to economies of scale, both in terms of construction and operation. Providing multiple treatment plants would reduce the length and size of trunk sewers and major pump stations. The smaller sewers (12-inches and smaller) which collect sewage from individual customers, which represent 75% of the collection system cost, in individual streets would still be required. Although the pump stations feeding the treatment plants would be smaller, there would be more of them, probably resulting in a greater cost. Providing multiple treatment plants would also involve more impacts on neighboring areas, since there would be more facilities where wastewater would be treated, and odors potentially generated.

**1) The document provides an incomplete showing that the Project will in fact satisfy all regulatory requirements for reclaimed water discharged to the Warren Valley East Groundwater Basin intended for in-ground storage, blending with imported water if required, and subsequent recovery, distribution, and potable reuse.**

**Paragraph 2.1.3 Project Characteristics**

**Table 2-1 Anticipated Effluent Discharge Limitations for the Hi-Desert WRF Page 6**

From the text on Page 6; "These treated effluent values are assumed (emphasis added) to minimize degradation of existing groundwater quality. In addition, the PDR addresses the issue of emerging contaminants for which standards are not yet established. "

8-6 I suggest that before we proceed further with a particular selected alternative, namely the proposed Project, we should provide concise and clinical enumeration of all regulatory requirements, EPA, Clean Water Act, Department of Health Services at the County and State level, as well as a written statement from the State Regional Water Quality Control Board, and any other cognizant regulatory agency, showing that the proposed Project meets all relevant requirements for potable water reuse of reclaimed wastewater in the manner that we have proposed. To me it is not sufficient or prudent at this point for us to make assumptions about compliance.

**2) Description of required final treatment methods (if any), blending requirements, required pumping and distribution facilities, and quantity of reclaimed water to be recovered are not provided. It is not clear for sure whether reclaimed water will ever be reused in the proposed Project, how much, and at what cost.**

**Recharge Basins Page 8**

8-7 I understand that the treatment plant effluent will be discharged to percolation ponds at the proposed treatment plant site. How, when, and where will it be pumped out for delivery to customers as clean potable water? What subsequent processing may be required? What are the blending requirements? Are the necessary facilities included in the proposed Project? How much water will be recovered. How much water will

8-7 cont. not be recovered and lost to downstream flow out of the District. How is reclaimed water included in our long range water supply projections? Is the imported water required for blending included in our water demand projections?

**3)Unsupported projections of future available long term water supply are given, which I believe are inconsistent with the Warren Basin Water Management Plan, and inconsistent with existing long term water supply contract provisions and conjunctive use agreements with Mojave Water Agency.**

**Paragraphs 3.2.6 Water Supply Planning, and 3.3.1 Domestic Water**

**Table 3-6 Current and Planned Water Supplies in Acre-Feet Page 38**

There are numerous questions about these projections and how they are explained (or not explained) in the accompanying text.

3)-1 Wholesale Water Provider (MWA)

8-8 These projections are not consistent with the water supply provisions of the Morongo Basin Pipeline contract with MWA, which: runs out in about 2023 (or when the present bonds are paid off). There are no negotiations for modification or renewal as far as I know. MWA is on record that we are to transition to Ordinance 9 for our water supply purchases, and practically speaking we are already there. The present pipeline contract provides for interruptible water supply up to 4282 AF per year, and is subject to reduction when State water supplies to MWA are lower than 75,000 AF, which is the case at the present time. (For the last two years the District has been under severe water rationing due to California persistent drought conditions, and there is presently no end in sight.) MWA can unilaterally reduce our water supply according to our present contract, or if they have not sold the water to someone else, and if State water allocations permit, can sell us additional water at the going price. To me this is hardly a contract for water entitlement as described in the text.

In any case when projecting available water under long term contract from MWA, the best we can presently assume out to about year 2023 is 4228 AFY, subject to reduction in drought conditions, and beyond that we have no long term water supply contract whatsoever. Ordinance 9 is a year to year purchase agreement, when supplies are available. My position on this situation,

8-8 cont. especially in today's drought conditions, is that essentially we have no long term water supply contract in place at all. Table 3-6 shows supply increasing to 4920 AFY is inconsistent with our present contract and unjustified as an assured water supply for purposes of long range water supply planning; a supply we can reasonably count on. To realize the water supply projections of Table 3-6 requires that MWA have surplus water supplies to support our deliveries in every period of the 25 year plan, which in my judgment is hardly a conservative approach to long term water supply planning, especially in today's environment of drought conditions and considering the potential negative impacts of global warming. I believe that sufficiency of water supply to support this Project is not demonstrated.

3)-2 Groundwater (Warren Valley)

8-9 These projections are in excess of Table 3-5 Groundwater pumping rights in Acre-Feet per Year on page 37, and include the Blue Skies Country Club, Institute of Mental Physics, and 16 Minimal Producers. The projection increases from 2388 AFY in 2005 to 4408 AFY in 2030, and is not explained. This assumption therefore implicitly assumes that the District will pump the projected amounts in overdraft, thereby depleting groundwater reserves in contradiction to the aims of the Warren Basin Water Management Plan which implements District compliance to the court adjudication: i.e., namely to use imported water to correct the then existing overdraft, and thereafter to maintain a balance of supply with demand. Simply put; the District and Warren Basin Watermaster charge is to replace groundwater depletion with imported water to achieve that balance and maintain minimal overdraft as the community grows. Table 3-6 appears to violate this charge by the implied assumption that groundwater supplies may be depleted in order to support projected additional demand.

Perhaps this line item includes some estimated reclaimed wastewater return. If so, it should be so identified, included in the water supply analysis, and reconciled with the Project design description. In the demand projections of Table 3-7, have requirements for water required to dilute wastewater prior to discharge been included? (This alone, if required, could exceed several thousand AFY of imported water).

3)-3 Groundwater (Means Basin)

8-10 It should be noted here that according to the settlement agreement, water pumped from the Mainstream well must stay in the Mesa (Means Basin) and therefore cannot be used as a solution to Warren Valley or other District water supply requirements.

8-6 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project. The WRF has been designed to meet all regulatory requirements of the agencies that will be required to review and provide permits/authorization for facility implementation. All of the agencies required to issue future permits were provided copies of the IS/EA and the District did not receive any comments raising concerns about the project itself. Regardless, once the environmental review process is completed, applications can and will be processed by all the agencies required to permit the proposed facilities. These agencies cannot process and issue permits until the CEQA review process is completed.

8-7 Please refer to responses to comments 8-2 and 8-3

8-8 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project. Please refer to response to comment 8-5. Although a key issue of concern for both the community and HDWD, the water supply issue is not a major focus or concern in relation to the proposed project, which has the specific objective of providing a wastewater collection and centralized treatment system and the potential effects from implementing this system.

8-9 Please refer to response to comments 8-4 and 8-8.

8-10 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project.

3)-4 Conjunctive Use

2150 AFY of conjunctive use water is planned in the period of 2010. This is inconsistent with the conjunctive use agreement with MWA in that if ordered, a like amount is subtracted from the water supply contract delivery allocation for the period. In other words, conjunctive use water cannot be considered as additional water supply over and above the existing water supply contract.

8-11 In summary, I believe this Table 3-6 incorrectly uses a set of assumptions and numerical projections for long range planning purposes that significantly overstates the available water supply, and ignores statistically predictable drought conditions which are likely to prevail throughout the period. These assumptions lead to what I believe is an incorrect conclusion that the District has adequate water supply to support the Project and assumed planned growth of the community.

Rational long range water supply planning must consider the potential of drought and impact of global warming. Water available in "wet" years must be conserved to restore groundwater depleted in "drought" years. There is a State supplied statistical model and analysis procedure for estimating these requirements, which apparently was not used in the Project analysis.

8-12 My own conclusion, conservatively speaking, without including the likelihood of further prolonged drought, is that without a significant return of reclaimed wastewater, and continuation of our present contract terms, there is no more water availability for any use than about a 1000 to 1500 AFY increase from where we are now. With prolonged continuation of drought, or if we should experience one of the many potential problems with the State water delivery system, or if dilution of treated wastewater is required for potable reuse, we are already there. This reasoning leads to a big difference from the conclusions provided in the proposed Project analysis.

**4) I am concerned that less costly approaches have not been sufficiently explored which demonstrate that this proposed Project is the best, most cost effective, and affordable solution necessary to preclude ground water pollution in this community. A distributed system alternative approach is suggested which I believe deserves serious consideration now, especially in view of the expected high cost per connection of the proposed Project.**

**<u>Paragraph 2.1.3 Project Characteristics</u>**

**<u>Hi-Desert Water Reclamation Facility Alternatives</u>**

8-11 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project. Please refer to response to comment 8-8.

8-12 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project. As noted above, the water supply information is provided as background information to this environmental document. The forecast potable water use within the proposed WRF will be minimal, for example drinking water and showers for employees, as most of the internal demand for water can be met with the treated effluent.

**Quoting from the text at the bottom of page 6**

"Decentralized treatment is not cost effective for an area such as Yucca Valley where development has occurred in a single coherent area"

8-13 I question the validity of this unsupported statement. Rather, I now think that is exactly what we should seriously look into to find a lower cost and more affordable alternative to the proposed Project.

8-14 Let us pause now and reconsider a multiple-technology distributed wastewater treatment system approach which assures adequate performance of existing septic systems, uses on site individual and neighborhood packaged treatment plant technology with on-site local discharge, and which entirely avoids the need and cost of building a centralized sewer collection and wastewater treatment system. The system design approach would include:

1) Wherever possible retain existing septic systems, but institute a code enforcement program to make sure they perform according to minimum specifications, are maintained in good order, are periodically inspected, and are regularly pumped out. Require new septic systems or package treatment facilities where minimum standards are not presently met.

2) Where necessary according to existing and new standards, and for all new buildings, require advanced individual septic systems, packaged treatment plants for individual and multiple units, neighborhood package treatment plants with local collection facilities, especially along the commercial corridor and in areas near production wells. Require regular maintenance and inspection.

3) Institute recharge management procedures and production well pumping schedules to maintain separation of water table and septic interference zones.

4) Maintain a regular system of monitoring wells, and regular testing to assure acceptably low contamination levels.

Is there a feasible approach along these lines or some variation that will meet water quality requirements at a much lower cost?

8-13 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project.

8-14 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project. Providing multiple treatment plants instead of a single central treatment plant is inconsistent with industry trends. Treatment plants are very much subject to economies of scale, both in terms of construction and operation.

Providing multiple treatment plants would reduce the length and size of trunk sewers and major pump stations. The smaller sewers (12-inches and smaller) which collect sewage from individual customers, which represent 75% of the collection system cost, in individual streets would still be required. Although the pump stations feeding the treatment plants would be smaller, there would be more of them, probably resulting in a greater cost.

Providing multiple treatment plants would also involve more impacts on neighboring areas, since there would be more facilities where wastewater would be treated, and odors potentially generated.

9 July 2009

TO: Joseph Glowitz, P.E.
SUBJ: ENVIRONMENTAL ASSESSMENT
FROM: Bill Horne

Dear Joseph,

I will try to keep my comments brief.

Page 1 - 1.1

9-1 Why not state that All Residents in the Warren Valley Basin shall be connected to the Waste Water Treatment Facility? The RWQC Board did.

The Annual Water Quality Report for 2008 and 2007 reports a high of 16mg/l NO3 in 2008 and a high of 25mg/l of NO3 in 2007.

9-2 Now you are considering discharging 35mg/l of Nitrate (NO3) into the East (HGA) from the Waste Water Reclamation Facility on a daily basis. How do you consider that procedure an improvement?

9-3 Suggestion: Remove All Steel Septic Tanks in Yucca Valley.
Consider a Septic Tank Ordinance and Enforce it.

**RESPONSES TO COMMENTS**
**LETTER #9**
**BILL HORNE**

9-1 With some minor exceptions for isolated residential units or residential units on very large parcels not proximate to the proposed sewer collection system, all residents within the Warren Valley Basin are expected to be connected to the WRF. This decision will be made ultimately by the Regional Board with the concurrence of the HDWD, based on its perception of an appropriate nexus to the nitrate contamination discovered in the Warren Valley Basin.

9-2 This statement is incorrect. The anticipated discharge requirements that the Predesign Report assumed was 8 mg/L of total inorganic nitrogen. The draft waste discharge requirements issued by the RWQCB limit total nitrogen to 10 mg/L. The modeling conducted by the USGS conservatively assumed a total nitrate concentration as nitrogen of 10 mg/L, which is the same as 44 mg/L as nitrate.

9-3 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project.

9 July 2009

Page 2

1.3

9-4 2. Conflicts with 4.2-3 b. page 70 and 4.2-4 on page 73.

Page 3.

2.1

In the future, if Phase 1 Facilities do not adequately protect Ground Water Quality, or if the RWQCB requires more areas to be sewered, or if additional capacity is needed, the Collection, Treatment and disposal Facilities will be expanded to collect an additional 1 MGD of sewage.

This paragraph goes on to say, ultimate buildout in the District's Yucca Valley Service Area could be as high as 6 MGD, but due to the area's slow rate of growth, this is not forecast to occur until the distant future.

My opinion on the 6 MGD - If the HDWD followed the Dec 2003 Court Order and HDWD Policy 26-04 the 4.8% - 4.8% and 4.5% build-out would not have happened 6 years ago.

9-5 On your, HDWD's, W. Reclamation Project Monthly Report - August 2008, page 4 - stated the need exists for a waste-water treatment facility that will serve the entire service District.

9-6 I will not support nor vote for anything that resembles the information in 2.1 above.

9-4 There is no conflict in the referenced mitigation measures. Measure 4.2-3 applies to implementation of short-term water quality best management practices (BMPs) for surface runoff. Measure 4.2-4 applies to implementation of long-term water quality BMPs for surface runoff. These measures are designed to ensure that surface water quality is protected under different circumstances.

9-5 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project.

9-6 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project.

July 9, 2009

Page 99

4.17.8 Sole Source Aquifer

Without State protect Water the Warren Valley Ground Water Aquifer would been dewatered in a few years from now.

The Ames/Means basins are in High Overdraft and have been for years. They do not Recharge the Ames/Means Basin even Though Dr. Birman Tried to Find a Put And Take Location for years without sucess, I am sorry to say.

9-7 I do not see how Recharging the East Hydrogeologic unit benefits the Community at this time. Maybe 10 or 15 years after Recharge begins.

See page 72
4.2-4 f. USGS survey - No new production wells?

9-7 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project.

July 9, 2009

Page 37

3.3.1 Domestic Water

9-8 1- I was told by management in June 2009, that the HDWD does not serve water outside of the District boundaries

9-9 2- The 20% Water Source - The Ames/Means Basins are in High Overdraft -

9-10 3- The 80% Water Source - The Warren Valley Basin would be in High Overdraft without the State Project Water purchased from the MWA.

9-11 4- The W. V. Basin's so-called Safe Yield of 900 AFY is just a temporary number until someone conducts a proper calculation.
The USGS 2003 Report states the Natural Recharge to the Warren Valley Basin is 83 AF/year - and 84 AFY exits over the Yucca Barrier. The 900 AFY, in my opinion is just a guess -
One Hydrogeologist came up with 1800 AFY - one had 600 AFY - So they settled @ 1200 AFY - The Judge said 900 AFY as a temporary number until a proper survey was completed.
The Nitrate Facility was installed to treat 2 wells - 12E + 17E - Nitrate was entrained in the unsaturated zone by mounding of the recharge water due to the compaction caused by overdraft and partial dewatering.

Thanks

9-8 With minor exceptions, this statement is accurate. However, it does not affect the findings in the IS/EA.

9-9 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project.

9-10 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project.

9-11 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project. This document utilizes the 83 acre-feet of recharge per year value.

David Fick
President of MBCA
Morongo Basin Conservation Association
P.O. Box 24, Joshua Tree CA 92252
(760) 366-9862

Mr. Joe Glowitz
Hi-Desert Water District
55439 Twentynine Palms Hwy
Yucca Valley, CA 92284

July 9th, 2009

**MBCA comments towards the Hi-Desert Water Reclaimation Facility, Wastewater Treatment Plant And Sewer Collection System Project-Page 1**

The following are the comments from the Morongo Basin Conservation Association.
The portion of concern is quoted in order of presentation, then a blank line, then MBCA's comment.

1.2 PURPOSE OF THE ENVIRONMENTAL ASSESSMENT Because the District is seeking federal funds from the Bureau of Reclamation (BOR) for this
project, compliance with the National Environmental Policy Act (NEPA)
must be completed before federal funds can made available to support
implementation of the project summarized above.....
..... Of particular concern to federal agencies in this review is
that the project will be carried out in known habitat for the desert
tortoise, a federally-listed "threatened" species.
Once the IS/EA is completed, the BOR will either issue a Finding of No
Significant Impact (FONSI) or decide to prepare an Environmental Impact
Statement (EIS) to comply with NEPA. The District will either adopt a
Negative Declaration or decide to prepare an Environmental Impact
Report (EIR) under CEQA. Should further documentation be required, it
is likely that it would also be in the form of a joint CEQA/NEPA
document, an EIS/EIR. The U.S. Fish and Wildlife Service (USFWS) may
also be involved should desert tortoise be found in the project's area
of potential impact. Should this circumstance occur, a Section 7
consultation with the USFWS could be required under the federal
Endangered Species Act between the BOR and USFWS. If consultation is
required, the USFWS would have to issue a Biological Opinion on the
project regarding any potential adverse effects on the desert tortoise.

10-1 MBCA finds the following statement (on page 45 of the IS/EA) extremely suspect:
"As a result of the desert tortoise protocol surveys of the WRF site and the sewer line alignments, no desert tortoise were identified with project areas of potential effect."
Seeing that other proponents of sizable (Wumu Casino Project-160 acres, YV105 LLC, Altimira Project-105 acres) projects have claimed "no tortoises" and have had very compromising evidence presented, MBCA would like to see an "unbiased" and competent tortoise survey.

10-2 The Survey Forms (about 100) in the General Biological Survey-Appendix 4 are incomplete, only show "winter dates" of surveying and have the wrong county (Riverside) entered. Tortoises only come out above 70 degrees according to well-respected local tortoise experts. The following statement about methodology (page 4) describes a temperature range much lower:
—"The habitat assessment and biological findings are reported by Michael Kegarice and the focused Desert Tortoise survey was conducted by Daniel Smith and Michael Kegarice. The surveys were conducted between May 2008 and February 2009. The general weather conditions were clear and only slight breezes. The temperature was between 58EF and 64EF, which could provide suitable conditions for tortoise activity."
Thus, the surveys were taken during winter season in conditions ENTIRELY UNSUITABLE to tortoise activity. MBCA feels that due to inappropriate execution and the importance of having a valid survey, a new tortoise survey should be required.

**RESPONSES TO COMMENTS**
**LETTER #10**
**MORONGO BASIN CONSERVATION ASSOCIATION**

10-1 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project. A protocol tortoise survey of the WRF site was conducted in May 2008. The pipeline alignments were surveyed during the winter of 2008-2009, but most of these alignments are in existing roadways and directly adjacent to residential and commercial areas where no tortoise occurs and where tortoises would be expected to occur. No critical tortoise habitat occurs within the project area. Based on the lack of tortoise resources or other sensitive plant species and the location of the WRF site and the pipeline alignments within the urbanized portion of the Town of Yucca Valley, the District concluded that the loss of the habitat on the WRF site does not rise to a level of significant impact that would require mitigation.

The individuals conducting the field surveys have more than 10 years of field experience and to a large degree focus on tortoise sign, which does not disappear, instead of specific individuals. However, no burrows or tortoise sign were identified within the areas subject to protocol surveys. Also, please refer to responses to comments 4-8 and 4-9 and the responses to Comment Letter #1.

10-2 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project. Please refer to response to comment 10-1 above.

Morongo Basin Conservation Association
P.O. Box 24, Joshua Tree, CA 92252

**MBCA comments towards the Hi-Desert Water Reclaimation Facility, Wastewater Treatment Plant And Sewer Collection System Project-Page 2**

3.17.7 Environmental Justice:
The Executive Order 12898." This EO directs federal agencies to take the appropriate and necessary steps to identify and address disproportionately high and adverse effects of federal projects on the health or environment of minority and low income populations to the greatest extent practicable and permitted by law. "

10-3 MBCA is concerned that a low income and fixed income portion of the Yucca Valley community would be disproportionately high and adversely effected by the yet to be announced financial cost assessments for this partially federally funded project. MBCA is aware most of the "Environmental Justice" concerns are the "siting" location of hazardous facilities near low income and minority communities.
In this situation, the Town of Yucca Valley and the Hi-Desert Water District have left the Yucca Valley tax and rate payers holding the bag of financial responsibility.
The residential and commercial development community was recklessly held unaccountable for the actual costs of infrastructure required for urban development for the last two decades.

4.1-11 To the extent feasible, the District shall select landscaping that is fast-growing to create a windbreak buffer along the periphery of the WRF site.
Alternatively or concurrently, the District may install solar power systems to partially or fully offset operational electricity demand of the WRF.

10-4 MBCA would like to know what vegetation would be used and where the solar panels (and how many) would be placed. This open ended portion of the "assessment" would have major effect on the facility's size and outward appearance and should have more information. This could be a sizable portion of the facility's impact to the local community and should be given greater consideration for review.

10-5 Due to time constraints and other entities and individuals having better information and resources, our comments remain brief. MBCA does hope this Environmental Assessment can answer and successfully deal with many of the problems Yucca Valley has with it's water supply and wastewater treatment.
Good Luck,

Sincerely, David Fick
President, Morongo Basin Conservation Association
www.mbconservation.org

10-3 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project. The key concern for environmental justice issues is the effect of federal projects on the health or environment of a minority. The proposed project is designed to protect the health and environment of groundwater resources that supply the HDWD customers. The economic impact will affect the all residents in the community, without singling out any specific group. Since the project is designed to protect public health and the environment from existing groundwater degradation, no significant environmental justice issues were identified.

10-4 The vegetation would be installed on the periphery of the WRF to provide offsets to green house gas emissions and to also provide an enhanced buffer around the WRF. The landscaping would be irrigated using treated effluent. Native plants, including mesquite, sycamore trees, native bunch grasses and others, could be used to offset greenhouse gas (GHG) and provide an appropriate buffer. However, the best approach is to allow a landscape architect or native plant specialist to prepare a landscape plan for approval by the HDWD Board, which is what is recommended.

10-5 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project.

**4.2-3 d. Would the project 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?**
As noted above, the wash on the project site will not be substantially altered and future runoff from upstream of the site will continue to flow in this wash to the downstream channel. The sewer pipelines will also cross channels. Where such pipeline crossings occur outside of paved roads, it may be necessary to obtain regulatory permits from CDFG (1602 Streambed Alteration Agreement) and the Regional Board (waste discharge requirements, WDR) as outlined under mitigation measure 4.2-4. Regarding runoff from within the WRF, it will be collected in a retention basin and discharged to the headworks for treatment prior to discharge. Thus, the proposed project is forecast to increase runoff from the existing site when the plant is installed, but the increased runoff is not forecast to cause a substantial alteration of the existing drainage pattern because the increase runoff will be retained and treated within the WRF itself. During construction the modified runoff will require implementation of the mitigation measures (4.2-1 through 4.2-3) identified above to control downstream water quality impacts. With implementation of these measures the potential for significant adverse impacts will be controlled to a less than significant impact level.

11-1 Ramon: this element could be determined "functional" and working as to intent...with a Total Quality Assurance Management, Systematic Process Observation Technique audit, following 3 or 6 Sigma distribution on a Standard Curve, allowing quality parameters to be observed for management support for the intent of the given structure.

**e. Would the project 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?**
This project will not increase the peak discharge of surface runoff to the existing drainage area or provide a substantial additional source of polluted runoff. This finding is based on the fact that runoff from within the treatment plant site will be collected and returned to the plant for treatment before discharge. No mitigation is proposed.

11-2 Ramon: has the return loop for returning water for treatment been cost analyzed? Has the public water committee looked at this feature? What is the project cost of returning water?

**f. Would the project otherwise substantially degrade water quality?**
With implementation of the SWPPP and WQMP, the identified BMPs as outlined above, the project construction activities are not forecast to have any potential to substantially degrade surface water quality. Over the long-term the data indicates that percolation of the treated effluent or reuse as recycled water will not cause any substantial degradation within the Warren Valley Groundwater Basin. The analysis provided in the U.S. Geological Survey technical report in Appendix 3 verifies this finding is available upon request to the District. No mitigation is required beyond that already identified for the SWPPP and WQMP. The U.S. Geological Survey modeled the potential for recharge of the treated effluent into the onsite recharge ponds to assess future impacts to groundwater levels and groundwater quality under future discharge scenarios. Appendix 3 contains more detailed information regarding the model, model assumptions and the model runs. The assumptions included the assumed future effluent flows, effluent water quality, percolation pond sizes and groundwater-level threshold. The model conducted several 16-year simulations of the effects of the proposed project on the upper/middle aquifers, the lower aquifer and the deep aquifer. Year 2008 pumping and recharge patters were used in the model-calibration process.
The following model results were reported in the U.S. Geological Survey evaluation. The simulated future water levels were determined to not reach the water level threshold of 100 feet below the ground surface (bgs) after 16 years of recharge. Therefore, no new production wells are needed to control water levels during the 16-year simulation period. However, the simulated rate of water level rise indicates that the water-level threshold will be exceeded in the future if wastewater recharge is continued and there is no pumpage from the East hydrogeologic unit. Therefore, wells will need to be installed in the future to ensure the 100 foot bgs threshold is not exceeded. An adaptive mitigation measure for this impact is presented below.
The modeling for water quality parameters concluded that the maximum simulated Total Organic Carbon (TOC) concentration was about 9 mg/L in the upper/middle aquifer; 0.5 mg/L in the lower

**RESPONSES TO COMMENTS**
**LETTER #11**
**RAMON ALVISO MENDOZA**

11-1 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project.

11-2 Stormwater runoff generally has very high water quality, except for suspended solids. The runoff captured within the WRF will either be delivered to the headworks or to the recharge ponds for recharge, in a manner similar to the rest of the Warren Valley Basin. No adverse effects or long-term operational costs are forecast to result from this standard practice.

**aquifer. The maximum nitrate (NO3) concentration was about 35 mg/L in the upper/middle aquifer and about 2 mg/L in the lower aquifer. The maximum simulated Total Dissolved Solid (TDS) concentration was about 420 mg/L in layer 1 and about 300 mg/L in layer 2. The NO3 concentration is approaching the maximum contaminant level (MCL, 45 mg/L for NO3), but it does not exceed the MCL. The modeled TDS concentration does not exceed the secondary MCL for TDS, which is 500 mg/L. Based on the modeled data, the groundwater quality downstream of the WRF recharge ponds will**
**be degraded relative to the existing concentrations, but it is not forecast to exceed public drinking water standards. Because the public health will be protected by operation of the proposed WRF, the project is not forecast to cause significant degradation of the existing groundwater quality in the groundwater aquifer downstream of the WRF site. Adaptive mitigation to ensure that maximum contaminant levels for public drinking water standards are not exceeded in the groundwater in the future.**

11-3 Ramon: This opens up a bit of historical awareness that has been shared with only a few. Birds of a Feather, so to speak. Right or wrong, our leadership from the County of San Bernardino and the Municipal Land Use Authorities have let the people down. Agencies at the State Level and the Federal Level have since 2004 provided the lead, in that Water Survey need is high in the priority for land use permits. Included in that is real mitigation for loss of natural resources, impact on needs for power and water, Police and fire protection, Flood Control, and the loss of open spaces...inclusive of community parks.

Our local government has for 25 years, not responded to quality of life and development that is harmonious with the earth here in the Morongo Basin. Only a Total Quality Assurance Management system as previously described will assure compliance and for the public to watch for compliance...if we are to make quality decisions, rather than inside control of how the Morongo basin develops in a way that all life experiences quality of the nature we enjoy.

11-3 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project.

COMMENT LETTER #12

**Mojave Desert Air Quality Management District**
14306 Park Avenue, Victorville, CA 92392-2310
760.245.1661 • fax 760.245.2699
*Visit our web site: http://www.mdaqmd.ca.gov*
Eldon Heaston, Executive Director

June 11, 2009

Mr. Joe Glowitz, District Engineer
Hi-Desert Water District
55439 Twentynine Palms Highway
Yucca Valley, CA 92284

**Project Title: Hi-Desert Water District Water Reclamation Facility, Wastewater Treatment Plant and Sewer Collection System Project**

Dear Mr. Glowitz:

The Mojave Desert Air Quality Management District (District) has received the Notice of Availability and Intent to Adopt a Mitigated Negative Declaration for the Hi-Desert Water District Water Reclamation Facility, Wastewater Treatment Plant and Sewer Collection System Project.

12-1 The District has reviewed the Mitigated Negative Declaration for the project and concurs with the analysis and findings. Based on this information, the District has no comments.

Thank you for the opportunity to review this planning document. If you have any questions regarding this letter, please contact me at (760) 245-1661, extension 6726, or Tracy Walters at extension 6122.

Sincerely,

**Alan J. De Salvio**
Supervising Air Quality Engineer

TW/AJD Hi-Desert H2O WRF WTP SCS

**RESPONSES TO COMMENTS**
**LETTER #12**
**MOJAVE DESERT AIR QUALITY MANAGEMENT DISTRICT**

12-1 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project.

COMMENT LETTER #13

STATE OF CALIFORNIA

# GOVERNOR'S OFFICE *of* PLANNING AND RESEARCH

STATE CLEARINGHOUSE AND PLANNING UNIT

ARNOLD SCHWARZENEGGER
GOVERNOR

CYNTHIA BRYANT
DIRECTOR

July 13, 2009

Joe Glowitz
Hi-Desert Water District
55439 29 Palms Highway
Yucca Valley, CA 92284

Subject: Hi-Desert Water District Water Reclamation Facility, Wastewater Treatment Plant and Sewer Collection System Project
SCH#: 2009061035

Dear Joe Glowitz:

The State Clearinghouse submitted the above named Mitigated Negative Declaration to selected state agencies for review. On the enclosed Document Details Report please note that the Clearinghouse has listed the state agencies that reviewed your document. The review period closed on July 9, 2009, and the comments from the responding agency (ies) is (are) enclosed. If this comment package is not in order, please notify the State Clearinghouse immediately. Please refer to the project's ten-digit State Clearinghouse number in future correspondence so that we may respond promptly.

13-1 Please note that Section 21104(c) of the California Public Resources Code states that:

> "A responsible or other public agency shall only make substantive comments regarding those activities involved in a project which are within an area of expertise of the agency or which are required to be carried out or approved by the agency. Those comments shall be supported by specific documentation."

These comments are forwarded for use in preparing your final environmental document. Should you need more information or clarification of the enclosed comments, we recommend that you contact the commenting agency directly.

This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act. Please contact the State Clearinghouse at (916) 445-0613 if you have any questions regarding the environmental review process.

Sincerely,

Terry Roberts

Terry Roberts
Director, State Clearinghouse

Enclosures
cc: Resources Agency

1400 10th Street P.O. Box 3044 Sacramento, California 95812-3044
(916) 445-0613 FAX (916) 323-3018 www.opr.ca.gov

**RESPONSES TO COMMENTS**
**LETTER #13**
**STATE OFFICE OF PLANNING AND RESEARCH**
**STATE CLEARINGHOUSE**

13-1 This is an acknowledgment letter verifying that the State Clearinghouse submitted the Initial Study and proposed Mitigated Negative Declaration to selected state agencies for review, and that twp state agencies submitted comments through the Clearinghouse by the close of the review period, which occurred on July 9, 2009. The State assigned this project the following tracking number, SCH #2009061035. This letter is for information only and does not require additional formal response.

# Document Details Report
## State Clearinghouse Data Base

**SCH#** 2009061035
**Project Title** Hi-Desert Water District Water Reclamation Facility, Wastewater Treatment Plant and Sewer Collection System Project
**Lead Agency** Hi-Desert Water District

**Type** MND Mitigated Negative Declaration
**Description** NOTE: Review Per Lead

This project consists of the construction and installaiton of the following components: The district intends to initially sewer the central portion of the Town of Yucca Valley to convey an annual average flow of 2 MGS of wastewater to the WRF currently discharged to septic tanks. In the future, Phase 1 facilities do not adequatley protect groundwater quality, or if the RWQB requires more areas to be sewered, or if additinal capacity is needed, the collection, treatment and disposal facilities will be expanded to collect an additional 1 MGD of sewage. The additional facilities are referred to as Phase 2 facilities. Phase 3 facilities will be designed to collect an additional 1 MGD of wastewater flow for a total system capacity of 4 MGD. Ultimate build-out in the District's Yucca Valley service area could be as high as 6 MGD, but due to the area's slow rate of growth, this is not forecast to occur until the distant future. The wastewater will be treated to meet Title 22 recycled water standards/requirements and will be delivered to recharge basins operated by the District to percolate the treated effluent into the Warren Valley Groundwater Basin.

## Lead Agency Contact

**Name** Joe Glowitz
**Agency** Hi-Desert Water District
**Phone** 760-365-8333 **Fax**
**email**
**Address** 55439 29 Palms Highway
**City** Yucca Valley **State** CA **Zip** 92284

## Project Location

**County** San Bernardino
**City** Yucca Valley
**Region**
**Lat / Long** 34° 07' 54" N / 116° 22' 33" W
**Cross Streets** Sunnyslope and La Contenta
**Parcel No.**
**Township** 1N **Range** 6E **Section** 32 **Base** SBB&M

## Proximity to:

**Highways** 62
**Airports** Yucca Valley
**Railways** No
**Waterways** No
**Schools** No
**Land Use**

**Project Issues** Aesthetic/Visual; Air Quality; Agricultural Land; Archaeologic-Historic; Biological Resources; Cumulative Effects; Drainage/Absorption; Flood Plain/Flooding; Geologic/Seismic; Growth Inducing; Landuse; Minerals; Noise; Population/Housing Balance; Public Services; Recreation/Parks; Schools/Universities; Soil Erosion/Compaction/Grading; Solid Waste; Toxic/Hazardous; Traffic/Circulation; Vegetation; Water Quality; Water Supply; Wetland/Riparian; Wildlife

Note: Blanks in data fields result from insufficient information provided by lead agency.

# Document Details Report
## State Clearinghouse Data Base

| | |
|---|---|
| ***Reviewing Agencies*** | Resources Agency; Department of Fish and Game, Region 6; Office of Historic Preservation; Department of Parks and Recreation; Department of Water Resources; Caltrans, Division of Aeronautics; California Highway Patrol; Caltrans, District 8; State Water Resources Control Board, Division of Water Quality; Regional Water Quality Control Board, Region 7; Department of Toxic Substances Control; Native American Heritage Commission; State Water Resources Control Board, Division of Loans and Grants |

***Date Received*** 06/09/2009 ***Start of Review*** 06/09/2009 ***End of Review*** 07/09/2009

Note: Blanks in data fields result from insufficient information provided by lead agency.

COMMENT LETTER #14

# Department of Toxic Substances Control

Linda S. Adams
Secretary for
Environmental Protection

Maziar Movassaghi
Acting Director
5796 Corporate Avenue
Cypress, California 90630

Arnold Schwarzenegger
Governor

July 9, 2009

Mr. Joe Glowitz
Hi-Desert Water District
55439 Twentynine Palms Highway
Yucca Valley, California 92284

DRAFT MITIGATED NEGATIVE DECLARATION (ND) FOR HI-DESERT WATER DISTRICT WATER RECLAMATION FACILITY, WASTEWATER TREATMENT PLANT AND SEWER COLLECTION SYSTEM (SCH# 2009061035)

Dear Mr. Glowitz:

The Department of Toxic Substances Control (DTSC) has received your submitted document for the above-mentioned project. As stated in your document: "The proposed project consists of the construction and installation of the following components. The District intends to initially sewer the central portion of the Town of Yucca Valley to convey an annual average flow of 2 MGD of wastewater to the WRF currently discharged to septic tanks. This initial project is referred to as Phase 1. In the future, if the Phase 1 facilities do not adequately protect groundwater quality, or if the RWQCB requires more areas to be sewered, or if additional capacity is needed, the collection, treatment and disposal facilities will be expanded to collect an additional 1 MGD of sewage. The additional facilities are referred to as Phase 2 facilities. Phase 3 facilities will be designed to collect an additional 1 MGD of wastewater flow for a total system capacity of 4 MGD. Ultimate build-out in the District's Yucca Valley service area could be as high as 6 MGD, but due to the area's slow rate of growth, this is not forecast to occur until the distant future. If a wastewater collection system is required in the Yucca Mesa-portion of the District's service area in the future, the assumption has been made that a separate treatment facility will be located within the Yucca Mesa area. The wastewater will be treated to meet Title 22 recycled water standards/requirements and will be delivered to recharge basins operated by the District to percolate into the Warren Valley Groundwater Basin (Basin)".

Based on the review of the submitted document DTSC has the following comments:

14-1 1) The ND should identify and determine whether current or historic uses at the project area may have resulted in any release of hazardous wastes/substances.

2) The document states that the ND would identify any known or potentially contaminated sites within the proposed project area. For all identified sites, the ND should evaluate whether conditions at the site may pose a threat to human health or the environment. Following are the databases of some of the regulatory agencies:

- National Priorities List (NPL): A list maintained by the United States Environmental Protection Agency (U.S.EPA).
- EnviroStor, a database primarily used by the California Department of Toxic Substances Control, at www. Envirostor.dtsc.ca.gov.
- Resource Conservation and Recovery Information System (RCRIS): A database of RCRA facilities that is maintained by U.S. EPA.

14-2

- Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS): A database of CERCLA sites that is maintained by U.S.EPA.
- Solid Waste Information System (SWIS): A database provided by the California Integrated Waste Management Board which consists of both open as well as closed and inactive solid waste disposal facilities and transfer stations.
- GeoTracker: A List that is maintained by Regional Water Quality Control Boards.
- Local Counties and Cities maintain lists for hazardous substances cleanup sites and leaking underground storage tanks.
- The United States Army Corps of Engineers, 911 Wilshire Boulevard, Los Angeles, California, 90017, (213) 452-3908, maintains a list of Formerly Used Defense Sites (FUDS).

14-3 3) The ND should identify the mechanism to initiate any required investigation and/or remediation for any site that may be contaminated, and the government

**RESPONSES TO COMMENTS**
**LETTER #14**
**STATE DEPARTMENT OF TOXIC SUBSTANCES CONTROL**

14-1 No previous uses, other than open space, are known to have occurred on the WRF parcel. Several contaminated sites have been identified along the sewer collection system alignments. Special mitigation is required to address project-related accidental spills and the following contingency requirement will be added to this measure to address accidental exposure of contamination as a result of project implementation: HDWD shall retain or have the construction contractor retain a qualified professional to assess any accidental discovery of contamination at project-related sites, particularly along the sewer line alignments. This professional shall have the authority to stop or redirect construction activities and conduct evaluations to determine the significance of any discovery of contamination within the project area of potential effect. If health threatening contamination is exposed, HDWD, Town, County Fire Department and DTSC shall be notified and allowed to participate in any measures required to protect the health of construction employees or the public. Such measures shall be implemented in cooperation with the agencies listed above.

14-2 A records check of the available data bases was conducted and several contaminated locations were found within the Town, primarily historic or existing service stations or automotive service centers. The measure identified above will be implemented within these areas.

14-3 Please refer to response to comment 14-1 and mitigation measure 4.2-1 and 4.2-2. The local Certified Unified Program Agency (CUPA), San Bernardino County Fire Department, Hazardous Materials Division, will be utilized to provide regulatory oversight if needed.

14-3 cont. agency to provide appropriate regulatory oversight. If hazardous materials or wastes were stored at the site, an environmental assessment should be conducted to determine if a release has occurred. If so, further studies should be carried out to delineate the nature and extent of the contamination, and the potential threat to public health and/or the environment should be evaluated. It may be necessary to determine if an expedited response action is required to reduce existing or potential threats to public health or the environment. If no immediate threat exists, the final remedy should be implemented in compliance with state laws, regulations and policies.

14-4 4) The project construction may require soil excavation and soil filling in certain areas. Appropriate sampling is required prior to disposal of the excavated soil. If the soil is contaminated, properly dispose of it rather than placing it in another location. Land Disposal Restrictions (LDRs) may be applicable to these soils. Also, if the project proposes to import soil to backfill the areas excavated, proper sampling should be conducted to make sure that the imported soil is free of contamination.

14-5 5) Human health and the environment of sensitive receptors should be protected during the construction or demolition activities. A study of the site overseen by the appropriate government agency might have to be conducted to determine if there are, have been, or will be, any releases of hazardous materials that may pose a risk to human health or the environment.

14-6 6) If during construction/demolition of the project, soil and/or groundwater contamination is suspected, construction/demolition in the area should cease and appropriate health and safety procedures should be implemented. If it is determined that contaminated soil and/or groundwater exist, the ND should identify how any required investigation and/or remediation will be conducted, and the appropriate government agency to provide regulatory oversight.

14-7 7) If weed abatement occurred, onsite soils may contain herbicide residue. If so, proper investigation and remedial actions, if necessary, should be conducted at the site prior to construction of the project.

14-8 8) If it is determined that hazardous wastes are, or will be, generated by the proposed operations, the wastes must be managed in accordance with the California Hazardous Waste Control Law (California Health and Safety Code, Division 20, Chapter 6.5) and the Hazardous Waste Control Regulations (California Code of Regulations, Title 22, Division 4.5). If it is determined that hazardous wastes will be generated, the facility should also obtain a United

14-4 HDWD or its contractor will sample any soil proposed for disposal or use at an offsite location and HDWD will also require any fill material used in conjunction with the project to be sampled and cleared prior to use for fill in support of the project. If contaminated soil is discovered, it will be properly disposed of in accordance to the measure discussed in response to comment 14-1 above.

14-5 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project. This project does not involve any demolition activities. At this time no special studies are deemed necessary, but as indicated in responses to comments 14-1 and 14-3, HDWD will work with the local CUPA to address any issues encountered in the field during construction.

14-6 As noted above, if contamination is discovered during the site preparation, investigation and remediation, as appropriate, would be carried out as outlined under response to comment 14-1.

14-7 Weed abatement has not been conducted on the WRF site and no weed abatement or agricultural activities have been conducted within the sewer line alignments. No investigation or remedial actions appear to be needed for this project. The measure outlined in response to comment 14-1 ensures that no contaminated soil will be improperly handled.

14-8 The project will utilize hazardous materials and may generate hazardous wastes. Mitigation measure 4.2-3 includes a requirement to properly manage hazardous materials and wastes used and generated at the WRF facility.

14-8 cont. States Environmental Protection Agency Identification Number by contacting (800) 618-6942. Certain hazardous waste treatment processes or hazardous materials, handling, storage or uses may require authorization from the local Certified Unified Program Agency (CUPA). Information about the requirement for authorization can be obtained by contacting your local CUPA.

14-9 9) DTSC can provide cleanup oversight through an Environmental Oversight Agreement (EOA) for government agencies that are not responsible parties, or a Voluntary Cleanup Agreement (VCA) for private parties. For additional information on the EOA or VCA, please see www.dtsc.ca.gov/SiteCleanup/Brownfields, or contact Ms. Maryam Tasnif-Abbasi, DTSC's Voluntary Cleanup Coordinator, at (714) 484-5489.

14-10 10) For future CEQA documents, please provide the email address of the person to whom comments should be sent.

If you have any questions regarding this letter, please contact me at (714) 484-5472 or at ashami@DTSC.ca.gov.

Sincerely,

Al Shami
Project Manager
Brownfields and Environmental Restoration Program

cc: Governor's Office of Planning and Research
State Clearinghouse
P.O. Box 3044
Sacramento, California 95812-3044

CEQA Tracking Center
Department of Toxic Substances Control
Office of Environmental Planning and Analysis
1001 I Street, 22nd Floor, M.S. 22-2
Sacramento, California 95814
nritter@dtsc.ca.gov

CEQA # 2618

14-9 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project.

14-10.1 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project. The point of contact for this HDWD project is Mr. Joe Glowitz. His e-mail address is: joeg@hdwd.com.

Comment Letter #15


# LOCAL AGENCY FORMATION COMMISSION

*215 North "D" Street, Suite 204 • San Bernardino, CA 92415-0490*
*(909) 383-9900 • Fax (909) 383-9901*
*E-mail: lafco@lafco.sbcounty.gov • www.sbclafco.org*

*Established by the State of California to serve the Citizens, Cities, Special Districts and the County of San Bernardino*



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Public Member

NEIL DERRY
Board of Supervisors

ROBERT W. SMITH
Special District

DIANE WILLIAMS
City Member

STAFF

KATHLEEN ROLLINGS-McDONALD
Executive Officer

SAMUEL MARTINEZ
Senior LAFCO Analyst

MICHAEL TUERPE
LAFCO Analyst

15-01

ANNA M. RAEF
Clerk to the Commission

ANGELA M. SCHELL
Deputy Clerk to the Commission

REBECCA LOWERY
Deputy Clerk to the Commission

LEGAL COUNSEL

CLARK H. ALSOP


July 6, 2009

Mr. Joe Glowitz
Hi-Desert Water District
55439 Twentynine Palms Highway
Yucca Valley, CA 92284

RE: Notice of Availability and Intent to Adopt a Mitigated Negative Declaration for Hi-Desert Water District Water Reclamation Facility, Wastewater Treatment Plant and Sewer Collection System Project

Dear Mr. Glowitz:

The Local Agency Formation Commission (LAFCO) received the document identified above on June 11, 2009. Since LAFCO will be acting as a Responsible Agency under the California Environmental Quality Act (CEQA), we have developed comments on the content of this document as well as minor editorial comments.

Currently, the Hi-Desert Water District (HDWD or District) has an authorized sewer service function whose service is defined as to provide engineering and planning. The District has submitted an application to LAFCO to expand its sewer function to include collection, treatment, reclamation and disposal services. The application proposal, which has been assigned a proposal number LAFCO 3084, is currently being processed for LAFCO's consideration and approval. The decision to approve the expansion of District's sewer services by LAFCO is discretionary and is considered a "project" under CEQA (CEQA Guidelines Section 15378). Therefore, LAFCO must consider the potential impacts on the environment from approving and implementing this project to comply with the requirements of CEQA in making determinations on the significance of the impacts. In order for LAFCO to utilize this document for its environmental assessment in making its decision regarding HDWD's ability to expand its sewer services to include collection, treatment, reclamation and disposal, LAFCO would like the following sections expanded to include these statements:

**RESPONSES TO COMMENTS**
**LETTER #15**
**SAN BERNARDINO COUNTY**
**LOCAL AGENCY FORMATION COMMISSION**

15-1 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project. The use of this environmental document for the Commission's action is acknowledged. Essentially, the environmental document examines the consequences of installing and operating a Wastewater Reclamation Facility and associated collection system. This IS/EA provides sufficient breadth of analysis to support the action that LAFCO must take to authorize HDWD to collect, treat, reclaim and dispose of the wastewater.

15-02 • 1.1 Introduction, page 1, 2nd paragraph, needs to identify the LAFCO approval process to expand the District's sewer function.

15-02 • 1.2 Purpose of the Environmental Assessment, page 1, 2nd or 3rd paragraph, needs to identify that LAFCO will be using the proposed Negative Declaration as a Responsible Agency for its environmental assessment in considering the expansion of the District's sewer function.

15-04 • 2.1 Proposed Action Summary, page 3, 1st paragraph, should include the LAFCO consideration of the District's sewer expansion to include collection, treatment, reclamation and disposal as part of the action summary.

Editorial comments on the specific text of the document are as follows:

15-05 • 2.1.1 Location, page 3, 2nd paragraph, 5th sentence is misleading since Table 2.5 identifies that there are pipelines that are 24, 30, and 36 inches in diameter. Please clarify the sentence.

15-06 • 2.1.3 Project Characteristics, page 4, 7th sentence, identifies 2 MGD capacity would be installed in the near future, if approved by the community. Please clarify the approval process.

15-07 • 2.1.3 Project Characteristics, Recharge Basins, page 8, identifies that the southern 35 acres are proposed for development in the following manner. However, the acreage listed sum up to 56.5 acres. This section needs to be clarified.

15-08 • 2.1.3 Project Characteristics, page 8, 2nd paragraph, 6th sentence, identifies that two ponds will be installed. However, the illustration on Figure 2.4 and 2.5 shows that there are four ponds. This statement needs to be clarified.

15-09 • 3.3.1 Domestic Water, State Water Project, page 38, identifies that the District has a contractual entitlement of 4,282 acre-feet per year of State Water Project delivered through Mojave Water Agency. Further, Table 3-6 assumes an increase in State Water Project Water from 2005 through 2030. However, deliveries of State Water Project Water (Table A water) are currently reduced to 40% of Table A and are anticipated to remain reduced due to federal court rulings and structural issues. It appears to LAFCO staff that this circumstance should be clarified.

15-10 • 3.7 Population and Housing, page 48, 2nd paragraph, the last sentence is incomplete.

15-11 • 4.2 Hydrology and Water Quality, page 71, 2nd paragraph, 3rd sentence, identifies that the Regional Board may require waste discharge requirements (WDR) for this project based on separate Porter-Cologne requirements. It would be helpful

15-11 for the reader to know what these separate requirements are, including the potential effect on the project.

If you have any questions concerning the information outlined above, please do not hesitate to contact me at (909) 383-9900. Please maintain LAFCO on your distribution list to receive further information related to this process.

Sincerely,

KATHLEEN ROLLINGS-McDONALD
Executive Officer

KRM/SM/MT

cc: Tom Dodson, Tom Dodson & Associates

15-2 The text on page 1 of the Final Negative Declaration package will be modified to identify LAFCO as a CEQA responsible agency and as an initial step in the chain of actions required to expand the District's sewer functions prior to implementation of the proposed project.

15-3 Please refer to response to comment 15-2. LAFCO will be identified as a CEQA responsible agency and the documentation will be used by the Commission when considering the request to expand the District's sewer function.

15-4 Please refer to responses to comments 15-2 and 15-3.

15-5 The text was intended to say 8-18 inches for local laterals and 24-36 inches for trunk sewer lines. The text on page 1 of the Final Negative Declaration package will be modified to include this text revision.

15-6 There are a whole series of steps required to implement the proposed project. The first step is authorization by the HDWD Board to proceed forward with the project. This will set a series of actions into motion including: processing of applications by the Regional Board, the State Water Resources Control Board, and the Bureau of Reclamation; regulatory permits must be obtained for discharge of fill into jurisdictional stream channels; processing of the application before the Commission; and possible sale of bonds on behalf of HDWD customers to fund construction of the project.

15-7 The apparent conflict in data is explained in the subsequent text. The ponds will require about 20 acres. The WRF will require about 9.5 acres. This equates to the estimated 35 acres, including construction area of about 5.5 acres. Approximately nine acres on the southern portion of the project site will be retained undeveloped to provide for storm runoff in the Covington Wash channel.

15-8 The project will initially install two ponds to handle the initial wastewater generated by the 2 MGD WRF. It will ultimately install up to four ponds to handle the ultimate 6 MGD capacity of the WRF.

15-9 Please refer to responses to comments 8-4 and 8-12. The water information is provided as background to this report. The supply of water is fully addressed in the HDWD 2005 Urban Water Management Plan. The proposed project will create a minor demand for potable water, including imported water, because it will be limited to drinking water and shower purposes. All other internal water uses at the WRF can be fulfilled from the treated effluent generated by the proposed project. Otherwise, the only effect of less imported water delivery

may be a reduction in wastewater generated from all three phases of development.

15-10 Please refer to response to comment 2-13.

15-11 The Regional Board regulates discharges from a project. In this case the primary permit issued under the Regional Board regulations is for the discharge of the treated effluent from the WRF. A draft permit application has been submitted to the Regional Board for this discharge. The permit being referred to in the referenced text is a permit for discharge of fill into a stream channel. Normally, the Regional Board issues a Section 401 certification in conjunction with a Corps of Engineers 404 Permit to discharge fill into waters of the United States. Due to the isolation of the stream channel (does not connect to an above ground flowing river or stream) on the property or along the pipeline alignments, a jurisdictional determination was made that the channel on the property is not waters of the United States. Under such conditions, the Regional Board has authority to regulate any discharges to State Waters (for which the channel is jurisdictional) through the Porter-Cologne Act. It is assumed that the Regional Board will issue waste discharge requirements for any disturbance of the onsite channel at the WRF site. Prior to discharge of any fill the Corps will be contacted to verify the jurisdictional determination.

Comment Letter #16

Public Written Comments
Board of Directors Special Board Meeting
7/15/2009

First Name: Wm. BEN Last Name: SASNETT, JR

Phone Number: 366-5789 E-mail address: wbsasnett@verizon.net

Address: 7460 Del Monte Ave, YV, CA 92284

Agenda Item: 9

16-1 Comment: I support the Wastewater Treatment project

I'm YV res. since 1983

For past 1½ yrs I've been actively learning about need - and developent

I'm a member of WPAC

16-2 I've visited 2 other WW plants in Calif, 1 2X, I've roamed the internet, and listened to numerous professional presentations

And thanks to EFMUD & Music, Joe Blowitz, Jennifer Cusack, Donna Calleff, all the staff

I believe I've learned a lot about WW and I have a lot to learn

16-3 I believe project is impatient - FOR reason by M. Angell and the plans to date appear to be well-PLANNED out

* ~~Cost~~ staff working diligently to address.

I support the project and urge YOU to become as informed as possible

9

**RESPONSES TO COMMENTS**
**LETTER #16**
**BEN SASNETT, JR.**

16-1 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project.

16-2 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project. As noted in this comment, an extensive data base, including this document, has been compiled in an effort to fully evaluate the proposed project and to inform the public.

16-3 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project.

Comment #17

Public Written Comments
Board of Directors Special Board Meeting
7/15/2009

First Name: Jill Last Name: Gegerich

Phone Number: 310 795 6991 E-mail address: jgregerich@verizon.net

Address: 6390 Veterans Way Joshua Tree

Agenda Item: 8

17-1 Comment: No doubt something has to be done about the septic systems in our area. But I'm not convinced that a centralized waste water system is the way to go. There are alternatives that could cost less money, more innovative technologies.

17-2 A system could be put in that converts every building using composting toilets and grey water systems (that not only water gardens but can also be converted into drinking water).

17-3 The centralized sewage system is the old way. It's expensive. There are other ways. I urge you to be open to alternatives!!!

17-4 Are you thinking that individual homeowners have to pay for the hook up to the system? That would cause massive foreclosures!

**RESPONSES TO COMMENTS**
**LETTER #17**
**JILL GIEGERICH**

17-1 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project.

17-2 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project. Please refer to responses to comments 7-42 and 8-5. Several issues are raised by the concept presented in this comment. First, it is clear that at this time this alternative is not considered viable by the regulatory agency, the Regional Board. Second, it is also not clear what the costs to install and to operate the systems referenced in this comment would actually be. Finally, the discharge of grey water may be acceptable from a very low density area of human development, but the discharge of grey water, without treatment, from a high density developed area would probably not be acceptable to the Regional Board because it would continue to discharge wastewater pollutants to the groundwater aquifer.

17-3 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project.

17-4 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project. HDWD is seeking grants, loans and other methods of paying from the proposed centralized system to minimize the immediate costs of connecting to the system. Ultimately, connection (hook-up) to the collection system is a part of these costs that have to be borne by the users of the system.

# Public Written Comments
## Board of Directors Special Board Meeting
## 7/15/2009

First Name: LYNDA Last Name: RALLO

Phone Number: E-mail address: larallo@verizon.net

Address: 56825 YUCCA TRAIL #226, YUCCA VALLEY, CA 92284

Agenda Item: 6C, 8, 9

Comment:

18-1 THE CEQA DOCUMENT IS FLAWED.

18-2 THERE ARE LESS EXPENSIVE ALTERNATIVES TO A WASTE WATER PLANT/SYSTEM.

18-3 MORE TESTING NEEDED. WHERE ARE THE RESULTS OF TESTING?

18-4 LET'S GET BUSY PROVIDING OUR COMMUNITY WITH INFORMATION, GRANTS, PROCEDURES ETC.

18-5 I WANT TO SEE RECLAMATION.
I WANT GRAY WATER, ELECTRIC TOILET, AND SELF SUFFICIENT SYSTEM FOR MY PROPERTY.
I WANT GRANT MONEY FOR EACH HOME OWNER.

18-6 THEN I WON'T LOSE MY PROPERTY. $58,000 IS EXCESSIVE

**RESPONSES TO COMMENTS**
**LETTER #18**
**LYNDA RALLO**

18-1 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project. HDWD believes that the IS/EA prepared for this document fully addresses the environmental issues posed by implementing the proposed WRF and sewer collection system.

18-2 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project. No data have been presented to document or support a lower cost system that would be accepted by the regulatory agency with jurisdiction over the discharge of wastewater in the project area, the Colorado River Basin Regional Board. Please refer to response to comment 17-2.

18-3 Please refer to responses to comments 7-27 and 7-60. For additional information, please refer to the following report: Nishikawa, Tracy, Densmore, J.N., Martin, Peter, and Matti, Jonathan, 2003, Evaluation of the source and transport of high nitrate concentrations in ground water, Warren subbasin, California: U.S. Geological Survey Water-Resources Investigations Report 03-4009, 133 p. http://pubs.er.usgs.gov/usgspubs/sir/sir20045267 Both the Regional Board and USGS, as well as the District, have accepted the conclusion that the septic tanks are the source of the nitrate contamination of the Warren Valley Basin aquifer.

18-4 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project. The project has had wide circulation and participation by the public and regulatory agencies.

18-5 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project. Please refer to response to comment 18-2.

18-6 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project.

JUL 20 2009

Joe Glowitz
HDWD District Engineer
55439 29 Palms Hwy.

Dear Mr. Glowitz,

This is my summarization for my public comments, made at the Board of Directors meeting, 15 July 2009 for the proposed Wastewater treatment facility CEQA

19-1 1. CEQA/Tom Dodson & Associates statement: no biological elements on site.
   a. How about upstream and downstream from the site proposed discharge?

19-2 b. Water from Covington Flats reaches the East Hydrological cells in the Warren Basin/Joshua Tree Retreat.

2. CEQA/Tom Dodson & Associates statement: test wells to monitor water storage.

19-3 a. Test wells and numbers are insufficient to protect the potential for contaminated water flowing into the Joshua Tree Retreat/East hydrogeological cells I the Warren Basin/Joshua Basin Water District.

19-4 b. The test wells give may indicate a problem, but at that point it is too late.

3. CEQA/Tom Dodson & Associates statement: Earthquake fault west of the wastewater treatment facility in not active:

19-5 a. Please provide test data showing this is true. Additionally, nothing is said about other faults also believed to be active in the East hydrogeological cells of the Warren Basin.

4. CEQA/Tom Dodson & Associates statement: There are no Environmental Justice issues concerning this project.

19-6 a. The HDWD is proposing to connect 4000 of the customers in phase 1 & 2, leaving 6000 customers to pay "fair share" cost that has not been identified. Additionally, none of the more affluent customers West of the Blue Sky Country Club, development to the North of the Pinto Basin/Yucca Wash in the foot hills, and the Upper Sky Harbor area, South of Hwy. 62 have been included. Meaning that the most affluent people that have septic systems, and discharge running into the Warren Basin region may be involved. Basically, the poorest people may have to pay some unknown amount, the same as the richest people who have equal potential to pollute, have more bathrooms, swimming pools, and spas. Meaning that those left out, have as much potential as others including the commercial

**RESPONSES TO COMMENTS**
**LETTER #19**
**RAMON MENDOZA**

19-1 This statement is incorrect. The finding in the IS/EA is that there are no "significant" biological resources located on the WRF site or along the proposed sewer line alignments. The site contains moderately disturbed creosote bush scrub habitat, with some elements of desert stream scrub habitat. No offsite impacts are forecast to affect biological resources based on proposed uses, except for offsite pipeline installation. Please refer to responses to Comment Letter #1 and Comment Letter #10.

19-2 The proposed project will have minimal to no effects on Covington Wash and future stormwater runoff in this channel based on the current design.

19-3 Please refer to responses to comment 5-3 through 5-8 regarding water quality issues. Test wells were used to evaluate background groundwater parameters, such as depth to the water table and water quality. Proposed monitoring wells are designed to provide ongoing data to verify that the forecasts contained in the USGS groundwater model are accurate. Specific measures will be implemented if depth to water and water quality parameters pose any significant contamination to downstream groundwater resources. Groundwater will be protected for the existing designated beneficial uses assigned to the Warren Valley Basin. Please refer to responses to comments 5-3 through 5-8.

19-4 HDWD will not wait for a problem to occur. The model provides a continuous forecast of operational effects on groundwater and if trends deviate from the forecasts, both the Regional Board and the District can and will implement new treatment systems or groundwater extraction systems to control any potential problems.

19-5 Please refer to response to comment 7-23. Seismic hazards are discussed in Subchapter 3.6.3 of the IS/EA. The presence of active faults in the vicinity of the project is acknowledged, as is the potential for significant ground shaking in the general project area. No surface evidence of faulting was observed on the project site by the USGS and the published fault data does not show an Alquist-Priolo Special Studies Zone, so no active faults were concluded to exist on the proposed WRF site.

19-6 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project. Please refer to responses

to comment 2-13 and 10-3. It is not clear what areas will be encompassed in the final decision on areas required to fund the proposed project.

19-7 It is not clear how the population in Joshua Basin Water District's service area could be impacted by environmental justice issues. Discussion of water quality effects in the Joshua Basin have been previously addressed. Refer to responses to Comment Letter #5.

19-6 district with restaurants and facilities that can pollute at a greater rate.

b. The Joshua Basin Water District could be effected, also creating
19-7 a greater problem of effecting the lowest economic income in that area.

5. CEQA/Tom Dodson and & Associates statement: Water storage will be for at least 16 years.

19-8 a. By the time this is completed, the reclamation of this water may be mute, and has the potential of further polluting the Joshua Tree retreat. At this writing the JTR has two wells in the Yucca Wash that are shut down and the one well next to state highway route 62 that is now given (USGS) to be polluted with nitrates above the MCL allowed.

b. This latter source could only be polluted from water shed coming
19-9 from Covington Flats/Yucca Valley, meaning that the Joshua Tree Retreat septic systems could not be responsible for that contamination.

c. It also raises the question as to who is responsible for the pollution of the wells in the Yucca Wash. (re. Sacramento's discharge of polluted septic discharge into the water coming from the delta, which is the source of water delivered by the California Water Project reaching the Mojave Water Agency that in turn is delivered to the pipeline project. Neither the MWA or the HDWD have science showing that total nitrogen, bacteria [illegible], and ammonia levels are being tested. This data has been requested
19-10 and has not been received, including the test procedure that technicians are to follow. This problem applies to the HDWD, MWA and the CRWQCA, all of who have been asked to produce procedure and test data. Additionally, these agencies have been asked to produce quality control assessment practice, procedure and the metrics that would allow any data to quantified or qualified as science. (re. Mil-Q-9858, Mil-Q-9858A, and Total Quality Assurance Management practices/ Armand V. Feigenbaum...to show a bit of the history of quality control as it become something other than an inspection practice. This is what is meant about science that is objective, rather than observation that is not documented as to procedure and methods used that would be subjective at best)

19-8 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project. Please refer to responses to comment 5-4 through 5-8 and 7-10.

19-9 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project. The specific source of any contamination at Joshua Tree Retreat is not known, but it is generally attributable to degradation of water quality in the Warren Valley Basin from septic tanks. Note that the USGS tests on water quality at the WRF site, upstream did not identify any major contaminants.

19-10 Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project. Please refer to response to comment 18-3.

Public Written Comments
Board of Directors Special Board Meeting
7/15/2009

First Name: David Last Name: Mahaffey

Phone Number: 760/365-8153 E-mail address:

Address: 7361 Wamego Trail

Agenda Item: 8/9

Comment: The (CEQA) mentions that waterless toilets are not a option. Please note New Technology of waterless toilets would be a viable part of the solution to meet Governor Arnold Schwarzenegger's mandate for a 20 percent reduction of water use. Over 130 children

20-1 have drowned in water toilets and groups are forming to have toilet heights changed and attemping to adopt into law. Waterless toilets would change the word Sewage thus by definition Septic's and Sewer's would no longer be called.

Electric toilets have no potential to contaminate ground water.

**RESPONSES TO COMMENTS**
**LETTER #20**
**DAVID MAHAFFEY**

**20-1** Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project. Please refer to response to comment 7-42. Waterless toilets may meet some needs, but it does not replace the toilet. Also, please refer to response to comment 17-2. Of most importance, to be a feasible alternative for the whole community, the alternatives mentioned by members of the community must be considered feasible by the Regional Board. This is a key criterion in selecting a viable alternative. There has been no demonstration that a community-wide alternative, as envisioned here or in comment 17-2, is feasible from a regulatory standpoint, nor what the cost would be to place the whole community on such alternative wastewater treatment system.

Public Written Comments
Board of Directors Special Board Meeting
7/15/2009



First Name: David Last Name: Mahaffey

Phone Number: 760/365-8153 E-mail address:

Address: 7361 Wamego Trail

Agenda Item: 8/9

Comment: The Regional Water Quality Control Board nor the (CEQA) Reports has not had a full scale investigation and has not provided, as requested, documentations of findings. This has been requested during (TAC) member meeting and Public comments at HDWD meeting, Etc. Again asked for at meeting on 7/15/09. Subject: Proper Analytical Report. Only a portion or less than adequate. See attached Lab Grab Sample Exhibit AA. Note: Ammonia-Nitrogen. Total Coilform. Ecoli Bacteria. Heterotrophic Plate Count. Kjeldehl Nitrogen. Nor Total Nitrate are shown at this time. There is reason to believe that it is, in fact with other attached Documents, that the Water Imported into Yucca Valley and introducted into our Aquifers with further requested testing will find contaminants in the Delta, Etc., and there's more. Note: The (CEQA) Reports Do Not include, during Septic probition (TAC) meetings, it was discovered that water sold to the HDWD customers was not showing up as a return to the aquifer.

21-1

Public Written Comments
Board of Directors Special Board Meeting
7/15/2009

First Name: David Last Name: Mahaffey

Phone Number: 760-365-8153 E-mail address:

Address: 7361 Wamego Trail

Agenda Item: 8/9

21-2 Comment: Only the water bought via (MWA) was and seems to be adding to our aquifer, further adding that if the HDWD water sold to customers is NOT adding water to the aquifer, how is it possible that Septic Nitrates could travel without water migration should also be resolved. Again look at the evidence and there's more. Exhibit 1,2,3,4,5,6,7,8,9,10,11,12. There has been no scientific proof shown that the Town of Yucca Valley Septic Systems migration has reached the aquifer.

**RESPONSES TO COMMENTS**
**LETTER #21**
**DAVID MAHAFFEY**

**21-1** Your comment is noted and will be made available to the HDWD Board prior to a decision on the proposed project. Please refer to response to comment 18-3, which addresses this question. Also, refer to response to comment 7-12 and Attachment 4. The water quality data for the State Project Water from DWR does not identify any major contaminants in the imported water being delivered to the HDWD.

**21-2** Please refer to response to comment 21-1. The contamination apparently occurred as a result of rising groundwater near percolation sites intercepting residual wastewater contamination in what was previously the vadose zone. There is a large body of literature dealing with groundwater contamination by septic tank leachate and the best reference for the specific area is the USGS report: Nishikawa, Tracy, Densmore, J.N., Martin, Peter, and Matti, Jonathan, 2003, Evaluation of the source and transport of high nitrate concentrations in ground water, Warren subbasin, California: U.S. Geological Survey Water-Resources Investigations Report 03-4009, 133 p. http://pubs.er.usgs.gov/usgspubs/sir/sir20045267

# ATTACHMENT 1

**Notice of Availability and Intent to Adopt a Mitigated Negative for Hi-Desert Water District Water Reclamation Facility, Wastewater Treatment Plant and Sewer Collection System Project**

The Hi-Desert Water District (District) has prepared an Initial Study/Environmental Assessment for the subject project which recommends that a Mitigated Negative Declaration be adopted. The District has authorized the release of the proposed Mitigated Negative Declaration for public review and comment for the above project.

This project consists of the construction and installation of the following components. The District intends to initially sewer the central portion of the Town of Yucca Valley to convey an annual average flow of 2 MGD of wastewater to the WRF currently discharged to septic tanks. This initial project is referred to as Phase 1. In the future, if the Phase 1 facilities do not adequately protect groundwater quality, or if the RWQCB requires more areas to be sewered, or if additional capacity is needed, the collection, treatment and disposal facilities will be expanded to collect an additional 1 MGD of sewage. The additional facilities are referred to as Phase 2 facilities. Phase 3 facilities will be designed to collect an additional 1 MGD of wastewater flow for a total system capacity of 4 MGD. Ultimate build-out in the District's Yucca Valley service area could be as high as 6 MGD, but due to the area's slow rate of growth, this is not forecast to occur until the distant future. The wastewater will be treated to meet Title 22 recycled water standards/requirements and will be delivered to recharge basins operated by the District to percolate the treated effluent into the Warren Valley Groundwater Basin.

A copy of the Initial Study/Environmental Assessment can be reviewed at the District's office located at 55439 Twentynine Palms Highway, Yucca Valley, CA 92284. The period of review will be from June 9, 2009 to July 9, 2009. Written comments on the Initial Study/Environmental Assessment should be submitted to Mr. Joe Glowitz at the address listed above no later than July 9, 2009.

On July 15, 2009, the District proposes to hold a public meeting to discuss and possibly recommend approval and implementation of the above described project. After public review of the IS/EA is completed, the District proposes to adopt the Mitigated Negative Declaration, if appropriate. The technical and environmental issues related to this project may be discussed at this meeting. Please contact Mr. Joe Glowitz at (760) 365-8333 if you have questions regarding the District's review process for considering the proposed Mitigated Negative Declaration.

# ATTACHMENT 2

## Tom Dodson

**From:** Tracy Nishikawa [tnish@usgs.gov]
**Sent:** Monday, July 20, 2009 9:34 AM
**To:** Joe Glowitz
**Cc:** Tom Dodson; Peter Martin; Tracy Nishikawa PhD, PE
**Subject:** error in April letter

**Attachments:** wwtp_effect_05_correct.doc; ATT00625.txt

wwtp_effect_05_correct.doc (6 ... ATT00625.txt (944 B)

Dear Mr Glowitz:

Per Tom Dodson, I am sending this email. I found an error in the letter dated April 27, 2009 that described the results of the field work and modeling in support of the CEQA documentation. Specifically, the wrong versions of figures 6A and 6B, and subsequent description, were used in the original letter. The main implication is that the maximum simulated nitrate concentration in model layer 2 is now about
4 mg/L instead of about 2 mg/L. The layer 1 simulated concentration did not change significantly.

I am attaching the updated letter.

Please contact me if you have any questions.

IN REPLY REFER TO:

# United States Department of the Interior

U. S. GEOLOGICAL SURVEY
California Water Science Center
4165 Spruance Road, Suite 200
San Diego, CA 92101
http://water.wr.usgs.gov

July 20, 2009

Mr. Joseph Glowitz
Hi-Desert Water District
55439 29 Palms Highway
Yucca Valley, California 92284-2503

Dear Mr. Glowitz:

As part of the Federal Fiscal Year 2009 (FFY09) cooperative agreement between Hi-Desert Water District (HDWD) and the United States Geological Survey (USGS), various tasks were undertaken by the USGS to study the effects of the proposed HDWD water reclamation project on water levels and water quality in the East hydrogeologic unit (HGU). Specifically, the tasks were to collect and analyze water-quality samples to determine the background water-quality conditions of the East HGU and to use the existing groundwater flow and transport model to estimate the effects of the proposed project on water levels and water quality. Note that all results presented in this letter are preliminary and subject to revision.

## Executive Summary

Water-quality samples were collected on February 4 and 5, 2009 from the piezometer at monitoring site YVUZ-5 (1N/6E-32G01S) and from a production well located on the Mental Physics property (1N/6E-28N01S). The results indicate:

- All constituents analyzed, except nitrate plus nitrite at 28N1, had concentrations below the U.S. Environmental Protection Agency (EPA) maximum contaminant level (MCL).
- Total dissolved solids (TDS) concentrations at 32G1 and 28N1 are 296 and 262 mg/L, respectively.
- Total nitrogen (nitrate plus nitrite) concentrations at 32G1 and 28N1 were 0.46 and 18.4 mg/L as N, respectively. The EPA MCL for nitrate is 10 mg/L as N.
- Total organic carbon, reported as dissolved organic carbon, concentrations at 32G1 and 28N1 were 3.03 and 0.12 mg/L, respectively.
- None of the pharmaceuticals analyzed exceeded detection levels.

The existing groundwater-flow and transport model developed by Nishikawa et al. (2003) was used to estimate the effects of the proposed project on water levels and water quality. Effluent flow and water-quality characteristics were provided by Montgomery-Watson-Harza. The modeling results indicated:

- The simulated water levels do not reach the water-level threshold of 100 ft bls after 16 years of recharge; therefore, no new production wells are needed to control water levels during the 16-year simulation period.
- Extrapolated simulated water levels indicate that new wells may be needed between 15 and 16 years for a water-level threshold of 150 ft bls and between 20 and 21 years for a water-level threshold of 100 ft bls.
- Flux across the Yucca Barrier increases from about 84 acre-ft/yr to 134 acre-ft/yr.
- The maximum simulated TOC concentration was about 9 mg/L in layer 1 (upper and middle aquifers) and 0.5 mg/L in layer 2 (lower aquifer).
- The maximum $NO_3$ concentration was about 35 mg/L in layer 1 and about 4 mg/L in layer 2; the layer 1 $NO_3$ concentration is approaching the MCL but has not yet reached this level.
- The maximum simulated TDS concentration was about 420 mg/L in layer 1 and about 300 mg/L in layer 2; the secondary MCL for TDS is 500 mg/L.

## Study Narrative

Water-quality samples were collected on February 4 and 5, 2009 from the piezometer at monitoring site YVUZ-5 (1N/6E-32G01S) and from a production well located on the Mental Physics property (1N/6E-28N01S). The sampling of two wells within the East HGU was deemed sufficient to establish background water-quality conditions in the East HGU by HDWD's CEQA consultant, Tom Dodson (Tom Dodson and Associates, personal commun., 2009). The February 2009 and available historical water-quality results are presented in Tables 1 and 2. Samples from the wells were sampled for general chemistry (table 1), nutrients (table 1), selected isotopes (table 1) and pharmaceuticals (table 2). These data can be compared with data collected after the initiation of the proposed wastewater recharge to determine the effect of the recharged wastewater on water quality in the East HGU. All constituents analyzed had concentrations below the U.S. Environmental Protection Agency (EPA) maximum contaminant level (MCL) with the exception of nitrate plus nitrite analyzed in the February 2009 sample from 1N/6E-28N01S. The nitrate plus nitrite concentration in the sample collected at 28N1 was 18.4 mg/L as N; the EPA MCL for nitrate is 10 mg/L. Table 2 shows the pharmaceutical results for well 32G1 only because an insufficient volume of water was available from well 28N1. As shown in the table, none of the pharmaceuticals analyzed exceeded detection levels.

The background total nitrogen and total dissolved solids (TDS, reported as residue on evaporation) beneath the proposed wastewater recharge site are 0.46 mg/L as N, and 296 mg/L, respectively based on the data collected in February 2009 at well 1N/6E-32G01S (table 1). The total organic carbon (reported as dissolved organic carbon or DOC) at

32G1 and 28N1 were 3.03 and 0.12 mg/L, respectively. It is reasonable to use dissolved organic carbon for the total organic carbon concentration because most organic carbon in groundwater will be dissolved (John A. Izbicki, USGS, personal commun., 2009).

The existing groundwater-flow and transport model developed by Nishikawa et al. (2003) was used to estimate the effects of the proposed project on water levels and water quality. Montgomery-Watson-Harza (MWH) provided the approximate location of the wastewater-treatment plant (WWTP), projected effluent flows, effluent water quality, percolation pond sizes, and groundwater-level threshold (Jeffrey Mohr, MWH, personal commun., 2009). The groundwater-level threshold is the maximum groundwater-level altitude that is acceptable in the East HGU without intercepting septic-tank seepage.The effluent flows and water quality are presented in tables 3 and 4, respectively. MWH stated that the percolation ponds will have a total area of 4.3 acres and each model cell is about 500 ft by 500 ft which is equal to 5.7 acres; therefore, it was assumed all effluent was recharged into one model cell using the MODFLOW recharge package. The groundwater-level threshold was 100 ft bls (Jeffrey Mohr, MWH, personal commun., 2009).

Three 16-year simulations were performed using the existing groundwater-flow and transport model. This model has three layers; layer 1 represents the upper and middle aquifers, layer 2 represents the lower aquifer, and layer 3 represents the deep aquifer. The model was updated using pumping and recharge data through 2008. The year 2008 pumping and recharge patterns used in the model-calibration process was repeated for the 16-year simulation. The effluent flow rate for the new recharge pond was provided by MWH (table 3). The recharge rate of the model cells that are defined as the phase 1 sewered areas, was set equal to zero. That is, recharge from septic tanks was assumed to be negligible immediately after the operation of the wastewater-treatment plant within the phase 1 sewered areas. The groundwater-level distribution at the end of 2008 is used as the initial condition for the 16-year simulation. The new recharge pond was assumed to be located at model cell row 9 column 65 (9,65) and the observation points H1 (9,63), H2 (9,67), H3 (7,65), and H4 (11,65) are located around the new recharge pond (fig. 1).

The simulated hydrographs for the observation points and the water-level contours for selected times for model layers 1 and 2 are presented in figures 2 and 3. The hydrographs indicate that the simulated water levels do not reach the water-level threshold of 100 ft bls after 16 years of recharge; therefore, no new production wells are needed to control water levels during the 16-year simulation period. However, the simulated rate of water-level rise indicates that the water-level threshold will be exceeded in the future if wastewater recharge is continued and there is no pumpage from the East HGU. This is confirmed by linearly extrapolating the simulated water levels beyond the 16-year time horizon. The extrapolated simulated water levels indicate that new wells may be needed between 15 and 16 years for a water-level threshold of 150 ft bls and between 20 and 21 years for a water-level threshold of 100 ft bls. The extrapolated results are given relative to a 150-ft bls threshold because data collected from the USGS monitoring site YVUZ-2 (Elks Club) indicate that high-nitrate water is as deep as 150 ft bls. The simulated water-level contours show increasing water-level altitudes with time and that the faults to the

north and west of the HGU hydraulically separates the HGU from the neighboring HGU's (fig. 3).

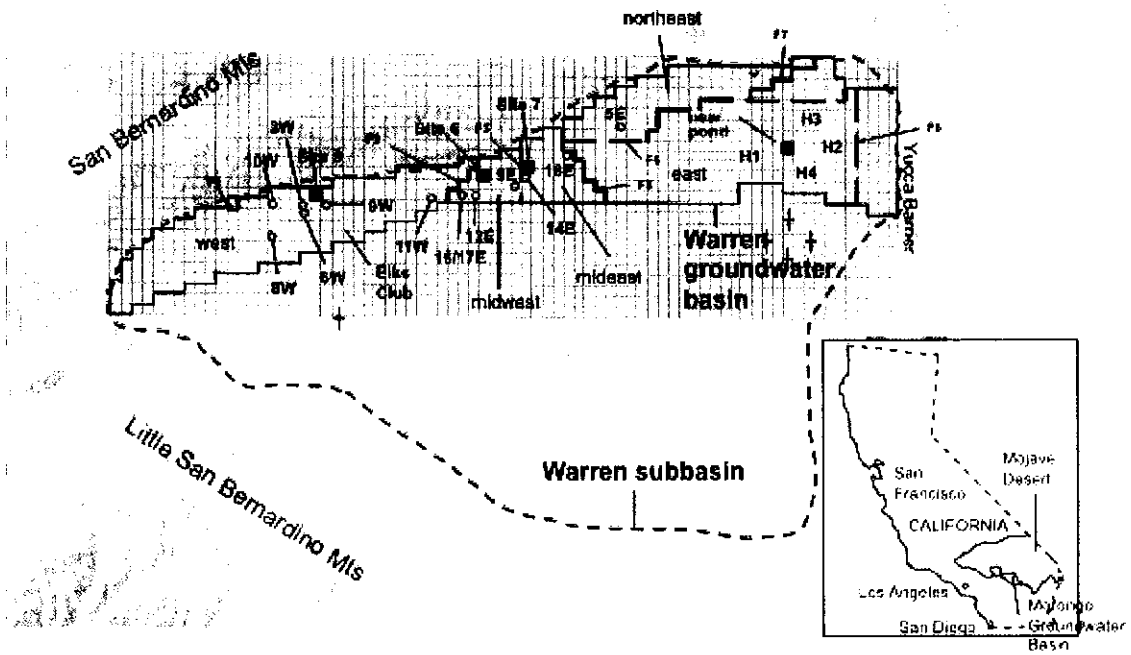
The time-varying flux across the Yucca Barrier is shown in figure 4. Prior to the start of recharge operations the flux across the Yucca Barrier is about 85 acre-ft/yr. The flux increases linearly to about 134 acre-ft/yr by year 16 (fig. 4).

The transport of three constituents was simulated individually: TOC, total nitrogen (simulated as nitrate or $NO_3$), and TDS. The background concentrations for TOC, $NO_3$, and TDS were assumed to equal 0 mg/L, 2 mg/L, and 290 mg/L, respectively. The effluent concentrations of treated wastewater for TOC, $NO_3$, and TDS are 11 mg/L, 44 mg/L (10 mg/L as nitrogen), and 450 mg/L, respectively (table 4). Longitudinal dispersivity, horizontal transverse dispersivity, and vertical transverse dispersivity for all constituents are assumed to be 750 ft, 250 ft and 2.5 ft, respectively. Retardation factor was assumed to be equal to one. The simulated concentrations for each constituent at the observation points is shown for the 16-year simulation period in figures 5-7. The "stairstep" breakthrough curves at H2 in model layer 2 (2,9,67) is a numerical artifact resulting from the numerical approach, specifically particle tracking, that is used to simulate advective solute transport (George Hornberger, USGS, personal commun., 2009). The maximum simulated TOC concentration was about 9 mg/L in layer 1 and 0.5 mg/L in layer 2 (fig. 5). The maximum $NO_3$ concentration was about 35 mg/L in layer 1 and about 4 mg/L in layer 2; the layer 1 $NO_3$ concentration is approaching the MCL but has not yet reached this level (fig. 6). The maximum simulated TDS concentration was about 420 mg/L in layer 1 and about 300 mg/L in layer 2; the secondary MCL for TDS is 500 mg/L (fig. 7).

If you have any questions regarding the water-quality or modeling results, feel free to contact Dr. Tracy Nishikawa (619-225-6148) or Mr. Peter Martin (619-225-6127) who are located in the USGS San Diego office.

Very truly yours,

Tracy Nishikawa Ph.D., P.E.
Research Hydrologist
tnish@usgs.gov



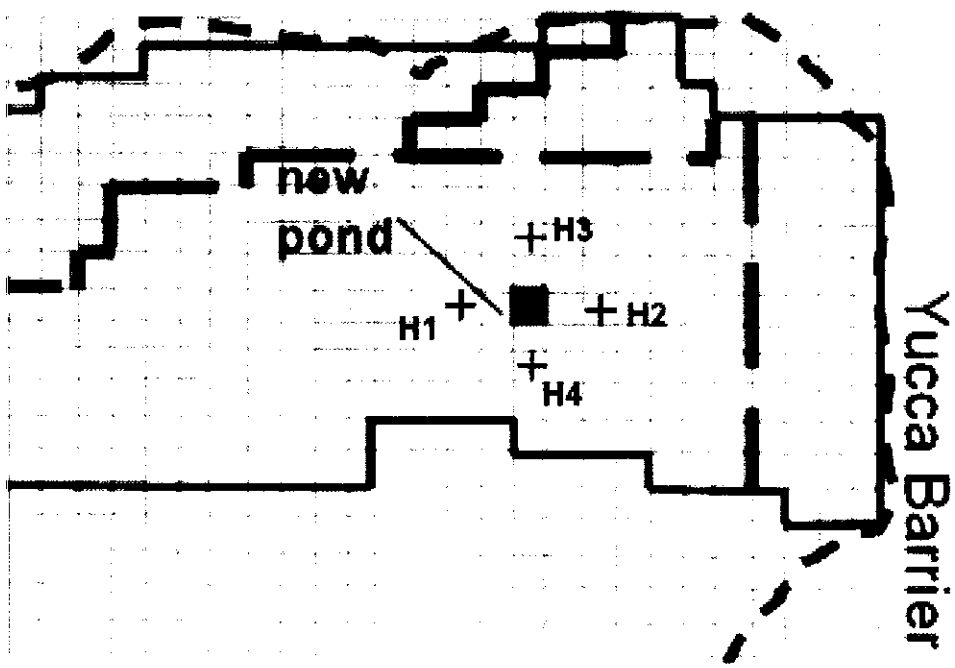




Figure 1: Figure showing the simulated recharge pond and observation points in the Warren groundwater basin (A) and a close-up view of the simulated recharge pond and observation points (B).

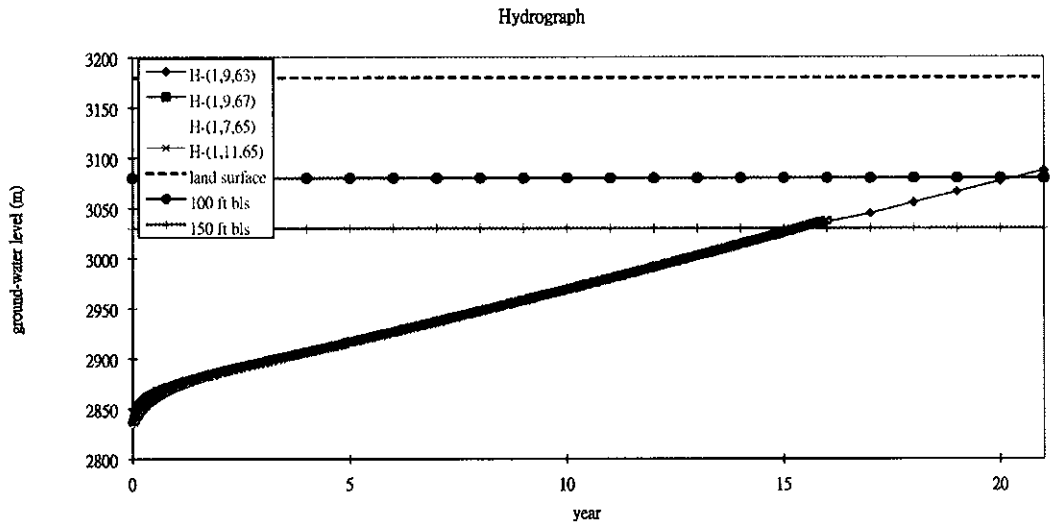



Figure 2A: Simulated layer-1 hydrographs for observation points H1 (9,63), H2 (9,67), H3 (7,65), and H4 (11,65). Simulated water levels for point H1 extrapolated forward in time.

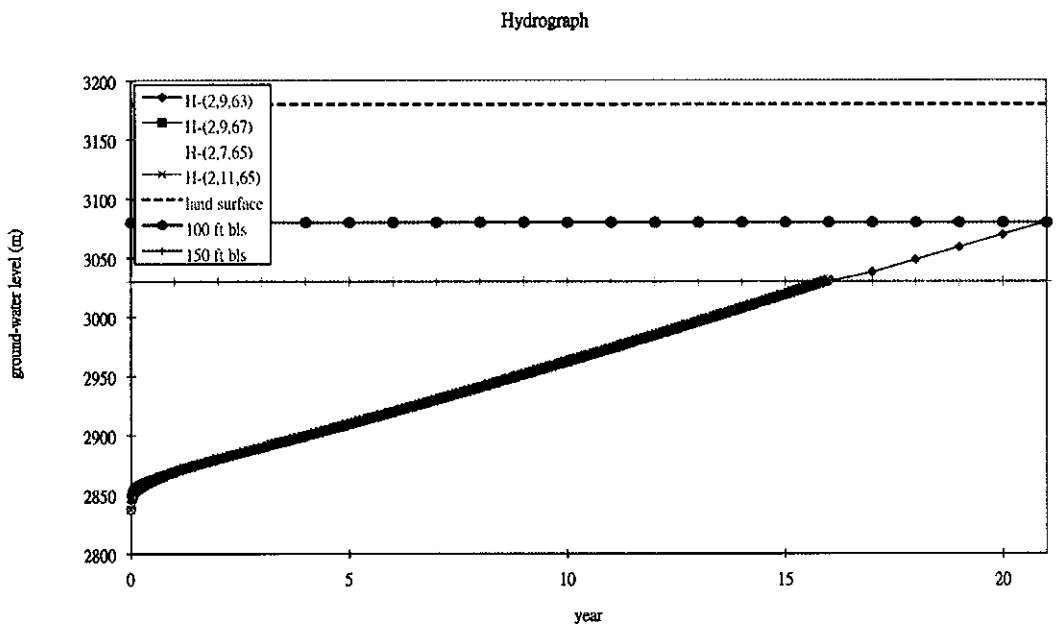



Figure 2B: Simulated layer-2 hydrographs for observation points H1 (9,63), H2 (9,67), H3 (7,65), and H4 (11,65). Simulated water levels for point H1 extrapolated forward in time.

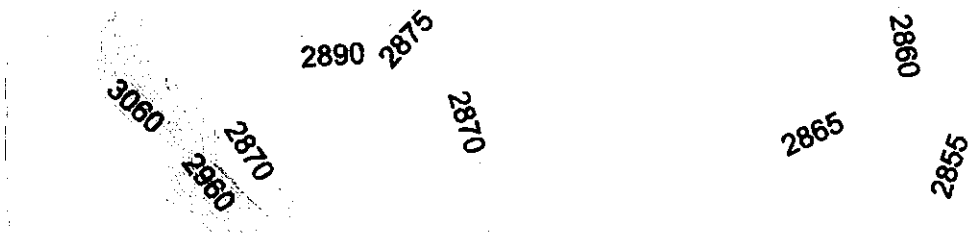



Figure 3A: Layer 1 simulated water-level contours, 6 months.

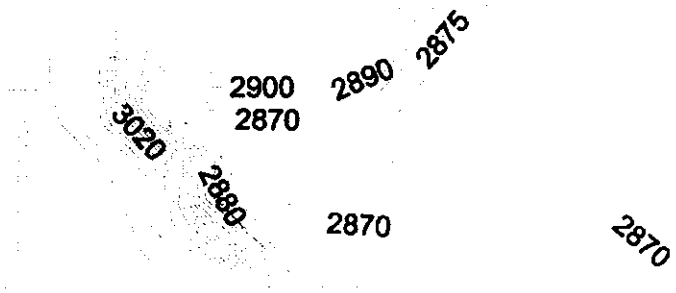



Figure 3B: Layer 1 simulated water-level contours, 12 months.

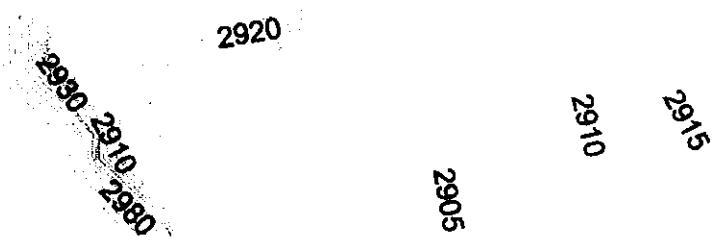



Figure 3C: Layer 1 simulated water-level contours, 60 months

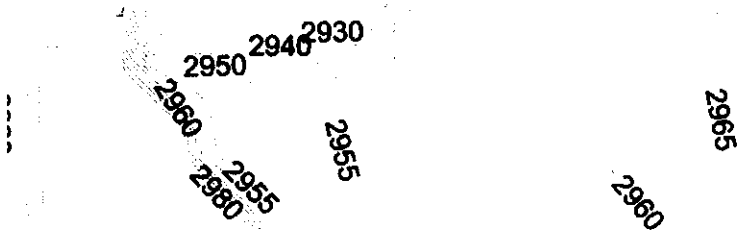



Figure 3D: Layer 1 simulated water-level contours, 120 months

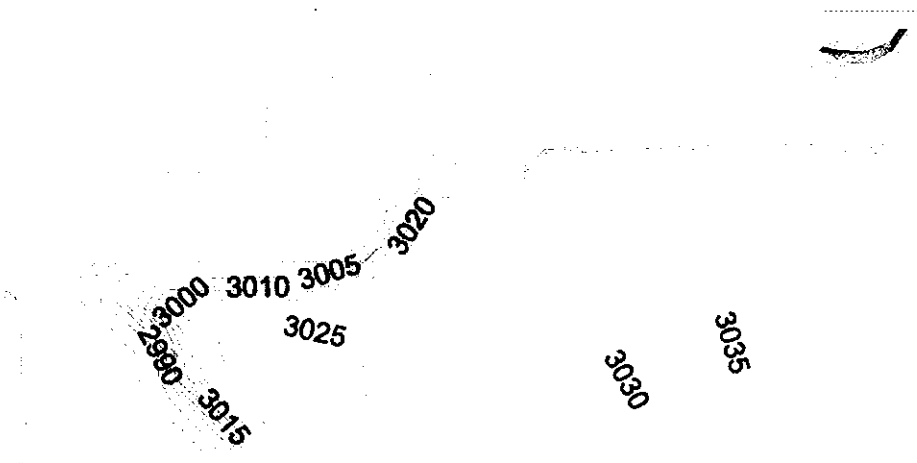



Figure 3E: Layer 1 simulated water-level contours, 192 months

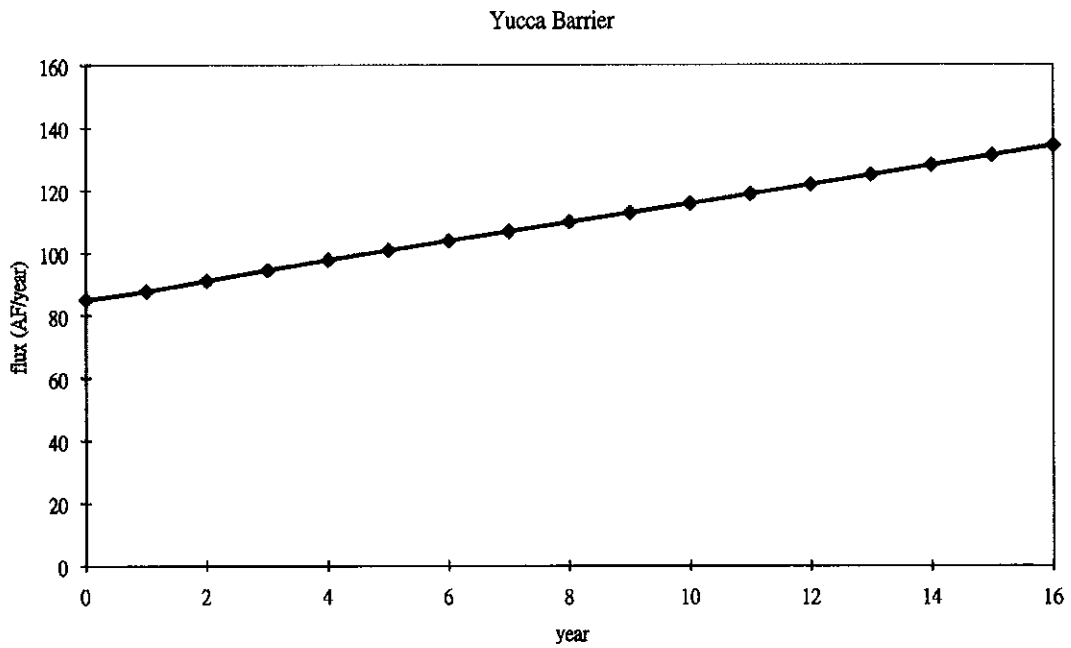



Figure 4: Time-varying flux across the Yucca Barrier.

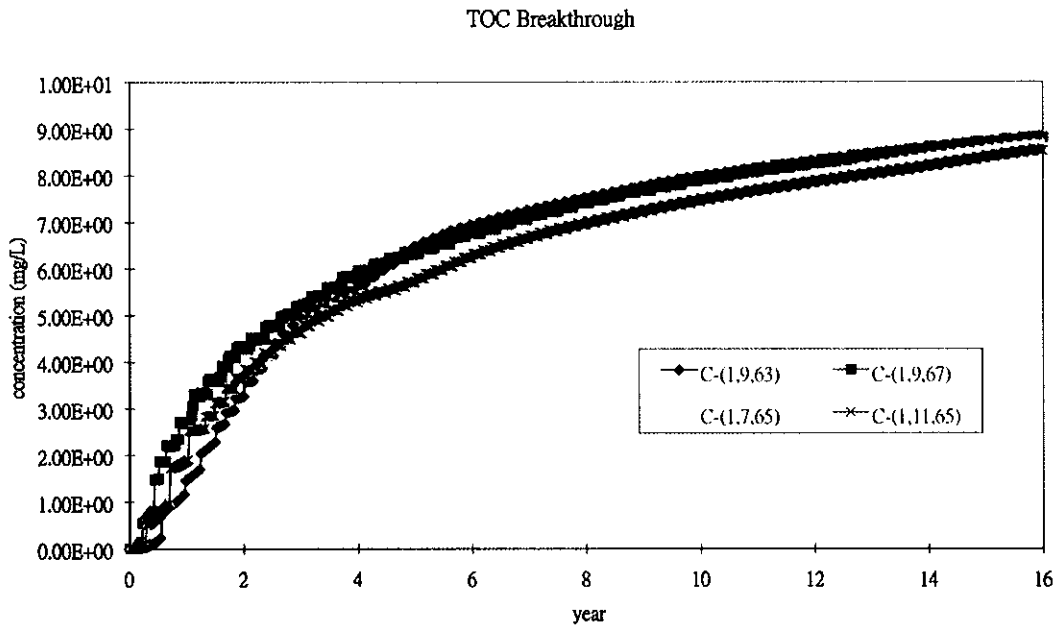



Figure 5A: Layer 1 simulated total organic carbon concentrations for observation points H1 (9,63), H2 (9,67), H3 (7,65), and H4 (11,65).

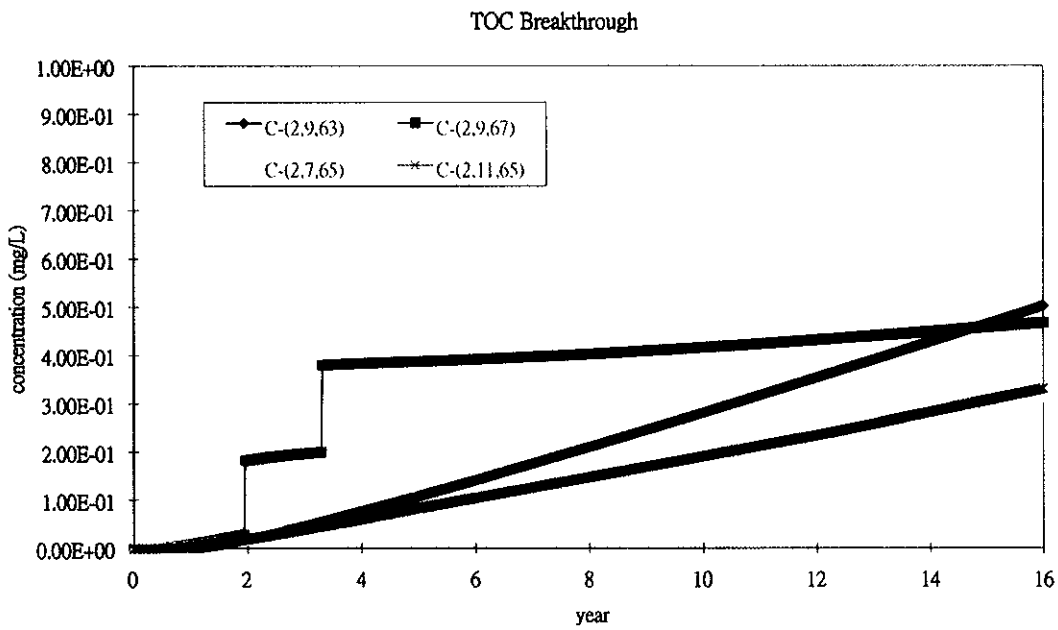



Figure 5B: Layer 2 simulated total organic carbon concentrations for observation points H1 (9,63), H2 (9,67), H3 (7,65), and H4 (11,65).

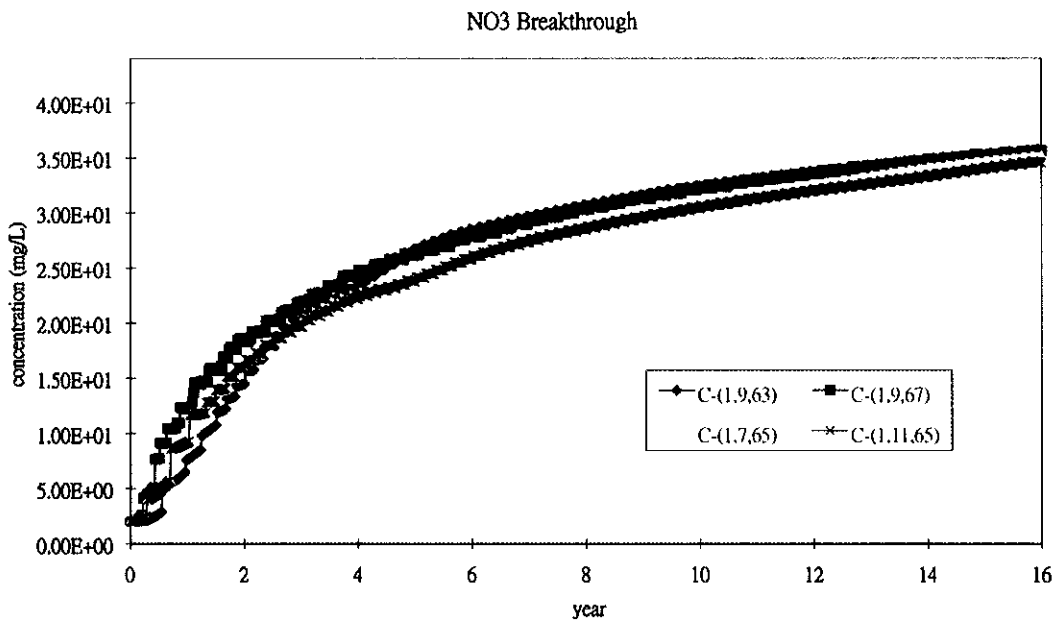



Figure 6A: Layer 1 simulated nitrate concentrations for observation points H1 (9,63), H2 (9,67), H3 (7,65), and H4 (11,65).

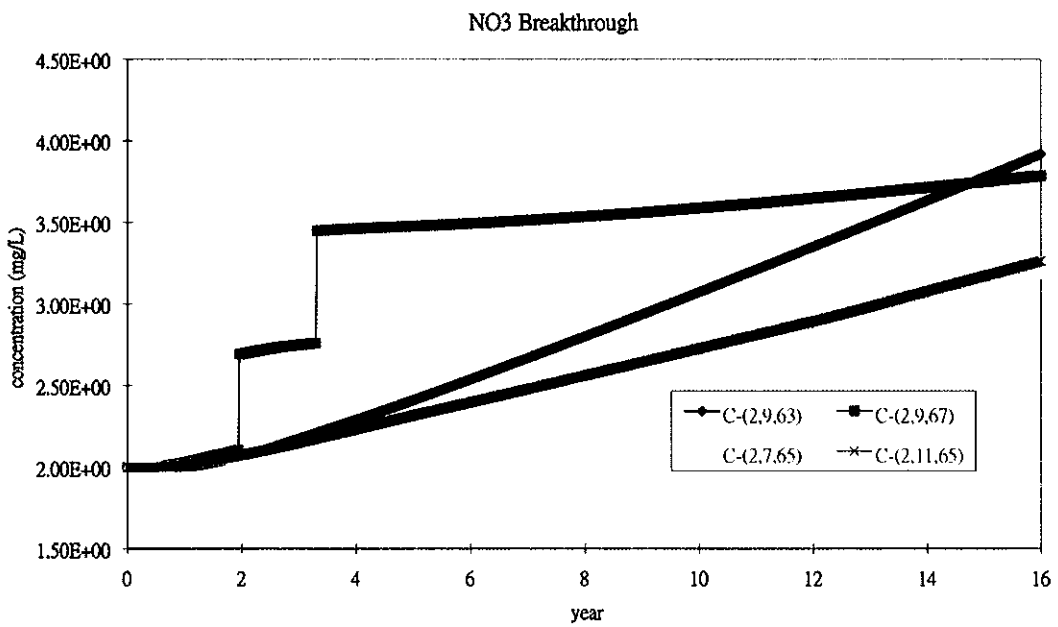



Figure 6B: Layer 2 simulated nitrate concentrations for observation points H1 (9,63), H2 (9,67), H3 (7,65), and H4 (11,65).

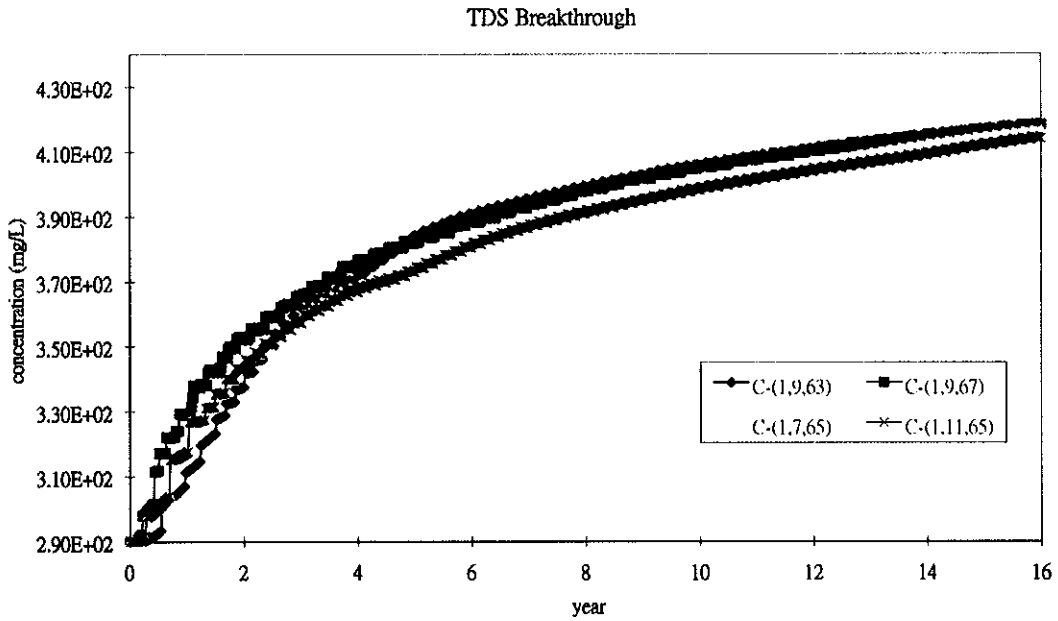



Figure 7A: Layer 1 simulated total dissolved solids concentrations for observation points H1 (9,63), H2 (9,67), H3 (7,65), and H4 (11,65).

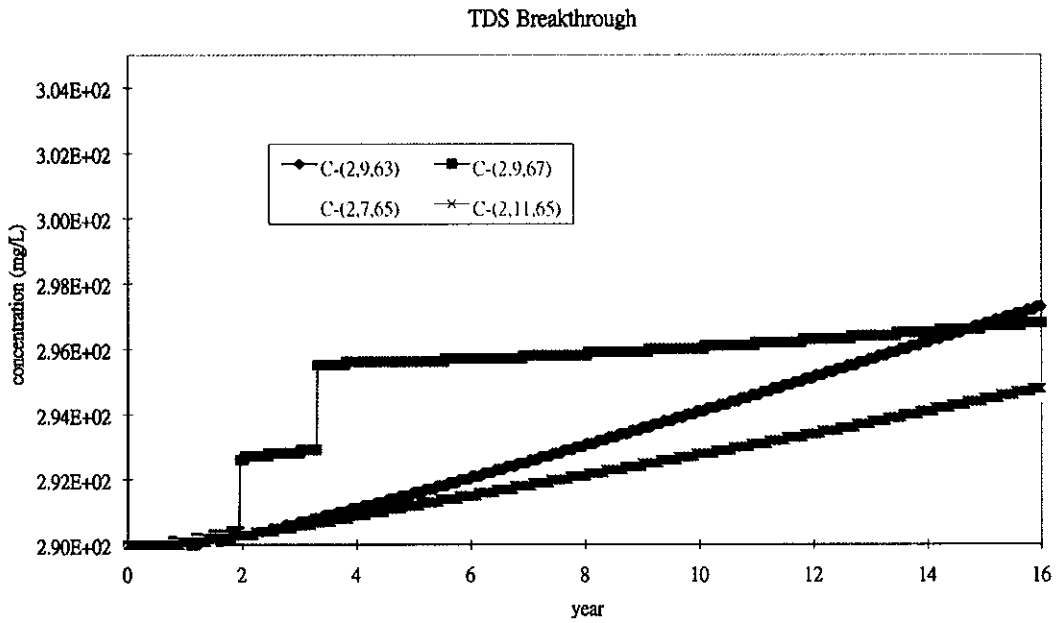



Figure 7B: Layer 2 simulated total dissolved solids concentrations for observation points H1 (9,63), H2 (9,67), H3 (7,65), and H4 (11,65).

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY PROCESS DATE 4-08-09
MULTIPLE STATION ANALYSES

| Local identi-fier | Date | Dis-solved oxygen, mg/L (00300) | pH, water, unfltrd field, std units (00400) | pH, water, unfltrd lab, std units (00403) | Specif. conduc-tance, wat unf lab, uS/cm 25 degC (90095) | Calcium water, fltrd, mg/L (00915) | Magnes-ium, water, fltrd, mg/L (00925) | Potas-sium, water, fltrd, mg/L (00935) | Sodium, water, fltrd, mg/L (00930) | Alka-linity, wat flt fxd end field, mg/L as CaCO3 (39036) | Alka-linity, wat flt fxd end lab, mg/L as CaCO3 (29801) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 001N006E28N001S | 08-31-99 | 9.0 | 6.8 | 7.9 | 274 | 23.1 | 4.09 | 1.18 | 26.9 | 89 | 94 |
| | 02-04-09 | -- | 7.7 | 7.9 | 397 | 40.7 | 7.25 | 1.50 | 34.8 | 79 | 87 |
| 001N006E32G001S | 09-11-08 | <.2 | 8.1 | 8.1 | 485 | 23.6 | 8.79 | 5.80 | 61.5 | 140 | 145 |
| | 02-05-09 | -- | 8.1 | 7.8 | 536 | 27.8 | 11.5 | 6.58 | 65.7 | 140 | 158 |
| | 03-09-09 | .8 | 8.1 | -- | -- | -- | -- | -- | -- | -- | -- |

Table 1: General chemistry, nutrients, and selected isotopes for wells 1N/6E-29N1 and 1N/6E-32G1 (Part 1).

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY PROCESS DATE 4-08-09
MULTIPLE STATION ANALYSES

| Local ident-i-fier | Date | Alka-linity, wat flt inf tit field, mg/L as CaCO3 (39086) | Bicar-bonate, wat flt fixed end pt, field, mg/L (29804) | Bicar-bonate, wat flt infl pt titr., field, mg/L (00453) | Bromide water, fltrd, mg/L (71870) | Chlor-ide, water, fltrd, mg/L (00940) | Fluor-ide, water, fltrd, mg/L (00950) | Iodide water, fltrd, mg/L (71865) | Silica, water, fltrd, mg/L as SiO2 (00955) | Sulfate water, fltrd, mg/L (00945) | Residue on evap. at 180degC wat flt mg/L (70300) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 001N006E28N001S | 08-31-99 | -- | -- | -- | .08 | 10.9 | .62 | .001 | 29.9 | 7.58 | 176 |
| | 02-04-09 | 79 | -- | -- | .18 | 21.1 | .53 | <.002 | 29.3 | 13.5 | 262 |
| 001N006E32G001S | 09-11-08 | 139 | 166 | 166 | .14 | 39.7 | .66 | .018 | 15.7 | 28.6 | 289 |
| | 02-05-09 | 142 | -- | -- | .21 | 47.0 | .71 | .035 | 11.6 | 34.6 | 296 |
| | 03-09-09 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

Table 1: General chemistry, nutrients, and selected isotopes for wells 1N/6E-29N1 and 1N/6E-32G1 (Part 2).

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY PROCESS DATE 4-08-09
MULTIPLE STATION ANALYSES

| Local ident-i-fier | Date | Ammonia + org-N, water, fltrd, mg/L as N (00623) | Ammonia water, fltrd, mg/L as N (00608) | Nitrate + nitrite water fltrd, mg/L as N (00631) | Nitrate water, fltrd, mg/L as N (00618) | Nitrite water, fltrd, mg/L as N (00613) | Ortho-phos-phate, water, fltrd, mg/L as P (00671) | Phos-phorus, water, fltrd, mg/L as P (00666) | Alum-inum, water, fltrd, ug/L (01106) | Arsenic water, fltrd, ug/L (01000) | Barium, water, fltrd, ug/L (01005) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 001N006E28N001S | 08-31-99 | E.06 | <.02 | 4.72 | -- | <.010 | .02 | E.04 | -- | <1 | 41.5 |
| | 02-04-09 | <.10 | <.020 | 18.4 | -- | <.002 | .027 | <.04 | <4.0 | .74 | 64.2 |
| 001N006E32G001S | 09-11-08 | -- | -- | -- | -- | -- | -- | -- | 5.7 | 1.2 | 20.1 |
| | 02-05-09 | .21 | .162 | .46 | .45 | .008 | .036 | E.03 | 4.2 | 1.5 | 20.1 |
| | 03-09-09 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

Table 1: General chemistry, nutrients, and selected isotopes for wells 1N/6E-29N1 and 1N/6E-32G1 (Part 3).

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY PROCESS DATE 4-08-09
MULTIPLE STATION ANALYSES

| Local ident-i-fier | Date | Boron, water, fltrd, ug/L (01020) | Chrom-ium, water, fltrd, ug/L (01030) | Iron, water, fltrd, ug/L (01046) | Lithium water, fltrd, ug/L (01130) | Mangan-ese, water, fltrd, ug/L (01056) | Stront-ium, water, fltrd, ug/L (01080) | C-14 countng error, water, fltrd, percent modern (49934) | C-14, water, fltrd, percent modern (49933) | Tritium 2-sigma water, unfltrd pCi/L (75985) | C-13 / C-12 ratio, water, unfltrd per mil (82081) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 001N006E28N001S | 08-31-99 | 51 | -- | <10 | -- | <2.2 | 194 | .720 | 72.42 | .58 | -11.64 |
| | 02-04-09 | 46 | -- | 22 | 20 | .8 | 344 | -- | -- | -- | -- |
| 001N006E32G001S | 09-11-08 | 88 | .28 | 10 | 5 | 268 | 172 | -- | -- | -- | -- |
| | 02-05-09 | 207 | -- | 9 | 5 | 223 | 191 | -- | -- | -- | -- |
| | 03-09-09 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

Table 1: General chemistry, nutrients, and selected isotopes for wells 1N/6E-29N1 and 1N/6E-32G1 (Part 4).

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY PROCESS DATE 4-08-09
MULTIPLE STATION ANALYSES

| Local ident-i-fier | Date | Deu-terium/ Protium ratio, water, unfltrd per mil (82082) | N-15 / N-14 in nitrate water, fltrd, per mil (82690) | O-18 / O-16 ratio in nitrate wat flt per mil (63041) | O-18 / O-16 ratio, water, unfltrd per mil (82085) |
|---|---|---|---|---|---|
| 001N006E28N001S | 08-31-99 | -78.20 | -- | -- | -11.17 |
| | 02-04-09 | -77.40 | 5.99 | -.18 | -11.19 |
| 001N006E32G001S | 09-11-08 | -79.30 | -- | -- | -10.91 |
| | 02-05-09 | -80.50 | 11.58 | 2.56 | -10.94 |
| | 03-09-09 | -- | -- | -- | -- |

0Remark codes used in this table:
< -- Less than.
E -- Estimated.

Table 1: General chemistry, nutrients, and selected isotopes for wells 1N/6E-29N1 and 1N/6E-32G1 (Part 5).

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY PROCESS DATE 4-08-09
MULTIPLE STATION ANALYSES

| Local identi-fier | Date | 1,7-Di-methyl-Xan-thine, water, fltrd, ug/L (62030) | Acet-amino-phen, water, fltrd, ug/L (62000) | Albut-erol, water, fltrd, ug/L (62020) | Carbam-azepine water, fltrd, ug/L (62793) | Carba-maze-pine-d10, surrog, wat flt % recvy (90797) | Codeine water, fltrd, ug/L (62003) | Cot-inine, water, fltrd, ug/L (62005) | De-hydro-nife-dipine, water, fltrd, ug/L (62004) | Diltia-zem, water, fltrd, ug/L (62008) | Diphen-hydra-mine, water, fltrd, ug/L (62796) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 001N006E32G001S | 02-05-09 | <.120 | <.080 | <.060 | <.040 | 27.4 | <.040 | <.026 | <.080 | <.080 | <.040 |

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY PROCESS DATE 4-08-09
MULTIPLE STATION ANALYSES

| Local identi-fier | Date | Ethyl nico-tinate-d4, surrog, wat flt % recvy (99571) | Sulfa-methox-azole, water, fltrd, ug/L (62021) | Thiaben dazole, water, fltrd, ug/L (62801) | Tri-meth-oprim, water, fltrd, ug/L (62023) | Warfar-in, water, fltrd, ug/L (62024) |
|---|---|---|---|---|---|---|
| 001N006E32G001S | 02-05-09 | 56.5 | <.160 | <.060 | <.020 | <.100 |

0Remark codes used in this table:
< -- Less than.

Table 2: Selected pharamceuticals for well 1N/6E-32G1

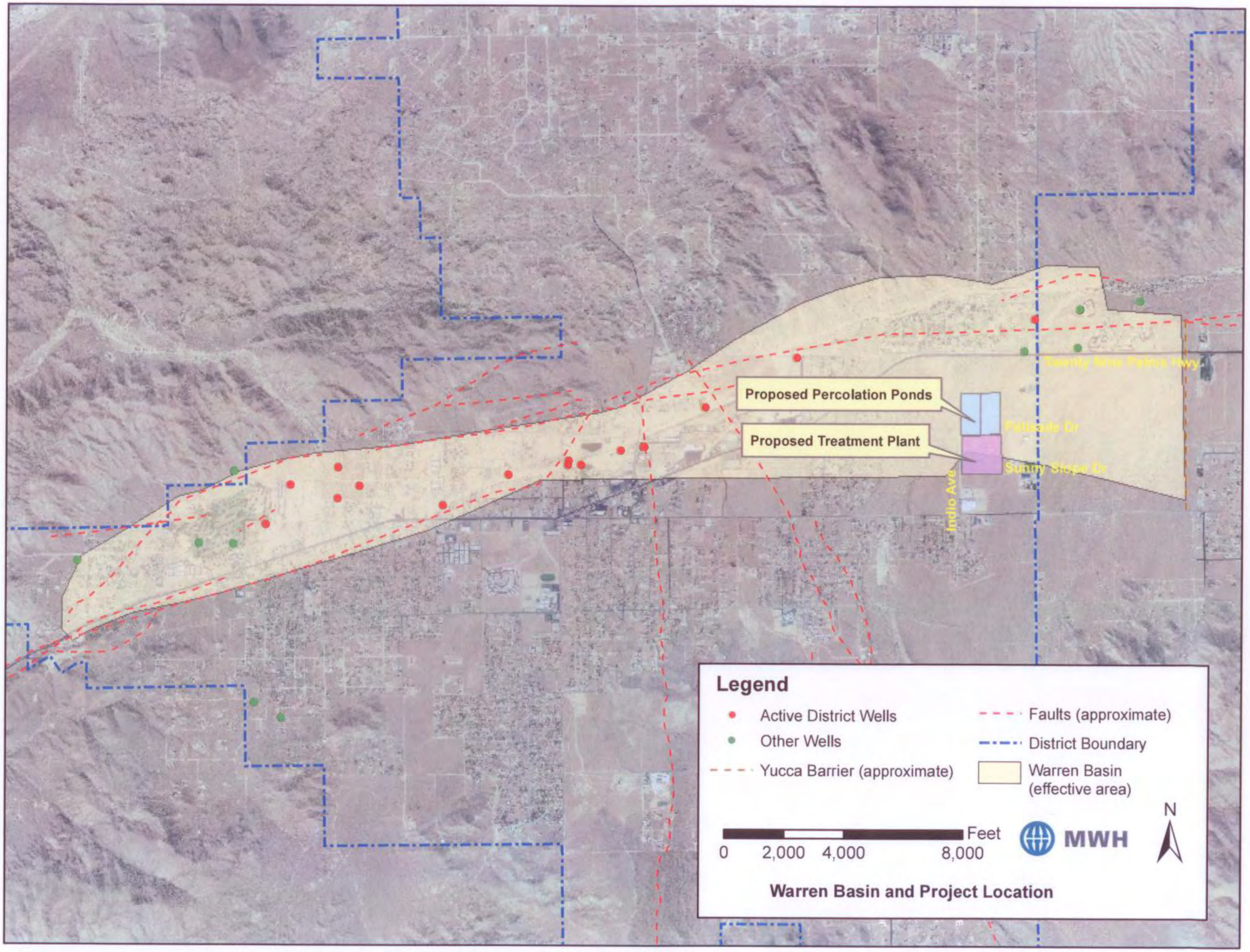
| Year | Flow, mgd |
|---|---|
| 2012 | 1.40 |
| 2013 | 1.43 |
| 2014 | 1.46 |
| 2015 | 1.49 |
| 2016 | 1.52 |
| 2017 | 1.55 |
| 2018 | 1.58 |
| 2019 | 1.61 |
| 2020 | 1.64 |
| 2021 | 1.67 |
| 2022 | 1.70 |
| 2023 | 1.73 |
| 2024 | 1.76 |
| 2025 | 1.79 |
| 2026 | 1.82 |
| 2027 | 1.85 |

Table 3: Projected effluent flows.

| | |
|---|---|
| Total Organic Carbon | 11 mg/L[1] |
| Total Nitrogen | 10 mg/L |
| Total Dissolved Solids | 450 mg/L[2] |

Table 4: Assumed effluent water-quality characteristics.

# ATTACHMENT 3




Warren Basin and Project Location

# ATTACHMENT 4

# Water Quality at Selected Grab Sample* Locations

**June 2009**

| Constituent | Units | Detection Limit | Thermalito Afterbay at Outlet, TA001000 | North Bay Aqueduct Barker Slough Pumping Plant, KG000000 | Delta-Mendota Canal Upstream McCabe Road, DMC06716 | California Aqueduct: Harvey Banks Delta Pumping Plant, KA000334 | California Aqueduct: O'Neill Forebay Outlet (CH | California Aqueduct: Kettleman City (Check 21), KA017226 | California Aqueduct: Near Highway 119 (Check 29), KA024454 | California Aqueduct: Tehachapi Afterbay (Check 41), KA030341 | California Aqueduct: Devil Canyon Headworks, KA041134 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Alkalinity | mg/L as $CaCO_3$ | 1 | 36 | 80 | 78 | | | 91 | 83 | 80 | 82 |
| Antimony | mg/L | 0.001 | <0.001 | <0.001 | <0.0 | | | <0.001 | <0.001 | NR | NR |
| Arsenic | mg/L | 0.001 | <0.001 | 0.003 | | | | 0.002 | 0.003 | 0.003 | 0.004 |
| Beryllium | mg/L | 0.001 | <0.001 | | | | | <0.001 | <0.001 | <0.001 | <0.001 |
| Boron | mg/L | 0.1 | <0.1 | | | | | 0.2 | 0.2 | 0.2 | 0.2 |
| Bromide | mg/L | 0.01 | <0.01 | | | | | .38 | 0.31 | 0.32 | 0.26 |
| Calcium | mg/L | 1 | 8 | | | | | 8 | 26 | 26 | 28 |
| Chloride | mg/L | 1 | 1 | | | | | 1 | 93 | 91 | 77 |
| Chromium | mg/L | 0.001 | <0.001 | <0.0 | | | | 1 | <0.001 | <0.001 | 0.001 |
| Copper | mg/L | 0.001 | <0.001 | 0.00 | | | | | 0.001 | 0.002 | 0.001 |
| Fluoride | mg/L | 0.1 | <0.1 | NR | | | | | <0.1 | NR | NR |
| Hardness | mg/L as $CaCO_3$ | 1 | 34 | 84 | | | | | 127 | 126 | 115 |
| Iron | mg/L | 0.005 | 0.007 | 0.012 | | | | | <0.005 | <0.005 | 0.006 |
| Lead | mg/L | 0.001 | <0.001 | <0.001 | | | | | <0.001 | <0.001 | <0.001 |
| Magnesium | mg/L | 1 | 4 | 12 | | | | | 15 | 15 | 11 |
| Manganese | mg/L | 0.005 | <0.005 | 0.008 | | | | | <0.005 | <0.005 | <0.005 |
| Nitrite + Nitrate | mg/L as N | 0.01 | <0.01 | 0.32 | | | | | 0.74 | 0.73 | 0.43 |
| Organic Carbon, Dissolved | mg/L as C | 0.5 | NR | 3.8 | | | | 4.1 | 3.6 | 3.7 | 3.0 |
| Organic Carbon, Total | mg/L as C | 0.5 | NR | 4.1 | | | | 4.2 | 3.7 | 3.8 | 3.2 |
| Phosphate-Ortho | mg/L as P | 0.01 | <0.01 | 0.14 | | | 0.07 | 0.08 | NR | 0.07 | 0.02 |
| Phosphorus-Total | mg/L | 0.01 | 0.01 | 0.22 | | | 0.08 | 0.11 | 0.09 | 0.08 | 0.02 |
| Selenium | mg/L | 0.001 | <0.001 | <0.001 | < | <0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 |
| Sodium | mg/L | 1 | 3 | 20 | 43 | 40 | 78 | 75 | 65 | 64 | 62 |
| Specific Conductance | µS/cm | 1 | 81 | 257 | 441 | 416 | 656 | 634 | 550 | 534 | 506 |
| Sulfate | mg/L | 1 | 2 | 18 | 45 | 40 | 54 | 55 | 49 | 47 | 54 |
| Total Dissolved Solids | mg/L | 1 | 55 | 144 | 248 | 229 | 370 | 368 | 315 | 317 | 295 |
| Turbidity | N.T.U. | 1 | 4 | 45 | 12 | 7 | 5 | 6 | 5 | 8 | 1 |
| Zinc | mg/L | 0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 |

Attachment 4

mg/L = milligrams per liter  µS/cm = microSiemens per centimeter  N.T.U. = Nephelometric turbidity unit  NR = No data recorded at this location.

*NOTE: A grab sample is a single sample chosen to represent conditions in a given matrix (usually natural water) at a specific location, depth, and time.

Additional mitigation provided as contingency measures against accidental discovery of contamination and vectors.

4.17-1 HDWD shall prepare a pond maintenance plan that will include specific methods for controlling algae and vectors so that they do not become a nuisance or adversely affected affect water quality. This maintenance plan shall also identify the method(s) that will be used to maintain percolation rates in the ponds over time. This plan will be incorporated into the "Water Reclamation Facility Operations Plan," which will be prepared prior to initiating operations at the proposed HDWD WRF.

Source: Final Mitigated Negative Declaration Package

Implementation Schedule: The plan shall be completed prior to initiating treatment operations and implemented during WRF operations.

Responsible Party: HDWD

Verification: A copy of the plan shall be retained in the project file. WRF operators shall verify all activities conducted in compliance with the plan by retaining field notes when specific maintenance activities are carried out. The notes shall be retained as part of the operations log of the WRF.

Status/Date/Individual Initial: _____

4-17-2 HDWD shall retain or have the construction contractor retain a qualified professional to assess any accidentally exposed area of contamination found within the WRF, sewer pipeline and pump station areas of potential effect (APE). This professional shall have the authority to stop or redirect construction activities and conduct evaluations to determine the significance of any discovery of subsurface contamination with the APE. If health threatening contamination is exposed, HDWD, the Town of Yucca Valley, San Bernardino County Fire Department and, if necessary, the Department of Toxic Substances Control, shall be notified and allowed to participate in any measures required to protect the health of construction employees, the public, or any natural resources. Such measures shall be implemented in cooperation with the agencies listed above.

Source: Final Mitigated Negative Declaration Package

Implementation Schedule: The qualified professional shall be identified to the HDWD prior to ground disturbance and response shall occur during construction if contamination is encountered at the project site.

Responsible Party: HDWD

Verification: Any discovery of contamination shall be fully documented and any contamination discovered shall be fully remediated to the HDWD's satisfaction before construction is completed. Field inspections shall verify remediation of any contaminated area discovered during construction. Field notes of verification shall be placed in the project file.

Status/Date/Individual Initial: _____

3084

**Notice of Availability and Intent to Adopt a Mitigated Negative Declaration for Hi-Desert Water District Water Reclamation Facility, Wastewater Treatment Plant and Sewer Collection System Project**

The Hi-Desert Water District (District) has prepared an Initial Study/Environmental Assessment for the subject project which recommends that a Mitigated Negative Declaration be adopted. The District has authorized the release of the proposed Mitigated Negative Declaration for public review and comment for the above project.

This project consists of the construction and installation of the following components. The District intends to initially sewer the central portion of the Town of Yucca Valley to convey an annual average flow of 2 MGD of wastewater to the WRF currently discharged to septic tanks. This initial project is referred to as Phase 1. In the future, if the Phase 1 facilities do not adequately protect groundwater quality, or if the RWQCB requires more areas to be sewered, or if additional capacity is needed, the collection, treatment and disposal facilities will be expanded to collect an additional 1 MGD of sewage. The additional facilities are referred to as Phase 2 facilities. Phase 3 facilities will be designed to collect an additional 1 MGD of wastewater flow for a total system capacity of 4 MGD. Ultimate build-out in the District's Yucca Valley service area could be as high as 6 MGD, but due to the area's slow rate of growth, this is not forecast to occur until the distant future. The wastewater will be treated to meet Title 22 recycled water standards/requirements and will be delivered to recharge basins operated by the District to percolate the treated effluent into the Warren Valley Groundwater Basin.

A copy of the Initial Study/Environmental Assessment can be reviewed at the District's office located at 55439 Twentynine Palms Highway, Yucca Valley, CA 92284. It is also available on the District's website at http://www.hdwd.com and a copy has been provided to the San Bernardino County Branch Library in Yucca Valley. The period of review will be from June 9, 2009 to July 9, 2009. Written comments on the Initial Study/Environmental Assessment should be submitted to Mr. Joe Glowitz at the address listed above no later than July 9, 2009.

On July 15, 2009, the District proposes to hold a public meeting to discuss and possibly recommend approval and implementation of the above described project. After public review of the IS/EA is completed, the District proposes to adopt the Mitigated Negative Declaration, if appropriate. The technical and environmental issues related to this project may be discussed at this meeting. Please contact Mr. Joe Glowitz at (760) 365-8333 if you have questions regarding the District's review process for considering the proposed Mitigated Negative Declaration. The U.S. Bureau of Reclamation may use this document to comply with National Environmental Protection Act (NEPA). To access the BOR website visit http://www.usbr.gov/lc/socal/envdocs.html.

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San Bernardino County

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# INITIAL STUDY / ENVIRONMENTAL ASSESSMENT: HI-DESERT WATER DISTRICT WATER RECLAMATION FACILITY, WASTEWATER TREATMENT PLANT AND SEWER COLLECTION SYSTEM PROJECT


**Project Proponent and CEQA Lead Agency:**

Hi-Desert Water District
55439 Twentynine Palms Highway
Yucca Valley, California 92284
(760) 365-8333

**NEPA Lead Agency:**

U.S. BUREAU OF RECLAMATION
27708 Jefferson Avenue, Suite 202
Temecula, California 92590

**Preparer:**

Tom Dodson & Associates
2150 North Arrowhead Avenue
San Bernardino, California 92405
(909) 882-3612



JUNE 2009

REVIEW PERIOD: June 9, 2009 through July 9, 2009

# INITIAL STUDY / ENVIRONMENTAL ASSESSMENT FOR HI-DESERT WATER DISTRICT WATER RECLAMATION FACILITY, WASTEWATER TREATMENT PLANT AND SEWER COLLECTION SYSTEM PROJECT


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**LIST OF ABBREVIATIONS AND ACRONYMS**

| | |
|---|---|
| AAQS | Ambient air quality standards |
| ADA | Americans with Disabilities Act |
| ADT | average daily traffic |
| APE | area of potential effect |
| AQAP | Air Quality Attainment Plan |
| AQMP | Air Quality Management Plan |
| ARPA | Archaeological Resources Protection Act |
| BDVWA | Bighorn-Desert View Water Agency |
| bgs | below the ground surface |
| BMPs | Best Management Practices |
| BNR | biological nutrient removal |
| BOD | biochemical oxygen demand |
| BOR | U.S. Bureau of Reclamation |
| CAA | Clean Air Act |
| Cal-EPA | California Environmental Protection Agency |
| Cal/OSHA | California Department of Industrial Relations, Division of Occupational Safety and Health Administration |
| CARB | California Air Resources Board |
| CCAA | California Clean Air Act |
| CCAR | California Climate Action Registry |
| CDFG | California Department of Fish and Game |
| CEQA | California Environmental Quality Act |
| CHP | California Highway Patrol |
| CMP | Congestion Management Plan |
| CNEL | Community Noise Equivalent Level |
| Corps | U.S. Army Corps of Engineers |
| District | Hi-Desert Water District |
| DOT | U.S. Department of Transportation |
| DTSC | Department of Toxic Substances Control |

| | |
|---|---|
| EIR | Environmental Impact Report |
| EIS | Environmental Impact Statement |
| EO 11990 | Executive Order for the Protection of Wetlands |
| EPA | U.S. Environmental Protection Agency |
| FEMA | Federal Emergency Management Agency |
| FHWA | Federal Highway Administration |
| FONSI | Finding of No Significant Impact |
| FTA | Federal Transit Administration |
| GHG | greenhouse gas |
| gpd | gallons per day |
| HA | Hydrological Area |
| HAPs | hazardous air pollutants |
| HU | Hydrologic Unit |
| HUD | Department of Housing and Urban Development |
| HWCL | Hazardous Waste Control Law |
| IND | industrial |
| IS/EA | Initial Study/Environmental Assessment |
| MBR | Membrane Bioreactors |
| MCC | Motor Control Center |
| MCLs | maximum contaminant levels |
| MDAB | Mojave Desert Air Basin (or Basin) |
| MDAQMD | Mojave Desert Air Quality Management District |
| MGD | million gallons per day |
| mg/L | milligrams per liter |
| MSDS | material safety data sheets |
| MUN | municipal |
| MWA | Mojave Water Agency |
| MWH | MWH (Montgomery Watson Harza) |
| NAAQS | National Ambient Air Quality Standards |
| NAC | Noise Abatement Criteria |
| NAGPRA | Native American Graves Protection and Repatriation Act |
| NDMA | N-Nitrosodimethylamine |
| NEPA | National Environmental Policy Act |
| NESHAPs | National Emission Standards for Hazardous Air Pollutants |
| NHPA | National Historic Preservation Act |
| NIH | National Institutes of Health |
| NOI | Notice of Intent |
| NPDES | National Pollutant Discharge Elimination System |
| NRC | Nuclear Regulatory Commission |

| | |
|---|---|
| OES | Office of Emergency Services |
| OSHA | Occupational Safety and Health Administration |
| PCE | passenger car equivalent |
| PCPP | personal care products and pharmaceuticals |
| PDR | Preliminary Design Report |
| POTW | publicly owned treatment works |
| RAS | return activated sludge |
| RCPG | Regional Comprehensive Plan and Guide |
| RCRA | Resource Conservation and Recovery Act |
| RO | reverse osmosis |
| RWQCB | Colorado River Basin Regional Water Quality Control Board (or Regional Board) |
| SCAG | Southern California Association of Government |
| SCAQMD | South Coast Air Quality Management District |
| SCE | Southern California Edison |
| SDWA | Safe Drinking Water Act |
| SIP | State Implementation Plan |
| SoCAB | South Coast Air Basin |
| SR | State Route |
| SRT | Sludge Retention Time |
| SSA | Sole Source Aquifer |
| SWP | State Water Project |
| SWPPP | Storm Water Pollution Prevention Plan |
| SWRCB | State Water Resources Control Board |
| TACs | toxic air contaminants |
| TDS | Total Dissolved Solids |
| TIN | total inorganic nitrogen |
| TPY | tons of pollutants per year |
| TSS | Total Suspended Solids |
| UBC | Uniform Building Code |
| USFWS | U.S. Fish and Wildlife Service |
| USGS | U.S. Geological Survey |
| UV | Ultraviolet Disinfection |
| VOC | volatile organic compound |
| WAS | waste activated sludge |
| WDR | waste discharge requirements |
| WRF | water reclamation facility |
| WQMP | Water Quality Management Program |

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# Chapter 1 PURPOSE AND NEED

## 1.1 INTRODUCTION

The Hi-Desert Water District ("the District") is a local water district serving the greater Yucca Valley area in southern California. Figure 1-1 shows the location of the District within southern California and Figure 1-2 shows the District's service boundary in the vicinity of the Town of Yucca Valley. The District is proposing to construct a wastewater treatment facility and collection system to serve the residents within its service area. It is the intent of this project to eliminate existing septic systems, which would reduce the amount of nitrate contamination affecting the Warren Valley Groundwater Basin. The degradation of this groundwater aquifer has been an issue of concern in the local groundwater basin for many years. In addition, the wastewater treatment plant will generate treated effluent that can and will be percolated into the Groundwater Basin, making the treatment plant a "wastewater reclamation facility" (WRF).

Grant funding is being sought from the U.S. Bureau of Reclamation (BOR) to partially pay for constructing the following facilities to meet this objective: a Phase 1 wastewater reclamation facility designed for an initial two (2) million gallons per day (MGD) treatment capacity; a sewage collection system that will serve the core developed area of the Town of Yucca Valley; and percolation basins for the treated effluent to return the effluent to the Warren Valley Groundwater Basin. These improvements are essential to ensuring the protection and ultimate enhancement of water quality within the District's service area. Additional phases of plant and sewer system service area are defined and evaluated in this document, including the sizing of the treatment and collection system to handle the "build-out" scenario for the majority of the District's service area.

## 1.2 PURPOSE OF THE ENVIRONMENTAL ASSESSMENT

Because the District is seeking federal funds from the Bureau of Reclamation (BOR) for this project, compliance with the National Environmental Policy Act (NEPA) must be completed before federal funds can made available to support implementation of the project summarized above. The District will implement the proposed project and must, therefore, also demonstrate compliance with the California Environmental Quality Act (CEQA) under its procedures. This environmental document is being prepared as a joint CEQA/NEPA environmental document, termed an Initial Study/Environmental Assessment (IS/EA). This document will provide the necessary information to determine if further environmental documentation is required before the project can be implemented. Of particular concern to federal agencies in this review is that the project will be carried out in known habitat for the desert tortoise, a federally-listed "threatened" species.

Once the IS/EA is completed, the BOR will either issue a Finding of No Significant Impact (FONSI) or decide to prepare an Environmental Impact Statement (EIS) to comply with NEPA. The District will either adopt a Negative Declaration or decide to prepare an Environmental Impact Report (EIR) under CEQA. Should further documentation be required, it is likely that it would also be in the form of a joint CEQA/NEPA document, an EIS/EIR. The U.S. Fish and Wildlife Service (USFWS) may also be involved should desert tortoise be found in the project's area of potential impact. Should this circumstance occur, a Section 7 consultation with the USFWS could be required under the federal Endangered Species Act between the BOR and USFWS. If consultation is required, the USFWS would have to issue a Biological Opinion on the project regarding any potential adverse effects on the desert tortoise.

Only after the above procedures are completed (under NEPA) can the funding from the BOR be approved and released. Similarly, the District cannot begin physical implementation/construction of the project facilities until the environmental review under CEQA is completed.

## 1.3 PURPOSE AND NEED

The proposed project has five general objectives:

1. Construct a wastewater collection system to reduce the quantity of leachate from septic tank systems flowing into the Warren Valley Groundwater Basin (Basin) used for the District's potable water supply.

2. Treat wastewater to a level such that percolated effluent will not degrade groundwater quality. The enhancement of groundwater quality is proposed to be achieved by reducing the amount of nitrate rich leachate from septic tanks in the area percolating into the Basin groundwater aquifer.

3. Provide the core infrastructure for expansion of the collection, treatment and disposal system as needed either to protect groundwater, or to accommodate growth in the District's service area.

4. Maximize the total water supply available to the District.

5. Minimize any adverse economic and environmental impacts to the community.

In addition to these general objectives, specific objectives for the Phase 1 treatment facilities are as follows:

1. Provide sufficient treatment capacity to ensure continuous compliance with anticipated regulatory requirements for an average annual wastewater flow of 2 MGD.

2. Provide for future expansion of the plant to an annual average estimated build-out flow capacity of 6 MGD.

The installation of this wastewater system infrastructure is considered essential to the District in order to continue meeting the public health and safety requirements for water supply within its service area and to meet the water quality objectives of the Colorado River Basin Regional Water Quality Control Board (Regional Board or RWQCB).

# Chapter 2 PROPOSED ACTION, INCLUDING ALTERNATIVES

## 2.1 PROPOSED ACTION SUMMARY

As previously described this project consists of the construction and installation of the following components. The District intends to initially sewer the central portion of the Town of Yucca Valley to convey an annual average flow of 2 MGD of wastewater to the WRF currently discharged to septic tanks. This initial project is referred to as Phase 1. In the future, if the Phase 1 facilities do not adequately protect groundwater quality, or if the RWQCB requires more areas to be sewered, or if additional capacity is needed, the collection, treatment and disposal facilities will be expanded to collect an additional 1 MGD of sewage. The additional facilities are referred to as Phase 2 facilities. Phase 3 facilities will be designed to collect an additional 1 MGD of wastewater flow for a total system capacity of 4 MGD. Ultimate build-out in the District's Yucca Valley service area could be as high as 6 MGD, but due to the area's slow rate of growth, this is not forecast to occur until the distant future. If a wastewater collection system is required in the Yucca Mesa-portion of the District's service area in the future, the assumption has been made that a separate treatment facility will be located within the Yucca Mesa area. The wastewater will be treated to meet Title 22 recycled water standards/requirements and will be delivered to recharge basins operated by the District to percolate into the Warren Valley Groundwater Basin (Basin).

This IS/EA evaluates the potential effects on the environment from constructing these new facilities and the District's subsequent wastewater system operations. To facilitate the use of this document by both the BOR and the District, this document uses a combined format. Specifically, the BOR's EA format is utilized to organize the document, but it is combined with the standard Initial Study Environmental Checklist Form used for compliance with CEQA. Thus, this IS/EA evaluates all environmental issues required by the BOR, while presenting the issues through the 16 specific environmental issues contained in the standard Checklist Form. The IS/EA will determine whether there are any potentially significant environmental effects under either CEQA or NEPA criteria from implementing the proposed project, and determine whether mitigation will be required to reduce potentially significant effects to a level less than significant.

### 2.1.1 Location

The proposed project is located within the Town of Yucca Valley in the County of San Bernardino. The proposed interim wastewater treatment plant facilities will be located approximately 1,000 feet south of State Route 62 (SR 62) (Twentynine Palms Highway), east of Indio Avenue, north of Sunnyslope Drive, and west of La Contenta Road (see Figure 2-1).

The sewer collection system will be located primarily within existing roadways, with a few cross country segments. The collection system is shown on Figure 2-2, an aerial photo of the proposed service area. All three phases of the collection system are shown on Figure 2-2. The boundaries between phases may be modified in the field in response to actual conditions at the time of construction, but the phase boundaries shown on Figure 2-2 are utilized in making the impact forecast for the sewer collection system. Pipeline diameter will range between 8 inches and 18 inches for local laterals and trunk sewer lines. Limited pump stations and limited force mains are envisioned as being required for the proposed collection system. A detailed description of proposed treatment plant facilities and the sewer collection system is provided in the text which follows.

### 2.1.2 Environmental Setting

Yucca Valley, San Bernardino County is located in the Morongo Basin portion of the Mojave Desert, approximately 70 miles east of the City of San Bernardino (refer to Figure 1-1). Access to the region is by SR 62 which extends west to Interstate 10 and east to the Colorado River and the Arizona state line from Yucca Valley. The proposed trunk sewer pipeline alignments and waste-water treatment plant facilities generally occur in alluvial deposits derived from the Little San Bernardino Mountains to the south. The alluvial fan slopes to the north at a 1-2 percent gradient at a general elevation of approximately 3,300 feet above sea level. The Pinto Mountain fault (considered active) is located about one-quarter mile north of the proposed treatment plant site. No other geologic hazards are known to occur in the project area.

The only topographic feature within the project site is an ephemeral desert wash area, vegetated with Joshua tree-creosote scrub, intermixed with Mormon tea. All water supplies are extracted from the local Warren Valley Groundwater Basin by Hi-Desert Water District, with supplemental water consisting of State Water Project (SWP) water imported from the State Aqueduct in Hesperia by agreement with the Mojave Water Agency (MWA). Water quality issues are managed by the Colorado River Basin Regional Water Quality Control Board (Regional Board). Project area land uses consist of a mix of open space, residential, commercial, and limited industrial uses. A Joshua tree-creosote bush scrub plant community occurs in the general area, and desert tortoise are also known to inhabit the general area. At the present time the plant site is open desert with typical human disturbance from being located near existing residences.

The climate in the project area is that of a subtropical upland desert with annual precipitation less than 10 inches, averaging 6.44 inches. Temperatures can vary from 0°F in winter to above 110°F in the summer. Mean summer temperature is 88°F and in winter is 49°F. Air quality in the region is good, but during the summer transported pollutants from the South Coast Air Basin (SoCAB) can cause ozone concentrations to violate federal and state standards on rare occasions. The project area is located within the Mojave Desert Air Basin (MDAB or Basin) and the Mojave Desert Air Quality Management District (MDAQMD) manages air quality for this Basin.

Access to the project site can be obtained from the main area roadway, SR 62 (Twentynine Palms Highway), which traverses east-west through the Town of Yucca Valley to the north of the treatment plant site. The north-south cross streets are Indio Avenue on the west and La Contenta Road on the east of the proposed WRF site. The project site can be accessed from La Contenta off of SR 62, then west on Sunnyslope to the project site.

### 2.1.3 Project Characteristics

The proposed project is the construction and installation of a wastewater reclamation facility (Hi Desert WRF) with an initial treatment capacity of 2 MGD and an build-out treatment capacity of 6 MGD. Phased development of the Hi Desert WRF envisions the initial facility size as capable of processing up to 2 MGD of wastewater; a second phase, Phase 2, would expand the WRF to 3 MGD; Phase 3 envisions a treatment capacity of 4 MGD; and the build-out WRF would have a treatment capacity of up to 6 MGD. The Phase 1 sewer collection system will focus on the urban development in close proximity to State Highway 62 (Twentynine Palms Highway). The Phase 2 collection system would expand to the majority of urban development within the existing District service area. Phase 3 would connect much of the remaining existing residential and commercial development within the Town of Yucca Valley to the WRF. Infill development within the Town of Yucca Valley is forecast to create an ultimate demand for 6 MGD of treatment capacity. If approved by the community, the 2 MGD capacity WRF would be installed in the near future, perhaps coming on line in 2012. Implementation of future phases would be dependent upon the pace of connections dictated by the Regional Board and actual future growth.

Refer to Figures 2-1 and 2-2 for the proposed location of the WRF and the sewer collection system, respectively.

Hi-Desert Water Reclamation Facility Design Requirements

The proposed design of the Hi-Desert Water Reclamation Facility (Hi-Desert WRF) was developed by the engineering consulting firm of MWH through the preparation of a "Water Reclamation Facility Preliminary Design Report," published in January 2009. This document, termed a "PDR," evaluated the design performance requirements for the proposed Hi-Desert WRF and identified the preferred alternative design for the WRF. A copy of this document is provided as Appendix 1 to this document. The following is a summary of the PDR findings and recommendations, drawing heavily on the text in the PDR.

*Influent Loading Assumptions:* As previously noted, the hydraulic capacity of the initial treatment plant will be 2 MGD. However, the "waste load" of the plant is equally or more important to plant design, and waste load can be characterized by the pounds of biochemical oxygen demand (BOD) in the influent flow. The pounds of waste load, or mass loading rate depends on two factors: the hydraulic flow rate, which is defined initially as 2 MGD; and the waste concentration of the flow which is not defined. After analyzing various approaches to defining waste concentration, the PDR defines a per-capita wastewater flow rate of 83 gallons/capita/day, with a corresponding Phase 1 population equivalent of 12,000 people. Average mass loading assumptions for the WRF design are as follows: $BOD_5$ 0.22 lb/cap/day or 2,400 lbs/day; total suspended solids (TSS) 2,400 lbs/day; and total Kjeldahl nitrogen, 510 lbs/day.

*Influent Peak Flows:* Hydraulic peaking factors describe the highest monthly, weekly, daily and hourly flows compared to annual average flows. The peak hour factors are important to size pump capacities, pipes and other liquid conveyance elements and process units of the WRF. A peaking factor assumption for this plant of 3.0 is used, thus the design peak hour influent flow is 3.0 MGD for the initial sizing of 2 MGD average annual influent flow.

*Influent Peak Mass Loadings:* Like hydraulic peaking factors, influent mass loadings vary temporally (daily, weekly or monthly). Influent peak loadings for different periods are defined as follows: peak month = 135% of annual average; peak week = 150%; and peak day was assigned 160%.

*Assumed Treated Effluent Limitation:* The treatment requirements, effluent limitations, will be established by the Regional Board through issuance of a Waste Discharge Requirements (WDR) permit. The plant must be designed to meet these requirements, which are assumed to be established to minimize degradation of existing groundwater quality. Assumed/estimated treated effluent limits for the plant design are shown on Table 2-1 (Table 2-6 of the PDR).

**Table 2-1**
**ANTICIPATED EFFLUENT DISCHARGE LIMITATIONS**
**FOR THE HI-DESERT WRF**

| Parameter | Value | Units |
|---|---|---|
| $BOD_5$<br>Maximum monthly average | 10 | mg/L |
| TSS<br>Maximum monthly average | 10 | mg/L |
| Total Inorganic Nitrogen<br>12-month average | 8 | mg/L |
| Total Coliform<br>7-day median<br>Single sample maximum | 2.2<br>23 | MPN/100 ml<br>MPN/100 ml |
| pH<br>Maximum | 6.5 - 8.5 | |

Source: MWH "Hi-Desert Water District Water Reclamation Facility Preliminary Design Report, Volume 1 – Report," dated January 2009.

These treated effluent values are assumed to minimize degradation of existing groundwater quality. In addition, the PDR addresses the issue of "emerging contaminants" for which standards are not yet established. These contaminant include NDMA (N-Nitrosodimethylamine), personal care products and pharmaceuticals (PCPP), and disinfection by-products. Although not currently regulated, the PDR considers emerging contaminants in the selection of the treatment technologies.

*Solids Handling and Disposal:* The Hi-Desert WRF will generate biosolids that will require disposal or reuse in accordance with existing state and federal regulations. Three categories of solids may be produced, Class A, Class B and Unclassified biosolids. Class A biosolids have the highest degree of treatment and the least limitations on use. Class B biosolids have a lower degree of treatment and are more restricted in application. Unclassified biosolids must be landfilled or shipped to an off-site biosolids handler to additional treatment before reuse. Detailed requirements for biosolids and management requirements are described in Tables 2-7 through 2-9 of Appendix 1.

Hi-Desert Water Reclamation Facility Alternatives

The MWH PDR conducted an evaluation of the main treatment system technologies available for the Hi-Desert WRF. The summary of treatment technologies screened in the PDR are provided in Table 2-2 (Table 3-1 of the PDR). Tables 3-2 through 3-7 of the PDR (Appendix 1) contain a fatal flaw analysis of the system-wide treatment alternatives and of specific technologies. The MWH PDR contained the following conclusion for options related to onsite treatment technologies. The MWH evaluation on page 3-2 concluded: "*Options such as no-flush toilets and gray water separation would require extensive and disruptive modification of toilets and plumbing in all existing buildings in the service area. Decentralized treatment is not cost effective for an area such as Yucca Valley where development has occurred in single, coherent area. Piping sewage to a neighboring agency would be very expensive to construct the sewers, and would result in the permanent loss of the water that could otherwise be used for groundwater recharge. For these reasons, only centralized treatment of wastewater within the District's service area is considered a viable alternative.*"

**Table 2-2**
**SUMMARY OF SCREENED TECHNOLOGY**

| Screening Category | Remaining Alternatives |
|---|---|
| System-Wide Configuration | • Centralized Wastewater Treatment |
| Treatment Technologies | • Extended Aeration<br>• Membrane Bioreactors (MBR)<br>• Conventional High Rate Aeration |
| Disinfection Technologies | • Ultraviolet Disinfection (UV) |
| Solids Handling (Disposal) | • Thickened Sludge Handling<br>• Dewatered Sludge Handling |
| Solids Handling (Treatment) | • Aerobic Digester<br>• Lime Stabilization<br>• Not Stabilized (Stabilization not required for Ex. Aeration) |
| Solids Handling (Thickening/Dewatering) | • Conventional Sludge Drying Beds |
| Power Supply | • Southern California Edison |
| Structural Configuration (Hydraulic Structures) | • Cast-in-Place Concrete |
| Structural Configuration (Buildings) | • Trailers<br>• Pre-Fabricated<br>• Wood Frame Stucco<br>• Concrete Masonry |

Source: MWH "Hi-Desert Water District Water Reclamation Facility Preliminary Design Report, Volume 1 – Report," dated January 2009.

Chapter 4 of the PDR (Appendix 1) contains the detailed technology selection evaluation. Four technologies were evaluated for implementation by the District. These technologies included:

- Extended Aeration
- Membrane Bioreactors (MBR)
  - High Rate MBR
  - Extended Aeration MBR
- Conventional High Rate Activated Sludge

Following a comprehensive comparative evaluation of these four technology alternatives, the PDR recommended and the District identified, the Extended Aeration treatment system as a preferred alternative for consideration in this environmental document According to the PDR this is *"A conventional aeration process uses the activated sludge process, secondary clarification, and tertiary filters to produce a filtered effluent ready for disinfection. The sludge age is typically 25 days or higher to produce a waste activated sludge (WAS) sufficiently stabilized to be dewatered without significant emissions."* Table 2-3 and Figure 2-3 illustrate the design criteria and process flow schematic for the extended aeration alternative. For the Hi-Desert WRF design, the biological nutrient removal (BNR) process is assumed to be an oxidation ditch with an anoxic zone and mixed liquor recycle. Filtration was assumed to be cloth disk filters. Figure 2-1 shows the project site on the USGS – Yucca Valley Quadrangle, 7.5 Minute Topographic Map. Figures 2-4 and 2-5 show a property plan for the project site and a site plan of the proposed layout of the proposed Hi-Desert WRF, respectively.

**Table 2-3**
**ALTERNATIVE 1 EXTENDED AERATION SIZING CRITERIA**

| Parameter | Value |
|---|---|
| Reactor Sizing | |
| Sludge Retention Time (SRT) | 25 days |
| Mixed Liquor Concentration | 4,000 mg/L |
| Clarifier Loading Rates | |
| Average Surface Overflow Rate | 300 gpd/ft$^2$ |
| Peak Surface Overflow Rate | 600 gpd/ft$^2$ |
| Average Solids Loading Rate | 18 lbs/d/ft$^2$ |
| Peak Solids Loading Rate | 35 lbs/d/ft$^2$ |
| Filtration | |
| Filtration Type | Cloth Disc |

Source: MWH "Hi-Desert Water District Water Reclamation Facility Preliminary Design Report, Volume 1 – Report," dated January 2009

*Hi-Desert WRF Onsite Facilities*

Recharge Basins: The total site area of the project site shown on Figure 2-2 encompasses an estimated 78 acres. The District proposes to retain the northern 43 acres for other uses, as shown on Figure 2-4. The southern 35 acres are proposed for development in the following manner.

1. Area required for 15 acres of Recharge Basins = 20 acres
2. Area remaining for Treatment Facilities, includes wash area = 23 acres
3. Area required for 4 MGD of Treatment Facilities (Extended Aeration) = 13.5 acres

Under the above site plan (Figure 2-5), 20 acres would be set aside for percolation of up to 4 MGD of treated effluent on the north side of the parcel. Of the remaining 23 acres, an estimated 13.5 acres would be required to support the Extended Aeration Water Reclamation Facilities, with approximately 9 acres being retained on the project site to manage stormwater flows across the property. Each pond is about 140 feet in width and approximately 620 feet in length. Pond depth is estimated to be approximately 10 feet, and the objective is to excavate and create the pond berms/levees with balanced cut and fill on the project site. The design percolation rate is estimated to be 2 feet per day. Two ponds will be installed, one for operation and one on standby. The ponds will be maintained periodically by scarifying the bottom to facilitate percolation.

Headworks and Grit Chamber: The headworks removes large and stringy objects from the wastewater; removes heavy and abrasive particles (grit); and splits the flow between pairs of oxygen ditches. The MWH PDR recommends a climber type of bar screen for the influent. The location of the headworks is shown on Figure 2-5. It encompasses an area of about 50 feet by 75 feet. The bar screen contains a series of evenly spaced vertical bars and a mechanical rake arm removes screenings from the bar screen and discharges the collected material to a conveyor. The screenings are conveyed to a washer and compactor. The washer assists in control of odors from the screened materials, while the compactor decreases the volume of screenings for disposal. Screenings are transferred to a dumpster for transport to a disposal site.

Three incoming channels and bar screens are proposed to be ultimately installed, along with one bypass coarse screen. A single 16-foot diameter vortex-type, non-aerated grit chamber is proposed to be installed. The grit is screened and classified for discharge to a hopper (dumpster) and taken offsite to disposal. Influent flows on the downstream side of the headworks will be discharged to three pipes, with each pipe feeding a pair of oxidation ditches. Flows into the oxidation ditches is

also evenly distributed to each ditch through the use of gates. Pumps and piping, as required, will be used to internally move material at the headworks.

Biological Reactor: The biological reactor provides suspended-growth, activated sludge treatment of raw wastewater. Initial design will be for a 2 MGD flow, and the system must reduce BOD of the influent wastewater to no more than 10 mg/L and reduce total inorganic nitrogen (TIN) concentrations to less than 8 mg/L. The extended aeration system is considered a simple system since wastewater treatment and sludge stabilization occur in a single reactor. The process also does not generate a noticeable amount of odors. Aeration equipment consists of motors, gear reducers, and a single-piece aerator device. An anoxic zone is proposed to ensure consistent effluent TIN level of less than 8 MGD. Oxidation ditches are about 14 feet in depth and about 150 feet in length. Each biological reactor consists of an anoxic tank and oxygen ditch capable of treating 1 MGD average flow. Two reactors will be installed initially and share a common wall.

Clarifiers: The clarifiers separate solids in mixed liquor to provide a high quality secondary effluent and return activated sludge flow to the bioreactors. Initial design flow will be 2 MGD (two 1 MGD capacity units) and incremental expansion will be provided up to 6 MGD. Forecast effluent quality is 20 mg/L Total Suspended Solids (TSS) and a turbidity of 10 NTU. The clarifiers are estimated to be 70 feet in diameter and 14 feet in depth. Each clarifier will typically operate with a counterpart pair of oxidation ditches, which will allow them to function as a single biological treatment system.

A scum collector is provided with the clarified mechanism to force floatables, foam and grease toward a collection hopper, which can consist of a tilting trough extending a portion or the entire radius of the clarifier, or of a small trough at the perimeter. The clarifier also includes an Algae-Sweep mechanism, consisting of a suite of brushes, to prevent the accumulation of algae an other weeds on the weirs. Scum will be collected at a central scum pump station. Scum can be managed in a variety of ways, but for the Hi-Desert WRF, the scum will be returned to either the biological reactors or the headworks and reprocessed.

Return Activated Sludge (RAS) Pump Station: The RAS Pump Station transfers RAS from the clarifiers back to the oxidation ditches and conveys waste activated sludge (WAS) to the sludge dewatering process. One pump station is designed to service two clarifiers and the pumps are installed below grade to ensure flooded pump suction at all times. Each pump station incorporates three 1,050-gallons per minute (gpm) RAS pumps (two in continuous service and one backup), and two WAS pumps. One WAS pump is in operation and the other serves as a standby unit. Sump pumps are provided to remove an accumulated rainwater from the pit.

Filters: The filters take secondary effluent from the clarifiers and pass the flow through a continuous backwashing, deep bed sand filters. The filters provide a final polishing process to the biologically treated effluent, removing any unsettled floc, grit or other materials that may have escaped the secondary clarifiers. Provisions are made to assist in filtration with chemical additions and the a backwash system. Performance of the filters will provide TSS concentrations of 10 mg/L and a filtered effluent quality of <2 NTU. The chemical addition is a flocculent that cause fine and colloidal particles to combine into larger particles that can be trapped in the moving-bed sand filter. The influent is split to direct flows to one of six filter cells in each filter module. Continuous back-washing, deep bed sand filters are used, and sir lift pumps are used to wash the sand media. The air is supplied by a compressed air system (two air compressors, one duty and one backup). The filter facility occupies an area of approximately 100 feet by 25 feet.

UV Disinfection: The UV Disinfection facility ensures an adequate dose of UV radiation to disinfect the treated effluent. The performance standard is a total coliform concentration of 2.2 MPN/100 ml for the 7-day median; 1 instance per month of treated effluent exceeding 24 MPN/100 ml; and a single sample with a concentration of 240 MPN/100 ml. The typical UV Disinfection system is an

open channel, low pressure, high output system, with an automatic cleaning system for the UV lamps. The system consists of the inlet/outlet channels, lamps and the UV treatment channels. The channel size is assumed to be: 36 inches wide, 51 inches deep; liquid depth of 16 inches; and a channel length of 62 feet. The system envisioned for the Hi-Desert WRF has 5 lamp banks in series and 8 modules per bank, with 4 lamps per module. One channel will be installed initially.

Utility Water Pump Station: Utility water is used within the WRF site for non-potable purposes, such as seal water, foam spray, spray wash and plant water irrigation. Initial demand is forecast to be about 155 gpm, or 220,000 gallons per day (gpd). Filtered and disinfected effluent will be used to supply the utility water system. Three 100-gpm pumps will be installed in Phase 1. Two pumps will operate, with one pump serving as backup. If required in the future, an additional pump will be installed.

Sludge Dewatering: Sludge dewatering is required to reduce the volume of solids that are generated by the WRF. The MWH PDR estimates sludge volume at about 80,000 gpd, with solids loading at 5,300 lbs/day, assuming 95% minimum capture of solids. A belt press facility includes two 2-meter belt presses for sludge dewatering. One unit provides standby capacity. The belt press is designed to operate 8 hours per day, 5 days a week. Two polymer mix-fee units are included and when combined with utility water this system supplies an activated polymer solution for feed sludge conditioning. Belt press filtrate and belt wash water flow from the belt press down into a drainage trench near the belt presses. The filtrate/wash water drains to the plant drain pump station. The belt presses will be installed in a structure, typically concrete block masonry. The waste sludge from the extended aeration process has little or no odor, so odor control at the dewatering building should not be required. The belt press is designed to handle about 300 gpm of wet sludge at a rate of about 1,000 pounds per hour.

Plant Drain Pump Station: The plant drain pump station collects waste flows from the filters, the sludge dewatering building, and other miscellaneous plant drains on the site. The flow is then pumped back at a controlled flow rate to the headworks. This flow is returned downstream of the plant influent flow metering and sampling sites, typically at the bar screens. Total return flow is estimated to be 700 gpm. The pump station is operated with one pump and another on standby. A third pump can be installed if flows exceed a single pump capacity. The pumps are located in a large wet well (about 10 feet long, 10 feet wide and 23 feet deep).

Odor Control: Two WRF system components are likely to generate odors: the Paxton pump station and headworks. The Paxton pump station is located offsite in the vicinity of Paxton Road and Balsa Avenue, north of the proposed WRF. The intent of the wet well design is to maintain a negative air pressure in the pump station so odors (caused by raw sewage collection in the wet well) in the wet well escape. The headworks generates odors due to influent sewage being disturbed by turbulence at the headworks, screenings removed from the influent sewage and grit removed from the influent sewage. Biofilters are recommended for the Hi-Desert WRF because they can treat a large variety of odorous compounds with a minimum amount of moving parts and low energy requirements. The odor control facility will consist of the odor control fan, the biofilters and a drainage system. Due to its location, the Paxton pump station will have a separate odor control facility. Water is injected into the system to saturate the air going to the biofilter, which facilitates biological growth in the filter media and prevents the media from drying. The excess moisture is collected in a drain and returned to the headworks.

Operations Building: The operations building contains administrative offices; laboratory space, plant control and monitoring equipment, employee facilities and maintenance facilities. The Hi-Desert WRF will require an operating staff of 5 persons initially, and up to 14 persons ultimately (6 MGD operations). The operations building is estimated to be about 1,210 square feet.

Power Supply and SCADA System: Estimated power supply requirements for the Hi-Desert WRF are provided in Table 2-4. The power distribution facility is proposed to be constructed to receive power from the local utility and distribute it through the plant. At this time the facility building is proposed to be located near the biological reactors which constitute the greatest load onsite. A single, new 480-volt, 3-phase power feet will be provided to this site from Southern California Edison (SCE). The facility will be designed for future expansion, and one Motor Control Center (MCC) is required for each 2 MGD of treatment train capacity installed. The Phase 1 WRF electricity requirement is for approximately one megawatt. From three to four megawatts be required for the buildout facility. The standby diesel-engine generator for Phase 1 of the Hi-Desert WRF will be a 1,300 kW (1.3 megawatt) unit in a vendor-furnished sonic enclosure near the power distribution facility. An above ground, double-walled diesel-fuel storage tank will also be provided.

The SCADA System is a remote monitoring and data collection system designed to keep track of all plant operations. This system will be designed for a high level of automation, requiring minimal operator intervention under normal conditions. The Plan will be capable of running with no operators onsite during the non-business hours and on weekends with remote monitoring and operations from the District Headquarters.

**Table 2-4**
**POWER DEMANDS BY PLANT AREA**

| Equipment | Load | Drive Type | Number on Standby Power |
|---|---|---|---|
| **Headworks Area** | | | |
| Mechanical Barscreen (2) | 3 hp | starter | 2 |
| Washer/Compactor (2) | 12 hp | starter | 2 |
| Grit Chamber Mechanism (1) | 2 hp | starter | 1 |
| Grit Pumps (1+1) | 5 hp | starter | 1 |
| Grit Cyclone Classifier (1) | 1 hp | starter | 1 |
| Grit PS Sump Pumps (1+1) | 2 hp | starter | 1 |
| Biofilter Fans (1+1) | 15 hp | starter | 1 |
| **Biological Reactors** | | | |
| Anoxic Tank Mixers (4) | 16 hp | starter | 4 |
| Oxidation Ditch Surface Aerator (2+2) | 330 hp | VFD | 2 |
| **Secondary Clarifiers** | | | |
| Clarifier Collector Drive (2) | 2 hp | starter | 2 |
| RAS Pumps (2+1) | 40 hp | VFD | 2 |
| WAS Grinder (1) | 3 hp | starter | 1 |
| WAS Pumps (2) | 30 hp | VFD | 2 |
| RAS/WAS PS Sump Pumps (1+1) | 5 hp | starter | 1 |
| **Filter** | | | |
| Chemical Pumps (1+1) | 5 hp | starter | 1 |
| **Disinfection** | | | |
| UV Lamp Banks (5) | 41.0 kVA | circuit breaker | 5 |
| Transmittance Analyzer Pumps (1+1) | 0.5 hp | starter | 1 |
| **Utility Water Pump Station** | | | |
| UW Pumps (2+1) | 30 hp | starter | 2 |
| Hypochlorite Feed Pumps (1+1) | 1 hp | starter | 1 |
| **Solids Handling** | | | |
| Belt Filter Presses (2) | 6 hp | starter | 1 |
| Polymer Blending Units (2) | 1 hp | starter | 1 |
| Sludge Cake Conveyors (1) | 10 hp | starter | 1 |
| Belt Wash Booster Pumps (2) | 10 hp | starter | 1 |

| Equipment | Load | Drive Type | Number on Standby Power |
|---|---|---|---|
| **Miscellaneous** | | | |
| Plant Drain Pumps (1+1) | 10 hp | starter | 1 |
| Operations and Maintenance Bldg., Lighting, Controls, Power Tools | 40 kVA | circuit breaker | 1 |

Source: MWH "Hi-Desert Water District Water Reclamation Facility Preliminary Design Report, Volume 1 – Report," dated January 2009.

*Hi-Desert WRF Offsite Facilities*

There are two types of offsite facilities.

Paxton Pump Station: The proposed sewage collection system will consist of a network of gravity sewers feeding the proposed Hi-Desert WRF. Although the collection system will mainly function by gravity flow, pump stations will be required at several points in the system to lift sewage up to the treatment plant. The proposed main collection system pump station is called the Paxton Pump Station because it will be located near Paxton Road and Balsa Avenue. The discharge force main from this pump station will extend approximately 5,000 feet to the Sunnyslope Trunk Sewer which then provides gravity flow to the WRF. The pump station consists of a wet well capable of handling the peak instantaneous flows, submersible pumps, connections to the SCE electricity distribution system, a separate stand by generator, and the odor control system as previously described for the WRF. A site of approximately 120 feet by 125 feet (~15,000 SF or 1/3 of an acre) will be required for this pump station and a preliminary design is shown on Figure 2-6.

Sewer Collection System: The sewer collection system consists of sewer pipes of varying sizes that will collect wastewater from all of the existing wastewater generators within the sewer service area defined in a "Sewer Master Plan" prepared for the Hi-Desert Water District by MWH. A copy of this Sewer Master Plan (January 2009) is provided as Appendix 2 to this document. The following summarizes the pertinent facts required to prepare an environmental analysis of this component of the Hi-Desert Water District sewer collection system. A reader desiring greater detail can review the information used to design and establish the collection system.

The vast majority of the new sewer collection system will be installed within road rights-of-way, most of which are already graded and/or graded and paved. Figure 2-2 shows the location of the three phases for installation of the sewer lines. Phase 1 connects the core of the community that exists along State Highway 62, which traverses the Town of Yucca Valley from east to west. Phase 2 would primarily connect areas to the south of Phase 1 to the WRF, and Phase 3 would connect areas to the north and south of Phase 1 (refer to Figure 2-2).

After projecting wastewater flow volumes the sewer collection system was established within each of the phases. Sewer main will be a minimum of 8 inches in diameter and receive wastewater from individual service laterals (residences, commercial businesses, etc.). Sewer collectors will be up to 18 inches in diameter and receive wastewater from mains. Trunk sewers will be larger than 18 inches in diameter and receive flow from either or both mains and collectors. Manholes for access to sewers are proposed to be no more than 500 feet apart. At appropriate locations pump stations (see Figure 2-2 and Figure 2-7) or siphons (see Figure 2-2 and Figure 2-8) will be installed to support the collection system. The final component of the system is the outfall, or the point where the wastewater flows exit the system. The outfall for the Hi-Desert sewer collection system is the Hi-Desert WRF.

Figure 2-2 shows the proposed Hi-Desert sewer collection system. The collection system consists of approximately 77 miles (about 405,800 lineal feet) of pipeline and 1,153 manholes. This system contains two trunk line, consisting of one portion generally along the south side of Yucca Wash upstream of a proposed pump station at Paxton Road and Balsa Avenue, and one in Sunnyslope Drive immediately upstream of the treatment plant. Table 2-5 summarizes the length of sewer line in various diameters as required to support the collection system. This includes force mains. Table 2-6 identifies the number of manholes and their respective depths.

**Table 2-5**
**PHASE 1 PIPELINES**

| Diameter (in) | Gravity Sewers Length (ft) | Force Mains Length (ft) | Total Pipe Lengths (ft) |
|---|---|---|---|
| 8 | 325,300 | 1,200 | 326,500 |
| 10 | 11,000 | 0 | 11,000 |
| 12 | 14,600 | 5,800 | 20,400 |
| 15 | 17,600 | 0 | 17,600 |
| 16 | 0 | 4,900 | 4,900 |
| 18 | 6,800 | 0 | 6,800 |
| 24 | 7,100 | 0 | 7,100 |
| 30 | 7,300 | 0 | 7,300 |
| 36 | 4,200 | 0 | 4,200 |
| Total | 393,900 | 11,900 | 405,800 |

Source: MWH "Hi-Desert Water District Sewer Master Plan," dated 1/09.

**Table 2-6**
**PHASE 1 MANHOLES**

| Depth Category | Number of Manholes |
|---|---|
| depth $\leq$ 6 | 815 |
| 6 < depth $\leq$ 10 | 174 |
| 10 < depth $\leq$ 16 | 137 |
| 16 < depth $\leq$ 20 | 19 |
| 20 < depth $\leq$ 25 | 8 |
| Total | 1,153 |

Source: MWH "Hi-Desert Water District Sewer Master Plan," dated 1/09.

There are three proposed pump stations and three siphons proposed to support the system. Tables 2-7 and 2-8 list these proposed facilities. The pump stations also include force mains ranging in length from 1,200 feet to about 6,000 feet. The locations of the pump stations and the three siphons are described in Tables 2-7 and 2-8.

**Table 2-7**
**PUMP STATION SUMMARY**

| Pump Station | Initial Scenario | | Buildout Scenario | |
|---|---|---|---|---|
| | Average Flow (gpm) | Peak Flow (gpm) | Average Flow (gpm) | Peak Flow (gpm) |
| Kickaoo Trail | 200 | 600 | 800 | 2,400 |
| Paxton & Balsa | 1,600 | 4,800 | 6,900 | 20,700 |
| Paradise Valley | 100 | 300[1] | 300 | 900 |

Note: [1] Not constructed in Phase 1.

Source: MWH "Hi-Desert Water District Sewer Master Plan," dated Jan 2009.

**Table 2-8**
**SUMMARY OF MODELED SIPHONS**

| Location | Diameter (in) |
|---|---|
| Sunnyslope Drive, approximately 200 feet east of Warren Vista Avenue | 15 |
| Acoma Trail, approximately 300 feet north of Papago Trail | 18 |
| Cholla Avenue and Coyote Trail | 8 |

Source: MWH "Hi-Desert Water District Sewer Master Plan," dated Jan 2009.

As noted above, most of the sewer pipeline alignments will occur in public rights-of-way, mostly paved roads, but also along existing graded roadways or along future designated roadways. The Sewer Master Plan identifies several locations where private property may have to be acquired in order to install the sewer collection system as shown on Figure 2-2. The following locations have been identified as requiring possible future property easements for acquisition; however, additional properties may have to be acquired in the future to install the designed collection system. The specific location identified to date include the following:

a. An 8-inch pipeline will collect flows along Buena Vista Drive and Mohawk Trail, north of 29 Palms Highway. To avoid having to install very deep pipelines at this location, the proposal is to install an 8-inch pipeline that will run east through private property south of the Apache Mobile Park. It will continue east along the unpaved road until it reaches the wash and then run parallel to the was until it joins another pipeline at Coyote Trail and Cholla Avenue. Refer to Figure 2-8.

b. Construction of a collector pipeline running south to north on Warren Vista Avenue would require an easement through a large commercial center, and rerouting of the collector to avoid an existing building. An easement about 700 feet in length would be required along the existing parking lot south of 29 Palms Highway. An additional approximately 700 feet of easement would be required northeast along the Highway across undeveloped property until it crosses the Highway at Dryden Avenue. Refer to Figure 2-8.

One location along the 30-inch Sunnyslope Trunk Sewer may require a shallower than normal depth for the sewer. In order to maintain sufficient flushing velocities and to maximize the available

head into the WRF, the depth of approximately 500 feet of trunk sewer may be six feet below ground surface, instead of the required 10 feet. The sewer line crosses the wash and therefore, this section of the pipeline may need additional protection, such as a concrete cover.

## 2.2 CONSTRUCTION SCENARIO

### 2.2.1 Hi-Desert WRF

The construction activities for the Hi-Desert WRF (including pump stations) consist of the following range of activities: excavations; mass grading of approximately 20 acres of land, fine grading for each area proposed for development with facilities, such as access roads, parking, storage and landscaping; installation of WRF piping, electricity lines and other required support infrastructure; construction of foundations; construction of above ground facilities; installation of treatment equipment; and assembly of materials required for treatment.

Standard construction equipment will be used for each of these phases, ranging from dozers, graders, cranes, backhoes. It is anticipated that the maximum number of construction personnel on the project site on any given day will be 100. A maximum number of truck deliveries, probably during pouring of concrete for facilities, is forecasted at 25 per day. As previously stated, construction of the project is expected to require about 18 months.

### 2.2.2 Sewer Collection System

It is assumed that a sewer installation team can install approximately 400 lineal feet of sewer per day. A team consists of the following:

400 feet of sewer line installed per day
1 Excavator
1 Backhoe
1 Paver
1 Roller
1 Water truck
10 Dump/delivery trucks (80 miles round trip distance)
Employees (11 members per team)

The emissions calculations are based upon the above assumptions for each sewer pipeline installation team. For air emission calculations it is further assumed that sewer lines will be installed concurrent with the treatment plant construction. Two teams will be installing pipelines for a total of 800 lineal feet per day. It is assumed that sewer line installation will occur 250 days per year, resulting in the installation of up to 200,000 lineal feet of sewer line within a one year period of time.

## 2.3 ALTERNATIVES

### 2.3.1 No-Action Alternative

The No-Action alternative will result in wastewater treatment facilities not being installed as outlined above. The No-Action alternative does not contribute to the protection and enhancement of the District's water quality as envisioned in both the Regional Water Management Plan (Mojave Water Agency 2004) and the District's Strategic Plan (2008). Nitrate contamination in the area would still be produced and percolate into the local groundwater aquifer in conflict with the Regional Board's Basin Plan (2005).

The No-Action alternative would result in the fewest direct natural environmental effects of available alternatives, because no physical changes to the environment within the area of potential impact would result from construction activities. However, the result of implementing this alternative is the continued degradation of groundwater quality due to nitrates in the Warren Valley Groundwater Basin and possibly in downstream aquifers. Therefore, this alternative is not considered a feasible or reasonable alternative for consideration by the District.

### 2.3.2 Individual Treatment Systems

The MWH PDR included a discussion of an alternative of installing individual treatment systems. The text of this discussion, presented above, is repeated here for information. Nitrate removal from wastewater requires some form of treatment and some form of managing the nitrate after it is separated from wastewater or chemically modified during treatment. Most of the existing residences and businesses currently manage their domestic wastewater with underground septic tank and leach systems or seepage pits. It is from these individual systems that the nitrate is entering the local groundwater aquifer. There are individual advanced underground wastewater treatment systems that can be installed, but the effectiveness of such systems in removal of sufficient nitrate and the process of imposing such systems is beyond the scope of this analysis. The summary of treatment technologies screened in the PDR are provided in Table 2-2 (Table 3-1 of the PDR). Tables 3-2 through 3-6 of the PDR (Appendix 1) contain a fatal flaw analysis of the system-wide treatment alternatives and of specific technologies. The MWH PDR contained the following conclusion for options related to onsite treatment technologies. The MWH evaluation concluded: "*Options such as no-flush toilets and gray water separation would require extensive and disruptive modification of toilets and plumbing in all existing buildings in the service area. Decentralized treatment is not cost effective for an area such as Yucca Valley where development has occurred in single, coherent area. Piping sewage to a neighboring agency would be very expensive to construct the sewers, and would result in the permanent loss of the water that could otherwise be used for groundwater recharge. For these reasons, only centralized treatment of wastewater within the District's service area is considered a viable alternative."*

### 2.3.3 Other Alternatives

Alternative Sites

An alternate site was evaluated for the proposed wastewater treatment facilities. The site was located further to the west of the proposed site, west of State Highway 247 and north of State Highway 62. However, it was determined after evaluating the depth of alluvium, depth to groundwater and the location upstream of many of the Districts water supply wells that sites at this location would intercept the nitrate plumes from the septic systems and transport it to towards the existing domestic water supply wells. Thus, the western and northern portions of the community were judged to be inadequate locations for the proposed Hi-Desert WRF.

Only sites that are not directly upstream of domestic water wells and that have sufficient depth of vadose zone (the area between the ground surface and the groundwater table) were deemed adequate for siting the WRF. Due to the shallow vadose zone to the west, south and north portions of the Warren Valley Basin, a site in the east-central portion of the Basin was deemed essential. Therefore, based on the large acreage of undeveloped area, depth of vadose zone, and lack of wells immediately downstream, the project site or another site in the immediate vicinity was determined to be the only location in the Basin available to support the proposed WRF. Since the environmental variables at the selected site represent those of the surrounding area, the project location was judged to be representative of the available sites in the Basin. Thus, this alternative will not be given further consideration.

Alternative Treatment Systems

Although the treatment system options would be installed at the same proposed WRF site, there are minor variations in the amount of area and amount of energy required for each system. The following comparative evaluation of the treatment system alternatives is abstracted from the PDR. Minor editing has been included for clarity.

Matrix Comparison of Treatment Alternatives

Each of the four alternatives were compared against each other using weighted criteria. This method involves three steps:

1. Establish a set of criteria and assign a weight to each criteria based on level of importance to the District. The total of the criteria weights should be equal to 100%.

2. Score each of the alternatives on a scale of 1 – 10 for each criteria.

3. Multiple each score by the corresponding weights; those produce are then added together to give a total weighted score for each alternative.

The list of criteria for the matrix evaluation of the treatment alternatives are listed in Table 2-9 along with the criteria weighting.

**Table 2-9**
**CRITERIA WEIGHTING**

| Criteria | Weight |
|---|---|
| Low Initial Capital Cost | 15% |
| Low O&M Cost | 35% |
| Small Footprint | 5% |
| High Treatment Reliability | 15% |
| Simple O&M | 10% |
| Flexibility for Future | 20% |

The results of a weighted matrix evaluation of the four alternatives are shown on Table 2-10.

**Table 2-10**
**MATRIX COMPARISON RESULTS FOR TREATMENT ALTERNATIVES**

| Treatment Alternative | Weighted Score | Dif. |
|---|---|---|
| Alternative 1 – Extended Aeration | 6.85 | 98% |
| Alternative 2A – High Rate MBR | 5.90 | 84% |
| Alternative 2B – Extended Aeration MBR | 7.00 | 100% |
| Alternative 3 – Conventional Activated Sludge | 5.35 | 76% |

Risk Assessment of Treatment Alternatives

The comparison described above is based on the expected performance requirements, site conditions, and other assumed factors. In reality, the project faces a number of risks that are not directly addressed in the comparison. Table 2-11 lists a number of risks, and which alternatives would be less than impacted by them.

**Table 2-11**
**TREATMENT ALTERNATIVE RISK ASSESSMENT**

| Risk | Likelihood | Impact | Preferred Alternative(s) |
|---|---|---|---|
| 1. Geotechnical | Low | Medium | 2A- High Rate MBR<br>2B- Ex Aeration MBR |
| 2. Material Cost Increases | Medium | Low | 2A- High Rate MBR<br>2B- Ex Aeration MBR |
| 3. Low Perc Rate/High Dilution Req | Low | High | None |
| 4. Energy Availability | Medium | Medium | 1- Extended Aeration |
| 5. Vendor Reliability | Low | High | 1- Extended Aeration |
| 6. Emerging Contaminants | Medium | High | 1- Extended Aeration<br>2B- Ex Aeration MBR |
| 7. Future Treatment Requirements | Medium | High | 2A- High Rate MBR<br>2B- Ex Aeration MBR |

1. Geotechnical Risks – A geotechnical investigation will need to be completed prior to the construction of a treatment plant. These unknown condition may influent the placement of the treatment facility on the site. Facilities with a large footprint have a higher risk that unfavorable geotechnical conditions will impact either the cost of the facilities or even the ability to built the facilities all together. The high rate and extended aeration MBR alternatives are the preferred alternative when it comes to the risk associated with geotechnical issues due to the small footprint of these treatment trains.

2. Material Cost Increases – Facilities with big structures require large quantities of concrete and rebar for construction. The last decade has shown large relative increases in the cost of both concrete and steel. Such increases could increase the final bid cost for the project. Therefore, treatment trains with a small footprint and lower concrete requirement will reduce the risk associated with material cost increases. These treatment trains would be the high rate and extended aeration MBR alternatives.

3. Low Percolation Rate/High Dilution Required – One of the treatment processes is the percolation ponds used to recharge the groundwater basin. The percolation rate of the soils in the area is currently unknown as well as the amount of dilution water that would be required by the RWQCB. These two factors govern the size of the recharge basins which may require more land than previously thought. All treatment processes are subject to the risk of low percolation rates or a high dilution requirements.

4. Energy Availability – Technologies with greater energy demand have an increased sensitivity to increases in energy costs. The extended aeration alternative is least subject to this risk, due to the low energy requirements in comparison with the other alternatives.

5. Vendor Reliability – Technologies with proprietary equipment are susceptible to difficulties with the vendor which can have a direct impact on the project schedule and success. The extended aeration alternative is least subject to this risk, since this is a conventional technology without a lot of proprietary equipment.

6. Emerging Contaminants – Emerging contaminants including NDMA, personal care products and pharmaceuticals (PCPP) and disinfection by-products, while not currently regulated by RWQCB, could become regulated. Treatment processes with longer sludge ages provide a better level of treatment of PCPP. The extended aeration and extended aeration MBR alternatives are the preferred alternatives when it comes to the risk associated with emerging contaminants due to the longer sludge age.

7. Future Treatment Requirements – Future regulations may require treatment of wastewater effluent using reverse osmosis (RO) before recharging groundwater. If such a system is required it will need to be preceded by micro-filtration. MBRs use micro-filtration, so MBR effluent could go directly to RO without future treatment. The high rate and extended aeration MBR alternatives are the preferred alternatives when it comes to the risk associated with future treatment requirements.

All of these treatment systems can meet the water quality objectives for the Hi-Desert WRF. Also, they all require approximately the same amount of area and the degree of disturbance associated with the other three alternative treatment systems. Based on the comparative evaluation in the discussion above, the overall effects of the alternative systems are considered to be comparable. Thus, none of the alternative treatment systems will be given further consideration in this document.

Alternative Sewer Collection System Design

The Sewer Collection System Master Plan is provided in Appendix 2 of this document and summarized in the project description above. The Master Plan assigns the collection system pipelines to disturbed areas for over 95% of the 407,800 lineal feet of the system required to serve the District's proposed wastewater collection service area. Further, a review of all of the pipeline alignments in the field indicates that no substantial biological or cultural resource occur within the proposed alignments. Any other alternative system would, of necessity, have to be located outside of existing disturbed rights-of-way. Therefore, no alternative pipeline alignments are will be given further consideration in this document.

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# Chapter 3 AFFECTED ENVIRONMENT

The following discussion of the affected environment generally addresses the 16 common environmental issues that will be further analyzed under Environmental Consequences (Chapter 4), plus the unique issues and document content required to fulfill the Bureau of Reclamation's NEPA requirements. By presenting environmental information in this format, it will be possible for the environmental review to more easily serve both CEQA and NEPA environmental documentation requirements. The affected environment issues are addressed in the following order, which includes NEPA topics and also follows the order in the CEQA Initial Study Environmental Checklist form format: air quality, water quality, utilities/services, land use, transportation, natural environment, human population, environmental justice, construction, energy impacts, coastal zone management act, historic preservation, wild and scenic rivers, endangered species, floodplain management and protection of wetlands, farmland protection, and coastal barrier resources. To the extent that the above natural resources or man-made systems occur, are in demand or may be impacted at the site or within the region, the following discussion summarizes the existing environmental condition or circumstances.

## 3.1 AIR QUALITY

Ambient air quality standards (AAQS) are the levels of air quality considered safe, with an adequate margin of safety, to protect the public health and safety. They are designed to protect those people most susceptible to further respiratory distress, such as asthmatics, the elderly, very young children, people already weakened by other disease or illness, and people engaged in strenuous work or exercise, called "sensitive receptors." Healthy adults can tolerate exposure to air pollutant concentrations considerably above these minimum standards before adverse effects are observed. Recent research suggests, however, that long-term exposure to air pollution at levels that just meet air quality standards may nevertheless have adverse health effects.

The federal Clean Air Act (CAA), the California Clean Air Act (CCAA), and the Air Quality Attainment Plan (AQAP) prepared and adopted by the MDAQMD regulate air quality in the air basin. The following discussion describes the regulatory authority of the federal, state and local jurisdictions.

### 3.1.1 Federal Clean Air Act

The CAA Amendments of 1990, signed into law by the President on November 15, 1990, significantly changed how air quality is regulated in the United States. The Federal CAA of 1990 contains important provisions that change present federal law in six main areas, although California's regulations continue to lead federal regulations. Federal ambient air quality standards are summarized in Table 3-1, including the recently adopted fine particulate and 8-hour ozone standards. The amendments of the 1990 federal CAA are associated with attainment and maintenance of air quality standards, permits and enforcement, toxic air pollutants, acid deposition, stratospheric ozone protection, and motor vehicles and fuels.

The goal of Title I, the non-attainment provision, is to attain air quality standards for six criteria pollutants: ozone, oxides of nitrogen, oxides of sulfur, particulate matter ($PM_{10}$), carbon monoxide, and lead. All non-attainment areas are designated or classified based on the severity of their non-attainment problem. These classifications determine the extent to which remedial actions must be taken within a given planning area. Portions of the MDAB are designated non-attainment for ozone (State and Federal) and particulate matter ($PM_{10}$ State). The ozone designation for the MDAB is severe classification and the $PM_{10}$ designation is moderate. Recently published data by the federal EPA has determined that the MDAB is considered unclassified or in attainment for $PM_{2.5}$ standards.

(Final Rule for Air Quality Designations for the 2006 24-Hour Fine Particle ($PM_{2.5}$) National Ambient Air Quality Standards (NAAQS) (RIN 2060-AP27)

In general, under Title I, the attainment date for an area designated non-attainment is the most expeditious date attainment can be achieved, but no later than 2007 for ozone and 1994 for $PM_{10}$. The MDAB has attained the federal standard for $PM_{10}$. Title I also requires each non-attainment area to submit a comprehensive inventory of actual emissions as part of the State Implementation Plan (SIP).

### 3.1.2 California Clean Air Act

The CCAA, passed by the California Legislature and signed into law by the Governor in 1988, is a comprehensive air pollution control agenda for the state of California. State standards are, in most cases, more stringent than federal standards. The goal of the Act is to attain state air quality standards by the earliest practical date. Moderate areas are expected to attain standards by 1994, serious areas by 1997, and severe areas are expected to achieve standards after 2007.

The CCAA of 1990 recognize that previous projections were exceedingly optimistic and that violations of air quality standards in areas of severely degraded air quality may persist for another 20 years. Because California established AAQS several years before the federal action and because of unique air quality problems introduced by the restrictive dispersion meteorology, there is a considerable difference between state and national clean air standards. Those standards currently in effect in California are shown on Table 3-1.

The CCAA requires each air pollution control district designated as in non-attainment of state ambient air quality standards for ozone, carbon monoxide, sulfur dioxide, or nitrogen dioxide to prepare and submit a plan for attaining and maintaining state standards. $PM_{10}$ is not included in this list to prepare a plan, although non-attainment of this pollutant occurs statewide. Even though a plan is not required to be prepared by each district for $PM_{10}$, the MDAQMD did prepare one, finalized in July 1995. The CARB must prepare a study of $PM_{10}$ and include methodologies proposed to reach attainment, additionally.

Each attainment plan must contain the present and anticipated extent of non-attainment including adopted and proposed measures to reduce emissions of the pollutant and/or its precursors, and their anticipated effectiveness; the availability and effectiveness of additional control measures; the earliest practicable attainment date; any legal, technological, or administrative impediment to developing and implementing an attainment plan; the relative significance of both natural and windblown emissions; and any additional information needed with respect to ambient air monitoring and air quality computer modeling, and estimated budgetary requirements to obtain the information.

Some of the CCAA requirements include reducing pollutants contributing to non-attainment by 5 percent per year, or 15 percent over a 3-year period, achieving an average commuter ridership of 1.3 persons per vehicle, reducing non-attainment pollutant exposures by 30 percent, and ranking control measures by implementation priorities.

### 3.1.3 Regional Air Quality

Monitoring of air quality in the San Bernardino County portion of the MDAB is the responsibility of the MDAQMD headquartered in Victorville. Because of the low population density within the MDAQMD, limited monitoring resources are distributed over a relatively large geographic area. The heaviest concentration of measurement is in the area of greatest development, the Mojave River corridor. Air quality monitoring for ozone, the primary ingredient in regional photochemical smog, nitrogen oxides, sulfur oxides, carbon monoxide, and respirable particulate matter ($PM_{10}$) is

conducted at the Twentynine Palms monitoring station, which is closest station to the Yucca Valley project area. Data for 2000-2002 for some parameters are shown on Table 3-2. No violations of the federal one-hour ozone standard occurred at this station in this period, but days exceeding the federal eight-hour standard were 4-13. The number of days exceeding the state standard for ozone ranged from 3-16. No violations of federal standards for $PM_{10}$ occurred in this period, but the State $PM_{10}$ standard of 50 ug/$m^3$ was exceeded on 1-16 days.

As summarized above, ozone and particulates are seen to be occasional air quality concerns in the Yucca Valley area. Exceedances of the more stringent state standard for Ozone and $PM_{10}$ have occurred periodically in the area. Although the magnitude of violations of ozone standards is much less severe than in the SoCAB, the combination of the downwind location of Yucca Valley, and the continued growth of upwind communities in Riverside and San Bernardino Counties as a pollution source area for the project area, suggests that currently observed violations will continue until the SoCAB meets ambient air quality standards.

Violations of particulate standards in the project area have been linked more to localized soil disturbance and windstorms than the organic particulate matter from vehicle exhaust found in the more heavily populated areas of southern California. Violations of particulate standards due to inorganic soil materials are thought to be less unhealthful than those generated by combustion sources such as industry and motor vehicles. Clean air attainment planning requirements, however, do not distinguish between organic and inorganic pollutants. Because of the occasionally high levels of respirable particulate matter ($PM_{10}$) associated with strong wind events, substantial portions of the MDAB are designated as a federal non-attainment airshed for $PM_{10}$.

While "imported" pollutants such as ozone and, to some extent, particulate matter do on occasion exceed standards, locally generated pollutants such as carbon monoxide (CO) or nitrogen oxides (NOx) are low within the Yucca Valley area because background levels never exceed allowable levels and the sources of such emissions within the project area are limited. The Mojave Desert area experiences very low baseline levels of primary (other than photochemically reacted) automobile pollution such that the local airshed appears capable of accommodating identified future growth with very nominal localized air quality concerns.

Although the dispersive capacity of the atmosphere in the desert is limited when cool air pools near the surface at night during the cooler months, a much larger level of development, such as occurs in Las Vegas or Phoenix (one plus million people), is needed to create violations of CO or NOx standards. Comparison of the size of forecast population growth (population of 19,200 people in Yucca Valley in 2000, with a conservatively high 3% annual growth rate, would increase to 25,804 by 2010) with the scope of development needed to create a significant air quality impact indicates that this growth is not forecast to generate significant impacts from CO or NOx.

**Table 3-1**
**STATE OF CALIFORNIA AIR RESOURCES BOARD AMBIENT AIR QUALITY STANDARDS**

| Pollutant | Average Time | California Standards [1] | | National Standards [2] | | |
|---|---|---|---|---|---|---|
| | | Concentration [3] | Method [4] | Primary [3,5] | Secondary [3,6] | Method [7] |
| **Ozone ($O_3$)** | 1 Hour | 0.09 ppm (180 µg/m$^3$) | Ultraviolet Photometry | – | Same as Primary Standard | Ultraviolet Photometry |
| | 8 Hour | 0.070 ppm (137 µg/m$^3$) | | 0.08 ppm (157 µg/m$^3$) | | |
| **Respirable Particulate Matter (PM10)** | 24 Hour | 50 µg/m$^3$ | Gravimetric or Beta Attenuation | 150 µg/m$^3$ | Same as Primary Standard | Inertial Separation and Gravimetric Analysis |
| | Annual Arithmetic Mean | 20 µg/m$^3$ | | – | | |
| **Fine Particulate Matter (PM2.5)** | 24 Hour | No Separate State Standard | | 35 µg/m$^3$ | Same as Primary Standard | Inertial Separation and Gravimetric Analysis |
| | Annual Arithmetic Mean | 12 µg/m$^3$ | Gravimetric or Beta Attenuation | 15 µg/m$^3$ | | |
| **Carbon Monoxide (CO)** | 8 Hour | 9.0 ppm (10 mg/m$^3$) | Non-Dispersive Infrared Photometry (NDIR) | 9 ppm (10 mg/m$^3$) | None | Non-Dispersive Infrared Photometry (NDIR) |
| | 1 Hour | 20 ppm (23 mg/m$^3$) | | 35 ppm (40 mg/m$^3$) | | |
| | 8 Hour (Lake Tahoe) | 6 ppm (7 mg/m$^3$) | | – | – | – |
| **Nitrogen Dioxide ($NO_2$) *** | Annual Arithmetic Mean | 0.030 ppm (56 µg/m$^3$) | Gas Phase Chemiluminescence | 0.053 ppm (100 µg/m$^3$) | Same as Primary Standard | Gas Phase Chemiluminescence |
| | 1 Hour | 0.18 ppm (338 µg/m$^3$ | | – | | |
| **Sulfur Dioxide ($SO_2$)** | Annual Arithmetic Mean | – | Ultraviolet Fluorescence | 0.030 ppm (80 µg/m$^3$) | – | Spectrophotometry (Paraosaniline Method) |
| | 24 Hour | 0.04 ppm (105 µg/m$^3$) | | 0.14 ppm (365 µg/m$^3$) | – | |
| | 3 Hour | – | | – | 0.5 ppm (1300 µg/m$^3$) | |
| | 1 Hour | 0.25 ppm (655 µg/m$^3$) | | – | – | – |
| **Lead [8]** | 30-Day Average | 1.5 µg/m$^3$ | | – | – | – |
| | Calendar Quarter | – | | 1.5 µg/m$^3$ | Same as Primary Standard | High Volume Sampler and Atomic Absorption |

| Pollutant | Average Time | California Standards [1] | | National Standards [2] | | |
|---|---|---|---|---|---|---|
| | | Concentration [3] | Method [4] | Primary [3,5] | Secondary [3,6] | Method [7] |
| **Visibility Reducing Particles** | 8 Hour | Extinction coefficient of 0.23 per kilometer – visibility of 10 miles or more (0.07 - 30 miles or more for Lake Tahoe) due to particles when relative humidity is less than 70 percent. Method: Beta Attenuation and Transmittance through Filter Tape. | | **No Federal Standards** | | |
| **Sulfates** | 24 Hour | 25 µg/m$^3$ | Ion Chromatography | | | |
| **Hydrogen Sulfide** | 1 Hour | 0.03 ppm (42 µg/m$^3$) | Ultraviolet Fluorescence | | | |
| **Vinyl Chloride [8]** | 24 Hour | 0.01 ppm (26 µg/m$^3$) | Gas Chromatography | | | |

Note: * On February 19, 2008, the Office of Administrative Law approved a new Nitrogen Dioxide ambient air quality standard, which lowers the 1-hour standard to 0.18 ppm and establish a new annual standard of 0.030 ppm. These changes became effective March 20, 2008.

Footnotes

1 California standards for ozone, carbon monoxide (except Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, suspended particulate matter – PM10, PM2.5, and visibility reducing particles, are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

2 National standards (other than ozone, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest eight hour concentration in a year, averaged over three years, is equal to or less than the standard. For PM10, the 24-hour standard is attained when the expected number of days per calender year with a 24-hour average concentration above 150 µg/m$^3$ is equal to or less than one. For PM2.5, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over 3 years, are equal to or less than the standard. Contact U.S. EPA for further clarification and current federal policies.

3 Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

4 Any equivalent procedure which can be shown to the satisfaction of the ARB to give equivalent results at or near the level of the air quality standard may be used.

5 National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.

6 National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

7 Reference method as described by the EPA. An “equivalent method” of measurement may be used but must have a “consistent relationship to the reference method” and must be approved by the EPA.

8 The ARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

Source: California Air Resources Board (02/21/08)

**Table 3-2**
**AIR QUALITY DATA**
**FOR TWENTYNINE PALMS MONITORING STATION**

| Parameter | Days Exceeding Federal Standard | Days Exceeding State Standard | Maximum Reading |
|---|---|---|---|
| Ozone | | | |
| 2005 | 0 for 1-hr. std., 5 for 8-hr. std. | 87 | 0.105 ppm 1-hr. |
| 2004 | 0 for 1-hr. std., 7 for 8-hr. std. | | 0.103 ppm 1-hr. |
| $PM_{10}$ | | | |
| 2005 | 0 | 20 | 43 ug/m$^3$ 24-hr. avg. |
| 2004 | | | 58 ug/m$^3$ 24-hr. avg. |

Source: MDAQMD Annual Air Quality Reports. Provided by Tony Malone of MDAQMD, 6/7/07. Note the 29 Palms Station was closed in 2005. No other stations exist in the Yucca Valley/29 Palms corridor.

### 3.1.4 Air Toxics

Toxic air contaminants (TACs) are airborne substances that are capable of causing short-term or long-term adverse human health effects. TACs include both organic and inorganic chemical substances. TACs may be emitted from a variety of common sources, including gasoline stations, automobiles, dry cleaners, industrial operations, and painting operations. Research and teaching facilities where a variety of chemicals are used for various experiments may also be a source of TACs.

The 1990 federal CAA Amendments expanded the regulation of hazardous air pollutants (HAPs; the federal government terminology for TACs), establishing a list of 172 individual compounds and 17 compound categories to be regulated as HAPs. The federal CAA required the EPA to establish a stringent, technology-based emissions standard for stationary sources of emissions of these listed substances. The Federal CAA Amendments also required the EPA to list "major" and "area" source categories that the EPA finds sufficiently threatening to human health or the environment by November 1993, to establish emissions standards for at least 40 stationary source categories by November 1994, and to establish standards for all regulated sources by November 2002.

"Major sources" are defined as any stationary source that emits at least ten tons per year of any HAP or 25 tons per year of any combination of HAPs. "Area sources" are stationary sources encompassing small diverse facilities that routinely release small amounts of HAPs. By November 1997, the EPA must list sufficient categories and subcategories of area sources to ensure that 90 percent of the emissions of the 30 HAPs presenting the greatest threat to the public health in the largest number of urban areas are subject to regulation.

In the state of California, the Air Toxics "Hot Spots" Information and Assessment Act of 1987 (AB2588) requires specified facilities to submit to the local air pollution control agency, in this case, the MDAQMD, a comprehensive plan to inventory air toxics emissions for all substances listed pursuant to the Act. After the inventory preparation plan is approved, the facility must implement the plan and submit the resulting air toxics emission inventory to the District. After the District receives the completed emission inventories subject to the Act, it is then required to identify high priority facilities for which health risk assessments must be prepared to estimate the potential health risk associated with TAC emissions. No such facilities occur in Yucca Valley and the surrounding area.

Assembly Bill 1807 (Tanner Bill) set up a statewide process to determine the need for methods to set standards for toxic air contaminants. The process includes identification of toxic air contaminants, determination of emissions and ambient levels of the identified compounds, preparation of regulatory needs documents, and establishment of minimum statewide emission control standards by the California Air Resource Board (CARB).

The CARB has identified several chemicals as TACs under the Tanner Bill, including asbestos, benzene, cadmium, carbon tetrachloride, chlorinated dioxins and dibensofurans (15 species), chromium (VI), ethylene dibromide, ethylene dichloride, ethylene oxide and methylene chloride as toxic air contaminants. The CARB has not developed statewide standards for any of these chemicals.

The District manages TACs through its X series rule, Rule 1000, National Emission Standards for Hazardous Air Pollutants (NESHAPs).

### 3.1.5 Air Quality Planning

As previously noted, the MDAB includes northern Los Angeles County, the desert portions of Kern and San Bernardino Counties. San Bernardino County has vested air quality control of the desert portion of the County within MDAB with the MDAQMD.

To a large extent, the MDAQMD has adopted many of the same rules as the South Coast Air Quality Management District (SCAQMD) to prevent polluters from the Los Angeles basin from moving to desert areas to pollute more freely. However, there is a tendency for MDAQMD to weigh the cost of any new air quality rules against the benefit to the local population since it makes less sense to apply emission standards that have very limited benefit and high social or economic costs to desert areas when the bulk of the air quality problem is created far upwind.

Because of the designation of the high desert as a non-attainment area for ozone, the 1990 CCAA requires that plans be developed which document a reasonable rate of progress in emission reductions and which project reasonable further progress in the future. Because there is no real ozone benefit in VOC or NOx emission reduction beyond those programs mandated by CARB, the MDAQMD does not advocate additional emission reduction programs because the economic and social costs of such programs create no measurable air quality benefit within the MDAB.

If in addition to local controls, such as VOC emission control nozzles on gas pumps, paint and asphalt volatility reduction, and pipeline compressor engine control, the statewide emission reduction programs do not produce sufficient reduction, a contingency measure has been developed. This measure is an enhanced inspection and maintenance program for automobiles. Presently, this program is envisioned as an automatic system where remote sensors determine vehicle identification and measure the pollution coming out of the tailpipe. The smog control system of vehicles not in compliance would be required to be repaired immediately instead of at the times of the biannual "smog check" inspection. This measure is bogged down in controversy and has not yet been adopted and may not be necessary if upwind emission controls are successful.

The emission of particulate matter is also a concern of the MDAQMD. Particulates are generated by construction, travel on unpaved roads, open fires, agricultural practices, and natural dust emissions due to high winds in the region. These emissions can be controlled to some extent by local actions and these sources are addressed as components in a respirable range particulate matter ($PM_{10}$) attainment plan finalized by the MDAQMD in 1995.

Over the years, MDAQMD has prepared and published a number of studies that have demonstrated the MDAB can be brought into attainment, if the SoCAB achieves attainment under its adopted Air Quality Management Plan (AQMP). These studies include:

- *"Reasonable Further Progress, Rate-of-Progress San Bernardino County Portion of the Southeast Desert AQMA,"* October 26, 1994

- *"Post 1996 Attainment Demonstration and Reasonable Further Progress Plan San Bernardino County Portion of the Southeast Desert AQMA,"* December 21, 1994

- *"Final Mojave Desert Planning Area Federal Particulate Matter ($PM_{10}$) Attainment Plan,"* July 31, 1995

- *"Triennial Revision to the 1991 Air Quality Attainment Plan San Bernardino County Portion of the Southeast Desert Air Basin and Palo Verde Valley Portion of Riverside County,"* January 22, 1996

These plans address the actions that will be required to bring the MDAQMD into attainment for particulate matter, including the Morongo Basin/Yucca Valley area. Yucca Valley and most of the remainder of the desert has been in compliance with the federal particulate standards for the past 10 years. After projected growth is incorporated into future emission considerations, the 1995 Federal Particulate Matter ($PM_{10}$) Attainment Plan concluded that "The identified control measures, as implemented by the end of 1998, bring the planning area (and the Lucerne Valley region) into attainment of the NAAQS for $PM_{10}$ under worst case wind and construction activity conditions similar to those experienced during the late 1980's and early 1990's."

As noted above, the ability to comply with ozone ambient air quality standards will depend upon the ability of SCAQMD to bring the ozone concentrations and precursor emissions in the SoCAB into compliance with ambient air quality standards. Regardless, the proposed project envisions waste-water infrastructure facilities that will not change the intensity of developed and planned for uses. Thus, new development and new operational air emissions are forecast to be the same as envisioned by current planning documents. The wastewater treatment facilities proposed by this project are being implemented to meet existing needs in a manner that will protect the public health and safety.

Air quality management plans utilized local planning documents to develop the measure which should be implemented to achieve the air quality attainment goals. Therefore, a project that is consistent with the local land use planning document is considered compatible with air quality management plans. The provision of wastewater treatment services to existing development and that allowed by local land use plans is considered compatible with air quality management plans.

## 3.2 HYDROLOGY AND WATER QUALITY

### 3.2.1 Regulatory Setting

Water resources are regulated by federal, state, regional, and local and agencies. Section 401 of the federal Clean Water Act (CWA) requires a Water Quality Certification for any work proposed in stream crossings, stream banks or stream courses, or wetlands. Additionally, if a U.S. Army Corps of Engineers (ACOE) permit is required, the ACOE guidelines would be followed in order to ensure ACOE approval of the Water Quality Certification.

The State Water Resources Control Board (SWRCB) regulates California's water quality and administers water rights. The Board, through its nine regional boards, establishes wastewater

discharge requirements and carries out water pollution control programs. It also issues permits for new water rights and assists in determining existing rights.

SWRCB has established a statewide construction General Permit applicable to the project. Under this general permit, it is the responsibility of the project proponent to submit a Notice of Intent (NOI) to the SWRCB, prepare and implement a Stormwater Pollution Prevention Plan (SWPPP), and revise the SWPPP as necessary as construction conditions change. The Best Management Practices (BMPs) within the SWPPP must include both structural and non-structural measures, where applicable, and the assignment of long-term maintenance responsibilities that protect water quality. The Colorado River Basin Water Quality Control Board is the jurisdictional entity that enforces the construction General Permit and SWPPP. These agencies oversee the implementation of the SWPPP and ensure that the BMPs are fully implemented and effective through routine monitoring and enforcement actions.

There are three aspects to the existing regulatory setting related to hydrology and flood hazards. The federal components include: control of development within 100-year flood hazard areas, as designated by the Federal Emergency Management Agency (FEMA); control of erosion and sedimentation during construction under the General Construction permit required for compliance with the Environmental Protection Agency's National Pollutant Discharge Elimination System (NPDES) permits for non-point sources of pollution; and the requirement to control long-term sources of water pollution through the implementation of a Water Quality Management Plan (WQMP). These latter two programs are implemented at the state level through the State Water Resources Control Board and the Regional Water Quality Control Board, and at the local level through the County and local cities.

Local and regional land use jurisdictional agencies participate in the National Flood Hazard Insurance Program. Under this program, flood hazards have been determined based on 500-year and 100-year storm events. General Plans identify, and specific projects are reviewed in light of, the 100-year flood zones which could create hazardous conditions if they are developed. The 100-year flood areas are generally adjacent to creek and drainage channels.

The Office of Emergency Services (OES) is the County's centralized emergency response agency responsible for organizing and directing emergency services and disaster programs. This agency comes under the administration and management of the California Department of Forestry which has also been contracted by the County to provide fire fighting services. The OES receives updated dam inundation information from the State Office of Emergency Services and is responsible for identifying evacuation routes based on this data.

### 3.2.2 Surface Water

The project area encompasses the sewer collection system and the Hi-Desert water reclamation facility (WRF) site. There are no perennial or permanent water bodies, lakes or streams, within the project area. There are several ephemeral or intermittent stream channels within the project area. None of these eight-to-ten ephemeral channels in the project area are formally named on the United States Geological Survey (USGS) Topographic maps of the project area. The streams originate in the Little San Bernardino Mountains to the south and in the Sawtooth Mountain ridge that bounds the project area to the north. The largest stream is locally referred to as "Yucca Wash." During major precipitation events it collects flows from the tributary "blue line" stream channels shown on these USGS Topographic Maps (Yucca Valley North and South, and Joshua Tree North and South, 7.5' Topographic Maps). For most of the WRF site and most of the remaining project area, surface runoff occurs as sheet flow that ultimately enters the alignment of the ephemeral channels. Note the term "blue line" refers to a stream channel with a defined bed and bank as it is shown on a USGS Topographic Map. Refer to Figure 2-1.

The proposed WRF site contains one surface water feature, a blueline, ephemeral desert wash, which traverses the western portion of the site. This ephemeral stream originates in the Little San Bernardino Mountains to the south. The wash flows southwest to northeast across the property and exits the property where it flows beneath SR 62. From there, this dry desert wash extends to the northeast until it has a confluence with Yucca Creek Wash and continues to flow east into the Community of Joshua Tree. From there Yucca Creek Wash then flows north to dry lakes, which are considered isolated waters of the United States. The wash receives flows primarily from the upland areas south of the site that extend to the front of the north facing slopes of the Little San Bernardino Mountains. According to the biological assessment conducted by Frank Hovore & Associates in July 2004, the wash is sparsely vegetated by Joshua tree-creosote scrub in the upland areas, desert willow within the wash bottom, annual wildflower species in the open terraces along the bottom margins, and Mormon tea, which dominates the overall drainage.

For the remainder of the project area, the future sewer lines will occasionally cross an ephemeral stream channel along its alignment. In most cases these crossing will occur within existing paved and graded road rights-of-way. Based on the field survey of the sewer line alignment, no wetlands or riparian habitats are located within the proposed project area or along the pipeline alignments. Because these stream channels are isolated and ephemeral, the preliminary finding is that they are not subject to U.S. Army Corps of Engineers (Corps) Clean Water Act Section 404 jurisdiction, i.e., they are not waters of the United States. On the other hand the channels appear to be waters of the State of California and are within the jurisdiction of the California Department of Fish and Game (CDFG). A CDFG 1602 Streambed Alteration Agreement will need to be obtained for any disturbances of the ephemeral stream channels within the project area. Finally, it is also probable that the California Regional Water Quality Control Board, Colorado River Basin (Regional Board) will assert jurisdiction under its Porter-Cologne responsibilities and require waste discharge requirements for these disturbances.

According to the Town of Yucca Valley General Plan (1995) Exhibit V-3, the WRF project site is located within a Zone A flood hazard area, which designates areas of 100-year flooding. As presently envisioned, the WRF will be located to the east of the 100-year flow line, but based on final engineering the WRF facilities may encroach within this area.

### 3.2.3 Groundwater

The water supplied to Yucca Valley is extracted from the Warren Valley Groundwater Basin and the Ames Basin. The District is the principal water purveyor servicing the Yucca Valley area. The District obtains all of its water supplies from 13 active wells that pump groundwater from the Warren Valley Groundwater Basin. Fifteen of these wells are generally located along the Yucca Wash or Creek, with two located on the Mesa to the north. Current estimated production is approximately 3,000 acre-feet per year (acre-ft/yr). According to the District, it also has rights for up to 800 acre-ft/yr from the adjacent Ames Valley Basin. The District also receives imported water from the Mojave Water Agency (MWA) and the State Water Project (SWP) to supplement local groundwater supplies. This water is piped to the project area and recharged into the Warren Valley Basin through a series of recharge basins in Town of Yucca Valley along Yucca Creek Wash.

According to a U.S. Geological Survey study, published in 1972 (USGS 1972), the Warren Valley Groundwater Basin was reported to be small and not exceeding 200 acre-ft/yr of natural recharge. Groundwater pumped from wells in the 1950s and 1960s was used chiefly for domestic uses. The groundwater in storage in 1958 was computed to be 106,000 acre-ft. It was surmised that the consumptive-use in the basin since 1958, i.e., until 1972, still yielded at least 96,000 acre-ft of groundwater in storage. Since the late-1990s the District has been importing and recharging groundwater in recharge basins constructed for this purpose. The imported water has been used to offset and eliminate any continued cumulative contribution to overdraft of District operations.

Extrapolating these assumptions to the present, it can be inferred that the groundwater in storage in the Warren Valley Groundwater Basin remains at approximately 100,000 acre-feet.

### 3.2.4 Water Quality

According to the Regional Board's Water Quality Control Plan (page 2-3), the groundwater resources in the Warren Valley Groundwater Basin are considered suitable for municipal or domestic water supply. The Warren Valley Groundwater Basin is part of the Joshua Tree Hydrologic Unit (708.00 Area Code) and is designated as the Warren "Hydrologic Area" (HA) (708.20 Area Code) on the Colorado River Hydrologic Basin Planning Area Map. Table 2-5 identifies the beneficial uses of groundwaters in this Basin to support municipal (MUN) and industrial (IND) beneficial uses.

Regarding water quality, the Warren Valley Groundwater Basin was considered to be historically low in dissolved solids. Concentrations ranged from approximately 120 to 250 mg/L, and averaged about 160 mg/l, according to data from a 1972 study (USGS 1972). Fluoride concentrations in that time period ranged from 0.2 to 1.0 mg/L, and averaged 0.4 mg/L. No concentrations of ions in excess of the limits recommended by the U.S. Public Health Service at that time were reported.

A more recent study (USGS 2002) focused on lithologic and water quality data for the years 1992-1998. Two monitoring stations were developed in the Warren Groundwater Basin, YV-1 and YV-2. Dissolved solids for station YV-1, depths of 230-570 feet below-ground surface, ranged from 158-502 mg/L. Dissolved solids for station YV-2, depths of 300-570 feet below-ground surface, ranged from 179-309 mg/L. Dissolved nitrogen ($NO_2$ and $NO_3$) levels, expressed as mg/L of N, ranged from 2-30.3 mg/L for station YV-1 and from 1.09-11.2 mg/L for station YV-2. Concentrations of nitrate above 10 mg/L are considered unhealthy for routine human consumption, and small babies may be at risk with even lower concentrations.

In support of the evaluation of potential adverse effects from implementing the proposed Hi-Desert WRF, the U.S. Geological Survey (refer to Appendix 3) recently collected water quality samples from the piezometer at the monitoring site (1N/6E-32G01S) and from a production well located on the Mental Physics property (1N/6E-28N01S). Both are located within the East hydrologic unit of the Warren Groundwater Basin. The water samples from the wells were analyzed for general chemistry, nutrients and selected isotopes and pharmaceuticals. The water quality data are presented in Tables 3-3 and 3-4. According to the analysis of water quality presented by the U.S. Geological Survey, All of the constituents analyzed had concentrations below the U.S. Environmental Protection Agency (EPA maximum contaminant level (MCL), with the exception of nitrate plus nitrite analyzed in the February 2009 sample from 1N/6E-28NP1S (the Mental Physics well). This nitrate plus nitrite concentration was analyzed to be 18.4 mg/L as N; The EPA MCL for nitrate is 10 mg/L. The pharmaceutical results were available only for Well 32G1 (WRF onsite piezometer) because insufficient volume of water was available from well 28N1. As shown in Table 3-4, none of the pharmaceuticals analyzed exceeded detection levels.

According to the Town of Yucca Valley General Plan Water Resources Element, there are several sources for groundwater contamination within the area, including septic tank systems, underground oil and gas storage tanks, and a District well, which has already been capped and filled.

### 3.2.5 Water Quality Planning

The Water Quality Control Plan, or "Basin Plan," for the Colorado River Basin Region (California RWQCB 1994) describes the beneficial uses and water quality objectives for both surface and groundwaters within its jurisdiction. As noted above, the proposed project is generally located in the Morongo Basin, more specifically in the Joshua Tree Hydrologic Unit (HU) and the Warren

**Table 3-3**
**GENERAL CHEMISTRY, NUTRIENTS, AND SELECTED ISOTOPES FOR WELLS 1N/6E-29N1 AND 1N/6E-32G1**

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY PROCESS DATE 4-08-09
MULTIPLE STATION ANALYSES

| Local ident-i-fier | Date | Dis-solved oxygen, mg/L (00300) | pH, water, unfltrd field, std units (00400) | pH, water, unfltrd lab, std units (00403) | Specif. conduc-tance, wat unf lab, uS/cm 25 degC (90095) | Calcium water, fltrd, mg/L (00915) | Magnes-ium, water, fltrd, mg/L (00925) | Potas-sium, water, fltrd, mg/L (00935) | Sodium, water, fltrd, mg/L (00930) | Alka-linity, wat flt fxd end field, mg/L as CaCO3 (39036) | Alka-linity, wat flt fxd end lab, mg/L as CaCO3 (29801) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 001N006E28N001S | 08-31-99 | 9.0 | 6.8 | 7.9 | 274 | 23.1 | 4.09 | 1.18 | 26.9 | 89 | 94 |
| | 02-04-09 | -- | 7.7 | 7.9 | 397 | 40.7 | 7.25 | 1.50 | 34.8 | 79 | 87 |
| 001N006E32G001S | 09-11-08 | <.2 | 8.1 | 8.1 | 485 | 23.6 | 8.79 | 5.80 | 61.5 | 140 | 145 |
| | 02-05-09 | -- | 8.1 | 7.8 | 536 | 27.8 | 11.5 | 6.58 | 65.7 | 140 | 158 |
| | 03-09-09 | .8 | 8.1 | -- | -- | -- | -- | -- | -- | -- | -- |

(Part 1)

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY PROCESS DATE 4-08-09
MULTIPLE STATION ANALYSES

| Local ident-i-fier | Date | Alka-linity, wat flt inf tit field, mg/L as CaCO3 (39086) | Bicar-bonate, wat flt fixed end pt, field, mg/L (29804) | Bicar-bonate, wat flt infl pt titr., field, mg/L (00453) | Bromide water, fltrd, mg/L (71870) | Chlor-ide, water, fltrd, mg/L (00940) | Fluor-ide, water, fltrd, mg/L (00950) | Iodide water, fltrd, mg/L (71865) | Silica, water, fltrd, mg/L as SiO2 (00955) | Sulfate water, fltrd, mg/L (00945) | Residue on evap. at 180degC wat flt mg/L (70300) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 001N006E28N001S | 08-31-99 | -- | -- | -- | .08 | 10.9 | .62 | .001 | 29.9 | 7.58 | 176 |
| | 02-04-09 | 79 | -- | -- | .18 | 21.1 | .53 | <.002 | 29.3 | 13.5 | 262 |
| 001N006E32G001S | 09-11-08 | 139 | 166 | 166 | .14 | 39.7 | .66 | .018 | 15.7 | 28.6 | 289 |
| | 02-05-09 | 142 | -- | -- | .21 | 47.0 | .71 | .035 | 11.6 | 34.6 | 296 |
| | 03-09-09 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

(Part 2)

**Table 3-3 (page 2 of 3)**
**GENERAL CHEMISTRY, NUTRIENTS, AND SELECTED ISOTOPES FOR WELLS 1N/6E-29N1 AND 1N/6E-32G1**

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY PROCESS DATE 4-08-09
MULTIPLE STATION ANALYSES

| Local ident-i-fier | Date | Ammonia + org-N, water, fltrd, mg/L as N (00623) | Ammonia water, fltrd, mg/L as N (00608) | Nitrate + nitrite water fltrd, mg/L as N (00631) | Nitrate water, fltrd, mg/L as N (00618) | Nitrite water, fltrd, mg/L as N (00613) | Ortho-phos-phate, water, fltrd, mg/L as P (00671) | Phos-phorus, water, fltrd, mg/L as P (00666) | Alum-inum, water, fltrd, ug/L (01106) | Arsenic water, fltrd, ug/L (01000) | Barium, water, fltrd, ug/L (01005) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 001N006E28N001S | 08-31-99 | E.06 | <.02 | 4.72 | -- | <.010 | .02 | E.04 | -- | <1 | 41.5 |
| | 02-04-09 | <.10 | <.020 | 18.4 | -- | <.002 | .027 | <.04 | <4.0 | .74 | 64.2 |
| 001N006E32G001S | 09-11-08 | -- | -- | -- | -- | -- | -- | -- | 5.7 | 1.2 | 20.1 |
| | 02-05-09 | .21 | .162 | .46 | .45 | .008 | .036 | E.03 | 4.2 | 1.5 | 20.1 |
| | 03-09-09 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

(Part 3)

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY PROCESS DATE 4-08-09
MULTIPLE STATION ANALYSES

| Local ident-i-fier | Date | Boron, water, fltrd, ug/L (01020) | Chrom-ium, water, fltrd, ug/L (01030) | Iron, water, fltrd, ug/L (01046) | Lithium water, fltrd, ug/L (01130) | Mangan-ese, water, fltrd, ug/L (01056) | Stront-ium, water, fltrd, ug/L (01080) | C-14 countng error, water, fltrd, percent modern (49934) | C-14, water, fltrd, percent modern (49933) | Tritium 2-sigma water, unfltrd pCi/L (75985) | C-13 / C-12 ratio, water, unfltrd per mil (82081) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 001N006E28N001S | 08-31-99 | 51 | -- | <10 | -- | <2.2 | 194 | .720 | 72.42 | .58 | -11.64 |
| | 02-04-09 | 46 | -- | 22 | 20 | .8 | 344 | -- | -- | -- | -- |
| 001N006E32G001S | 09-11-08 | 88 | .28 | 10 | 5 | 268 | 172 | -- | -- | -- | -- |
| | 02-05-09 | 207 | -- | 9 | 5 | 223 | 191 | -- | -- | -- | -- |
| | 03-09-09 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

(Part 4)

**Table 3-3 (page 3 of 3)**
**GENERAL CHEMISTRY, NUTRIENTS, AND SELECTED ISOTOPES FOR WELLS 1N/6E-29N1 AND 1N/6E-32G1**

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY PROCESS DATE 4-08-09
MULTIPLE STATION ANALYSES

| Local ident-i-fier | Date | Deu-terium/ Protium ratio, water, unfltrd per mil (82082) | N-15 / N-14 in nitrate water, fltrd, per mil (82690) | O-18 / O-16 ratio in nitrate wat flt per mil (63041) | O-18 / O-16 ratio, water, unfltrd per mil (82085) |
|---|---|---|---|---|---|
| 001N006E28N001S | 08-31-99 | -78.20 | -- | -- | -11.17 |
| | 02-04-09 | -77.40 | 5.99 | -.18 | -11.19 |
| 001N006E32G001S | 09-11-08 | -79.30 | -- | -- | -10.91 |
| | 02-05-09 | -80.50 | 11.58 | 2.56 | -10.94 |
| | 03-09-09 | -- | -- | -- | -- |

0Remark codes used in this table:
< -- Less than.
E -- Estimated.

(Part 5)

**Table 3-4**
**SELECTED PHARMACEUTICALS FOR WELL 1N/6E-32G1**

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY PROCESS DATE 4-08-09
MULTIPLE STATION ANALYSES

| Local ident-i-fier | Date | 1,7-Di-methyl-Xan-thine, water, fltrd, ug/L (62030) | Acet-amino-phen, water, fltrd, ug/L (62000) | Albut-erol, water, fltrd, ug/L (62020) | Carbam-azepine water, fltrd, ug/L (62793) | Carba-maze-pine-d10, surrog, wat flt % recvy (90797) | Codeine water, fltrd, ug/L (62003) | Cot-inine, water, fltrd, ug/L (62005) | De-hydro-nife-dipine, water, fltrd, ug/L (62004) | Diltia-zem, water, fltrd, ug/L (62008) | Diphen-hydra-mine, water, fltrd, ug/L (62796) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 001N006E32G001S | 02-05-09 | <.120 | <.080 | <.060 | <.040 | 27.4 | <.040 | <.026 | <.080 | <.080 | <.040 |

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY PROCESS DATE 4-08-09
MULTIPLE STATION ANALYSES

| Local ident-i-fier | Date | Ethyl nico-tinate-d4, surrog, wat flt % recvy (99571) | Sulfa-methox-azole, water, fltrd, ug/L (62021) | Thiaben-dazole, water, fltrd, ug/L (62801) | Tri-meth-oprim, water, fltrd, ug/L (62023) | Warfar-in, water, fltrd, ug/L (62024) |
|---|---|---|---|---|---|---|
| 001N006E32G001S | 02-05-09 | 56.5 | <.160 | <.060 | <.020 | <.100 |

0Remark codes used in this table:
< -- Less than.

Valley Hydrological Area (HA). The beneficial uses are MUN and IND. The water quality objectives applying to all groundwaters are: taste and odor, bacteriological, and chemical and physical. More specific bacteriological, chemical and physical, and radioactivity standards are referenced to sections of Title 22 (the Health and Safety Code) for municipal supply use. In defining groundwater objectives the Basin Plan (pages 3-8 and 3-9) states: *Ideally the Regional Board's goal is to maintain the existing water quality of all non-degraded groundwater basins. However, from a practical standpoint it must be noted that in most cases groundwater that is pumped general returns to the basin after use with an increase in mineral concentrations such as total dissolved solids (TDS), nitrate etc., that are picked up by water during its use. Under these circumstances, the Regional Board's objective is to minimize the quantities of contaminants reaching any groundwater basin. This could be achieved by establishing best management practices for major discharges to land.* The proposed project is being implemented as a remedial action and best management practice for the contamination of Warren Valley Groundwater Basin by septic tank systems within Yucca Valley.

The Basin Plan contains a Sources of Drinking Water Policy, which applies to both surface and groundwaters. The elements of the policy are:

- Total Dissolved Solids (TDS) levels cannot exceed 3,000 mg/L,
- Water contaminated naturally or from human activities can't be used if it is not able to be reasonably treated (reasonably meaning cost-effective and using standard Best Management Practices, or BMPs),
- For groundwater, a single well must be able to produce sustained yield of a minimum of 200 gallons/day,
- For groundwater, the source cannot be from a geothermal energy-producing aquifer, and
- For surface water, the source cannot be from any wastewater treatment process of from agricultural drainage waters unless the sources is carefully monitored and meets all water quality objectives.

### 3.2.6 Water Supply Planning

The Hi-Desert Water District's Water Supply Master Plan of 1990 (John Egan and Associates, Inc.) identified two unique features of the area: (1) unusually large elevation range for the physical area within the District boundaries, from 3,000 to 4,100 feet above sea level, which necessitated the development of 16 pressure zones; and (2) overlapping jurisdictions over water supply, including another water company, the Yucca Water Co. Service area, the Warren Basin Watermaster adjudicated basin, and the Mojave Water Agency, a Joint Powers Authority for supplemental State Project Water. The District acquired the Yucca Water Co. in 1990. The District's boundary, including the Yucca Water Co. Service area, currently encompasses more than just the urbanized portion of the Yucca Valley.

## 3.3 UTILITIES / SERVICE SYSTEMS

The Town of Yucca Valley and vicinity has many local and regional governmental services, special districts, and services and facilities provided by public utilities. Most of the following descriptions are summarized from the General Plan Environmental Impact Report (DEIR 1995). Utilities and Service Systems are considered to be a local jurisdictional environmental issue, such that a regulatory setting section is not required to be included in the EA.

### 3.3.1 Domestic Water

The District generally supplies drinking water to the Yucca Valley, portions of Joshua Tree and Yucca Mesa. The Hi-Desert Water District was formed in 1962 through the combination of multiple water agencies that were formed during development of the Yucca Valley area. The District provides water service to areas within the Town of Yucca Valley and unincorporated areas within the County of San Bernardino. With a service area of approximately 57 square miles, the District currently serves just under 10,000 service connections, including consumption for irrigation and commercial, industrial, single-family residential, and multiple-family residential uses. In 2007, the population within the District's service area was estimated to be about 24,050. The population within the District's service area is projected to increase to about 31,000 by 2010, 35,000 by 2015, 38,000 by 2020, and about 44,000 by 2030. Consequently, the District's service connections are projected to increase from a total of 9,965 connections in 2005 to just under 10,500 connections by 2010, approximately 12,000 connections by 2015, approximately 13,000 connections by 2020, and approximately 15,000 connections by 2030. Annual average growth rate under these assumptions is approximately 2.3%. This appears to be a reasonable, if high, estimate and allowed the District to encompass future water demand and supply requirements conservatively over the 25 year period from 2005 through 2030.

The majority of the District's water supplies are derived from the Warren Valley Groundwater Basin and Ames Valley Basin. The Warren Valley Basin provides 80% of the water source while the Means Valley Basin, provides the remaining 20% of the water source. The District also purchases State Water Project water from the Mojave Water Agency. Since 1995, the water purchased from Mojave Water Agency has been used to recharge the Warren Valley Groundwater Basin after many years of overdraft. In case of water quality issues, the District has a nitrate removal facility in place to treat groundwater high in nitrate levels.

Warren Valley Groundwater Basin

The Warren Valley Groundwater Basin has an average safe yield of approximately 900 acre-feet per year. The apparent source of the Basin recharge includes precipitation and runoff in addition to irrigation and septic return flows. Prior to the importation of State Water Project water, the Basin was seriously overdrafted and groundwater levels declined as much as 20 to 40 feet per year. In 1977, a Judgment rendered by the Superior Court for the County of San Bernardino established water rights to the Basin and appointed the Hi-Desert Water District as the Watermaster for the Basin. The following groundwater pumping rights were established within the adjudication:

**Table 3-5**
**GROUNDWATER PUMPING RIGHTS IN ACRE-FEET PER YEAR**

| Party to the Adjudication | Pumping Right (AF/Yr) |
|---|---|
| Hi-Desert Water District | 896 |
| Yucca Water Company* | 726 |
| Blue Skies Country Club | 585 |
| Institute of Mentalphysics | 80 |
| 16 Minimal producers | 16 |

Note: * The District acquired Yucca Water Company in 1990.

Means Valley Groundwater Basin

Through a District contract with the Mainstream Water Development Company a well was developed outside the Warren Valley Basin and successfully drilled on Bureau of Land Management property. The well was put into operation in 1993 and can produce up to 2,100 AFY from the Means Valley Groundwater Basin. A settlement agreement with the Bighorn-Desert View Water Agency (BDVWA), allows the District to extract 800 AFY as well as 0.5 AFY for each new residential meter.

State Water Project

State Water Project (SWP) water is the third water source for the Yucca Valley area. The District is located within Division 2 of the Mojave Water Agency (MWA), which currently has an entitlement of 75,800 AFY through the State Project Water system. Division 2 (Improvement District M) has entitlement to 7,257 AFY of State Project water. The District has a contractual entitlement of 4,282 AFY.

The following is a table of current and planned water supplies in acre feet:

**Table 3-6**
**CURRENT AND PLANNED WATER SUPPLIES IN ACRE-FEET**

| Water Supply Sources | 2005 | 2010 | 2015 | 2020 | 2030 |
|---|---|---|---|---|---|
| Wholesale Water Provider (MWA) | 3,460 | 4,920 | 4,920 | 4,442 | 4,442 |
| Groundwater (Warren Valley) | 2,388 | 2,856 | 3,373 | 3,718 | 4,408 |
| Groundwater (Means Valley) | 587 | 650 | 650 | 650 | 650 |
| Conjunctive Use | 0 | 2,150* | 0 | 0 | 0 |
| Total | 6,435 | 10,576 | 8,943 | 8,810 | 9,500 |

Note: * It is anticipated the District will receive 12,900 AF of conjunctive use water to be stored within the Warren Valley Basin from 2006 through 2012.

**Table 3-7**
**ACTUAL AND PROJECTED WATER CONSUMPTION IN ACRE-FEET**

| | 2005 | 2010 | 2015 | 2020 | 2030 |
|---|---|---|---|---|---|
| Single Family Residential, Commercial, and Industrial Accounts | 2,349 | 2,794 | 3,222 | 3,491 | 4,016 |
| Multiple Family Residential Accounts | 240 | 265 | 293 | 323 | 394 |
| Irrigation | 80 | 89 | 98 | 108 | 132 |
| Construction | 21 | 23 | 25 | 28 | 34 |
| Unaccounted For System Losses | 285 | 335 | 385 | 418 | 482 |
| Total Usage | 2,975 | 3,506 | 4,023 | 4,368 | 5,058 |

Based upon the data presented in Tables 3-6 and 3-7, the District has adequate supplies to meet current and future projected water demands to the year 2030. In an attempt to manage water demand, the District implements various conservation measures including the conducting of water surveys, a residential and commercial plumbing retrofit program, water audits, leak detection, and repair, established water budgets, tiered water rates, public education programs, water waste prohibitions, etc. The District has also evaluated the construction of a 1MGD capacity wastewater treatment facility and sewer collection system to provide an additional source of water supply. In addition to controlling nitrate contamination resulting from septic systems, the sewer system would provide the opportunity to recharge treated wastewater into the Warren Valley Basin through percolation basins.

### 3.3.2 Sewage Treatment

Onsite subsurface septic tank-leach systems are used throughout the Yucca Valley area, for residential, commercial and industrial operations. There is no regional wastewater treatment facility. However, due to the effects of these individual systems on nitrates and total dissolved solids levels in groundwater resources, the District constructed a Nitrate Removal and Blending Plant, which treats multiple groundwater wells. Operations began in 2002. Some larger commercial or residential developments may utilize package wastewater treatment systems.

### 3.3.3 Solid Waste Disposal

Burrtec provides solid waste collection services to the Yucca Valley area. Solid waste is taken to the Landers Landfill, which is a municipal landfill operated by San Bernardino County.

### 3.3.4 Natural Gas

Southern California Gas Company provides natural gas service. Two, four and six-inch transmission and distribution gas lines are present in much of the area along existing streets, except for the northwest portions of the Town of Yucca Valley, due to the rough terrain and steep slopes. Here, gas use is in the form of propane tanks on individual properties.

### 3.3.5 Electric Power

Southern California Edison provides electrical services, through main 115 and 12 KV transmission lines located in SR 62 and SR 247 rights-of-way.

## 3.4 LAND USE / PLANNING

### 3.4.1 Regulatory Setting

The proposed project is located within the Town of Yucca Valley in San Bernardino County. The project area is subject to regional and local planning guidance and regulations. The only federal and state land use policies or regulations that would potentially affect the project are those for specific resources (such as for mineral and biological resources). Otherwise, the project area is subject to county-wide and regional planning efforts in regional growth management and environmental management, particularly for congestion management (transportation) and solid waste management issues. The project area is also subject to regional planning efforts, in which regional comprehensive plans for growth management, mobility/transportation, and air quality management apply. The governing land use documents are the San Bernardino County General Plan and the Town of Yucca Valley General Plan and associated Zoning Ordinances and Development Codes. Applicable plans will be described in the following section, in the context of consistency of the proposed project with these plans.

Consistency with State, Regional and Local Plans

There are currently no adopted Habitat Conservation Plans, Natural Community Conservation Plans, or other approved local, regional, state habitat conservation plans associated with the proposed project area. Therefore, no potential exists for conflicts with any such plans from implementing the proposed project.

There are no designated Wild and Scenic Rivers in the project area. The area is not within a Coastal Zone Management Area. Therefore, the federal and state plans associated with such designated areas do not apply to the proposed project.

San Bernardino County has a Regional Congestion Management Plan (CMP) that addresses the impact of local growth on the regional transportation system and the County's mobility needs. The CMP must contain (according to Section 65089 of the California Government Code) the following elements:

I. A system of highways and roadways with minimum level of service performance measurements;

II. A performance element that includes performance measures to evaluate multi-modal systems;

III. A travel demand element promoting alternative transportation;

IV. A program to analyze the impacts of local land use decisions on the regional transportation system, including an estimate of the cost of mitigating those impacts;

V. A 7-year capital improvement program of projects that benefit the CMP systems; and

VI. A deficiency plan.

The CMP is incorporated into a 20-year Regional Transportation Plan, contained in the Southern California Association of Government's (SCAG) Regional Comprehensive Plan and Guide (RCPG), to establish the magnitude of congestion problems that face the region and types of solutions that will be necessary to maintain mobility. The CMP relates these long-term regional mobility goals to specific actions at the County and local levels. It also describes implementation strategies, and establishes a system to monitor the effectiveness of transportation improvements. Under the CMP, local jurisdictions are required to evaluate impacts of development, and provide mitigation measures, which include transportation demand and system management programs and measures.

The Regional Comprehensive Plan and Guide, developed through SCAG, is a framework for decision-making by local governments to meet federal and state mandates consistent with regional goals. It functions to bring together air quality goals with transportation and development goals for San Bernardino County, by coordinating all planning efforts. The three key planning issues that need coordination are considered to be Air Quality, Mobility and Transportation, and population growth. Air quality planning is discussed further in the Air Quality Section of this EA. The Regional Transportation Plan is discussed further under Traffic/Circulation, and Growth Management is discussed under Section 3.1.2.

The proposed project has no potential to conflict with the CMP and RCPG and is fully consistent with these documents. Specifically, this project will provide for wastewater treatment and reclamation and it is not forecast to increase growth within the project area based on a detailed analysis of growth inducement later in this document.

Town of Yucca Valley and San Bernardino County have established several policies relating to housing in their General Plan Housing Elements. These are discussed under the Community Impacts section of this document, as well as the proposed project's consistency with the Housing Element.

Farmlands/Timberlands

The project area does not contain any timberlands or farmlands of importance. No agriculture activities occurs within Yucca Valley. Therefore, no agricultural operations or timberlands will be adversely impacted by the proposed project.

Yucca Valley and Project Area Land Uses

The Yucca Valley area consists of a mix of residential, commercial and limited industrial uses. Land use within the project area of impact is under the jurisdiction of the Town of Yucca Valley, incorporated in 1991. Land use designations and regulations are based on the Town of Yucca Valley Comprehensive General Plan (1995). For the Town, development is constrained by topography and only 25 percent (6,225 acres) of the total area was developed by 1995. Residential uses comprised approximately 84 percent of the developed land, with most in the form of single-family residences. Commercial and industrial land uses comprised 10 percent, and public/quasi-public uses (parks, floodways, civic center lands) comprised 6 percent at that time.

In terms of surrounding uses, Morongo Valley is to the west, with scattered residential and commercial areas along SR 62. To the northwest is the small community of Pioneertown. To the south of Yucca Valley is the Joshua Tree National Park. To the east is the community of Joshua Tree, with commercial and residential areas located again mostly along the SR 62. Finally, to the north are the unincorporated communities of Yucca Mesa and Landers.

The proposed water reclamation facility (WRF) site is located within the Town limits (refer to Figure 2-1) and within an 80-acre undeveloped parcel. The site is currently designated as C-MU, Mixed Use Commercial. This designation allows for a mix of coordinated land uses, including community scale commercial, transient occupancy uses, office commercial, and residential (General Plan 1995). The WRF is proposed to be installed in the southern portion of the project site, just north of Sunnyslope Drive and between Indio Avenue on the west and La Contenta Road. Public facilities, such as the WRF, can be located in all zones.

As described in the project description, the sewer collection system is proposed to be installed primarily within road rights-of-way. At the present time there are no sewer lines within the project area; however, the proposed sewer collection system will be comparable to the existing potable water distribution system. Figure 2-2 shows the three phases of installation for the proposed Yucca Valley Collection System. Like water lines and other underground utilities, the sewer lines are an allowed use within any land use designation as such infrastructure is required to support all land uses, except undeveloped public open space.

## 3.5 TRANSPORTATION / TRAFFIC

### 3.5.1 Regulatory Setting

The Federal Highway Administration (FHWA) directs that full consideration should be given to the safe accommodation of pedestrians and bicyclists during the development of federal-aid highway projects (23 CRF 652). It further directs that the special needs of the elderly and the disabled must be considered in all federal-aid projects that include pedestrian facilities. When current or anticipated pedestrian and/or bicycle traffic presents a potential conflict with motor vehicle traffic,

every effort must be made to minimize the detrimental effects on all highway users who share the facility.

The involved agencies of the state of California and the FHWA are committed to carrying out the 1990 Americans with Disabilities Act (ADA) by building transportation facilities that provide equal access for all persons. The same degree of convenience, accessibility, and safety available to the general public will be provided to persons with disabilities. See also the discussion under land use above.

### 3.5.2 Local Area Circulation System

The main access to the Town of Yucca Valley is on SR 62, also called the Twentynine Palms Highway. This is the major east-west highway in the Morongo Basin. From Interstate 10 north to the Riverside County line it is designated as an "expressway." From the San Bernardino County line through the Town of Yucca Valley, it is considered a four-lane "conventional" road within the project area of potential impact. According to the Town of Yucca Valley Circulation Plan, this is to become a six-lane divided highway (General Plan 1995, DEIR 1995). Avalon Avenue beginning southward from SR 62 is a four-lane "collector" road. Indio Avenue also starting southward from SR 62 is a two-lane "industrial roadway."

According to the General Plan Circulation Element and DEIR (1995), SR 62 had and ADT of 39,000 trips west of SR 247. Avalon Avenue had a 2,200 ADT north of Yucca Trail. Volumes estimated at buildout are: 55,000 ADT for SR 62 west of SR 247, and 12,000 ADT for Avalon Avenue north of Yucca Trail.

The wastewater treatment plant site is located south of the existing SR 62. The pipelines are to be placed primarily within roadway easements, including in the same alignment as the existing road rights-of-way of SR 62, Avalon Avenue, and Indio Avenue. Note that since SR 62 is a state highway, an encroachment permit will be required for installation of the proposed sewer lines within its alignment.

The area is served by a local mass transit system, the Morongo Basin Transit Authority. In addition, local roadways provide for bicycle and pedestrian traffic occur throughout the project area.

## 3.6 NATURAL RESOURCES

### 3.6.1 Regulatory Setting

This section of the document discusses ecological system and natural community issues of concern. The focus of this section is on biological communities, not individual plants or animal species. This section also includes information on wildlife corridors and habitat fragmentation. Wildlife corridors are areas of habitat used by wildlife for seasonal or daily migration. Habitat fragmentation involves the potential for dividing sensitive habitat (unique natural communities or natural communities of concern) and thereby lessening its biological value.

Habitat areas that have been designated as critical habitat under the Federal Endangered Species Act are discussed in a following section which addresses threatened and endangered species, and wetlands and other waters of the United States and State of California are also discussed in a following section of this document.

Wetlands and other waters are protected under a number of laws and regulations. At the federal level, the Clean Water Act (33 U.S.C. 1344) is the primary law regulating wetlands and waters. The Clean Water Act (CAA) regulates the discharge of dredged or fill material into waters of United

States, including wetlands. Water of the United States include navigable waters, interstate waters, territorial seas and other waters that may be used in interstate or foreign commerce. To classify wetlands for the purposes of the CAA, a three-parameter approach is used that includes the presence of hydrophytic (water-loving) vegetation, wetland hydrology, and hydric soils (soils subject to saturation/inundation). All three parameters must be present, under normal circumstances, for an area to be designated as a jurisdictional wetland under the CAA.

Section 404 of the CAA establishes a regulatory program that provides that no discharge of dredged or fill material can be permitted if a practicable alternative exists that is less damaging to the aquatic environment or if the nation's waters would be significantly degraded. The Section 404 permit program is run by the U.S. Army Corps of Engineers (Corps) with participation and some oversight by the federal Environmental Protection Agency (EPA).

The Executive Order for the Protection of Wetlands (EO 11990) also regulates the activities of federal agencies with regard to wetlands. Essentially, this EO states that a federal agency, such as the FRA, cannot undertake or provide assistance for new construction located in wetlands unless the head of the agency finds: (1) that there is no practicable alternative to construction and (2) the proposed project includes all practicable measures to minimize harm.

At the state level, wetlands and waters are regulated primarily by the California Department of Fish and Game (CDFG) and the Colorado River Regional Water Quality Control Board (Regional Board or RWQCB). Sections 1600-1607 of the Fish and Game Code require any agency that proposes a project that will substantially divert or obstruct the natural flow of or substantially change the bed or bank of a river, stream, or lake to notify CDFG before beginning construction. If CDFG determines that the project may substantially and adversely affect fish or wildlife resources, a Lake or Streambed Alteration Agreement will be required. CDFG jurisdictional limits are usually defined by the tops of the stream or lake banks, or the outer edge of riparian vegetation, whichever is wider.

The Regional Boards were established under the Porter-Cologne Water Quality Control Act to oversee water quality. This is done through the issuance of water quality certifications in compliance with Section 401 of the Clean Water Act when the area of potential effect is located in waters of the United States. When only State waters are involved in the discharge of dredged or fill material, the Regional Board can review and issue waste discharge requirements (WDR) under the Porter-Cologne Act to achieve the same water quality protection objectives.

### 3.6.2 Biological Resources

As part of the work for the General Plan, the Town of Yucca Valley and surrounding areas were categorized and mapped for Biological Resources Values (Tierra Madre Consultants, 1994). The proposed WRF project site is considered to be in a High Biological Resource Value area, due to the fact that it is an undeveloped area vegetated by native scrub and woodland habitat. A blueline, ephemeral desert wash traverses the western portion of the project site. The wash originates from the southeast corner of the property and receives flows from the Little San Bernardino Mountains and alluvial upland areas to the south. The WRF site remains undeveloped at this time. According to the General Plan (1995), surveys of vacant lands must be completed and project proposals are reviewed and evaluated to assure minimal impacts to existing habitat and wildlife.

Most of the sewer collection system will be placed in existing paved or graded roadway alignments. All of the sewer alignments shown on Figure 2-2 were surveyed by biologists and support staff of Tom Dodson & Associates. Biology surveys of both the 80-acre proposed WRF site and the sewer pipeline alignments are provided as Appendix 4 to this IS/EA. The following characterizes the general plant community (ies) and wildlife habitat that occurs within the proposed WRF and sewer pipeline project areas.

Flora

The project's general area of potential impact is located within the predominant plant communities of the Town, Joshua Tree Woodland and Creosote Bush Scrub. The Joshua Tree Woodland is a state designated Community of Highest Inventory Priority. According to the Biological Assessment completed for the General Plan (Tierra Madre Consultants ,1994) the Joshua Tree Woodland community is an open woodland with the Joshua tree (*Yucca brevifolia*) as the only tree-like species, and with numerous shrub species between 3-13 feet tall. These shrubs include: the Mojave yucca (*Yucca shidigeria*), California juniper (*Juniperus californica)*, peachthorn (*Lycium cooperia*), boxthorn (*Lycium andersonii*), joint-fir (*Ephedra* spp.), creosote bush (*Larrea tridentata*), burrobush (*Ambrosia dumosa*), goldenbush (*Haplopappus* spp.), cheesebush (*Hymenoclea salsola*), and cacti (*Opuntia* spp. and *Echinocereus* spp.). This plant community also contains many annual plants, perennial grasses, and introduced plants from local landscaping activities. The Creosote Bush Scrub community also occurs in the general area of the project and is similar to the Joshua Tree Woodland, but it is dominated by the creosote bush with scattered Joshua Trees. It is sometimes difficult to distinguish the two.

The Town of Yucca Valley requires developers to salvage native joshua trees and shrubs for incorporation in project landscaping or to transplant trees to other sites. The Town has a Joshua Tree Removal permit process. The District would be subject to these requirements. Additionally, San Bernardino County Ordinance 3175 recommends that all creosote bush rings greater than 10 ft. in diameter be preserved. Native plants such as cactus are to be salvaged.

The proposed WRF site contains several Joshua Trees, creosote bush, Mojave yucca, cheesebush, annual plant species, and cacti. A site-specific biological assessment was conducted for this area and is provided as Appendix 4 to this document. The proposed pipeline routes are located primarily along previously disturbed road rights-of-way. However, in certain areas both the sewer pipelines and pump stations cross undisturbed areas, including ephemeral stream channels which are described in the surface water hydrology discussions above (Section 3.2). A site-specific biological assessment was conducted for the sewer line alignments and is provided as Appendix 4 to this document.

The biological assessments indicated that the plant community at the proposed WRF site is Creosote Bush Scrub, dominated by the creosote bush (*Larrea tridentata*), cheesebush (Hymenoclea salsola), Joshua trees (*Yucca brevifolia*), desert senna (*Senna armata*), and mormon tea (*Ephedra nevadensis*). Hedgehog cactus (*Echinocereus Engelmanii*), teddy-bear cholla (*O. Bigelovii)*, pencil cactus (*O. Ramosissima*), buckhorn cholla (*O. Acanthocarpa*) and beavertail (*Opuntia basilaris var. basilaris*) also occur in the wastewater treatment plant site. The wash area is also dominated by Creosote Bush Scrub intermixed with Mormon tea. The wash bottom is inhabited by desert willow (*Chilopsis linearis*) and a variety of annual wildflower species. Refer to the species list in Appendix 4 which shows all plants identified at the wastewater treatment plant site. The same general list of plant species were found along the pipeline alignments where these alignments crossed undisturbed or disturbed natural communities. Refer to the species list in Appendix 4.

Fauna

Several sensitive and one listed (i.e., threatened or endangered) animal species occur within the Town, as associated with the above plant communities. Those species included in the biological survey for the General Plan (Tierra Madre Consultants, 1994) included: 42 species of reptiles – desert spiny and fence lizards, snakes (gopher snake and several types of rattlesnake), and the threatened desert tortoise and sensitive San Diego horned lizard; 235 species of birds – the sensitive burrowing owl, loggerhead shrike and LeConte's thrasher, as well as numerous raptor and

songbird species; 59 mammal species–several types of bats, desert cottontail, jackrabbit, ground squirrels, kangaroo rats, coyote, raccoon, bobcat, mountain lion, and mule deer.

A focused Desert Tortoise Survey (following the survey protocol established by the USFWS) was conducted by Frank Hovore & Associates in 2004 as part of the biological survey. No tortoises and no recent or historical signs of tortoises (burrows, scat, carapaces) were observed on the project site or in its zone of influence.

The Burrowing Owl (*Speotyto cunicularia*) and LeConte's thrasher are federal and state Species of Special Concern. Due to the use by off-road vehicles throughout the Town and project area, these species are not expected to be present on the project site. In addition, there was no evidence of use of the project area by these species. However, cactus wren (*Campylorhynchus brunneicapillus*), house finch (*Carpodacus mexicanus*), Gambel's quail (*Callipepla gambeli*), black-throated sparrow (*Amphispiza bilineata*), lark sparrow (*Chondestes grammacus*), western meadowlark (*Sturnella neglecta*), and mourning dove (*Zenaida macroura*) bird nests were encountered in the project area, as well as nesting behavior observed in other bird species. The State of California prohibits the take of active bird nests (California Fish and Game Code Sections 3503 and 3503.5).

Other bird species observed within the project area (both sewer line alignments and WRF site) include common raven (*Corvus corax*), northern mockingbird (*Mimus polyglottos*), European starling (*Sturnus vulgaris*), Brewer's sparrow (*Spizella breweri*), ash-throated flycatcher (*Myiarchus cinerascens*), western kingbird (*Tyrannus verticalis*), and American kestrel (*Falco sparverius*). The most common reptile observed was the side-blotched lizard (*Uta stansburiana*). Other reptiles observed onsite were the Great Basin desert whiptail lizards (*Cnemidophorus t. tigris*), yucca night lizard (*Xantusia v. vigilis*), and long-nosed leopard lizard (*Gambelia wislizenii*). The only snakes observed on the WRF site were two red racers (*Masticophis flagellum piceum*).

Wildlife on the WRF site included species observed directly or by indicative sign (scat, tracks, burrows, nests or calls). Mammals included the kangaroo rat (*Dipodomys* sp.), Audubon's (desert) cottontail (*Sylvilagus audubonii*), antelope ground squirrel (*Ammospermophilus lsucurus*), Botta' Pocket Gopher (*Thomomys bottae*), and desert woodrat (*Neotoma lepida*).

As a result of the desert tortoise protocol surveys of the WRF site and the sewer line alignments, <u>no</u> desert tortoise were identified with project areas of potential effect.

Refer to Appendix 4 for a complete species list and discussions of other sensitive animal species.

### 3.6.3 Geology and Soils

Regulatory Setting

The key federal law related to these issues is the Historic Sites Act of 1935, which established a national registry of natural landmarks and protects "outstanding examples of major geological features."

Hazards as they relate to public safety are also concerns for project design. Of primary importance to the project area is that of seismic hazards. The anticipated Maximum Credible Earthquake (MCE) and location of fault zones are important criteria that drive the design and retrofit of structures. The state, county and local hazards overlays are used to assess the risks of proposed projects.

Affected Environment

Geologically, the project area and surrounding vicinity are at the boundary of the Transverse Ranges and the Mojave Desert Geomorphic Provinces. The hills and mountains trend in an east-west direction, with the Pinto and Eagle Mountains to the east and the Santa Monica and Santa Ynez Mountains to the west. The immediate valley in the Town of Yucca Valley is bounded by the Little San Bernardino Mountains on the south and the Sawtooth Mountains to the north. The valley floor contains Quaternary alluvial deposits and older superficial sediments, including sand and gravel eroded from the adjacent highlands. Alluvial soils consist of unconsolidated sand and gravel with minor amounts of clay and silt, estimated to be 100 feet or less in thickness. Older alluvium consists of coarse-grained sediments, including cobbles, pebbles and coarse sand. This alluvium extended to greater than 500-foot depth, particularly in the north and east (General Plan EIR 1995).

The existing fault that represents the greatest local threat in the project area is the Pinto Mountain Fault, with an estimated maximum Richter magnitude earthquake event of 7.4 and peak ground acceleration of 0.60 (g), with an estimated duration of strong ground shaking of 31 seconds. The proposed WRF project is not located within a mapped fault rupture zone or Alquist-Priolo Special Studies Zone (Seismic Safety Element of the General Plan, Exhibit V-1, 1995). The sewer pipeline alignments will cross the Pinto Mountain Fault, which is located north of SR 62 and other inferred faults.

Regional seismicity appears to be dominated by the San Andreas Fault (west of the Morongo Basin) and the Johnson Valley Fault (the Landers Fault System approximately 3 miles north of Yucca Valley). Both of these faults run north-south, or northwest-southeast, and pose no direct ground rupture hazards within the project area. However, the 1992 Landers earthquake on the Johnson Valley Fault caused "sympathetic ground ruptures" along the Pinto Mountain Fault (Leighton and Associates, Inc. 1993). This earthquake damaged 40 percent of the District's subsurface water distribution lines and over $100 million of other property damage, according to the Seismic Safety Element of the General Plan (1995).

Liquefaction can occur when loose, unconsolidated and saturated sandy soils are subjected to ground shaking during a seismic event. This causes the soils to "liquefy." This is not seen as a general hazard in the in the Yucca Valley area, due to the depth of 200 feet or more to the groundwater table. In addition, soils within the project area are coarse alluvial soils, i.e., sandy. Expansive soils are not considered to be a concern in the Yucca Valley, as these would contain significant amounts of clay. The project area is also located in a "low" susceptibility zone for rockfalls and landslides (General Plan 1995).

### 3.6.4 Mineral Resources

The Town of Yucca Valley General Plan (1995) states that there are few mineral resources in the project area. Generally, the area is composed of alluvial fans consisting of sand and gravel washed down from the mountains to the north and south of the community. Aggregate materials can be obtained from the major east-west channel in the City, but no major mining operations are presently conducted in the City or in or adjacent to the project area.

### 3.6.5 Visual Resources / Aesthetics

The desert background consists of typical Joshua Tree woodland and creosote bush scrub alluvial fan areas with varying levels of human disturbance depending on proximity to the Yucca Valley urban corridor along SR 62. The proposed project site is located in the near vicinity of SR 62 within an area developed with mixed residential, commercial, and industrial uses.

The SR 62 and SR 247 are designated as “eligible” for official Scenic Highway designation. Additionally, the Town of Yucca Valley has designated some local routes as Scenic Roadways (General Plan 1995, Exhibit III-13). According to the General Plan, any projects in the above-named scenic corridors need to minimize impacts on scenic values. The proposed wastewater treatment plant design includes a 1,000-foot setback or more from SR 62.

Night lighting occurs throughout the project area. Individual residences have exterior night lighting on the outskirts of the town and a combination of street lights and individual residential lighting occurs within the urban area of the town, i.e., closest to SR 62.

Scenic views exist to the north and south to surrounding mountain ranges or ridges, but the project site itself has no significant or unique visual resources. Development in the surrounding area creates a human-dominated as opposed to a natural landscape visual setting.

## 3.7 POPULATION AND HOUSING

The proposed wastewater treatment plant site is currently vacant. There are individual residences to the north. These include single-family homes. Generally, the project area can support more housing development, but this may be limited by location within the Pinto Mountain Fault Zone (where no new housing is encouraged).

The Town of Yucca Valley 2000 U.S. Census population was 17,200 persons. This was less than that predicted in area planning at that time. The District’s Water Supply Plan of 1990 (John Egan and Associates) predicted 26,066-30,428 residents by the year 2000 and 30,250-40,131 by the year 2010 for its service area (which included Yucca Water Company service area). These estimates assumed a 5 percent annual growth prior to the year 2000, then 3 percent. For the purposes of planning, household sizes of 2.4-2.5 persons per dwelling unit were used. The Town’s General Plan studies for the Housing Element (1995) indicated that population growth actually started slowing from 1990-1993 and the District Urban Water Management Plan estimates annual average growth from 2005 through 2030 to be about 2.3 percent. The Town had 18,336 persons in 1994, and was anticipated to have 20,000 by the year 2000. Household sizes were estimated to be similar to those used by the District, or 2.49-2.5 persons per dwelling unit. The District’s 2005 population estimate was 26,000 persons based on water services within its service area which is larger than the Town of Yucca Valley.

Other trends that were described in the1990s were: that the population would shift from older retirees to younger families with children, and that more multi-family housing would be developed. Trends have changed, due in part to the loss of population after the 1992 Landers earthquake, and

the more recent increase in population due to military activities at Twentynine Palms and other area facilities. Overall, however, the population has not shown the substantial growth forecast envisioned in the 1990s.

Buildout was given as 24,401 units in the General Plan (1995), of which the majority would be single-family housing with zero to 10 dwelling units per acre. In 1995, 79 percent of all housing was of the single-family type. At that time, there were 8,585 units. The District's service area encompasses more than the Town of Yucca Valley, which had 5,366 connections in 1990.

The community contains a mixture of retirees and a service economy geared to serve them. Many retired residents live on fixed incomes and the majority of the community consists of low to moderate income residents. The WRF project site is located adjacent to commercial uses at the north end adjacent to SR 62. A few single family residences and one industrial facility are located in the immediate vicinity of the project site. These surrounding uses are consistent with those found in the whole community and no particular unique income or ethnic group is known to occur within the general project vicinity. No community issues related to environmental justice or

## 3.8 CONSTRUCTION

The construction scenario for the project area has been summarized in the project description, but some aspects are further discussed in the following text. The main activities related to construction, that will be evaluated in the environmental consequences section of this report, include: site clearing, grading, excavation and trenching, and installation of treatment facilities and equipment, temporary lift station, pump stations, sewer pipelines and the operations building. All work will be conducted within the identified footprint of the proposed facilities or within disturbed road rights-of-way. Temporary traffic management will be required as pipelines are installed within road rights-of-way. Construction activities will temporarily affect local traffic in these road rights-of-way, but will not affect traffic over the long term once the facilities are installed.

## 3.9 ENERGY ISSUES

The project is located near existing developed areas and, thus, does not involve any need for extension of any new energy resources. The wastewater reclamation facilities and pump stations will require electricity to serve the proposed facilities, possible including night lighting and other support equipment. Southern California Edison (SCE) provides the electricity to serve the proposed WRF and related support facilities. There will be energy, primarily petroleum products and perhaps some electricity, consumed by the construction activities. During operations electricity will be consumed, and the project will have a back up diesel generator to provide power during an emergency loss of electrical power.

## 3.10 COASTAL ZONE MANAGEMENT ACT

The proposed project area is located more than 80 miles from the California coast and therefore, this Act does not apply to the proposed project.

## 3.11 CULTURAL RESOURCES

### 3.11.1 Regulatory Setting

The National Historic Preservation Act (NHPA), as amended, sets forth the national policy and procedures regarding "historic properties". These are districts, sites, buildings, structures and objects included in or eligible for the National Register of historic Places. Section 106 of NHPA

requires federal agencies to consider the effects of their undertakings on such properties, following regulations issued by the Advisory Council on Historic Preservation (36 CFR 800).

The Archaeological Resources Protection Act (ARPA) protects archaeological resources on land owned by the United States or Indian tribes. ARPA requires that a permit be obtained before excavation of an archaeological resource on such land can take place. Cultural resources may also be protected by Section 4(f) of the U.S. Department of Transportation Act.

The Native American Graves Protection and Repatriation Act (NAGPRA) addresses the rights of lineal descendants and Indian tribes to Native American human remains and certain cultural items with which they are affiliated, and directs federal agencies and federally assisted museums to identify and repatriate the cultural affiliation of Native American human remains and related cultural items in holdings or collections under their possession or control.

Under California law, cultural resources are protected through the California Environmental Quality Act (CEQA) as well as Public Resources Code Section 5024.1, which established the California Register of Historic Places. Section 5024.5 requires state agencies to provide notice to pertinent agencies or affected parties when relocating or demolishing state-owned historic resources.

### 3.11.2 Affected Environment

Cultural resources studies of the WRF site and sewer pipeline alignments were conducted by CRM TECH. As part of the study, CRM TECH conducted a historical/archaeological resources records search, conducted historical background research, contacted Native American representatives, and carried out a systematic field survey. The research did not identify any cultural resources within or adjacent to the project area. A copy of each study is provided in Appendix 5 to this document.

## 3.12 WILD AND SCENIC RIVERS

The proposed project is located in the Mojave Desert Town of Yucca Valley, where no natural surface flows occur. Yucca Creek wash and flood control system are the only identified channels. Thus, the site is not located near a designated Wild and Scenic River System to be affected by the proposed action.

## 3.13 ENDANGERED SPECIES

Please refer to the discussion of biological resources, in Section 3.6.1. The site specific biological surveys resulted in the finding that no state and federal listed species occur at the WRF site or along any of the sewer pipeline alignments.

## 3.14 FLOODPLAIN MANAGEMENT AND PROTECTION OF WETLANDS

A blueline, ephemeral desert wash traverses the proposed Hi-Desert property. The wastewater treatment plant site appears to be located immediately east of this wash. In addition, the proposed site is located within the 100-year floodplain of this channel, which originates in the Little San Bernardino Mountains to the south. No wetlands or riparian habitat occur within the project area of potential impact. The pertinent Federal Emergency Management Agency (FEMA) map of the project area is provided in Appendix 6.

## 3.15 FARMLAND PROTECTION

The project area is essentially desert. No farming activities occur within the project area of impact and no farmland resources occur on the project site.

## 3.16 COASTAL BARRIER RESOURCES

The project site is located more than 80 miles from the California coast. Thus, this issue does not apply to the project area or to the proposed project.

## 3.17 OTHER ENVIRONMENTAL ISSUES

### 3.17.1 Regulatory Setting

Emergency Services

Fire protection services within the project area are provided by the San Bernardino County Fire Department. Law enforcement services within the project area are provided by the San Bernardino County Sheriff's Department under contract to the Town of Yucca Valley.

Hazardous Materials

The principal agency for managing contamination from illegal or accidental releases of hazardous materials and wastes in the State of California is the Department of Toxic Substances Control (DTSC). In addition to enforcing state regulations (California Code of Regulations (CCR) Titles 17, 19, and 22), the DTSC was granted authorization from the federal EPA in 1992 to be the agency responsible for regulating the generation, transport, and disposal of hazardous waste under the authority of the Resource Conservation and Recovery Act (RCRA) in California. Other agencies that may periodically coordinate with DTSC or with the enforcement of regulations that address site activities include: San Bernardino County Fire Department, Hazardous Materials Division, the Regional Water Quality Control Board (RWQCB), the State Water Resources Control Board, the Mojave Desert Air Quality Management District (MDAQMD), the Department of Transportation, and the California Highway Patrol.

Risk Associated with the Use of Hazardous Materials

*Hazard vs. Risk*
Worker and public health are potentially at risk whenever hazardous materials are present or will be used. It is important to differentiate between the "hazard" of these materials and the acceptability of the "risk" they pose to human health and the environment. A hazard is any situation that has the potential to cause damage to human health and the environment. The risk to human health and the environment is determined by the probability of exposure to the hazardous substance and the severity of harm such exposure would pose. The likelihood and means of exposure, in addition to the inherent toxicity of a substance, determine the degree of risk to human health. When the risk of an activity is judged acceptable by society in relation to perceived benefits, the activity is typically judged to be safe.

*Means of Exposure*
Exposure to hazardous materials could occur in the following manner: (1) improper handling or use of hazardous materials during the course of business, particularly by untrained personnel; (2) failure of storage containment systems; (3) environmentally unsound treatment/disposal methods; (4) transportation accidents; (5) fire, explosion or other emergencies; or (6) permitted release of hazardous materials by regulatory agencies. The following factors influence the health effects of exposure to hazardous materials: the dose to which the person is exposed, the frequency of exposure, the duration of exposure, the exposure pathway (route by which a chemical enters a person's body), and the individual's unique biological susceptibility.

The means of exposure as outlined above would determine the way in which toxic materials are absorbed into the body and, therefore, the bodily organs or systems affected. The major ways in which toxic materials may enter and be absorbed by the body are through the mouth (ingestion), the skin (penetration), or the lungs (inhalation). How a hazardous substance gets into the body and what damage it causes depends on the form or physical properties of the substance (i.e., liquid, solid, gas, dust, fibers, fumes or mist). A chemical may be toxic by one route and not another.

Health effects from exposure to toxic materials may be acute or chronic. Acute effects, usually resulting from a single exposure to a toxic material, may include critical, immediate damage to organs and systems in the body, and possibly death. Chronic effects, usually resulting from long term exposure to a toxic or hazardous substance, may also include systemic and organ damage, as well as birth defects, genetic damage and cancer.

*Hazardous Material Handling*

Hazardous materials could be utilized during short-term construction activities. The WRF operations do involve the use and /or transport of hazardous substances. Table 3-8 lists federal, state and local regulatory agencies that oversee hazardous substances handling and management, and the statutes and regulations that these agencies administer. The following discussion contains a summary review of regulatory controls pertaining to hazardous materials.

Federal

Federal agencies that regulate hazardous and toxic materials include the EPA, the Occupational Safety and Health Administration (OSHA), the Nuclear Regulatory Commission (NRC), the U.S. Department of Transportation (DOT), and the National Institutes of Health (NIH). The following federal laws and guidelines govern hazardous materials. Hazardous materials handling and management associated with the proposed project must comply with applicable regulations as follows:

- Federal Water Pollution Control Act
- Clean Air Act
- Occupational Safety and Health Act
- Federal Insecticide, Fungicide, and Rodenticide Act
- Comprehensive Environmental Response, Compensation, and Liability Act
- Guidelines for Carcinogens and Biohazards
- Superfund Amendments and Reauthorization Act Title III
- Resource Conservation and Recovery Act
- Safe Drinking Water Act
- Toxic Substances Control Act

Until August 1992, the principal agency at the federal level regulating the generation, transport and disposal of hazardous waste was the EPA under the authority of the RCRA. However, effective August 1, 1992, the California Environmental Protection Agency (Cal-EPA) and the DTSC, were authorized to implement the State's hazardous waste management program in lieu of the EPA.

State

The Cal-EPA and the State Water Resources Control Board generally govern the use of hazardous materials and the management of hazardous waste. The California Highway Patrol (CHP) and the California Department of Transportation (Department) enforce hazardous substance transportation regulations. Chemical suppliers must comply with all applicable packaging, labeling and shipping regulations. Applicable state and local laws include the following:

- Public Safety/Fire Regulations/Building Codes
- Porter-Cologne Act
- Hazardous Waste Control Law
- Hazardous Materials Release Act
- Hazardous Substances Information and Training Act
- Tanner Toxics Act

**Table 3-8**
**SUMMARY OF HAZARDOUS MATERIALS REGULATORY AUTHORITY**

| Regulatory Agency | Jurisdiction | Authority |
|---|---|---|
| ***FEDERAL AGENCIES*** | | |
| Dept. of Transportation | Federal | Hazardous Materials Transportation Act - Code of Federal Regulations (CFR) 49 |
| Environmental Protection Agency | Federal | Federal Water Pollution Control Act<br>Clean Air Act<br>Resource Conservation & Recovery Act (RCRA)<br>Comprehensive Environmental Response, Compensation & Liability Act<br>Superfund Amendments & Reauthorization Act (SARA)<br>Federal Insecticide, Fungicide & Rodenticide Act |
| Occupational Safety and Health Administration | Federal | Occupational Safety and Health Act & CFR 29 |
| ***STATE AGENCIES*** | | |
| Dept. of Toxic Substances Control | State | California Code of Regulations (CCR) Titles 17, 19, & 22 |
| Dept. of Industrial Relations (CAL-OSHA) | State | California Occupational Safety & Health Act, CCR Title 8 |
| State Water Resources Control Board & Regional Water Quality Control Board | State | Porter-Cologne Water Quality Control Act<br>Underground Storage Tank Law |
| Health & Welfare Agency | State | Safe Drinking Water & Toxic Enforcement Act |
| Air Resources Board & Air Pollution Control District | State | Air Resources Act<br>AB 1807<br>Air Toxics “Hot Spots” Information and Assessment Act |
| Office of Emergency Services | State | Hazardous Materials Release Response Plans/Inventory Law<br>Acutely Hazardous Materials Law |
| Dept. of Fish and Game | State | Fish and Game Code |
| Dept. of Food and Agriculture | State | Food and Agriculture Code |
| State Fire Marshal | State | Uniform Fire Code, CCR Title 19 |
| ***COUNTY AGENCIES*** | | |
| San Bernardino County Fire Department, Hazardous Materials Division | County | California Health and Safety Code Section 25280-25289<br><br>County Hazardous Materials Management Plan, California Health and Safety Code Sections 25500-25545<br><br>Uniform Fire Code |
| ***REGIONAL AGENCIES*** | | |
| Mojave Desert Air Quality Management District | Mojave Desert Air Basin | Air Toxics “Hot Spots” Information and Assessment Act |

DTSC has primary regulatory responsibility for the management of hazardous materials/substances and the generation, transport and disposal of hazardous waste under the authority of the Hazardous Waste Control Law (HWCL). DTSC can delegate enforcement to local jurisdictions that enter into agreements with the State agency. State regulations applicable to hazardous materials are indexed agreements in Title 26 of the CCR.

Regional

The MDAQMD works with the CARB and is responsible for developing and implementing rules and regulations to control the emission of air toxics on a local level. The MDAQMD establishes permitting requirements, inspects emission sources, and enforces measures through educational programs and/or fines. The Regional Water Quality Control Board controls the discharge of toxic materials in wastewater and from disposal facilities through the issuance of waste discharge requirements and NPDES permits under authority from the State Water Resources Control Board and the federal EPA.

Local

The County has compiled a Hazardous Materials/Waste Management Plan as a part of the County General Plan that addresses hazardous materials and the risk of upset. The Town's General Plan also addresses hazardous materials and wastes as part of its Hazards and Toxic Materials Element to the General Plan. This Element sets forth policies and actions that are meant to achieve goals relative to hazards and the risk of upset.

Hazardous Materials Transportation

*Federal*
The U. S. DOT (DOT) has the regulatory responsibility for the safe transportation of hazardous materials between states and to foreign countries. DOT regulations govern all means of hazardous materials transportation (except for those packages shipped by mail, which are covered by the U.S. Postal Service regulations), including transportation by rail. DOT regulations are contained in the Code of Federal Regulations Title 49.

Under RCRA, the EPA sets standards for transporters of hazardous waste. In turn, the federal government authorized the State of California to carry out EPA regulations concerning transportation of hazardous wastes originating in, or passing through, the State.

*State*
The State of California has adopted regulations for the intrastate movement of hazardous materials. State regulations are indexed in the CCR Title 26.

The CHP has primary responsibility for enforcing federal and State regulations related to the transport of hazardous materials over streets and highways, including hazardous materials labeling and packaging regulations. The CHP also responds to hazardous materials transportation emergencies. The goal of these regulations is to prevent leakage and spills of material in transit and to provide detailed information to clean-up crews in the event of an accident. Vehicle and equipment inspection, shipment preparation, container identification, and shipping documentation are all part of the responsibility of the CHP, which conducts regular inspections of licensed transporters to assure regulatory compliance.

Common carriers which transport hazardous materials on roadways are licensed by the CHP under conditions specified in CCR Title 26, Division 14.1 Transportation of Hazardous Material, Section 32000.5, License to Transport Hazardous Materials. This section requires licensing of every motor

(common) carrier who transports, for a fee, in excess of 226.8 kilogram (kg) (500 lbs) of hazardous materials at one time, and every carrier, if not for hire, who carries more than 453.6 kg (1,000 lbs) of hazardous materials of the type requiring placards. If the supplier or distributor carries fewer than 453.6 kg (1,000 lbs) of material, a license is not required.

Interstate 10 is a designated explosives routes according to the CHP manual *Explosive Routes and Stopping Places.* SR 62 is a designated Hazardous Materials Transport Route region.

Hazardous Materials Worker Safety Requirements

*Federal*
The Federal Occupational Safety and Health Administration (Fed/OSHA) is the agency responsible for ensuring worker safety. Fed/OSHA sets federal standards for implementation of training in the work place, exposure limits, and safety procedures in the handling of hazardous materials (as well as other hazards). Fed/OSHA also establishes criteria by which each state can implement its own health and safety program.

*State*
The California Department of Industrial Relations, Division of Occupational Safety and Health Administration (Cal/OSHA), assumes primary responsibility for developing and enforcing work place safety regulations within the State. Cal/OSHA standards are often more stringent than federal regulations.

Cal/OSHA regulations concerning the management of hazardous materials include requirements for safety training, availability of safety equipment, hazardous materials exposure warnings, and emergency action and fire prevention plan preparation. Cal/OSHA enforces the hazard communication program regulations, which include provisions for identifying and labeling hazardous materials, providing employees with Material Safety Data Sheets (MSDSs), describing the hazards of chemicals, and documenting employee training programs.

Both federal and state laws include special provisions for hazard communication to employees in research laboratories, including training in chemical work practices. The training must include safe methods for handling hazardous materials, an explanation of MSDSs, use of emergency response equipment, and building emergency response plans and procedures.

### 3.17.2 Hazards and Hazardous Materials

The project area is located in a rural community and at a location where hazardous materials are not used on a routine basis and where no hazardous waste disposal or contamination has occurred historically. The LUSTIS Geotracker database was examined (www.swrcb.ca.gov) for this project. Most historically “leaking” underground storage tank sites are related to gas station and automobile service centers on SR’s 62 and 247. The only case that is still active within the Colorado RWQCB’s purview is: Bill’s Service Station at 56504 Twentynine Palms Highway (i.e., SR 62). This site is currently undergoing remediation. This is not near the WRF project site. However, the contaminated site is near the alignment of the major trunk sewer within the Town and pipeline installation may occur in the vicinity of this site.

### 3.17.3 Noise

#### 3.17.3.1 Regulatory Setting

NEPA and CEQA provide the broad basis for analyzing and addressing noise effects. The intent of these laws is to promote the general welfare and to foster a healthy environment. The requirements for noise analysis and consideration of noise abatement and/or mitigation differ between NEPA and CEQA.

Noise Standards

*State of California Guideline:* The State of California has established guidelines for acceptable community noise levels that are based on the CNEL rating scale. The guidelines rank noise land use compatibility in terms of "normally acceptable," "conditionally acceptable," and "clearly unacceptable" noise levels for various land use types. The State Guidelines in Table 3-9, Land Use Compatibility for Community Noise Exposure, single-family homes are "normally acceptable" in exterior noise environments up to 60 dB CNEL and "conditionally acceptable" up to 70 dB CNEL based on this scale. Multiple family residential uses are "normally acceptable" up to 65 dB CNEL and "conditionally acceptable" up to 70 CNEL. Schools, libraries and churches are "normally acceptable" up to 70 dB CNEL, as are office buildings and business, commercial and professional uses.

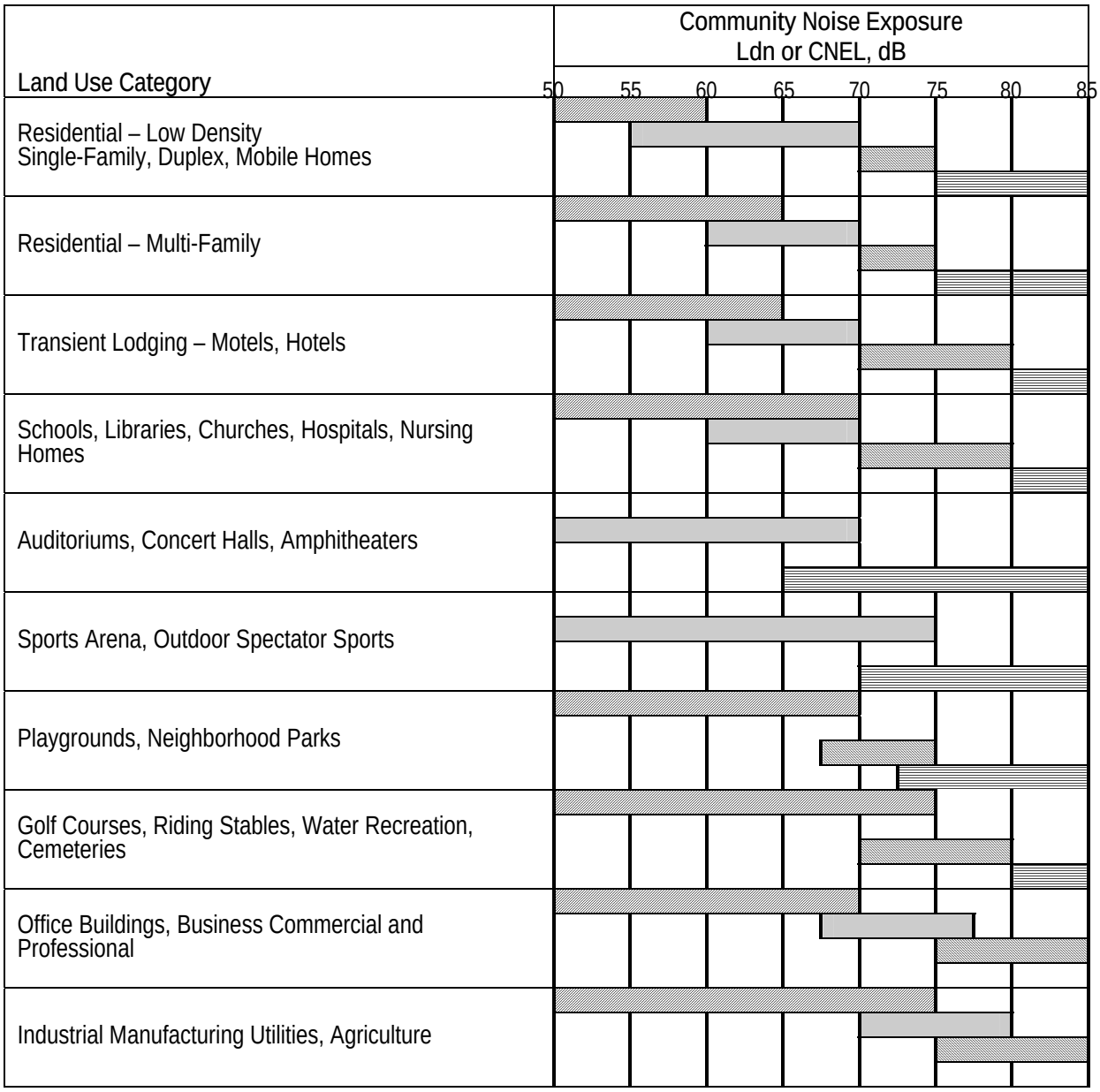
The Town has adopted a goal of 60 dB CNEL in any usable outdoor space for new residential uses. Levels up to 65 dB CNEL are acceptable if all reasonable mitigation has been exhausted to reach 60 dB CNEL. Commercial and industrial uses are considered less sensitive to noise and levels to 70-75 dB CNEL are allowed within such areas.

*Federal Guidelines:* Noise standards promulgated by various agencies differ somewhat from one agency to another. The Federal Highway Administration (FHWA) has adopted Noise Abatement Criteria (NAC) which are based upon the noisiest single hour of the day (Leq[1]). Exterior noise levels of 67 dB Leq in usable outdoor space are considered the maximum desirable noise exposure for noise-sensitive land uses as shown in Table 3-10. If there are no exterior uses at such receiver sites, attainment of 52 dB Leq is considered the maximum desirable interior noise exposure.

The Department of Housing and Urban Development (HUD) has adopted noise standards for residential properties for which it provides funding. The HUD standards are based upon the day-night level, Ldn (which is essentially identical to CNEL). HUD Ldn standards are very similar to the State of California CNEL-based noise/land use compatibility criteria shown in Table 3-9. A noise exposure of 60 dB Ldn in usable outdoor space is considered most desirable, and considered conditionally acceptable up to 65 dB Ldn. If there are no exterior uses which require noise protection, and interior exposure of 45 dB Ldn is the target for habitable interior rooms.

The Federal Transit Administration (FTA) has adopted noise evaluation criteria that incorporate both the peak hour and the 24-hour Ldn for various categories of land uses. The FTA standards are detailed in the impact discussion.

**Table 3-9**
**LAND USE COMPATIBILITY FOR COMMUNITY NOISE ENVIRONMENTS**




INTERPRETATION

Normally Acceptable: Specified land use is satisfactory based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.

Conditionally Acceptable: New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.

Normally Unacceptable: New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.

Clearly Unacceptable: New construction or development should generally not be undertaken.

Source: State of California Governor's Office of Planning and Research, General Plan Guidelines, 1990.

**Table 3-10**
**FEDERAL NOISE ABATEMENT CRITERIA**

| Activity Category | Noise Abatment Criteria Level - Leq | Description of Activity Category |
|---|---|---|
| A | 57 (exterior) | Tracts of land in which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose. Such areas could include amphitheaters, particular parks or portions of open spaces, or historic districts which are dedicated or recognized by appropriate local officials for activities requiring special qualities of serenity and quiet. |
| B | 67 (exterior) | Picnic areas, recreation areas, playgrounds, active sports areas and parks which are not included in Category A and residences, motels, hotels, public meeting rooms, schools, churches, libraries, and hospitals. |
| C | -- | Undeveloped lands. |
| D | 72 (exterior) | Developed lands, properties or activities not included in Category A or B above. |
| E | 52 (interior) | Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, and auditoriums. |

### 3.17.3.2 Affected Environment

With the exception of traffic on the two major roadways in the Town of Yucca Valley, SR 62 and SR 247, the Town and surrounding area constitute a low ambient background noise environment of a rural setting. Traffic levels along SR 62 and SR 247 (within the project area) are high enough to generate noise levels exceeding a 60 dBA 24-average noise level, i.e., Community Noise Equivalent Level (CNEL) within 100 feet of these highways (General Plan DEIR, Appendix F, 1995). Otherwise, background noise levels were below 65 dBA CNEL and suitable for the residential uses that occur within the project area of potential impact. The 65 dBA level is identified in the Town of Yucca Valley Development Code Section 85.020510 as a conditional standard for exterior noise.

The Yucca Valley Airport is a private airport, located one-half mile northeast of the Town's central business district, or approximately 3 to 4 miles from the project site. The noise corridor, or the 60 CNEL (Community Noise Equivalent Level), did not extend west of SR 247, according to the General Plan (1995). In other words, this local airport noise would not affect the project area.

The WRF site is located about 1,000 south of SR 62 and is exposed to low background traffic noise from this highway. The only other noise issue at the WRF site is the occasional passage of vehicles on Sunnyslope and La Contenta roadways.

### 3.17.4 <u>Public Services</u>

This is considered to be a local jurisdictional environmental issue, such that a regulatory setting section is not required to be included in the EA.

The project site for the proposed WRF is an undeveloped parcel. All public services, except wastewater treatment, are provided to the project area, including the following:

- Police Protection - San Bernardino County Sheriff's Department under contract to the Town
- Fire Protection - California Department of Forestry and the San Bernardino County Fire Department; two fire stations, one on 29 Palms Highway and one on Aberdeen Road
- Morongo Unified School District
- Library - County of San Bernardino; Yucca Valley Branch
- Water Service - Hi-Desert Water District
- Health Services–Hi-Desert Medical Center in Joshua Tree is the primary hospital
- Wastewater Treatment Service - individual treatment systems
- Solid Waste - Burrtec to landfills of San Bernardino County–Landers Landfill; Burrtec in Yucca Valley
- Drainage and Flood Control - San Bernardino County Department of Transportation and Flood Control

With the exception of random trespass or specific emergencies,,such as wildfires or accidents, the project area of potential impact does not place any demand on the above services at this time.

### 3.17.5 Recreation and Section 4(f) Properties

There are no specific federal or state regulations applicable to recreation. Local regulations related to recreation are set forth in adopted Plans and ordinances of the project proponents

No recreational facilities occur within the boundary of the proposed project area of potential impact and only passive recreational uses are known to occur within the project site. There is public access on all sides of the project site. The pipeline alignments occur within roadways where recreational activities do not occur.

### 3.17.6 Airport Hazards

The main public airports in the area include: the Marine Corps base, located about 15 miles northeast of the project area; and San Bernardino County Airport in Twentynine Palms, located about 25 miles east of the project area. Aside from random overflights, routine operations at these airports do not overfly the WRF site. The Yucca Valley Airport is a private airport, located one-half mile northeast of the Town's central business district, or approximately 3-4 miles from the project's proposed facilities. The sewer pipelines will be installed on roadways that are located beneath the existing landing and take-off flight paths at the local airport.

### 3.17.7 Environmental Justice

#### 3.17.7.1 Regulatory Setting

All projects involving a federal action (funding, permit, or land) must comply with Executive Order (EO) 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, signed by President Clinton on February 11, 1994. This EO directs federal agencies to take the appropriate and necessary steps to identify and address disproportionately high and adverse effects of federal projects on the health or environment of minority and low-income populations to the greatest extent practicable and permitted by law.

#### 3.17.7.2 Affected Environment

The project site is not located in a neighborhood that suffers from exposure to adverse human health or environmental conditions. There are no major industrial activities or sites in the area. The top employers generally are related to the school district, health care services and retail stores.

Yucca Valley is still mostly a community with a lower than normal average annual income, due in part to retirees and part-time residents (seasonal).

### 3.17.8 Unique Natural Features and Areas

The project area of potential impact consists of a uniform alluvial fan area with hills and bedrock outcrops to the north. These provide the scenic nature of the valley. No unique or natural features occur within the project area of potential effect, excepting the natural Joshua Tree woodland/creosote bush habitats of the site.

### 3.17.9 Sole Source Aquifer

The EPA's Sole Source Aquifer (SSA) Program was established under Section 1424(e) of the Safe Drinking Water Act (SDWA). Since 1977, it has been used by communities to help prevent contamination of groundwater from federally-funded projects. The SSA program allow for EPA environmental review of any project which is financially assisted by federal grants or federal loan guarantees. Although nine sole source aquifers have been designated in California, the Warren Valley Groundwater Basin is not listed among these aquifers as of January 29, 2009.

Groundwater is located several hundred feet beneath the project area of potential impact. The District obtains its water supply entirely from the Warren Valley Groundwater Basin. Although this Basin is the District's sole source of water supply, the aquifer is not designated by the federal EPA as a "sole source aquifer."

### 3.17.10 Site Access and Compatibility

The land use designations on the properties adjacent to the project area of potential impact consist of a mix of commercial, industrial, and residential uses. Roads to be affected by the WRF project component include SR 62, Avalon Avenue, and Indio Avenue. Public access exists to all of the project area of potential impact, although graded dirt, unpaved, roads are common in the area. The vast majority of the proposed sewage collection system will be installed in these roadways and access is generally excellent to all of the proposed collection system pipelines.

The project site for the WRF is currently a large area of open space that is considered valuable. This site is along the SR 62, which is designated as "eligible" for official Scenic Highway designation. The project is considered compatible with surrounding uses.

## 3.18 INVASIVE SPECIES

### 3.18.1 Regulatory Setting

On February 3, 1999, President Clinton signed Executive Order 13112 requiring federal agencies to combat the introduction or spread of invasive species in the United States. The order defines invasive species as any species, including its seeds, eggs, spores, or other biological material capable of propagating that species, that is not native to that ecosystem whose introduction does or is likely to cause economic or environmental harm or harm to human health. The California noxious weed list can be used to define the invasive plants that must be considered as part of the analysis for this project.

### 3.18.2 Affected Environment

Much of the project area has been disturbed, and contains non-native plant and animal species. The urbanizing portion of Yucca Valley abuts undeveloped desert habitat. Landscaping around residences is the primary cause of introduced plants (in other locales it might be agricultural practices). Residential “pets” such as dogs and cats are common. These are of concern, as they prey on native birds and mammals. Invasive species occur throughout the project area, including the WRF site. The biological survey contained in Appendix 4 lists the species found in the project area that fall under this category.

# Chapter 4 ENVIRONMENTAL CONSEQUENCES

The proposed project, the construction and installation of a wastewater treatment plant; approximately 405,800 lineal feet of trunk sewer line of varying diameter (see Table 2-5); and three pump stations are intended to provide the District's service area with a wastewater treatment and collection system that must be installed to protect and enhance groundwater quality. Implementation of the proposed project will cause both temporary and permanent changes to the physical environment during construction; however, the addition of the proposed wastewater system infrastructure is essential to the District to continue meeting the public health and safety requirements for water quality within its service area. Based upon the existing environmental conditions outlined above in the "Affected Environment" discussion, this section of the Initial Study/Environmental Assessment (IS/EA) evaluates the effects of the project on the physical and human environment. The Environmental Consequences section is presented in the same order as the issues are presented in the previous discussion. The following issues are evaluated by using the questions posed for each issue in the standard California Environmental Quality Act (CEQA) Initial Study Environmental Checklist Form, which is included after the text portion of this document.

## 4.1 AIR QUALITY

#### a. Would the project conflict with or obstruct implementation of the applicable air quality plan?

As described in the Affected Environment section, a project such as the proposed Hi-Desert water reclamation facility (WRF) and collection system is considered consistent or compatible with air quality management plans due to the fact that the facilities proposed by this project are considered public facilities being implemented to meet the needs of existing and planned development in a manner that will protect the public health and safety. Based on historic growth in the project area and the lack of significant demand for growth over the past decade, the proposed project will not change the intensity of developed and planned uses, and new development and new operational air emissions are forecast to be the same as envisioned by current planning documents. The proposed project is considered to be consistent with local planning documents and compatible with air quality management plans. Emissions are forecast to be less than significant based on controls of fugitive dust emissions during construction and control of emissions under permits from MDAQMD during operations.

The project area is in attainment for most air pollutants. Table 4-1 lists the attainment status for all air pollutants. The air basin was recently (March 2009) designated as being in attainment with the $PM_{2.5}$ standard. During construction activities the emission data presented below indicates that the District will not exceed the $PM_{10}$ emission thresholds and the nitrogen oxide (NOx) or volatile organic compound (VOC) established by the MDAQMD in Rule 1303. The MDAQMD has not adopted official thresholds to determine the significance of pollutant emissions from project. Unofficially, offset threshold amounts identified in Rule 1303 of Regulation XII, New Source Review of its Air Quality Attainment Plan (AQAP) can be used, expressed in tons of pollutants per year (TPY). Rule 1303 thresholds are:

| | |
|---|---|
| Carbon Monoxide (CO) | 100 TPY |
| Reactive Organic Compounds (ROC) | 25 TPY |
| Oxides of Nitrogen (NOx) | 25 TPY |
| Oxides of Sulfur (SOx) | 25 TPY |
| $PM_{10}$ | 15 TPY |
| $PM_{2.5}$ | 15 TPY |

**Table 4-1**
**DESIGNATIONS AND CLASSIFICATIONS**

| Ambient Air Quality Standards | AVAQMD | MDAQMD |
|---|---|---|
| 1-Hour Ozone (Federal) | Non-attainment; classified Severe-17 | Non-attainment; classified Severe-17 (portion of MDAQMD outside of Southeast Desert Modified AQMA is unclassified/attainment) |
| 8-Hour Ozone (Federal) | Non-attainment; classified Moderate | Non-attainment; classified Moderate (portion of MDAQMD outside of Southeast Desert Modified AQMA is unclassified/attainment) |
| Ozone (State) | Non-attainment; classified Extreme | Non-attainment; classified Moderate |
| $PM_{10}$ (Federal0 | Unclassified | Non-attainment; classified Moderate (portion of MDAQMD in Riverside County is unclassified, and the portion in the Searles Valley is attainment) |
| $PM_{2.5}$ (Federal) | Unclassified/attainment | Unclassified/attainment |
| $PM_{2.5}$ (State) | Unclassified | Non-attainment (portion of MDAQMD outside of Southeast Desert Modified AQMA is unclassified/attainment) |
| $PM_{10}$ (State) | Non-attainment | Non-attainment |
| Carbon Monoxide (State and Federal) | Attainment | Attainment |
| Nitrogen Dioxide (State and Federal) | Attainment/unclassified | Attainment/unclassified |
| Sulfur Dioxide (State and Federal) | Attainment/unclassified | Attainment/unclassified |
| Lead (State and Federal) | Attainment | Attainment |
| Particulate Sulfate (State) | Unclassified | Attainment |
| Hydrogen Sulfide (State) | Unclassified | Unclassified (Searles Valley Planning Area is non-attainment) |
| Visibility Reducing Particles (State) | Unclassified | Unclassified |

Source: MDAQMD CEQA Guidelines, June 2007

*De Minimis* thresholds for emissions in the Mojave Desert Air Basin are as follows:

NOx = 100 tons/year
CO = 100 tons/year
PM10 = 70 tons/year
VOC/ROG = 50 tons/year

The emission data in the following section verifies that neither the construction or operational phase emissions related to the proposed project will exceed the *de minimis* thresholds established in 40 CFR 93.153 for which a conformity determination must be performed. Therefore, the proposed project can be developed in conformity with California's State Implementation Plan.

**b. Would the project violate any air quality standard or contribute substantially to an existing or projected air quality violation?**

The proposed project can be divided into two phases, construction and operation. Operational emissions are forecast to occur as a result of electricity generation required to support the proposed facilities. The consumption of electricity for this particular project is estimated to be about 8,000 KWhr per day (8 megawatts per day). Emissions of criteria pollutants from electricity consumption related to plant operations are summarized in Table 4-2.

The data for the construction emission forecasts below were developed as part of another EIR and were compiled using the URBEMIS model by the Parsons Corporation. They are utilized here because they represent forecast emissions for comparable facilities. The operational emissions are based on data for electricity consumption contained in the SCAQMD's Air Quality Handbook, Table A9-11.

**Table 4-2**
**ELECTRICITY GENERATION EMISSIONS**

| Pollutant Emissions (lbs/day) | | | | |
|---|---|---|---|---|
| **CO** | **VOC** | **NOx** | **SOx** | **$PM_{10}$** |
| 1.6 | <1 | 9.2 | <1 | <1 |

Source: SCAQMD CEQA Handbook, Table A9-11-B

Annual NOx emissions based on 9.2 lbs per day will be 3,358 lbs or about 1.7 tons per year. This NOx emission rate is about 1.7 percent of the *de minimis* value in 40 CFR 93.153, i.e., 100 tons of NOx per year. All other values are well below this percentage. Therefore, the project electricity consumption emissions clearly conform with federal requirements and no mitigation is required for operational electricity consumption emissions.

Volatile organic compound (VOC) emissions from wastewater processing vary with process, weather, and character of the wastewater stream. For domestic sewage, EPA in its emission factor handbook (AP-42) estimates that one MGD of processing produces 15,600 pounds of methane per year. Assuming that the VOC fraction of methane is 2 percent (AP-42), one MGD of treatment capacity produces 312 pounds of VOC per year. For a proposed project up to 4 MGD a total of 1,248 lbs (0.62 tons) of VOC would be generated at the maximum design of the proposed treatment plant. This small increase, coupled with required compliance with MDQMD Rule 1179 governing Publicly Owned Treatment Works (POTWs), conforms with federal requirements, is a *de minimis* rate of VOC emissions and is a less-than-significant impact.

The EPA has studied large construction projects, which are estimated to generate 1.2 tons of fugitive dust per acre of soil disturbed per month of grading and site preparation activity. Over the life of the construction activities required to support this project an estimated 377 acres (342 acres for pipelines and up to 20 acres for the wastewater treatment plant facilities (15 acres of direct disturbance and additional temporary disturbance) and lift stations (5 acres for both permanent and temporary disturbance)). If it is assumed that 500 lineal feet of pipeline can be installed per day within the project area, it will require about 812 working days to install the 405,800 lineal feet of pipeline identified by the project for installation. Assuming 220 working days per year, it will require about 3.7 years to install all of the pipeline. This is a worst case assumption because actual pipeline installation will require much more than 3.7 years based on the WRF implementation phases, which envision construction continuing out into the indefinite future. The following emissions are forecast to occur during pipeline installation.

**Table 4-3**
**SUMMARY OF PIPELINE CONSTRUCTION EMISSIONS**

| Pollutant Emissions (lbs/day) | | | | |
|---|---|---|---|---|
| **CO** | **VOC** | **NOx** | **SOx** | **$PM_{10}$** |
| 50.4 | 7.3 | 53.1 | 3.3 | 4.1 |

Source: Parsons

Although construction emissions are not necessarily subject to conformity determinations, annual emissions for pipeline construction are estimated to be as follows: CO = ~5.5 tons per year; VOC = ~0.8 ton per year; NOx = ~5.8 tons per year; SOx = ~0.36 ton per year; and PM10 = ~0.45 ton per year. All values are well below the *de minimis* values for conformity evaluation. The values are also well below the MDAQMD thresholds and therefore, the pipeline construction emissions are considered to be a less than significant impact. Mitigation will be applied to control fugitive dust as outlined below. This is to prevent local nuisance, and is not required to mitigate for a potentially significant volume of emissions from this activity.

The entire WRF component of this project is anticipated to be completed within 18 months. This would generate about 3.5 tons of fugitive dust per month for the approximate 18 months required to construct the WRF. Due to the coarse soils, the $PM_{10}$ fraction will be less than 50 percent without any mitigation. Therefore, total $PM_{10}$ emissions are forecast to be about 1.75 tons per month, which does exceed the $PM_{10}$ threshold. Simple watering of the construction area two times per day can reduce fugitive dust/$PM_{10}$ emissions by 50 percent, or to 0.88 tons. With implementation of this single mitigation measure, $PM_{10}$ emissions are projected (10.56 tons per year) to be far below the regional significance threshold of 15 tons per year listed above. Specific fugitive dust control mitigation measures are provided below that shall be implemented by the District which can achieve a greater than 50 percent reduction in $PM_{10}$ and fugitive dust emissions.

Other wastewater treatment plant construction emissions include:

**Table 4-4**
**SUMMARY OF TREATMENT PLANT**
**CONSTRUCTION EMISSIONS BY PHASE**

| Construction Phase | Pollutant Emissions (lbs/day) | | | | |
|---|---|---|---|---|---|
| | **CO** | **VOC** | **NOx** | **SOx** | **$PM_{10}$** |
| Site Preparation | 23.8 | 4.7 | 28.1 | 2.3 | 9.7 |
| Piping and Forming | 93.1 | 23.5 | 62.7 | 4.1 | 38 |
| Site Finishing | 21.1 | 54.90* | 28.2 | 5.7 | 3.8 |

Note: * Includes coating application emissions of 51.60 lbs/day

Source: Parsons

The above emissions are not additive because they represent different phases of construction. Total annual emissions associated with pipeline construction is forecast based on assuming site preparation requires three months (66 working days); piping and forming require 12 months (264 working days); and site finishing requires 3 months (66 working days):

| Pollutant | Site Preparation | Piping and Forming | Site Finishing |
|---|---|---|---|
| CO = | 1,570 lbs | 12.3 tons | 1350.4 lbs |
| VOC = | 310.2 lbs | 3.2 tons | 3,623.4 lbs |
| NOx = | 1854.6 lbs | 8.3 tons | 1861.2 lbs |
| SOx = | 151.8 lbs | .6 tons | 376.2 lbs |
| PM10 = | 640.2 lbs | 5 tons | 250.8 lbs |

All of the above values fall below the threshold for construction activities related to the new treatment plant. The impact would be less than significant with mitigation incorporated.

A WRF operates in a manner similar to an industrial facility. The following equipment at the WRF may require permits from the MDAQMD:

1. Backup diesel generator (operated only when electrical power is down, no routine emissions only random emissions)
2. Boiler, natural gas fired (Assumes industrial boiler using 1 million cubic feet per day (mcf/d), data from Table A9-12-B of the SCAQMD CEQA Handbook, and compliance with 50% reduction in NOx emissions for the boiler, emissions are forecast to be: CO = 20 lbs/day (3.65 tons per year, TPY); VOC/ROG = 5.3 lbs/day (<1 TPY); NOx = 60 lbs/day (10.95 TPY); SOx = Negligible; and PM10 = 0.2 lbs/day (<1 TPY). All values fall well below the conformity *de minimis* values listed above.
3. Aerobic/anaerobic digester(s) (VOC emissions about 1.2 lbs/day at 2 mgd treatment level, or <1 TPY). This value falls well below the conformity *de minimis* values listed above.
4. Chemical storage tanks (no routine emissions)

In addition to falling well below the conformity *de minimis* values for the above equipment, compliance with the permit requirements for each piece of equipment actually used onsite is considered adequate mitigation to ensure no significant adverse air quality impacts will result from operating the equipment in support of the District's proposed WRF.

**Mitigation measures to control fugitive dust**

***4.1-1*** ***The construction site disturbed areas will be watered twice daily for short-term surface stabilization, and more times if winds are sufficient to loft dust from the construction site.***

***4.1-2*** ***Chemical, vegetative or mechanical (compaction or paving) will be used for surface stabilization upon completion of grading activities, if subsequent site uses are not proposed.***

***4.1-3*** ***Trackout onto paved roads will be minimized, and removed (swept or washed from paved surfaces) if substantial soil material accumulates on paved surfaces. Cleanup of project-related trackout or spills on paved roads will be removed daily.***

***4.1-4*** ***Haul trucks will be covered.***

***4.1-5*** ***Grading and soil movement activities will be minimized when winds exceed 30 miles per hour at the local airport or at an onsite wind monitoring system.***

These emissions occur in an area that currently meets most ozone and all particulate standards at the present time. Thus, there are no significant impacts from construction equipment exhaust emissions. However, there are general best management practices that apply to any operations, which are given below as mitigation.

Construction traffic will involve worker vehicle trips and support truck trips. It is estimated that there will be 50 vehicle trips per day during the construction period. These 50 vehicle trips include 10 truck trips [assumed to equate to 30 passenger car equivalent (PCE) trips] and 20 employee vehicle trips per day. Emissions from vehicle traffic related to the project are not required to be analyzed in detail because they fall well below thresholds established by MDAQMD. Assuming an average of 50 miles round per trip, the vehicle miles traveled will be approximately 2,500 miles. For this number of miles, all emissions would be less than ten pounds per day, or an annual emissions of about 1.8 tons per year of construction. Given the number of daily trips estimated for this project, the mobile source emissions are not considered to be significant. Several measures are listed below to reduce localized emissions from equipment and employee/delivery trips.

**Mitigation measures to control construction equipment and mobile source emission impacts**

***4.1-6*** ***Efficient scheduling of equipment use, with a phased construction schedule to reduce the number of units operating simultaneously.***

***4.1-7*** ***Performing regular engine maintenance on all equipment.***

***4.1-8*** ***Provision of local equipment storage areas so that equipment trips to the sites can be reduced.***

***4.1-9*** ***Construction personnel shall be encouraged to ride share to reduce vehicle trips to construction sites, including incentives for carpooling among construction employees.***

***4.1-10*** ***Shut down equipment when not in use for more than 10 minutes.***

With implementation of the above measures, local air pollutant emissions will be controlled to a less than significant impact level based on the threshold utilized above. Note also, that because the treatment plant will function as a stationary source of emissions, it will require permits to operate from the MDAQMD.

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

The proposed project will not cause a cumulative considerable net increase of any non-attainment pollutants (i.e., ozone and particulates for this area). Refer to above information. Minimal operating emissions will result from the electricity consumption at the proposed facilities. The only mitigation required for the proposed project to achieve a less than significant adverse air quality impact is control of fugitive dust and particulate generation during construction.

As noted above, the project is forecast to consume a maximum of about 8 megawatts of electricity per day. Project related greenhouse gas emissions (GHG) were calculated by combining energy consumption and/or methane production will their CO2-equivalents are shown in the California Climate Action Registry (CCAR) reporting protocols (2007) as follows:

| | | |
|---|---|---|
| Electricity 8,000 KW/day 804.54 lbs of CO2 per KW | = | 6,436.32 lb/day |
| Natural Gas 15.6 x 106 BTU/day x 116.71 lb/MBTU | = | 1,820.7 lb/day |
| Methane 42.74 lb/day x 21 (global warming potential) | = | 897.5 lb/day |
| Total | = | 9,154.52 lb/day |
| | = | 4.58 tons/day |
| | = | 1,671.7 tons/year |

The proposed project operation emissions of GHG are substantially below the 10,000 metric ton per year suggested by the CARB as a GHG significance threshold for an industrial facility. Nevertheless, the globally cumulative nature of GHG impacts and the ever-rising cost of energy require that any reasonably available control measures for energy conservation be implemented in operation of existing and future wastewater treatment operations.

Preliminary estimates of construction GHG emissions based on construction activities at another WRF indicate the following:

| | | |
|---|---|---|
| Grading | = | appx. 6,000 lbs per day (3 tons), over 66 days,198 tons |
| Fine Grading | = | appx. 6,000 lbs per day (3 tons), over 30 days, 90 tons |
| Trenching | = | appx. 1,800 lbs per day (0.9 ton), over 222 days, 200 tons |
| Foundation | = | appx. 27,106.06 lbs per day (includes concrete and steel manufacturing emissions), over 10 days, 135.53 tons |
| Paving | = | appx. 1,300 lbs per day, over 150 days, 97.5 tons |
| Building const. | = | appx. 52,084 lbs per day (includes concrete and steel manufacturing emissions), over 150 days, 3,906.6 tons |

All of the above GHG emissions will occur over a period of one to two years while the WRF and sewer collection system is being installed. These are one time only emissions that will not make ongoing contributions to climate change. Although GHG emissions are not considered significant and adverse based on the discussion above, the project will implement the following mitigation measure to reduce its carbon footprint to the extent feasible.

***4.1-11*** ***To the extent feasible, the District shall select landscaping that is fast-growing to create a windbreak buffer along the periphery of the WRF site. A minimum of two rows shall be installed at different times and plants shall be installed and grown in stages; periodically harvested; and replanted to maintain carbon sequestration. Alternatively or concurrently, the District may install solar power systems to partially or fully offset operational electricity demand of the WRF. As a final alternative, the District may choose to purchase annual or permanent carbon credits from the available carbon banks at the time the facility begins operation.***

This measure is considered sufficient to reduce the project's contributions to GHG emissions to the maximum extent feasible. It will also assist with creation of a visual buffer between the WRF and surrounding land uses.

**d. Would the project expose sensitive receptors to substantial pollutant concentrations?**

Sensitive receptors are considered to be children, the elderly and the sick. Schools, day care centers, hospitals and clinics, and retirement or nursing homes are facilities of concern if they are near a proposed project that produces air pollution. By "near" is usually meant one-quarter to one-half of a mile (1,300 to 2,600 feet). The only sensitive receptors within the WRF project area are a few single-family residences to the east and south of the proposed project site, not immediately adjacent. La Contenta Middle School and Sky High School are located approximately 1/4 mile to the northwest of the project site. Similarly, residential uses and schools occur along the sewer line alignments. Commercial and industrial uses are located to the north and east of the WRF site.

The air quality effects on sensitive receptors would be from construction activities generating fugitive dust and possible odors emissions during treatment plant operations. Fugitive dust emissions can be controlled on the WRF site and the sewer pipeline alignments by standard mitigation measures outlined below.

Standards of Performance for Sewage Treatment Plants are identified in 40 CFR 60 Subpart O. The proposed treatment plant must comply with these requirements. An example of on VOC

pollutant is benzene, which is a TAC. Based on EPA data (EPA March 2005), benzene emissions are about 0.078 lbs per million gallons treated. In an open environment, the benzene emissions would be less that 0.08 lb at a one million gallon treatment level and 0.16 lb at two million gallons of treatment. No mitigation is required to control fugitive VOC emissions as they will be well below a potential significance level. For fugitive dust, mitigation measures to control fugitive dust outlined above are considered sufficient to control impacts on sensitive receptors adjacent to the project area of potential impact to a level of nonsignificance. As noted, no significant toxic emissions are forecast to result from the proposed project, except the limited diesel exhaust and treatment plant VOC emissions associated with construction and operation of the WRF. The diesel emissions fall below thresholds and are short-term and not acutely toxic. The VOC emissions are considered below a significance threshold. Therefore, no significant toxic air contaminant impacts on sensitive receptors are forecast to result from project implementation and with mitigation nuisance fugitive dust will be controlled to a less than significant impact level.

**e. Would the project create objectionable odors affecting a substantial number of people?**

Use of construction equipment may result in some temporary and localized odors from use of diesel fuels. In addition, the wastewater treatment facilities and pump stations to be constructed as part of the proposed wastewater treatment plant and sewer system have the potential to generate odors. However, as described on page 10 of this document, specific odor control systems will be installed to control odors from each of the potential odor sources. These odor control systems are standard systems that are used at all WRFs and they are effective, except during upsets or accidents. Regardless, due to their distance from the existing residential development, potential offsite impacts are forecast to be less than significant.

There are typical concerns from residents that a wastewater treatment facility causes significant odor effects. This is most commonly based on the assumption that the plant is handling material that has natural odors and that these odors will be propagated by the treatment plant operation. This is an incorrect assumption for ongoing, routine plant operations. When operating properly, such plants typically have an earthy/musty odor, but not a sick, anaerobic decomposition odor. During upset conditions, a plant can generate such odors, but the key to odor control is to ensure that plant operations are managed to eliminate or minimize such upset conditions. The following mitigation measure shall be implemented to ensure such conditions are minimized and that the local community is not exposed to adverse odor conditions for any substantial amount of time.

***4.1-12*** ***The District shall require the installation of odor control facilities as part of the facility design. These facilities shall be state of the art (odor control to the maximum extent feasible) and shall control odors to ensure that adjacent properties are not exposed to significant odor concentrations, except during an emergency/upset condition at the WRF.***

***4.1-13*** ***The District shall establish an odor complaint response phone number that shall be clearly posted on the exterior fence of the treatment plant facility. If odor complaints are received, the District shall respond within 24 hours to correct the problem, and provide a response to the complainant within 12 hours of notification identifying what actions were taken and how long was or will be required to control the odor problem. Sources of odors shall be corrected in as timely a manner as possible.***

Thus, overall project construction and operation is not forecast to create any significant objectionable odor impacts. With incorporation of the above odor control measures as part of the project, the potential project odor impacts can be controlled to a less than significant impact.

**No Project Alternative**

Regarding air quality effects, the no project alternative would eliminate all construction and all operating air pollutant emissions associated with the proposed project. Regarding conformity, the proposed project can be implemented consistent with the MDAQMD air quality management plans (AQMPs) and in conformity with the State Implementation Plan (SIP). Because the no project alternative would not cause any direct emissions in the short-term it would also remain consistent and in conformity with these plans. However, as nitrate concentrations increase in the future, treatment of groundwater to remove nitrate would generate emissions from electricity consumption, and if the Regional Board requires advanced individual treatment units for all existing septic tanks, the ground disturbance within the community from construction activities would be comparable to that of the proposed project. Such construction and electricity emissions could be implemented with comparable mitigation measures to control emissions and remain consistent with the AQMPs and in conformity with the SIP. Thus, no great benefit for air quality impacts would be achieved

The no project alternative will not generate any direct emissions so it cannot contribute to existing air quality violations. Indirectly, future treatment requirements for domestic water supply and individual advanced treatment systems may indirectly generate emissions. Mitigation measures comparable to those implemented for the preferred alternative would be sufficient to ensure the emissions would not contribute substantially to an existing or projected air quality violation or a cumulatively considerable volume of emissions. Under these assumptions the no project alternative would also not adversely affect any sensitive receptors.

It is in the area of odors that the no project alternative can eliminate potential adverse effects. The WRF can be routinely operated without generating noxious odors, but on rare occasions upset conditions can generate such odors. The only way the no project alternative could generate odors would again be indirectly, as a result of continuing to rely upon septic tanks. Such systems generate the same type of anaerobic decomposition odors when they fail. Regardless, a higher potential for adverse odor effects, although considered less than substantial, will occur at the proposed WRF.

## 4.2 HYDROLOGY AND WATER QUALITY

#### a. Would the project violate any water quality standards or waste discharge requirements?

The proposed project operations will discharge effluent from the wastewater treatment plant to the District's proposed recharge basins. Therefore, since the proposed project will not discharge wastewater to surface waters, it has no potential to violate surface water quality standards or waste discharge requirements. Regarding groundwater resources, Hi-Desert WRF facilities have been designed to meet the anticipated effluent discharge limitation identified in Table 2-1 of this document, as described in the project description. Since this new WRF is being designed to meet the waste discharge requirements of the Regional Board, the potential for violation of any water quality standards is concluded to be a less than significant impact.

If precipitation occurs during construction of the proposed wastewater treatment facilities or pipeline, there is a potential for erosion and sedimentation from surface stormwater runoff at the exposed construction areas. The Regional Board has adopted General Permits for these situations. Due to the amount of acreage that will be disturbed to install the proposed project facilities, an estimated 377 acres (342 acres for pipelines and up to 20 acres for the wastewater treatment plant facilities (15 acres) and temporary lift stations (5 acres)), the District must obtain an individual General Construction NPDES (National Pollutant Discharge Elimination System) permit and to prepare and implement a Storm Water Pollution Prevention Plan (SWPPP) to ensure that non-point source discharges do not cause water quality degradation that would violate any

water quality standards. Even though the acreage of disturbance is fairly large, no single area greater than approximately 15 acres, so it does not appear that the new treatment standards, being proposed by the federal Environmental Protection Agency (EPA), will need to be implemented. The SWPPP must identify, and the District implement, a set of BMPs that will control non-point source runoff from the project construction areas, including sewer pipeline installation areas, during both construction and over the long-term (Water Quality Management Program, WQMP). These measures must achieve the standards outlined below which are considered adequate to protect water quality in accordance with current regional standards.

Surface runoff from the construction areas has a potential to cause increases in sediment and petroleum products released during construction activities or from an accident. The mitigation measures listed below will ensure that runoff from the construction areas will not cause significant degradation of water quality either onsite or offsite.

**Mitigation measures to reduce and control erosion and sedimentation**

***4.2-1*** ***The District shall prepare a Storm Water Pollution Prevention Plan (SWPPP) and a Water Quality Management Plan (WQMP) that will achieve no net loss of topsoil from the project sites and prevent runoff from causing erosion on adjacent property during construction. The SWPPP and WQMP shall be provided to the construction contractor and the contractor shall implement the SWPPP during all construction activities at the site.***

***4.2-2*** ***The SWPPP prepared for the project site shall include a spill response program for accidental release of water pollutants during construction that shall, at a minimum, meet the following performance standards: adequate resources shall be maintained on the site by the contractor to control any release of pollutants; if a spill occurs, the pollutant shall first be contained, second the spill shall be reported to appropriate authorities, third the pollutant contaminated material (soil, water, etc.) shall be collected in proper containers, fourth the pollutant contaminated material shall be delivered to a facility with the capability to treat or dispose of the contaminated material in accordance with existing laws and regulations in place at the time of the accidental spill; fifth the area contaminated by the spill shall be cleaned (remediated) to background conditions, or alternatively to a level that meets the requirements of existing laws and regulations at the time of the clean-up and that does not leave any residual threat to humans or the environment in which the spill occurs.***

***4.2-3*** ***The District shall prepare the WQMP and include a Spill Prevention Control Countermeasures Plan that will minimize the potential for release of any hazardous or toxic chemicals to the environment. This Plan shall include a requirement to retain material safety data sheets (MSDS) for all hazardous materials or substances at the site and measures that outline the responses that will be implemented should an accidental spill of hazardous materials onsite occur. Based on the list of hazardous materials/substances that will be utilized at the plant, the District Plan shall identify handling procedures and management options for any accidental releases to the environment until such accidentally released material is properly disposed of or treated so that no residual harm remains from the accidental release.***

Implementation of these measures will ensure that the proposed project construction activities and treatment plant operations will be controlled to a sufficient level to prevent significant degradation of water quality.

**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)?**

The proposed WRF will generate a higher quality of wastewater effluent, compared to the existing situation, that will be returned to the groundwater aquifer in the Warren Valley Basin. Approximately 80% of the effluent delivered to the WRF will be returned to the aquifer through the percolation ponds (accounts for plant losses and evaporation from the pond). General estimates of wastewater discharged from septic tank systems reaching the groundwater aquifer are about 50%, as some of

the septic tank effluent remains in the vadose zone and other portions are evaporated or transpired into the atmosphere. Thus, the proposed project is not forecast to substantially deplete groundwater supplies or interfere substantially with groundwater recharge. The project will enhance such supplies and enhance recharge on the WRF property. No mitigation is required.

**c. Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of a stream or river, in a manner which would result in substantial erosion or siltation onsite or offsite?**

The existing drainage system for the project area of impact will effectively remain the same. The proposed pipeline alignments will cross many stream channels, mostly within existing paved or graded roadways. At some locations, including the stream channel (wash) located onsite, pipelines will cross either natural or man-made washes. Based on a field review of the sewer pipeline alignments, there is no wetland located within any of the channels, and it is anticipated that the only regulatory permits required will be a 1602 Streambed Alteration Agreement from the California Department of Fish and Game and waste discharge requirements from the Regional Board. Based on field review of the washes, the surface flows will continue unaltered after the pipelines are placed below the ground surface. Some minor modification of the channel that crosses the property may be required, if the channel segment adjacent to the WRF requires hardening to protect the WRF site from a 100-year flood hazard. It does not appear that channel modifications on the WRF site will be required because there appears to be sufficient room to install the WRF without encroachment on the channel, i.e. any flood protection can be installed within upland areas adjacent to the channel. However, if channel modifications are required, they will consist of hardening the channel wall adjacent to the WRF to ensure that it will not be eroded and expose the WRF facilities to flood hazards.

Regarding potential for erosion and siltation, implementation of the SWPPP will control erosion and sedimentation potential. Because the washes in Yucca Valley are isolated waters of the United States, it will probably not require a Corps of Engineers Section 404 Permit or a Section 401 certification from the Regional Board because the surface runoff occurs in an isolated basin, which has no connection to any waters of the United States. However, as noted above, the Regional Board may require waste discharge requirements (WDR) for this project based on separate Porter-Cologne requirements. To address any adverse effects of fill requirements or stream bed alterations within this wash, the following mitigation measure will be implemented:

***4.2-4 The District shall restore any channel crossing locations with a comparable quantity or quality of habitat to that disturbed or removed during construction of the proposed project. Because no sensitive riparian or wetland habitat will be affected, the project will not be required to create such habitat or acquire mitigation bank credits. Channel restoration in the area of the pipeline crossing is considered adequate by the District to fully mitigate effects on altering the stream bed on the project site. The District must acquire a 1602 Streambed Alteration Agreement and may have to acquire a WDR from the Regional Board, and shall implement the requirements of the WDR and Agreement as long as it is not less that identified above.***

Implementation of this measure is adequate to reduce any adverse effects to the onsite wash to a less than significant impact level.

**d. Would the project 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?**

As noted above, the wash on the project site will not be substantially altered and future runoff from upstream of the site will continue to flow in this wash to the downstream channel. The sewer pipelines will also cross channels. Where such pipeline crossings occur outside of paved roads, it may be necessary to obtain regulatory permits from CDFG (1602 Streambed Alteration

Agreement) and the Regional Board (waste discharge requirements, WDR) as outlined under mitigation measure 4.2-4. Regarding runoff from within the WRF, it will be collected in a retention basin and discharged to the headworks for treatment prior to discharge. Thus, the proposed project is forecast to increase runoff from the existing site when the plant is installed, but the increased runoff is not forecast to cause a substantial alteration of the existing drainage pattern because the increase runoff will be retained and treated within the WRF itself. During construction the modified runoff will require implementation of the mitigation measures (4.2-1 through 4.2-3) identified above to control downstream water quality impacts. With implementation of these measures the potential for significant adverse impacts will be controlled to a less than significant impact level.

**e. Would the project 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?**

This project will not increase the peak discharge of surface runoff to the existing drainage area or provide a substantial additional source of polluted runoff. This finding is based on the fact that runoff from within the treatment plant site will be collected and returned to the plant for treatment before discharge. No mitigation is proposed.

**f. Would the project otherwise substantially degrade water quality?**

With implementation of the SWPPP and WQMP, the identified BMPs as outlined above, the project construction activities are not forecast to have any potential to substantially degrade surface water quality. Over the long-term the data indicates that percolation of the treated effluent or reuse as recycled water will not cause any substantial degradation within the Warren Valley Groundwater Basin. The analysis provided in the U.S. Geological Survey technical report in Appendix 3 verifies this finding is available upon request to the District. No mitigation is required beyond that already identified for the SWPPP and WQMP.

The U.S. Geological Survey modeled the potential for recharge of the treated effluent into the onsite recharge ponds to assess future impacts to groundwater levels and groundwater quality under future discharge scenarios. Appendix 3 contains more detailed information regarding the model, model assumptions and the model runs. The assumptions included the assumed future effluent flows, effluent water quality, percolation pond sizes and groundwater-level threshold. The model conducted several 16-year simulations of the effects of the proposed project on the upper/middle aquifers, the lower aquifer and the deep aquifer. Year 2008 pumping and recharge patters were used in the model-calibration process.

The following model results were reported in the U.S. Geological Survey evaluation. The simulated future water levels were determined to not reach the water level threshold of 100 feet below the ground surface (bgs) after 16 years of recharge. Therefore, no new production wells are needed to control water levels during the 16-year simulation period. However, the simulated rate of water level rise indicates that the water-level threshold will be exceeded in the future if wastewater recharge is continued and there is no pumpage from the East hydrogeologic unit. Therefore, wells will need to be installed in the future to ensure the 100 foot bgs threshold is not exceeded. An adaptive mitigation measure for this impact is presented below.

The modeling for water quality parameters concluded that the maximum simulated Total Organic Carbon (TOC) concentration was about 9 mg/L in the upper/middle aquifer; 0.5 mg/L in the lower aquifer. The maximum nitrate ($NO_3$) concentration was about 35 mg/L in the upper/middle aquifer and about 2 mg/L in the lower aquifer. The maximum simulated Total Dissolved Solid (TDS) concentration was about 420 mg/L in layer 1 and about 300 mg/L in layer 2. The $NO_3$ concentration is approaching the maximum contaminant level (MCL, 45 mg/L for $NO_3$), but it does not exceed the MCL. The modeled TDS concentration does not exceed the secondary MCL for TDS, which is 500 mg/L.

Based on the modeled data, the groundwater quality downstream of the WRF recharge ponds will be degraded relative to the existing concentrations, but it is not forecast to exceed public drinking water standards. Because the public health will be protected by operation of the proposed WRF, the project is not forecast to cause significant degradation of the existing groundwater quality in the groundwater aquifer downstream of the WRF site. Adaptive mitigation to ensure that maximum contaminant levels for public drinking water standards are not exceeded in the groundwater in the future.

***4.2-5*** ***The District shall install one or more monitoring wells downstream of the WRF. The well(s) shall be monitored for elevation of the groundwater table below the ground surface (bgs). If the groundwater table downstream of the WRF recharge site approaches 100 feet bgs, the District shall initiate pumping to control the groundwater level. The groundwater extracted may be discharged to the surface if the water quality is acceptable to the regulatory agencies, or it may be further treated and made available to the District's domestic water supply system. The performance standard to be achieved is that the groundwater table downstream of the WRF recharge facilities shall not rise above the 100 foot bgs threshold.***

***4.2-6*** ***The District shall install one or more monitoring wells downstream of the WRF. The well(s) shall be monitored at least annually for all drinking water standards and compared to maximum contaminant levels (MCLs) for public drinking water standards. If concentrations approach any MCL, the District shall install additional treatment at the WRF to modify the treated effluent by lowering or removing the pollutant of concern to a level that will prevent the MCL from being exceeded. The performance standard to be achieved is that the groundwater quality shall not be allowed to exceed any MCL for a domestic or public drinking water supply.***

With implementation of these measures, the water quality of the groundwater aquifer affected by the proposed project will not be degraded to a level of significant adverse impact.

**g. Would the project 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?**

The project does not propose new housing but a portion of the WRF project site is within a 100-year flood hazard area. According to the Yucca Valley General Plan, the wastewater treatment plant site and pipeline alignment are in a "A" zone, for 100-year flood hazard potential. Based on the current site design, the treatment plant will be installed outside of or just on the eastern edge of the flood hazard zone. To ensure no damage from 100-year flood hazards, the proposed treatment plant will have to be protected from the 100-year flood hazard by elevating the facility above the 100-flood level or by armoring the facility from exposure to such hazard. Mitigation is provided below to accomplish this.

***4.2-7*** ***The District shall provide a drainage report that defines the 100-year flood elevation on the site and shall either elevate the treatment plant facilities above this level with two feet of freeboard or shall provide protection of the site with a boundary levee that protects the facilities from exposure to flooding from the 100-year flow across the property. The final treatment plant facility design shall provide a means of re-routing any storm flows, including the 100 year flow, around the facility and back into the existing natural channel on the north side of the site without causing significant erosion in the channel.***

Implementation of this measure is adequate to reduce any adverse effects to the treatment facilities from onsite flood hazards.

**h. Would the project place within a 100-year flood hazard area structures which would impede or redirect flood flows?**

See the analysis provided in 4.2.g above.

**i. Would the project expose people or structures to a significant risk of loss, injury or death involving flooding, including flood as a result of the failure of a levee or dam?**

Based on the analyses in the three sections preceding this one, the proposed project has no potential to expose either people or structures to substantial loss or injury related to flooding, including failure of a levee or dam. No such existing facilities occur within the upstream area of the proposed project. No mitigation is proposed.

**j. Would the project cause or be exposed to inundation by seiche, tsunami, or mudflow?**

There are no water bodies or sources of inundation for the project area by seiche or tsunami. As within any desert environment, storm runoff can incorporate a substantial amount of sediment and a "flash flood" event can transport large volumes of sand and rocks, which is comparable to a mudflow. The mitigation required under issue g. above must include a "bulking" factor as part of the design to protect the treatment plant facilities from damage from such flows.

## No Project Alternative

Regarding hydrology and water quality effects, the no project alternative would eliminate all construction and all operating activities associated with the proposed project. However, the rationale for installing the WRF is the nitrate contamination caused by historic disposal of wastewater to subsurface septic tank leach systems. Thus, the no action alternative has a higher potential to contribute to or cause violation of water quality standards and to continue degrading water quality than the proposed project. This water quality standard violation is an adverse impact that would be substantial and non-mitigable, including potentially substantial adverse public health effects on the resident population of the District's service area.

The no project alternative would eliminate the modifications at the project site that are exposed to flood hazards. It is possible to mitigate these effects on the proposed WRF to a less than substantial level, but the no project alternative would eliminate these impacts from both a direct and indirect standpoint. The no project alternative would also eliminate the exposure of structures to any flood hazards or mudflows. Neither project alternative would be exposed to seiches or tsunamis.

The no project alternative would eliminate the modifications at the project site that could result in erosion, sedimentation and other pollution. It is possible to mitigate these adverse effects on the environment to a less than substantial level, but the no project alternative would eliminate these impacts from both a direct and indirect standpoint at the project site and along the pipeline alignments.

## 4.3 UTILITIES / SERVICE SYSTEMS

**a. Would the project exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?**

As described in the water quality discussion above, the proposed project will be subject to wastewater discharge requirements from the Colorado River Basin Regional Board, which must be met or the wastewater treatment facility cannot operate. As further discussed in Section 4.2 above, the WRF has been specifically designed to meet the anticipated waste discharge requirements. All effluent from the proposed wastewater treatment facilities will be discharged to the District's recharge basins and percolated into the local groundwater aquifer. The analysis of the water quality impacts to the Warren Basin groundwater resources is also presented in Section 4.2 above and determined to be a less than significant adverse impact. The non-point source discharges from the project will be from construction activities and they will be managed under the mitigation measures already identified in Section 4.2. Through implementation of the SWPPP and WQMP and use of identified BMPs for this project, no violations of any water quality objectives or wastewater treatment requirements is forecast to occur from implementing the proposed project. No additional mitigation is proposed.

**b. Would the project 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?**

The preferred project alternative is the construction of wastewater treatment facilities. This IS/EA document addresses the issues related to potential environmental effects. None of the environmental effects from constructing this facility have been identified as being substantially or significantly adverse.

**c. Would the project 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?**

As described in Section 4.2, stormwater flows within Yucca Valley may be altered by installation of the sewer pipelines or the proposed WRF. To address potential impacts to stormwater flows during construction, this document requires mitigation through effective implementation of best management practices during construction and operation. Once the pipelines are installed beneath roadways or across channels, no change in stormwater flow is forecast to occur during operation as a result of installing the sewer collection system.

As described in Section 4.2, stormwater flow generated within the proposed WRF project site would continue to be discharged to the existing stormwater surface drainage system. No change in offsite downstream drainage facilities will be required from implementing the proposed project. Temporary stormwater management measures will be implemented during construction of the pipeline and wastewater treatment facilities. Long-term modification of the onsite portion of the existing dry wash that crosses the property will be required, including either rerouting the flows around the facilities or providing for continued flow of bulked storm flows through the property. No potential exists to require new major public stormwater facilities to be constructed or expanded downstream of the project site. No significant impact is forecast to occur and no mitigation is required.

**d. Would the project have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?**

The proposed project is the construction and installation of wastewater treatment facilities, and does not include the need for substantial additional water supplies. Minimal amounts of potable water will be needed within the WRF for typical domestic uses and laboratory uses. Demand by the WRF is forecast to be comparable to four or five equivalent dwelling units within the District's service area. Thus, no potential exists for significant adverse impact to water supplies from

implementing this project. Other than meeting current water conservation requirements for fixtures in the WRF, no mitigation is required.

**e. Would the project 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?**

The proposed project is the construction and installation of a new wastewater treatment plant. Therefore, the proposed project will not generate any wastewater or affect the treatment capacity of any existing wastewater treatment provider. The determination that a higher level of wastewater treatment is required to meet the demand of the regulatory agencies and the local community to protect drinking water quality in the local groundwater aquifer has already been made. No additional impact can occur and no mitigation is required.

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

The volume of solid waste that will be generated during construction will be minor. During construction, it will consist of onsite vegetation that will be removed during site clearing and some construction waste generated during construction of the pipeline and wastewater treatment plant. The vegetative waste can be chipped and used as mulch or removed to a licensed municipal landfill. As stated in Section 3.3, construction waste can be delivered to the Landers Landfill. Small quantities of municipal waste may be generated during operations.

During operations the new WRF will generate biosolids and screened waste that must be disposed of at the regional landfill in Landers. The Landers Landfill has the ability and capacity (San Bernardino County 2008, General Plan and General Plan EIR) to accept the waste materials generated by the operating WRF. Collection and transport of biosolids and other solids to the Landers Landfill is a routine procedure and internally, adequate waste handling procedures have been set up by the District (collection, storage and transfer to the transport trucks) and this project should not adversely impact current or future operations landfill operations. Adequate disposal capacity is available at the Landers regional landfill or other landfills in the region. No mitigation is required, other than mandated recycling of materials capable of being recycled in accordance with existing regulations requiring that 50 percent of waste be diverted from landfills and into recycling programs, already governed under District operations.

**g. Would the project comply with federal, state and local statutes and regulations related to solid waste?**

The proposed project's construction contractor will be required to comply with all regulations related to solid waste. As stated above, the District will hire a licensed third party to haul biosolids offsite once the project is operational. It will be disposed at a municipal solid waste landfill, unless a local or regional market for the biosolids can be identified that complies with existing biosolids management requirements. No additional mitigation is required.

## No Project Alternative

The no project alternative would continue to contribute to water quality degradation in the Warren Valley Basin and to the potential exceedances of the nitrate standards in the future. The proposed project would constitute a major step in eliminating this water quality degradation. Thus, the no project alternative has a more substantial adverse effect on exceeding wastewater treatment requirements than the proposed project.

The no project alternative would not include any direct construction of water or wastewater facilities. As indicated above, the no project alternative indirectly has a potential to cause construction of new

water treatment facilities and perhaps to require the installation of a large number of advanced individual treatment systems if the preferred alternative is not implemented. Thus, the no project alternative may also mandate construction of such facilities that could cause adverse environmental effects. Based on available mitigation, these no project facilities can probably avoid significant effects, but this could only be determined on a case-by-case evaluation in the future. Regarding capacity of wastewater treatment providers, the no project alternative has the same effect as the proposed action because no existing wastewater treatment provider exists within the District's service area at this time.

The no project alternative would eliminate any need to construct stormwater drainage facilities at the WRF site. Although the proposed action would not cause any substantial adverse effects related to stormwater management issues, the no project alternative would have less impact because it will not require any modification to such facilities.

Regarding sufficient water supplies, the no project alternative would eliminate any direct demand for local water supplies. However, over the long-term the implementation of the no project alternative would continue the current path of degrading the Warren Valley Basin aquifer and this would cause a substantial adverse impact to water supplies for existing and future uses. Therefore, the no project alternative's potential effects on water supplies is concluded to be substantial and more adverse than the proposed action.

Under the no project alternative, the wastewater effluent solids are managed by individual subsurface septic tank/leach systems. Periodically, all septic tanks must be pumped and the waste is delivered to a landfill for management. Similarly, the solids from the WRF will be stabilized at the facility, and then disposed of to a landfill, to a composting facility, or directly to end users. Because of the increased potential for recycling wastewater effluent solids from the proposed action, it has a lower environmental effect on solids management than the no project alternative.

## 4.4 LAND USE / PLANNING

**a. Would the project physically divide an established community?**

The wastewater treatment plant site is proposed to be located on an 80-acre parcel in the Town of Yucca Valley, which is currently designated for commercial use. Public facilities are permitted to be located in all land use designations. The surrounding area is designated for commercial and industrial use in all directions, with the exception of the residential development to the north. The proposed project would not physically divide the community. The installation of the sewer collection system involves placing sewer pipelines below the ground surface and once installed, no change in the above ground use will occur and no division of the community will result. As no impacts can be identified, no mitigation is required.

**b. Would the project 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 significant adverse conflicts with applicable planning policies are forecast to occur and no mitigation is proposed. The project will implement mitigation to conform with requirements for mitigating disturbance of stream channels, joshua trees, and other measures required to comply with planning requirements that apply to the WRF project site and sewer collection system alignments.

**c. Would the project conflict with any applicable habitat conservation plan or natural community or conservation plan?**

The project site is not located within the boundary of any adopted habitat conservation plan or natural community/conservation plan. The Town of Yucca Valley requires developers to salvage native Joshua Trees and shrubs for incorporation in project landscaping or to transplant trees to other sites. The Town has a Joshua Tree Removal permit process. The District is subject to these requirements. San Bernardino County Ordinance 3175 recommends that all creosote bush rings greater than 10 feet in diameter be preserved. Native plants such as cacti are to be salvaged.

As discussed under biological resources, Section 3.6.1, the project area contains a sensitive plant community, Joshua Tree Woodland. It is also a designated area for recovery of the federal and state-listed threatened species, the Desert Tortoise. Focused surveys for the Desert Tortoise were conducted as part of the biological assessment of the project site. The biological survey (Appendix 4) concluded that the Desert Tortoise does not occur on the WRF site or within any of the pipeline alignment rights-of-way. The proposed facilities will result in the removal of joshua trees. Impacts and mitigation measures are more specifically described in Section 4.6.1. With the incorporation of the specified mitigation measures, conflicts with any of these plans will be minimized to a level of nonsignificance.

**No Project Alternative**

The no project alternative will not directly modify any land uses so it cannot physically divide the community or conflict with any existing or planned land use. Since there is no habitat conservation plan within the project area, neither the proposed action or the no project alternative have any potential to conflict with such a plan. Indirectly, the possible need to install future nitrate treatment units on wells may create a conflict with adjacent land uses due to noise impacts. Mitigation comparable to that envisioned for the WRF could control such potentially substantial noise impacts to a less than substantial level.

## 4.5 TRANSPORTATION / TRAFFIC

**a. Would the project 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)?**

The proposed project will have its greatest impact on traffic during the period of construction. Construction activities will result in an increase in traffic due to construction worker commuting and equipment and materials deliveries. A total of 100 vehicle trips per day are expected during the construction period. The roads in the immediate area of the project area include a paved two-lane “collector”, Avalon Avenue; an expressway, SR 62; and a two-lane “industrial roadway, Indio Avenue. Average daily traffic (ADT) volumes in 1993 were 2,200, 39,000, and 700-3,700, respectively. At buildout conditions, ADTs are expected to be 12,000, 55,000, and up to 12,000. Refer to Section 3.5 for further discussion. Thus, the additional traffic for the construction period, estimated to be about 100 trips per day, should not bring traffic volumes to levels out of the ranges expected.

Operation impacts on the circulation system should be minimal. Overall, it is not anticipated that the project will require more than a 20 to 30 vehicle trips per day by employees and routine deliveries to the proposed facility. Regarding the sewer pipeline alignment, once the pipeline is emplaced, there should be little maintenance required such that traffic would be generated on a routine basis. Mitigation to address short-term construction impacts on traffic flow are provided below.

**b. Would the project exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?**

As described above, the proposed project will not generate sufficient traffic during construction or operations to reduce the level of service on any of the roads that serve the project area. Therefore, the proposed project is not forecast to result in significant impacts and no mitigation is required.

**c. Would the project 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?**

Construction and operation activities for the proposed project have no potential to affect any air traffic patterns. No impact can occur and no mitigation is required.

**d. Would the project substantially increase hazards due to a design feature (i.e., sharp curves or dangerous intersections) or incompatible uses (i.e., farm equipment)?**

The proposed project will only affect flow of traffic during the construction period, particularly along the pipeline alignments within and crossing existing roadways. No new permanent road hazards are forecast to occur from implementing the proposed project. During the construction period, potential road hazards will occur and mitigation will be required to control traffic in a safe manner along the pipeline route and ensure adequate emergency access to all property along the pipeline alignments. Without mitigation short-term access, including emergency access, could experience substantial adverse effects.

## Mitigation measures to reduce construction traffic impacts

***4.5-1 The construction contractor will provide adequate traffic management resources, such as protective devices, flag persons, and police assistance for traffic control, to maintain safe traffic flow on local streets affected by facility and pipeline construction at all times.***

***4.5-2 The construction contractor will identify traffic hazards created by construction, such as rough road or potholes, freshly paved locations, and minimize total traffic and vehicle speed through such hazards.***

***4.5-3 The construction contractor will ensure that traffic safety hazards, such as uncovered or unfilled open trenches, will not be left in roadways during period of time when construction personnel are not present, such as nighttime and weekends.***

***4.5-4 The construction contractor will repair all roads adequately after construction to ensure that traffic can move in the same manner as before construction.***

***4.5-5 At all times during construction, the contractor will ensure that emergency fire, police or medical vehicles are able to access all adjacent areas. Additionally, construction equipment or activities must not obstruct or hinder traffic that might be generated during an evacuation.***

Implementation of the above measures will ensure that no substantial short-term traffic hazards will be caused by the proposed project.

**e. Would the project result in inadequate emergency access?**

Adequacy of emergency access is discussed above (Subsection d., and Mitigation Measure 4.5-5) and mitigation has been required to ensure that adequate emergency access to all occupied property is provided during construction.

**f. Would the project result in inadequate parking capacity?**

The proposed project does not create a need for new parking capacity, other than that needed at the wastewater treatment plant site. No more than ten to 20 vehicles might be at the site at any one time during operation. There is more than adequate room on the treatment plant site to provide adequate parking space for employees, vendors and visitors at the WRF site.

**g. Would the project conflict with adopted policies, plans, or programs supporting alternative transportation (i.e., bus turnouts, bicycle racks)?**

This project has no effect and no potential to conflict with alternative transportation programs.

**No Project Alternative**

The no project alternative will eliminate all of the potential direct transportation/traffic effects caused by the proposed action. In particular, the installation of the sewer collection system within existing road rights-of-way will be eliminated by implementation of this alternative. No long-term indirect traffic or circulation system effects are forecast to result from implementing the no project alternative.

## 4.6 NATURAL RESOURCES

### 4.6.1 Biological Resources

**a. Would the project 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?**

A detailed biological assessment (Appendix 4) has been conducted for the 80-acre parcel on which the WRF will be constructed and the sewer collection system pipeline alignments and pump station locations. Refer to the discussion in Section 3.6.1. The vegetation within the whole project area of potential effect consists of Joshua Trees, creosote bush scrub, cacti, Mormon tea, and various native and non-native annual plant species. An ephemeral desert wash with a defined bed and bank traverses the western portion of the WRF site.

Focused surveys for desert tortoise, burrowing owl, and LeConte's thrasher were conducted onsite. The proposed WRF site and the sewer collection system area of potential effect (APE) do not support any of these or any other sensitive species. The project will result in the temporary disturbance of about 50 acres of native habitat within the basin (the remaining area of disturbance occurs along existing paved or graded dirt roads), and the permanent loss of up to 30 to 35 acres of desert habitat at the WRF site and above ground pump stations required to support the sewer collection system. Should tortoise or burrowing owl be discovered on the site prior to construction, mitigation measures will be implemented to protect any individuals on the property, and to implement measures to minimize man-made threats to the tortoise, such as attraction of predators (ravens).

The proposed project will not result in a significant impact to protected animal species, due to the lack of presence of these species during the survey, as well as the fact that the APE is located within a disturbed urban/suburban setting where all proposed facilities are surrounded by roads and developed or developing land. Construction and installation of the proposed WRF facilities will require the removal of up to 20-25 acres of sparse creosote bush scrub and joshua tree plant communities. No large creosote bush rings occur within the APE and joshua trees and cacti will be salvaged where possible and consistent with the Town's requirements. In addition, a small area of the ephemeral wash that crosses the WRF site may be impacted due to its proximity to the WRF.

Several pipelines cross relatively undisturbed ephemeral channels and a major trunk line will cross the channel to enter the WRF. The impact area across any single channel is less than one-quarter acre, but due to the alteration of the temporary alteration of these streambeds, mitigation is identified below to address this impact.

The following mitigation measures will be incorporated into this project and can reduce potential impacts to the channel to a less than significant impact level.

**Mitigation measures to prevent or reduce impacts on sensitive plant and animal species**

***4.6-1*** ***Once the final pipeline alignments are engineered and surveyed, and the wastewater reclamation facility site boundaries finally established, a qualified biologist will inventory the numbers and types of cacti, creosote bushes, and Joshua trees that are to be impacted and removed. Salvaging of individual Joshua tree and cacti plants within these final alignments will be done in compliance with Town and County ordinances. Plants requiring relocation and transplantation shall be replanted within the disturbed alignment, or on the WRF site. A qualified professional shall oversee transplantation and maintenance of the transplanted plants to maximize potential survival.***

***4.6-2*** ***Any grubbing or brushing to occur as part of the project will be conducted outside of the State-identified bird breeding season of February 15th through September 1. Alternatively, a qualified biologist may survey the project impact area and if no native bird nests are discovered, the development may proceed. A report of findings will be provided to the California Department of Fish and Game if construction in the vicinity of bird nests must be conducted during nesting season. If nesting birds are located within or adjacent to construction areas, construction will be redirected to other locations until nesting ends.***

***4.6-3*** ***If the above work cannot be done according to this schedule, prior to the initiation of any ground disturbance, a qualified biologist will determine what birds are nesting in the shrubs or trees to be removed or are within 500 feet of the area that will be under construction.***

***4.6-4*** ***Mitigation for impacts to jurisdictional water of the State shall be offset by revegetating the pipeline alignment across the wash with equivalent habitat. This requirement shall be memorialized in the 1602 Streambed Alteration Agreement obtained for this project prior to disturbing the alignment.***

To address potential for future encounters with desert tortoise within the WRF alignment, the following measures will be implemented.

***4.6-5*** ***Prior to initiating site clearing and grading activities on the WRF project site, a pre-construction desert tortoise and burrowing owl survey shall be conducted within 30 days of initiating ground disturbance at the administrative building. Assuming no tortoise are found, the District may install a tortoise exclusion fence around the WRF site or retain a qualified biologist to monitor the project area one time per week during the duration of active construction activities on the WRF site. If either species (tortoise or burrowing owl) is discovered on the WRF building site, a qualified professional biologist shall implement measures, including possible acquisition of an incidental take permit (ITP), to remove any individuals of either species from this site. No take of either species will be allowed without implementation of an ITP or relocation of burrowing owl in accordance with State protocols.***

***4.6-6*** ***To minimize potential support for local raven populations, the District shall publish or make available a brochure to all employees (including contractor employees) that describes measures which can be implemented by residents to minimize habitat support for local raven populations.***

***4.6-7*** ***To prevent introduction of exotic, non-native plant species that could damage the local plant community, a qualified biologist shall compile a list of species that shall be prohibited from use in landscaping within the project area.***

***4.6-8 Worker education programs, defined construction areas, habitat mitigation, and well-defined operational procedures shall be implemented regarding desert tortoise and local wildlife.***

***4.6-9 Unauthorized, public off-road use of any project areas shall be discouraged by posting of signs and by District inspectors monitoring the construction crew.***

***4.6-10 Construction personnel or other persons related to the project shall not be permitted to bring pets or firearms into construction areas.***

***4.6-11 Trash from construction crews and facility employees, especially food items or packaging, shall be disposed of in scavenger-proof containers and removed daily to avoid attracting desert tortoise predators to the area.***

**b. Would the project 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 of U.S. Fish and Wildlife Service?**

According to the biological survey, an ephemeral wash traverses the WRF site and other ephemeral washes occur along the sewer collection system pipeline alignments. These washes are considered jurisdictional waters of the State, but not of the United States. The basis for this conclusion is that the channels within the APE are isolated waters that deliver runoff to internally drained basins. The proposed project will impact less than one-quarter acre of the WRF onsite wash and other washes within the project area. No riparian habitat or sensitive natural community occur within these washes or within the project area. Regardless, the mitigation measures listed above (4.6-1 through 4.6-4) can minimize these potential biological resource impacts sensitive plants and the ephemeral wash areas (State jurisdictional waters) to a less than significant impact level.

**c. Would the project 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?**

Please refer to the discussion under the previous issue (b).

**d. Would the project 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?**

According to the Town's General Plan, the project area is not designated as a wildlife corridor or a known location of a sensitive species. The biological assessment (Appendix 4) concluded that the wash area on the WRF site may serve as a minor wildlife movement pathway for areas to the south of the project site. Impacts to the wash resulting from the construction and installation of the proposed pipeline may modify the existing channel, but under the present design it will continue to function by continuing to carry surface runoff and to serve as a pathway for wildlife. However, since the channel does not contain riparian resources or other habitat resources unique to the project are, the proposed project is not forecast to substantially interfere with any significant wildlife corridor or movement values. Thus, this impact is forecast to less than significant.

**e. Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?**

The Town of Yucca Valley has a Joshua Tree preservation ordinance. The County has a similar ordinance regarding protection of native cactus plants to the extent feasible. The application of Mitigation Measure 4.6-1 above, will ensure compliance with local policies and ordinances. With implementation of this mitigation, the potential impact is forecast to be less than significant.

**f. Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?**

There is currently no adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan associated with the proposed project site. Therefore, no mitigation measures need to be implemented and the project's impacts on such resources will be nonsignificant without mitigation.

## No Project Alternative

The no project alternative would eliminate all potential to disturb listed or sensitive species, and would also eliminate the permanent loss of up to 30-35 acres of low quality creosote bush scrub habitat at the WRF site and the pump station locations. Approximately 10 acres of this habitat will be disturbed as a result of installing the pipelines that will cross stream channels. The stream channel disturbances and these impacts and requirement to obtain regulatory permits would also be eliminated under this alternative. Over the long-term the indirect effects of requiring installation of water treatment units to remove nitrate may cause the permanent loss of several acres of creosote bush habitat. Mitigation available for the proposed action would be sufficient to control future indirect adverse effects of the no project alternative to a less than substantial level, comparable to the proposed project.

The no project alternative would also eliminate any interference with movement of wildlife, conflicts with local policies protecting biological resources, or conflicts with adopted habitat management plans. No such plans apply to the project area.

## 4.6.2 Geology and Soils

**a. Would the project 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? Strong seismic ground shaking? Seismic-related ground failure, including liquefaction? Landslides?**

No known or suspected earthquake faults occur on the proposed WRF site. However, the east-west aligned Pinto Mountain Fault, and related Alquist-Priolo Special Studies Zone is located just to the north of State Highway 62, about ½ mile to the north. However, since the WRF site is located about one-half mile south of Highway 62, the potential for damage from ground rupture is considered very low. The proposed WRF site, as with most of southern California, is in a seismically active area and will most likely be subject to substantial groundshaking during the life of the project. Habitable structures are part of the proposed project. Regardless, as an essential public facility (Risk Class 1 or II), the WRF must be designed to withstand the groundshaking from a predictable major seismic event on the major faults in the region (San Andreas, Johnson Valley, and Pinto Mountain). Mitigation is identified below to address this issue.

***4.6-12 Comprehensive geotechnical investigations shall be required prior to engineering and design development or structural and/or substantial rehabilitation of structures identified under Risk Class I & II, e.g., public facilities, as identified below:***

- ***Risk Class I & II, Structures Critically Needed after Disaster: Structures that are critically needed after a disaster include important utility centers, fire stations, police stations, emergency communication facilities, hospitals, and critical transportation elements such as bridges and overpasses and smaller dams.***
  ***<u>Acceptable Damage</u>: Minor non-structural; facility should remain operational and safe, or be suitable for quick restoration of service.***
- ***Risk Class III: High occupancy structures; uses are required after disasters (i.e., places of assembly such as schools and churches).***

***<u>Acceptable Damage</u>: Some impairment of function acceptable; structure needs to remain operational.***

- ***Risk Class IV, Ordinary Risk Tolerance: The vast majority of structures in urban areas; most commercial and industrial buildings, small hotels and apartment buildings, and single family residences.***

With implementation of the above measure, the proposed project will not subject humans to potential substantial adverse geologic constraints/effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault or strong seismic ground shaking. Measures to meet this seismic mitigation measure include enhanced foundation support; use of higher quality materials and more steel in the structures; and other similar measures that ensure the proposed WRF can function after a major seismic event.

In addition, the proposed project is not located on steep slopes and is also not subject to landslides. There is little potential for liquefaction to occur in the project area, as depth to groundwater has been identified by the U. S. Geological Survey to be over 100 feet below the ground surface.

The 1995 Town of Yucca Valley Comprehensive General Plan, Seismic Safety Element Exhibit V-1, identifies two other local faults with identified Alquist-Priolo Special Studies Zones, the Eureka Peak Fault located west of the project site and the Burnt Mountain Fault, located west of the Eureka Peak Fault. Although these faults appear not to pose a rupture hazard for the WRF, the sewer collection system will cross these faults, in addition to the Pinto Mountain Fault. Future pipelines crossing any of these fault zones may experience damage from rupture associated with future seismic events on these faults. Mitigation is provided to address the future management of such damage to sewer pipelines crossing the three faults' Special Studies Zones.

***4.6-13 Any pipelines crossing the Alquist-Priolo Special Studies Zones for the Pinot Mountain, Eureka Peak and Burt Mountain Faults could be subject to damage due to ground rupture associated with these faults. Any construction of facilities in or pipelines crossing this zone is required to have detailed structural engineering studies to ensure designs that can safely accommodate the anticipated ground movement(s), or to be immediately repairable following a seismic event along any of the three fault.***

With implementation of the above measure, the potential degradation to the environment from fault rupture damage to the sewer collection pipelines crossing the identified Special Studies Zones can be controlled to a less than significant impact level.

**b. Would the project result in substantial soil erosion or the loss of topsoil?**

During construction, the construction/installation of the WRF facility and the sewer collection system facilities have a potential to cause soil erosion. Any erosion and sedimentation that may occur due to excavation and grading activities will be controlled through the use of appropriate use of best management practices (BMPs) for wind and water erosion and subsequent sedimentation from the areas disturbed by construction and installation activities. As noted above in Section 4.2, because the site is larger than one acre, a NPDES general construction permit will have to be filed and a SWPPP and WQMP compiled and implemented with best management practices for short-term and long-term erosion control. Mitigation measures 4.2-1 through 4.2-3 identify the performance standards that must be met by these BMPs. Therefore, potential erosion impacts related to installing the proposed facilities will not cause any significant adverse erosion or sedimentation impacts within the project APE.

**c. Would the project 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?**

Regarding liquefaction, refer to the response to (a) above. The WRF site is generally level and would not have potential for rockfalls or landslides. However, the project is located in an area of sandy soils, which are generally unstable, i.e., non-cohesive. Construction will occur in localized and contained areas such that adjacent areas should not be affected.

The sewer collection system facilities will be installed throughout Yucca Valley, including some locations where rockfall can occur. However, since the pipelines will be placed undergound, the potential rockfall hazard is minimal and does not require mitigation. The pump stations are located on the valley floor and are not exposed to significant rockfall or other hazard. Certain construction practices will minimize impacts to a less than significant level, as given below.

**Mitigation measures to prevent or reduce soil instability during construction**

***4.6-14 Construction specifications will include appropriate measures for stabilizing excavations (such as covering soil piles with plastic or using spray on soil stabilizers to control fugitive dust) based on recommendation of project geotechnical studies.***

***4.6-15 Trenches will remain open for as short a time as possible.***

***4.6-16 Soils, where exposed, will be stabilized with hay bales or aggregate cover.***

***4.6-17 Construction specifications will identify proper compaction for backfilled soils.***

Implementation of these measures would ensure stability of the underlying soils during construction.

**d. Would the project 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?**

The WRF site and sewer pipeline alignments do not contain any expansive soils, so no adverse impacts from this type of hazard will affect construction or operations. No mitigation is proposed.

**e. Would the project 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?**

The proposed project is the construction and installation of wastewater treatment facilities. The project does not include installation or operation of any proposed septic tanks, so there can be no adverse impacts regarding this issue. No mitigation is proposed. Note that as part of implementing the proposed project, the existing septic tanks will be pumped to remove any residual wastewater or related by products and then either demolished or filled to prevent future damage from collapse.

**No Project Alternative**

The proposed action would construction and operation the WRF and a sewer collection system. By eliminating these facilities, the no project alternative eliminates the potential to expose structures and sewer pipeline to seismic or other geological hazards. This alternative also eliminates any direct soil erosion or sedimentation effects. Indirectly, future water treatment facilities and individual advanced subsurface systems will also disturb a substantial amount of land, which can also cause erosion and sedimentation. Available mitigation can control such impacts to a less than substantial level.

The no project alternative would have substantially greater impacts due to continued septic tank failures within shallow soils and soils with subsurface hardpan layers which contribute to such failures. The potential impacts from the no project alternative due to such soils is considered to be a substantial adverse impact.

### 4.6.3 Mineral Resources

**a. Would the project 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?**

The whole of the proposed project occurs at locations where no mineral resources are identified. Thus, the proposed project has no potential to remove any mineral resources from availability to the region or state. No mitigation is proposed.

**b. Would the project 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?**

The Town's General Plan (IV-29) does not identify any locally important mineral resources to be located within the footprint of the WRF site or the sewer collection system alignments. No potential exists to adversely impact locally designated mineral resources of importance and no mitigation is proposed.

**No Project Alternative**

No mineral resources occur within the project area, so neither the proposed action or no project alternative has any potential to cause any adverse effects to such resources.

### 4.6.4 Visual Resources / Aesthetics

**a. Would the project have a substantial adverse effect on a scenic vista?**

The sewer collection system pipeline installation will not change land uses, or cause any above-ground visual impacts. The WRF site will change from open space with desert vegetation to above-ground wastewater treatment facilities and recharge basins. The above ground facilities proposed would be located within an area that already contains interspersed developed lots, both residential and industrial. The proposed WRF facilities will be approximately the same height as surrounding structures and facilities, but will exhibit greater mass. In addition, the above ground pipe connections will clearly identify the facilities an industrial in character. Regardless, the WRF facility will become part of the existing suburban setting. These changes in the visual setting after development of the WRF will be adverse, but the degree of change at the WRF site and surrounding area is not considered to substantially adverse. No significant adverse impact to scenic vistas will occur on an area-wide basis.

**b. Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?**

The proposed pipelines will mostly be installed within existing paved or graded road rights-of-way. The portion of State Highway 62 is designated as "eligible" for official Scenic Highway designation. However, the pipeline alignment on this roadway occurs within the commercially developed portion of this highway and it will be returned to pre-project conditions following construction and installation activities. No scenic resources, such as historical buildings, trees, or rock outcropping, would be removed as part of the proposed project. See discussion (a) above. Thus, the potential impacts within the SR 62 right-of-way will be less than significant.

**c. Would the project substantially degrade the existing visual character or quality of the site and its surroundings?**

The sewer collection system pipelines will be placed below ground surface and therefore has no potential to degrade the existing visual character of pipeline alignments. The pump stations will be housed in structures at locations that can be designed to blend in the adjacent land uses. So not

substantial degradation of existing visual character or quality of these alignments is forecast to result from implementing these components of the proposed project.

The WRF site will be changed in visual appearance by implementation of the project. However, this change is consistent with surrounding land uses, particularly to the north and east. A substantial portion of the site will still remain a large open area and other portions of the WRF site will be developed at grade with the recharge basins, such that degradation of visual character or quality should not be substantial (as opposed to the use of the site for residential development, that is allowed under the current zoning designation). The effect on the visual character of the project area would be less than significant.

**d. Would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?**

There may be some new permanent lighting in the wastewater treatment plant area to support operations and safety at the proposed facility site. However, the surrounding area has residential, commercial and industrial development, such that the new lighting at both the WRF site and at the pump station sites should not be considered substantial change to the project area. To protect, nearby residences or facilities from direct light and glare from new lighting, the following mitigation measure will be implemented.

***4.6-18*** ***A facility lighting plan shall be prepared and shall demonstrate that glare from operating and safety night lights that may create light and glare affecting adjacent occupied property are sufficiently shielded to prevent light and glare from spilling into occupied structures. This plan shall be implemented in conformance with the Town of Yucca Valley Night Skies Ordinance and it shall be reviewed and approved by the District staff prior to installation of the night lights.***

**<u>No Project Alternative</u>**

Implementing the no project alternative would eliminate all potential direct changes in the project area visual setting that would result from implementation of the proposed action, including lighting effects. However, consistent with the previous analyses, if it is assumed that implementation of the no project alternative must result in installation of individual advanced subsurface treatment systems and nitrate treatment facilities, some more limited indirect visual modifications would occur under this alternative in the future.

## 4.7 POPULATION AND HOUSING

**a. Would the project 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)?**

This project is the construction and installation of wastewater treatment facilities, which are intended to improve the quality of regional groundwater supplies through the removal of septic tanks. It is intended only to provide services for existing and planned development. There is a limited potential for the provision of sewer service to encourage undeveloped parcels to develop within the Town of Yucca Valley. However, without the proposed project, those parcels could be developed anyway by installing advanced onsite wastewater septic systems where the proposed system is designed to remove no less than 50 percent of the nitrogen released in the effluent (Advanced Treatment, denitrifying systems). Costs for such systems are more expensive than the cost of hooking up to the District's WRF system, but they do provide an opportunity for development that is feasible.

The type and density of development in the District's service area is controlled by land use designations established by the agencies having jurisdiction over such issues; in the project area

the Town of Yucca Valley controls land use. As such, this project is considered growth-accommodating, not growth-inducing, in that it will help provide sewer service to development that is approved or allowed by the agencies having jurisdiction over land use issues. Since an alternative means of treating sewage (individual advanced treatment, denitrifying systems) is available that would allow for development of vacant parcels, the proposed sewer system does not constitute or eliminate an unavoidable cap or constraint on future development.

The potential for growth inducement, discussed in detail in Chapter 6, related to infrastructure improvements is based on the elimination of some development constraint in place at a given time. As the discussion above and in Chapter 3 indicates, there are alternative ways to develop parcels of land within the Town because of the advanced individual subsurface treatment systems, or for large developments the installation of package treatment systems. Thus, the proposed wastewater infrastructure collection system is not forecast to result in growth inducement or any growth beyond that which could occur without the installation of this system. Implementation of the project has no potential to cause or induce any substantial or significant population growth, directly or indirectly.

**b. Would the project displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?**

No housing resources will be displaced by the proposed project, as all construction and operation activities will occur at locations without any housing (wastewater treatment plant and sewer collection system facilities). The pipeline routes will be primarily located within existing road rights-of-way. No impact is identified and no mitigation is proposed.

**c. Would the project displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?**

The project has no potential to impact any existing housing or cause the displacement of people. No impact is identified and no mitigation is required. The proposed wastewater treatment facilities have no potential to adversely impact any low income or ethnic communities, i.e., no environmental justice impacts.

**No Project Alternative**

The no project alternative would have comparable effects on future growth and no known direct effects on existing housing resources. In a strange turn of events if this alternative were selected, a consequence could be a short-term moratorium on development, unless the Regional Board would accept individual advanced wastewater treatment systems for new development or through retrofit of existing development. Under this scenario the no project alternative could have a more adverse effect on both the existing and future local population, and possibly housing if abandoned, than the proposed action.

## 4.8 CONSTRUCTION ASPECTS

Construction impacts and related mitigation measures are described in various parts of Section 4 of this document. Many of the construction impacts addressed in this document are subject to mitigation and the proposed project can be implemented without any significant adverse short-term environmental effects. Specifically, air emissions, biological resources, cultural resources, geology and soil constraints, management of construction hazards, management of construction stormwater runoff, mineral resources, noise, and traffic effects have all been evaluation and determined to not cause substantial negative environmental effects. Please refer to the discussion of these specific issues in the pertinent sections of this document.

**No Project Alternative**

None of the direct construction impacts attributable to the proposed action would occur under the no project alternative. If it is assumed that implementation of the no project alternative must result in installation of individual advanced subsurface treatment systems and nitrate treatment facilities, some more limited indirect construction impacts would occur under this alternative in the future. As in the case of the proposed action, available mitigation measures are considered sufficient to reduce potential no project alternative construction effects to a less than substantial level.

## 4.9 ENERGY ISSUES

Overall, the project will consume energy during the construction period, with the use of petroleum-based fuels for equipment and vehicles. Electrical energy will be consumed for wastewater treatment operations and pump stations into the long-term future. An estimated 2.9 million KWhr of electricity will be required to operate each year, or about 8,000 KWhr per day. According to two California Energy Commission documents, the "2008 Integrated Energy Policy Report Update" and the "California Energy Demand 2008-2018 Staff Revised Forecast" adequate energy demand within the Southern California Edison and Southern California Gas service areas is forecast to grow by about 1.5% per year between 2008 and 2018. Adequate energy resources are available to serve the region, based on the assumption that new electricity power generation systems will be installed at an accelerated rate in accordance with the demand forecasts. Based on these reports, adequate energy resources can be made available to support forecast growth within the project area, which is located in both company's service areas. Thus, adequate electricity resources are assumed to be available from Southern California Edison to support operation of the WRF. The greenhouse gas (GHG) emissions related to electricity consumption are presented and determined to be a less than substantial adverse effect in Suchapter 4.1. Thus, the proposed WRF use can be served through existing energy resources, such that energy impacts should be minimal.

**No Project Alternative**

The no project alternative eliminates all short-term construction energy consumption and long-term electricity consumption by the WRF. If it is assumed that implementation of the no project alternative must result in installation of individual advanced subsurface treatment systems and nitrate treatment facilities, some more limited indirect short- and long-term energy consumption impacts would occur under this alternative in the future. As in the case of the proposed action, available mitigation measures are considered sufficient to reduce potential no project alternative energy consumption effects to a less than substantial level.

## 4.10 COASTAL ZONE MANAGEMENT ACT

The project is not located in any coastal zone management area. There are no identified impacts for the proposed project.

**No Project Alternative**

Due to the location more than 80 miles from the coast, neither project as any potential to impact or be impacted by coastal zone management issues.

## 4.11 CULTURAL RESOURCES

**a. Would the project cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?**

A cultural resources investigation was conducted for the WRF site and the sewer collection system pipeline alignments by CRM TECH. A copy of two reports documenting findings is provided as Appendix 5 to this document. The investigation included a field survey of the WRF site and sewer collection system pipeline alignments and determined that no historical, archaeological or paleontological resources of any substantial value occur within the project's area of potential effect (APE). The document indicated that a limited potential exists for accidental exposure of subsurface cultural resources and recommended implementation of the following mitigation measures. With implementation of the mitigation outlined below, potential cultural resource impacts will be less than significant.

**Mitigation measures to ensure adequate management of accidentally exposed subsurface cultural resources**

***4.11-1*** ***In the event that subsurface historical, cultural or paleontological resources are accidentally exposed during onsite construction activities, construction will be stopped until a qualified professional evaluates the resources. If resources are encountered, adequate funding shall be provided by the District to collect, curate and report on these resources. Acquisition of the information regarding such resources, is considered sufficient to fully mitigate resources accidentally exposed during construction.***

***4.11-2*** ***If any human remains are encountered during initial grading activities, all ground disturbing activities in the vicinity of the discovery will be terminated immediately and the County Coroner's office MUST be contacted within 24 hours at (909) 387-2543 to arrange for management of such remains.***

**b. Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?**

Please refer to 4.11.a above.

**c. Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?**

Please refer to 4.11.1 above.

**d. Would the project disturb any human remains, including those interred outside of formal cemeteries?**

Please refer to 4.11.1 above.

**No Project Alternative**

The no project alternative eliminates all potential direct adverse effects to cultural resources. If it is assumed that implementation of the no project alternative must result in installation of individual advanced subsurface treatment systems and nitrate treatment facilities, some greater adverse indirect cultural resources impacts could occur under this alternative in the future. As in the case of the proposed action, available mitigation measures are considered sufficient to reduce potential no project alternative cultural resources effects to a less than substantial level.

## 4.12 WILD AND SCENIC RIVERS

The Wild and Scenic Rivers Act does not apply to this project, since no such rivers occur within or near the proposed project area.

**No Project Alternative**

Due to the lack of any surface water within the Basin, neither project has any potential to impact or be impacted by wild and scenic river issues.

## 4.13 ENDANGERED SPECIES

Refer to questions and answers in Section 4.6.1, as well as the mitigation measures to be incorporated into the project. No known sensitive or endangered species occur within the project area of potential effect.

**No Project Alternative**

The no project alternative eliminates all potential direct adverse effects to endangered species resources. If it is assumed that implementation of the no project alternative must result in installation of individual advanced subsurface treatment systems and nitrate treatment facilities, some more limited adverse indirect endangered species resources impacts could occur under this alternative in the future. As in the case of the proposed action, available mitigation measures are considered sufficient to reduce potential no project alternative endangered species resources effects to a less than substantial level.

## 4.14 FLOODPLAIN MANAGEMENT AND PROTECTION OF WETLANDS

The proposed WRF site contain a defined 100-year flood hazard area within it boundary. However, the proposed WRF project is not forecast to have any adverse impacts on any floodplain management strategies. This is because the proposed WRF facilities would be located east of and outside of the flood hazard area and if necessary, the east wall of the channel onsite or west edge of the WRF would be hardened to protect the WRF from flooding. No wetlands were discovered on the project site. Therefore, the proposed project can have no adverse impact on any wetlands. Mitigation Measure 4.2-5 has been identified to protect the site and ensure that no adverse downstream effects will result from project implementation. No additional mitigation is required.

Several sewer collection system pipeline alignments cross channels and will be placed within and beneath the channel where concentrated flows occur. However, once the pipelines are installed across the channels, they will be located below the scour depth of the channels and will be protected from damage from future stormwater runoff flows in the channels. Since this is part of the engineering design of the sewer collection system, no mitigation is required to achieve protection of the sewer pipelines crossing these small channels.

**No Project Alternative**

Under the no project alternative no floodplain or wetlands management issues will occur. Due to the lack of any surface water within the Basin, neither project as any potential to impact wetland resources. If it is assumed that implementation of the no project alternative must result in installation of individual advanced subsurface treatment systems and nitrate treatment facilities, some more limited adverse indirect effects on floodplains could occur under this alternative in the future. As in the case of the proposed action, available mitigation measures are considered sufficient to reduce potential no project alternative floodplain effects to a less than substantial level.

## 4.15 FARMLAND PROTECTION

**a. Would the project convert prime farmland, unique farmland, or farmland of statewide importance, as shown on the maps prepared pursuant to the farmland mapping and monitoring program of the California Resources Agency, to non-agricultural use?**

The project area does not contain any farmland and none occurs within the surrounding urban area (Town of Yucca Valley) that could incur indirect adverse impact. No mitigation is proposed.

**b. Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?**

See issue (a) above.

**c. Would the project involve other changes in the existing environment, which due to their location or nature, could result in conversion of Farmland, to non-agricultural use?**

See issue (a) above.

Farmland protection issues do not apply to this project, since no farmland resources or important soil resources occur within or near the proposed project area.

## 4.16 COASTAL BARRIER RESOURCES

The project area is 80 miles inland from the California coast. Therefore, there are no such resources to be affected by the proposed project.

**No Project Alternative**

No coastal barrier resources are located within 80 miles of this project, so no adverse effects to such resources can occur from implementing either alternative.

## 4.17 OTHER IMPACT ISSUES

### 4.17.1 Hazards and Hazardous Materials

**a. Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?**

During construction there is a potential for accidental release of petroleum products in sufficient quantity to pose a substantial hazard to people and the environment. An accidental spill of diesel fuel or of other petroleum products, such as oil, radiator fluid or transmission fluid from a piece of construction equipment, poses a hazard to both employees and the environment where it occurs. The mitigation measures, outlined under Section 4.2, will be implemented and these measures would reduce such potential hazards to a less than significant impact level by ensuring that any spills are immediately remediated during construction and returned to an uncontaminated condition.

Once construction is completed, there will be routine transport or use of hazardous materials at the project site, for maintenance of equipment and wastewater treatment processes. The District already has its own operational procedures that address potential impacts from routine transport and use of hazardous materials in conjunction with the water supply system. Long-term BMPs and a Spill Prevention Control Countermeasures (SPCC) Plan will control the accidental releases of petroleum products and other wastes associated with a wastewater treatment operations. No additional mitigation to control accidental releases during operations is needed beyond that identified in Section 4.2.

**b. Would the project create a significant hazard to the public or the environmental through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?**

See discussion under impacts issue 4.2, Hydrology and Water Quality, and (a) above. A potential for accidental releases of hazardous substances does exist, but all prudent measures for response, containment, clean-up and disposal provide sufficient controls to render this risk potential hazard acceptable in the provision of essential services. With implementation of the measures identified, potential exposures to accidental releases of hazardous substances can be managed at a level of less than significant adverse impact on the area's human population and environment.

The project area is located within an area developed with a mix of residential, commercial, and industrial uses. Construction activities could emit hazardous emissions or involve some hazardous materials. These activities will not occur on a large enough scale to affect these uses on adjacent areas. Additionally, they are temporary activities, which limits the potential exposure.

**c. Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?**

There are two school within the general vicinity of the proposed WRF, i.e., within about one quarter mile the wastewater treatment plant site. The new site would be required to have disinfection ability. Use of sodium hypochlorite is proposed, which does not pose an acute hazard to humans, when handled properly. Use of sodium hypochlorite poses a limited hazard, which can be readily controlled through implementation of the required Spill Prevention Control Countermeasures Plan. Additionally, the proposed wastewater treatment plant site will be constructed with a security fence which will control entry. Thus, the new chemical uses and related hazards at the WRF site are considered to be manageable without causing a substantial risk to the existing and future surrounding population, including the local schools.

**d. Would the project 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?**

The proposed wastewater treatment plant site and pipeline route do not have, nor are near any "active" listed hazardous materials sites. The proposed project has no potential to create a substantial hazard by exposing the public to such a site. No mitigation is proposed.

**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?**

The proposed project is located to the east of the Yucca Valley Airport , approximately three miles. This is a privately operated airport, under a long-term lease with the Yucca Valley Airport District. It is a public use airport that is classified for "general aviation." Temporary construction activities or wastewater treatment plant operations would not pose a safety hazard. No potential exists to conflict with the local airport land use plan. No mitigation is proposed.

**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?**

See response to (e) above.

**g. Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?**

The project is located off of existing local roads and will have only limited potential to cause interference with an emergency response or evacuation plan during construction. Any impact to

roads would be temporary and less than substantial with implementation of mitigation outlined under transportation above.

**h. Would the project 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?**

The project does not involve placing any new population in a wildland fire hazard area, or the construction of new structures that would be threatened by wildland fires. Generally, the whole area is located within a wildland fire hazard area, but the WRF and pump station sites occur in areas with a low fuel load. After construction, no substantial impacts have been identified that require mitigation and impacts.

**No Project Alternative**

Under the no project alternative no direct use or generation of hazardous materials or wastes would need to be transported within the basin. If it is assumed that implementation of the no project alternative must result in installation of individual advanced subsurface treatment systems and nitrate treatment facilities, some more limited adverse indirect effects due to use of hazardous materials or generation of hazardous wastes could occur under this alternative in the future. As in the case of the proposed action, available mitigation measures are considered sufficient to reduce potential no project alternative hazard effects to a less than substantial level.

Neither the proposed action or the no project alternative would generate hazardous emissions in the vicinity of an existing school, nor would the either alternative be affected by or affect the existing private airport within the Town. At this time neither project would involve development activities in the vicinity of a site known to be contaminated with hazardous or toxic wastes.

The no project alternative would eliminate potential interference with emergency evacuation plans due to elimination of sewer pipeline installation on the area road system. The proposed action has a potential to interfere with evacuation plans or emergency response plans, but mitigation has been identified that can reduce the potential effects to a less than substantial impact level.

Neither the proposed action or the no project alternative would expose people or structures to substantial wildland fire hazards either directly or indirectly.

### 4.17.2 Noise

**a. Would the project result in the 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?**

Construction activities will temporarily increase noise levels in the residential areas to the north of the proposed project site. The construction activities needed for this project will involve the use of certain noise-generating construction equipment. The ranges of noise that are described as follows are from EPA data. Compactors, front loaders, backhoes, scrapers, graders and pavers produce 72-95 dB at 50 feet distance. Trucks typically produce 82-93 dB at 50 feet distance.

The Town of Yucca Valley's General Plan uses the noise standards of the California Department of Health Services. Peak hour Leq noise values may exceed 70 dB during working hours based on the type of construction equipment that will be operated. To prevent substantial short-term noise impacts, the following mitigation measures will be implemented.

## Mitigation measures to reduce noise impacts

***4.17-1*** ***Where noise sensitive receptors are present, construction will be limited to the daylight hours, typically 6 a.m. to 7 p.m. on weekdays, and between 9 a.m. and 6 p.m. on Saturday, and will not occur on Sundays or federal holidays, except in emergencies.***

***4.17-2*** ***All construction vehicles and fixed or mobile equipment will be equipped with properly operating and maintained mufflers.***

***4.17-3*** ***All employees that will be exposed to noise levels greater than 75 dB over an eight hour period will be provided with adequate hearing protection devices to ensure no hearing damage will result from construction activities.***

***4.17-4*** ***If equipment is being used that can cause hearing damage at adjacent noise receptor locations (distance attenuation will be taken into account), portable noise barriers will be installed that are demonstrated to be adequate to reduce noise levels at receptor locations below hearing damage thresholds.***

***4.17-5*** ***Restrict the use of impulsive equipment such as jackhammers, pavement breakers, etc. between 7 p.m. and 5 a.m.***

***4.17-6*** ***Erection of temporary berms or plywood barriers to create a break in the line-of-sight, or erection of a heavy fabric tent around the noise source.***

***4.17-7*** ***Selection of as small a piece of equipment as possible that would still accomplish the task.***

Implementation of these measures will be sufficient to reduce potential construction noise impacts to a less than significant level.

**b. Would the project result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?**

The issue of potential construction noise or vibration exposure is addressed under the above discussion. For construction activities, mitigation is identified that will be implemented to reduce potentially substantial noise and vibration impacts to an acceptable level of impact. From an operational standpoint, noise and vibration is not forecast to increase to a significant level at the nearest roadways. In addition, the proposed project is located along SR 62, which divides the proposed project site from the nearest concentration of residences. Noise levels from existing traffic will be greater than noise generated by the proposed wastewater facilities. Therefore, implementation of the proposed project will result in a less than significant impact.

**c. Would the project result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?**

A wastewater treatment facility does produce noise as a result of mechanical sources of noise, such as pumps and general treatment plant activities. The project site does not presently contain any stationary noise sources. The installation of the WRF and pump stations will create a new noise source that could adversely affect nearby residences. Electrical pumps produce noise that ranges from 80-90 dB and the WRF facilities (belt press, pumps, and emergency generator) generate noise levels that also range between 80-90 dB. Through the use of walls and enclosures, the District can ensure that the noise level at the nearest noise sensitive receptor does not exceed the Town's residential threshold of 65 dBA using the Community Noise Equivalent Level (CNEL) method of noise measurement. This will require a nighttime level of noise at the property boundary of about 50 dBA after 10 pm. The District shall implement the following long-term noise measure to control 24-hour integrated CNEL noise levels to acceptable levels. Noise attenuation (combination of distance and noise buffers) of approximately 40 dB may be necessary to protect meet The Town's noise exposure limits.

***4.17-8*** ***As the District completes design of the WRF and pump stations systems, a noise study shall be completed that identifies noise levels for such systems, and identifies the specific design measures (attenuation walls, enclosures, berms, or other features) that must be incorporated into the facility design to prevent noise from exceeding the local significance threshold of 65 dBA CNEL at the sensitive receptor location. Appropriate nighttime noise reductions (walls, enclosures, mufflers, etc.) must be incorporated for any loud noise equipment that may cause this value to be exceeded. If the study indicates no attenuation is required, the District shall conduct a noise study after the facility(ies) are in operation to verify the study conclusions and implement noise attenuation features if necessary based on the measurements.***

With implementation of this measure, noise levels from the new WRF and pump stations are forecast to be less than significant.

**d. Would the project result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?**

The analysis presented above demonstrates that a substantial increase in temporary (construction) noise levels may occur in the project vicinity, but such increases can be controlled at an acceptable level through implementation of the mitigation measures listed above. No additional mitigation is proposed.

**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?**

The project area is located approximately three miles east of the Yucca Valley Airport. Construction and installation of the wastewater treatment facilities would not expose people residing or working in the project area to excessive noise levels. Therefore, the project's forecast impacts due to airport background noise are forecast to be less than significant.

**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?**

See response above.

**No Project Alternative**

Under the no project alternative no direct generation of noise/vibration would occur over the short-term or long-term. If it is assumed that implementation of the no project alternative must result in installation of individual advanced subsurface treatment systems and nitrate treatment facilities, some more limited adverse indirect noise effects due to construction activities and operation of treatment facilities would occur under this alternative in the future. As in the case of the proposed action, available mitigation measures are considered sufficient to reduce potential no project alternative noise effects to a less than substantial level.

Neither the proposed action or the no project alternative would be exposed to substantial noise generated from a public or private airport.

### 4.17.3 Public Services

**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? Police protection? Schools? Parks? Other public facilities?**

The proposed project construction activities have a potential to cause minor spills of petroleum products, brush fires, and/ or to require emergency medical response for construction workers. However, the contractor will have equipment available to handle all but the most serious of fires, spills and medical emergencies, and if an accident occurs, adequate emergency medical facilities are located in the central portion of the Town, or at the hospital in Joshua Tree. The random requirement for these services makes them impossible to quantify, but demand for fire and emergency response during the window of construction is not forecast to pose any unusual risks or to constitute a substantial demand for these services.

The only police or fire protection likely to be required for operations would be trespass or theft of equipment or material at the wastewater treatment plant site. Standard protection measures are implemented by the District to protect its facilities and equipment and materials, which will also be applied to the proposed project. No other mitigation is required.

The proposed project itself is an improvement in public services for an existing population. It is not forecast to cause any population growth during construction or future operations. Thus, no additional demand for school, park and recreation facilities is forecast to occur.

**No Project Alternative**

Under the no project alternative no direct demand for public services would occur over the short-term or long-term. If it is assumed that implementation of the no project alternative must result in installation of individual advanced subsurface treatment systems and nitrate treatment facilities, substantial demands on community public health and water supply systems could be generated by the no project alternative. If it is assumed that implementation of the no project alternative must result in installation of individual advanced subsurface treatment systems and nitrate treatment facilities, some more limited adverse public service effects due to construction activities could occur under this alternative in the future. As in the case of the proposed action, available mitigation measures are considered sufficient to reduce potential no project alternative public service effects to a less than substantial level.

### 4.17.4 Recreation

**a. Would the project increase the use of existing neighborhood and regional parks or other recreation facilities such that substantial physical deterioration of the facility would occur or be accelerated?**

The project is not forecast to cause any increase in demand for any recreational facilities in the project area since no increase in population is forecast to occur as a result of implementing the project. This finding applies to both the construction and operation period of the project. No mitigation is proposed.

**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?**

As noted above, the proposed project includes no recreation facilities and will not increase the demand for recreational facilities, so no additional adverse impacts associated with their construction can occur. No mitigation is proposed.

**No Project Alternative**

Due to the lack of any recreational resources within the project area, neither project has any potential to impact or be impacted by recreational issues.

### 4.17.5 Airport Hazards

The project area is located three to four miles to the east of the Yucca Valley Airport, and is subject to routine aircraft overflights. No potential exists for other than random aircraft hazards and no airport hazards should affect the WRF site and related recharge basins. No mitigation is proposed.

**No Project Alternative**

Due to the distance of the proposed WRF from the private airport in the Town, neither project as any potential to impact or be impacted by other than random airport hazards.

### 4.17.6 Environmental Justice

The project site is located within a community that is generally below the economic level of other communities in the County, due to having a high percentage of retirees and seasonal residents. However, there are no industries or contaminated sites in or around the project area such that this project would comprise a new hazard and additional hazard to a particular population. The proposed project will temporarily impact those residents along the pipeline routes and in the vicinity of the treatment plant, but it has no potential to adversely impact any low income or ethnic communities in the long term. The project itself will be an improvement to area services that will benefit the population.

**No Project Alternative**

Due to the type of infrastructure project envisioned by the proposed action, no environmental justice issue have been raised by implementing proposed action. For the no project alternative no direct environmental justice issues have been identified. However, if it is assumed that implementation of the no project alternative may result in continued contamination of groundwater within the District's service area by nitrates and other constituents of the septic tank discharges, then the whole community, including those seniors and low-income residents could be substantially impacted by being forced to spend substantially more of their dollars for drinking water in the future.

### 4.17.7 Unique Natural Features and Areas

The pipeline routes are located within existing road rights-of-way and commercially developed parcels. The wastewater treatment plant site is open space with desert vegetation and habitat value. The proposed project will temporarily remove vegetation on approximately 50 acres, including the WRF site, pipeline alignments and pump station locations. Permanent loss of habitat is estimated to be about 30 acres. No unique natural features or areas will be affected by the proposed project. Refer to the discussion under Biological Resources, Section 4.6.1.

**No Project Alternative**

Due to the lack of any unique natural features and areas within the project area, neither project alternative has any potential to impact such resources or resource issues.

### 4.17.8 Sole Source Aquifer

The project site is not designated by the Environmental Protection Agency to be located over a sole source aquifer. However, the Warren Valley Groundwater Basin and Ames Valley Basin are the sole source of municipal water supply for the District's customer service area. These sources can be augmented by SWP water, but before this water can be used it is percolated into the groundwater aquifer. The proposed project is the construction and installation of wastewater treatment facilities. The proposed project has no potential to cause significant adverse impacts any groundwater resource based on the data provided under the hydrology discussions of this document. In fact, by providing recycled water for reuse in the community, the proposed project should be a net benefit for the community.

**No Project Alternative**

Due to the lack of any sole source aquifers, as defined by law, within the project area, neither project alternative has any potential to impact such aquifer resources or resource issues.

### 4.17.9 Site Access and Compatibility

The wastewater treatment plant site is located on an undeveloped, vacant parcel. The approximate 20 acres occupied by the proposed facilities will remove some areas from complete public access; for example, there will be security features around the wastewater treatment plant. Otherwise, no adverse impacts to site access (except during construction as described above) or land use compatibility will result from implementing the proposed project.

**No Project Alternative**

Since the no project alternative has no access issues and the proposed project has adequate access, neither project alternative has any potential to be affected by access issues. The proposed action alternative has some compatibility issues that must be mitigated to ensure no substantial adverse compatibility impacts will occur. The no project alternative has no direct compatibility issues as in the short-term all land uses would remain the same. However, if it is assumed that implementation of the no project alternative may result in continued contamination of groundwater within the District's service area by nitrates and other constituents of the septic tank discharges, then the future compatibility of the existing and future land uses within the project area with the Warren Valley Basin aquifer that supplies the community with water could become substantially adverse.

## 4.18 INVASIVE SPECIES

The project location is in an urbanizing area at the edge of desert habitat. There are already several invasive species in the vicinity, and on the project sites. The implementation of the project will result in the removal of vegetation and habitat, such that use by invasive species will be reduced. However, the project could attract invasive species. Ongoing maintenance by the District at its existing facilities controls invasive weed species and the same maintenance program will be implemented at the proposed facility. Future landscaping at the WRF must utilize native species, many of which may be transplanted to the future WRF site. With implementation of standard landscape management practices, the proposed project is not cause significant invasive species impacts.

**No Project Alternative**

The no project alternative eliminates potential for direct introduction of invasive species into the project area. The proposed action has this potential but it has been mitigated to a less than substantial adverse impact level. However, if it is assumed that implementation of the no project alternative must result in installation of individual advanced subsurface treatment systems and nitrate treatment facilities, some more limited adverse invasive species effects due to construction activities could occur under this alternative in the future. As in the case of the proposed action, available mitigation measures are considered sufficient to reduce potential no project alternative invasive species effects to a less than substantial level.

# Chapter 5 CEQA CHECKLIST FORM

This form is included on the following pages.

**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 Resources | ■ Air Quality |
| ■ Biological Resources | ■ Cultural Resources | ■ Geology / Soils |
| ■ Hazards & Hazardous Materials | ■ Hydrology / Water Quality | ❑ Land Use / Planning |
| ❑ Mineral Resources | ■ Noise | ❑ Population / Housing |
| ❑ Public Services | ❑ Recreation | ■ Transportation / Traffic |
| ■ Utilities / Service Systems | ❑ Mandatory Findings of Significance | |

**DETERMINATION:** (To be completed by the Lead Agency)

On the basis of this initial evaluation, the following finding is made:

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

■ 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 may 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 (prepared by) | Date |
| Signature | Date |

| | | Potentially Significant Impact | Less than Significant with Mitigation Incorporation | Less than Significant Impact | No Impact |
|---|---|---|---|---|---|
| **I.** | **AESTHETICS** – Would the project: | | | | |
| a. | Have a substantial adverse effect on a scenic vista? | ❑ | ❑ | ■ | ❑ |
| b. | Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway? | ❑ | ❑ | ■ | ❑ |
| c. | Substantially degrade 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? | ❑ | ■ | ❑ | ❑ |

SUBSTANTIATION (check ___ if project is located within the viewshed of any Scenic Route listed in the General Plan):

**See Section 4.6.4, Visual Resources/Aesthetics**

| | | Potentially Significant Impact | Less than Significant with Mitigation Incorporation | Less than Significant Impact | No Impact |
|---|---|---|---|---|---|
| **II.** | **AGRICULTURE RESOURCES** – In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California 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? | ❑ | ❑ | ❑ | ■ |
| b. | Conflict with existing zoning for agricultural use, or a Williamson Act contract? | ❑ | ❑ | ❑ | ■ |
| c. | Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use? | ❑ | ❑ | ❑ | ■ |

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

**See Section 4.16, Farmland Protection**

| | | Potentially Significant Impact | Less than Significant with Mitigation Incorporation | Less than Significant Impact | No Impact |
|---|---|---|---|---|---|
| **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: | | | | |
| a. | Conflict with or obstruct implementation of the applicable air quality plan? | ❑ | ❑ | ■ | ❑ |
| b. | Violate any air quality standard or contribute substantially to an existing or projected air quality violation? | ❑ | ■ | ❑ | ❑ |
| 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)? | ❑ | ■ | ❑ | ❑ |
| d. | Expose sensitive receptors to substantial pollutant concentrations? | ❑ | ■ | ❑ | ❑ |
| e. | Create objectionable odors affecting a substantial number of people? | ❑ | ■ | ❑ | ❑ |

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

**See Section 4.1, Air Quality**

| | | Potentially Significant Impact | Less than Significant with Mitigation Incorporation | Less than Significant Impact | No Impact |
|---|---|---|---|---|---|
| **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 Game or U.S. Fish and Wildlife Service? | ❑ | ■ | ❑ | ❑ |
| 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? | ❑ | ■ | ❑ | ❑ |
| 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? | ❑ | ■ | ❑ | ❑ |
| d. | Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites? | ❑ | ❑ | ■ | ❑ |
| e. | Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance? | ❑ | ■ | ❑ | ❑ |
| 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? | ❑ | ❑ | ❑ | ■ |

SUBSTANTIATION (check if project is located in the Biological Resources Overlay ___ or contains habitat for any species listed in the California Natural Diversity Database ___):

**See Section 4.6.1, Biological Resources and Section 4.13, Endangered Species**

| | | Potentially Significant Impact | Less than Significant with Mitigation Incorporation | Less than Significant Impact | No Impact |
|---|---|---|---|---|---|
| **V.** | **CULTURAL RESOURCES** – Would the project: | | | | |
| a. | Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5? | ❑ | ❑ | ■ | ❑ |
| b. | Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5? | ❑ | ■ | ❑ | ❑ |
| c. | Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature? | ❑ | ■ | ❑ | ❑ |
| d. | Disturb any human remains, including those interred outside of formal cemeteries? | ❑ | ■ | ❑ | ❑ |

SUBSTANTIATION (check if the project is located in the Cultural ___ or Paleontologic ___ Resources overlays or cite results of cultural resource review):

**See Section 4.11, Cultural Resources**

| | Potentially Significant Impact | Less than Significant with Mitigation Incorporation | Less than Significant Impact | No Impact |
|---|---|---|---|---|
| **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: | | | | |
| • 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? | ❑ | ❑ | ❑ | ■ |
| b. Result in substantial soil erosion or the loss of topsoil? | ❑ | ■ | ❑ | ❑ |
| 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? | ❑ | ■ | ❑ | ❑ |
| d. Be located on expansive soil, as defined in Table 18 1-B of the Uniform Building Code (1994), creating substantial risks to life or property? | ❑ | ❑ | ❑ | ■ |
| e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater? | ❑ | ❑ | ❑ | ■ |

SUBSTANTIATION (check ✔ if project is located in the Geologic Hazards Overlay District):

**See Section 4.6.2, Geology and Soils**

| | | Potentially Significant Impact | Less than Significant with Mitigation Incorporation | Less than Significant Impact | No Impact |
|---|---|---|---|---|---|
| **VII.** | **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? | ❑ | ■ | ❑ | ❑ |
| b. | Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment? | ❑ | ■ | ❑ | ❑ |
| c. | Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school? | ❑ | ❑ | ■ | ❑ |
| d. | Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment? | ❑ | ❑ | ❑ | ■ |
| e. | For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area? | ❑ | ❑ | ❑ | ■ |
| 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? | ❑ | ❑ | ❑ | ■ |
| g. | Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan? | ❑ | ■ | ❑ | ❑ |
| 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? | ❑ | ❑ | ❑ | ■ |

SUBSTANTIATION:

**See Section 4.17.1, Hazards and Hazardous Materials and Section 4.17.5, Airport Hazards**

| | | Potentially Significant Impact | Less than Significant with Mitigation Incorporation | Less than Significant Impact | No Impact |
|---|---|---|---|---|---|
| **VIII.** | **HYDROLOGY AND WATER QUALITY** – Would the project: | | | | |
| a. | Violate any water quality standards or waste discharge requirements? | ❑ | ■ | ❑ | ❑ |
| 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)? | ❑ | ❑ | ■ | ❑ |
| 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? | ❑ | ■ | ❑ | ❑ |
| 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? | ❑ | ■ | ❑ | ❑ |
| 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? | ❑ | ❑ | ■ | ❑ |
| f. | Otherwise substantially degrade water quality? | ❑ | ❑ | ■ | ❑ |
| 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? | ❑ | ❑ | ■ | ❑ |
| h. | Place within a 100-year flood hazard area structures which would impede or redirect flood flows? | ❑ | ■ | ❑ | ❑ |
| 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? | ❑ | ■ | ❑ | ❑ |
| j. | Inundation by seiche, tsunami, or mudflow? | ❑ | ❑ | ❑ | ■ |

SUBSTANTIATION:

**See Section 4.2, Hydrology and Water Quality**

| | | Potentially Significant Impact | Less than Significant with Mitigation Incorporation | Less than Significant Impact | No Impact |
|---|---|---|---|---|---|
| **IX.** | **LAND USE AND PLANNING** – Would the project: | | | | |
| a. | Physically divide an established community? | ❑ | ❑ | ❑ | ■ |
| 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? | ❑ | ❑ | ■ | ❑ |
| c. | Conflict with any applicable habitat conservation plan or natural community conservation plan? | ❑ | ❑ | ❑ | ■ |

SUBSTANTIATION:

**See Section 4.4, Land Use and Planning**

| | Potentially Significant Impact | Less than Significant with Mitigation Incorporation | Less than Significant Impact | No Impact |
|---|---|---|---|---|
| **X. 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? | ❑ | ❑ | ❑ | ■ |
| 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? | ❑ | ❑ | ❑ | ■ |

SUBSTANTIATION (check ___ if project is located within the Mineral Resources Zone Overlay):

**See Section 4.6.4, Mineral Resources**

| | | Potentially Significant Impact | Less than Significant with Mitigation Incorporation | Less than Significant Impact | No Impact |
|---|---|---|---|---|---|
| **XI.** | **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? | ❑ | ■ | ❑ | ❑ |
| b. | Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels? | ❑ | ❑ | ■ | ❑ |
| c. | A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project? | ❑ | ■ | ❑ | ❑ |
| d. | A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project? | ❑ | ■ | ❑ | ❑ |
| 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? | ❑ | ❑ | ❑ | ■ |
| 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? | ❑ | ❑ | ❑ | ■ |

SUBSTANTIATION

**See Section 4.17.2, Noise**

| | | Potentially Significant Impact | Less than Significant with Mitigation Incorporation | Less than Significant Impact | No Impact |
|---|---|---|---|---|---|
| **XII.** | **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)? | ❑ | ❑ | ■ | ❑ |
| b. | Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere? | ❑ | ❑ | ❑ | ■ |
| c. | Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere? | ❑ | ❑ | ❑ | ■ |

SUBSTANTIATION:

**See Section 4.7. Population and Housing**

| | Potentially Significant Impact | Less than Significant with Mitigation Incorporation | Less than Significant Impact | No Impact |
|---|---|---|---|---|
| **XIII. PUBLIC SERVICES** – 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? | ❑ | ❑ | ■ | ❑ |
| Police protection? | ❑ | ❑ | ■ | ❑ |
| Schools? | ❑ | ❑ | ■ | ❑ |
| Parks? | ❑ | ❑ | ❑ | ■ |
| Other public facilities? | ❑ | ❑ | ❑ | ■ |

SUBSTANTIATION:

**See Section 4.17.3, Public Services**

| | Potentially Significant Impact | Less than Significant with Mitigation Incorporation | Less than Significant Impact | No Impact |
|---|---|---|---|---|
| **XIV. 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? | ❑ | ❑ | ❑ | ■ |
| 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? | ❑ | ❑ | ❑ | ■ |

SUBSTANTIATION:

**See Section 4.17.4, Recreation**

| | | Potentially Significant Impact | Less than Significant with Mitigation Incorporation | Less than Significant Impact | No Impact |
|---|---|---|---|---|---|
| **XV.** | **TRANSPORTATION/TRAFFIC** – 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)? | ❑ | ❑ | ■ | ❑ |
| b. | Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways? | ❑ | ❑ | ■ | ❑ |
| 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? | ❑ | ❑ | ❑ | ■ |
| d. | Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)? | ❑ | ■ | ❑ | ❑ |
| e. | Result in inadequate emergency access? | ❑ | ■ | ❑ | ❑ |
| f. | Result in inadequate parking capacity? | ❑ | ❑ | ■ | ❑ |
| g. | Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)? | ❑ | ❑ | ■ | ❑ |

SUBSTANTIATION:

**See Section 4.5, Transportation/Traffic**

| | | Potentially Significant Impact | Less than Significant with Mitigation Incorporation | Less than Significant Impact | No Impact |
|---|---|---|---|---|---|
| **XVI.** | **UTILITIES AND SERVICE SYSTEMS** – Would the project: | | | | |
| a. | Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board? | ❑ | ■ | ❑ | ❑ |
| 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? | ❑ | ❑ | ■ | ❑ |
| 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? | ❑ | ■ | ❑ | ❑ |
| d. | Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements 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? | ❑ | ❑ | ■ | ❑ |
| f. | Be served by a landfill(s) with sufficient permitted capacity to accommodate the project's solid waste disposal needs? | ❑ | ❑ | ■ | ❑ |
| g. | Comply with federal, state, and local statutes and regulations related to solid waste? | ❑ | ❑ | ■ | ❑ |

SUBSTANTIATION:

**See Section 4.2, Hydrology and Water Quality and Section 3.3, Utilities and Service Systems**

| | Potentially Significant Impact | Less than Significant with Mitigation Incorporation | Less than Significant Impact | No Impact |
|---|---|---|---|---|
| **XVII. 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? | ❑ | ■ | ❑ | ❑ |
| b. Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)? | ❑ | ■ | ❑ | ❑ |
| c. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly? | ❑ | ■ | ❑ | ❑ |

SUBSTANTIATION:

# Chapter 6 SUMMARY OF MITIGATION MEASURES

**Air Quality**

4.1-1 The construction site disturbed areas will be watered twice daily for short-term surface stabilization, and more times if winds are sufficient to loft dust from the construction site.

4.1-2 Chemical, vegetative or mechanical (compaction or paving) will be used for surface stabilization upon completion of grading activities, if subsequent site uses are not proposed.

4.1-3 Trackout onto paved roads will be minimized, and removed (swept or washed from paved surfaces) if substantial soil material accumulates on paved surfaces. Cleanup of project-related trackout or spills on paved roads will be removed daily.

4.1-4 Haul trucks will be covered.

4.1-5 Grading and soil movement activities will be minimized when winds exceed 30 miles per hour at the local airport or at an onsite wind monitoring system.

4.1-6 Efficient scheduling of equipment use, with a phased construction schedule to reduce the number of units operating simultaneously.

4.1-7 Performing regular engine maintenance on all equipment.

4.1-8 Provision of local equipment storage areas so that equipment trips to the sites can be reduced.

4.1-9 Construction personnel shall be encouraged to ride share to reduce vehicle trips to construction sites, including incentives for carpooling among construction employees.

4.1-10 Shut down equipment when not in use for more than 10 minutes.

4.1-11 To the extent feasible, the District shall select landscaping that is fast-growing to create a windbreak buffer along the periphery of the WRF site. A minimum of two rows shall be installed at different times and plants shall be installed and grown in stages; periodically harvested; and replanted to maintain carbon sequestration. Alternatively or concurrently, the District may install solar power systems to partially or fully offset operational electricity demand of the WRF. As a final alternative, the District may choose to purchase annual or permanent carbon credits from the available carbon banks at the time the facility begins operation.

4.1-12 The District shall require the installation of odor control facilities as part of the facility design. These facilities shall be state of the art and shall control odors to ensure that adjacent properties are not exposed to significant odor concentrations, except during an emergency/upset condition at the WRF.

4.1-13 The District shall establish an odor complaint response phone number that shall be clearly posted on the exterior fence of the treatment plant facility. If odor complaints are received, the District shall respond within 24 hours to correct the problem, and provide a response to the complainant within 12 hours of notification identifying what actions were taken and how long was or will be required to control the odor problem. Sources of odors shall be corrected in as timely a manner as possible.

**Hydrology and Water Quality**

4.2-1 The District shall prepare a Storm Water Pollution Prevention Plan (SWPPP) and a Water Quality Management Plan (WQMP) that will achieve no net loss of topsoil from the project sites and prevent runoff from causing erosion on adjacent property during construction. The SWPPP and WQMP shall be provided to the construction contractor and the contractor shall implement the SWPPP during all construction activities at the site.

4.2-2 The SWPPP prepared for the project site shall include a spill response program for accidental release of water pollutants during construction that shall, at a minimum, meet the following performance standards: adequate resources shall be maintained on the site by the contractor to control any release of pollutants; if a spill occurs, the pollutant shall first be contained, second the spill shall be reported to appropriate authorities, third the pollutant contaminated material (soil, water, etc.) shall be collected in proper containers, fourth the pollutant contaminated material shall be delivered to a facility with the capability to treat or dispose of the contaminated material in accordance with existing laws and regulations in place at the time of the accidental spill; fifth the area contaminated by the spill shall be cleaned (remediated) to background conditions, or alternatively to a level that meets the requirements of existing laws and regulations at the time of the clean-up and that does not leave any residual threat to humans or the environment in which the spill occurs.

4.2-3 The District shall prepare the WQMP and include a Spill Prevention Control Countermeasures Plan that will minimize the potential for release of any hazardous or toxic chemicals to the environment. This Plan shall include a requirement to retain material safety data sheets (MSDS) for all hazardous materials or substances at the site and measures that outline the responses that will be implemented should an accidental spill of hazardous materials onsite occur. Based on the list of hazardous materials/substances that will be utilized at the plant, the District Plan shall identify handling procedures and management options for any accidental releases to the environment until such accidentally released material is properly disposed of or treated so that no residual harm remains from the accidental release.

4.2-4 The District shall restore any channel crossing locations with a comparable quantity or quality of habitat to that disturbed or removed during construction of the proposed project. Because no sensitive riparian or wetland habitat will be affected, the project will not be required to create such habitat or acquire mitigation bank credits. Channel restoration in the area of the pipeline crossing is considered adequate by the District to fully mitigate effects on altering the stream bed on the project site. The District must acquire a 1602 Streambed Alteration Agreement and may have to acquire a WDR from the Regional Board, and shall implement the requirements of the WDR and Agreement as long as it is not less that identified above.

4.2-5 The District shall install one or more monitoring wells downstream of the WRF. The well(s) shall be monitored for elevation of the groundwater table below the ground surface (bgs). If the groundwater table downstream of the WRF recharge site approaches 100 feet bgs, the District shall initiate pumping to control the groundwater level. The groundwater extracted may be discharged to the surface if the water quality is acceptable to the regulatory agencies, or it may be further treated and made available to the District's domestic water supply system. The performance standard to be achieved is that the groundwater table downstream of the WRF recharge facilities shall not rise above the 100 foot bgs threshold.

4.2-6 The District shall install one or more monitoring wells downstream of the WRF. The well(s) shall be monitored at least annually for all drinking water standards and compared to maximum contaminant levels (MCLs) for public drinking water standards. If concentrations approach any MCL, the District shall install additional treatment at the WRF to modify the treated effluent by lowering or removing the pollutant of concern to a level that will prevent the MCL from being exceeded. The performance standard to be achieved is that the groundwater quality shall not be allowed to exceed any MCL for a domestic or public drinking water supply.

4.2-7 The District shall provide a drainage report that defines the 100-year flood elevation on the site and shall either elevate the treatment plant facilities above this level with two feet of freeboard or shall provide protection of the site with a boundary levee that protects the facilities from exposure to flooding from the 100-year flow across the property. The final treatment plant facility design shall provide a means of re-routing any storm flows, including the 100 year flow, around the facility and back into the existing natural channel on the north side of the site without causing significant erosion in the channel.

**Transportation / Traffic**

4.5-1 The construction contractor will provide adequate traffic management resources, such as protective devices, flag persons, and police assistance for traffic control, to maintain safe traffic flow on local streets affected by facility and pipeline construction at all times.

4.5-2 The construction contractor will identify traffic hazards created by construction, such as rough road or potholes, freshly paved locations, and minimize total traffic and vehicle speed through such hazards.

4.5-3 The construction contractor will ensure that traffic safety hazards, such as uncovered or unfilled open trenches, will not be left in roadways during period of time when construction personnel are not present, such as nighttime and weekends.

4.5-4 The construction contractor will repair all roads adequately after construction to ensure that traffic can move in the same manner as before construction.

4.5-5 At all times during construction, the contractor will ensure that emergency fire, police or medical vehicles are able to access all adjacent areas. Additionally, construction equipment or activities must not obstruct or hinder traffic that might be generated during an evacuation.

**Natural Resources – Biological Resources**

4.6-1 Once the final pipeline alignments are engineered and surveyed, and the wastewater reclamation facility site boundaries finally established, a qualified biologist will inventory the numbers and types of cacti, creosote bushes, and Joshua Trees that are to be impacted and removed. Salvaging of individual Joshua tree and cacti plants within these final alignments will be done in compliance with Town and County ordinances.

4.6-2 Any grubbing or brushing to occur as part of the project will be conducted outside of the State-identified bird breeding season of February 15$^{th}$ through September 1. Alternatively, a qualified biologist may survey the project impact area and if no native bird nests are discovered, the development may proceed. A report of findings will be provided to the California Department of Fish and Game if construction in the vicinity of bird nests must be conducted during nesting season.

4.6-3 If the above work cannot be done according to this schedule, prior to the initiation of any ground disturbance, a qualified biologist will determine what birds are nesting in the shrubs or trees to be removed or are within 500 feet of the area that will be under construction.

4.6-4 Mitigation for impacts to jurisdictional water of the State shall be offset by revegetating the pipeline alignment across the wash with equivalent habitat. This requirement shall be memorialized in the 1602 Streambed Alteration Agreement obtained for this project prior to disturbing the alignment.

4.6-5 Prior to initiating site clearing and grading activities on the WRF project site, a pre-construction desert tortoise and burrowing owl survey shall be conducted within 30 days of initiating ground disturbance at the administrative building. Assuming no tortoise are found, the District may install a tortoise exclusion fence around the WRF site or retain a qualified biologist to monitor the project area one time per week during the duration of active construction activities on the WRF site. If either species (tortoise or burrowing owl) is discovered on the administrative building site, a qualified professional biologist shall implement measures, including possible acquisition of an incidental take permit, to remove any individuals of either species from this site.

4.6-6 To minimize potential support for local raven populations, the District shall publish or make available a brochure to all employees (including contractor employees) that describes measures which can be implemented by residents to minimize habitat support for local raven populations.

4.6-7 To prevent introduction of exotic, non-native plant species that could damage the local plant community, a qualified biologist shall compile a list of species that shall be prohibited from use in landscaping within the project area.

4.6-8 Worker education programs, defined construction areas, habitat mitigation, and well-defined operational procedures shall be implemented regarding desert tortoise and local wildlife.

4.6-9 Unauthorized, public off-road use of any project areas shall be discouraged by posting of signs and by District inspectors monitoring the construction crew.

4.6-10 Construction personnel or other persons related to the project shall not be permitted to bring pets or firearms into construction areas.

4.6-11 Trash from construction crews and facility employees, especially food items or packaging, shall be disposed of in scavenger-proof containers and removed daily to avoid attracting desert tortoise predators to the area.

**Natural Resources – Geology and Soils**

4.6-12 Comprehensive geotechnical investigations shall be required prior to engineering and design development or structural and/or substantial rehabilitation of structures identified under Risk Class I & II, e.g., public facilities, as identified below:

- Risk Class I & II, Structures Critically Needed after Disaster: Structures that are critically needed after a disaster include important utility centers, fire stations, police stations, emergency communication facilities, hospitals, and critical transportation elements such as bridges and overpasses and smaller dams.
  Acceptable Damage: Minor non-structural; facility should remain operational and safe, or be suitable for quick restoration of service.
- Risk Class III: High occupancy structures; uses are required after disasters (i.e., places of assembly such as schools and churches).
  Acceptable Damage: Some impairment of function acceptable; structure needs to remain operational.
- Risk Class IV, Ordinary Risk Tolerance: The vast majority of structures in urban areas; most commercial and industrial buildings, small hotels and apartment buildings, and single family residences.

4.6-13 Any pipelines crossing the Alquist-Priolo Special Studies Zones for the Pinot Mountain, Eureka Peak and Burt Mountain Faults could be subject to damage due to ground rupture associated with these faults. Any construction of facilities in or pipelines crossing this zone is required to have detailed structural engineering studies to ensure designs that can safely accommodate the anticipated ground movement(s), or to be immediately repairable following a seismic event along any of the three fault.

4.6-14 Construction specifications will include appropriate measures for stabilizing excavations based on recommendation of project geotechnical studies.

4.6-15 Trenches will remain open for as short a time as possible.

4.6-16 Soils, where exposed, will be stabilized with hay bales or aggregate cover.

4.6-17 Construction specifications will identify proper compaction for backfilled soils.

**Natural Resources – Visual Resources / Aesthetics**

4.6-18 A facility lighting plan shall be prepared and shall demonstrate that glare from operating and safety night lights that may create light and glare affecting adjacent occupied property are sufficiently shielded to prevent light and glare from spilling into occupied structures. This plan shall be implemented in conformance with the Town of Yucca Valley Night Skies Ordinance and it shall be reviewed and approved by the District staff prior to installation of the night lights.

**Cultural Resources**

4.11-1 In the event that subsurface historical, cultural or paleontological resources are accidentally exposed during onsite construction activities, construction will be stopped until a qualified professional evaluates the resources. If resources are encountered, adequate funding will be provided by the District to collect, curate and report on these resources.

4.11-2 If any human remains are encountered during initial grading activities, all ground disturbing activities in the vicinity of the discovery will be terminated immediately and the County Coroner's office MUST be contacted within 24 hours at (909) 387-2543 to arrange for management of such remains.

**Other Impact Issues – Noise**

4.17-1 Where noise sensitive receptors are present, construction will be limited to the daylight hours, typically 6 a.m. to 7 p.m. on weekdays, and between 9 a.m. and 6 p.m. on Saturday, and will not occur on Sundays or federal holidays, except in emergencies.

4.17-2 All construction vehicles and fixed or mobile equipment will be equipped with properly operating and maintained mufflers.

4.17-3 All employees that will be exposed to noise levels greater than 75 dB over an eight hour period will be provided with adequate hearing protection devices to ensure no hearing damage will result from construction activities.

4.17-4 If equipment is being used that can cause hearing damage at adjacent noise receptor locations (distance attenuation will be taken into account), portable noise barriers will be installed that are demonstrated to be adequate to reduce noise levels at receptor locations below hearing damage thresholds.

4.17-5 Restrict the use of impulsive equipment such as jackhammers, pavement breakers, etc. between 7 p.m. and 5 a.m.

4.17-6 Erection of temporary berms or plywood barriers to create a break in the line-of-sight, or erection of a heavy fabric tent around the noise source.

4.17-7 Selection of as small a piece of equipment as possible that would still accomplish the task.

4.17-8 As the District completes design of the WRF and pump stations systems, a noise study shall be completed that identifies noise levels for such systems, and identifies the specific design measures (attenuation walls, enclosures, berms, or other features) that must be incorporated into the facility design to prevent noise from exceeding the local significance threshold of 65 dBA CNEL at the sensitive receptor location. Appropriate nighttime noise reductions (walls, enclosures, mufflers, etc.) must be incorporated for any loud noise equipment that may cause this value to be exceeded. If the study indicates no attenuation is required, the District shall conduct a noise study after the facility(ies) are in operation to verify the study conclusions and implement noise attenuation features if necessary based on the measurements.

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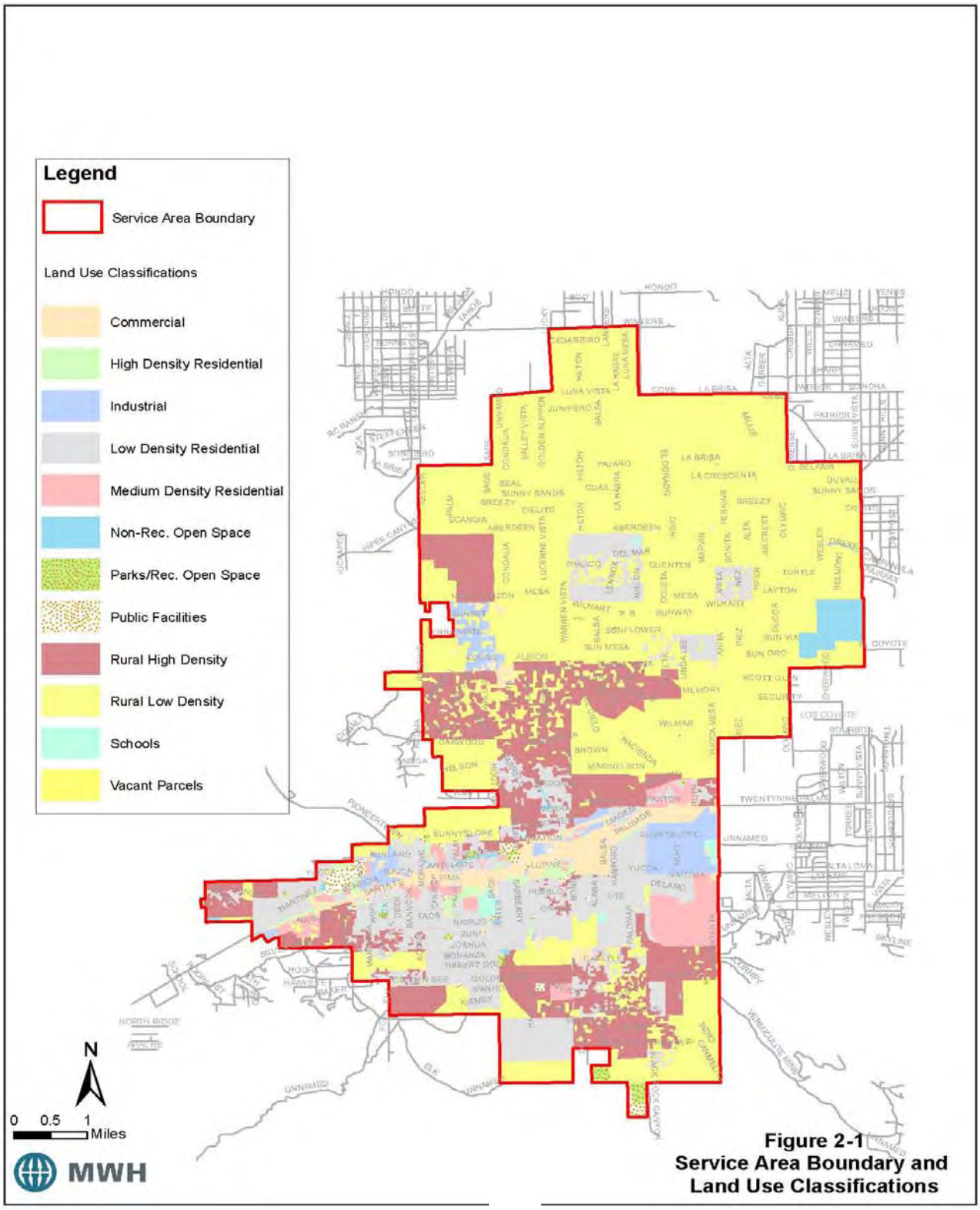
# FIGURES

# FIGURE 1-1
# Regional Location

# FIGURE 1-2
# Service Area Boundary and Land Use Classifications



# FIGURE 2-1
# Site Location / Area of Potential Effects

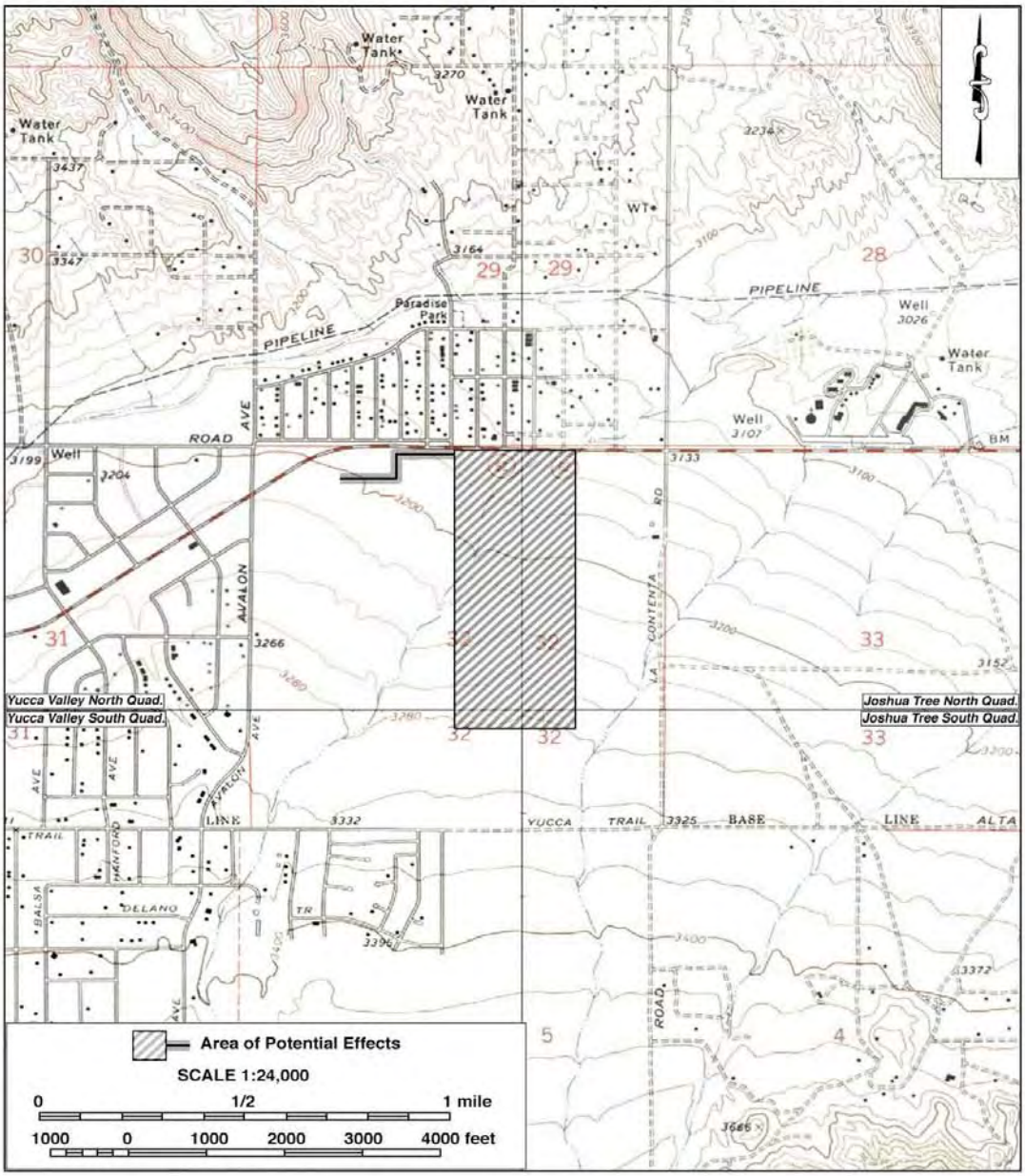
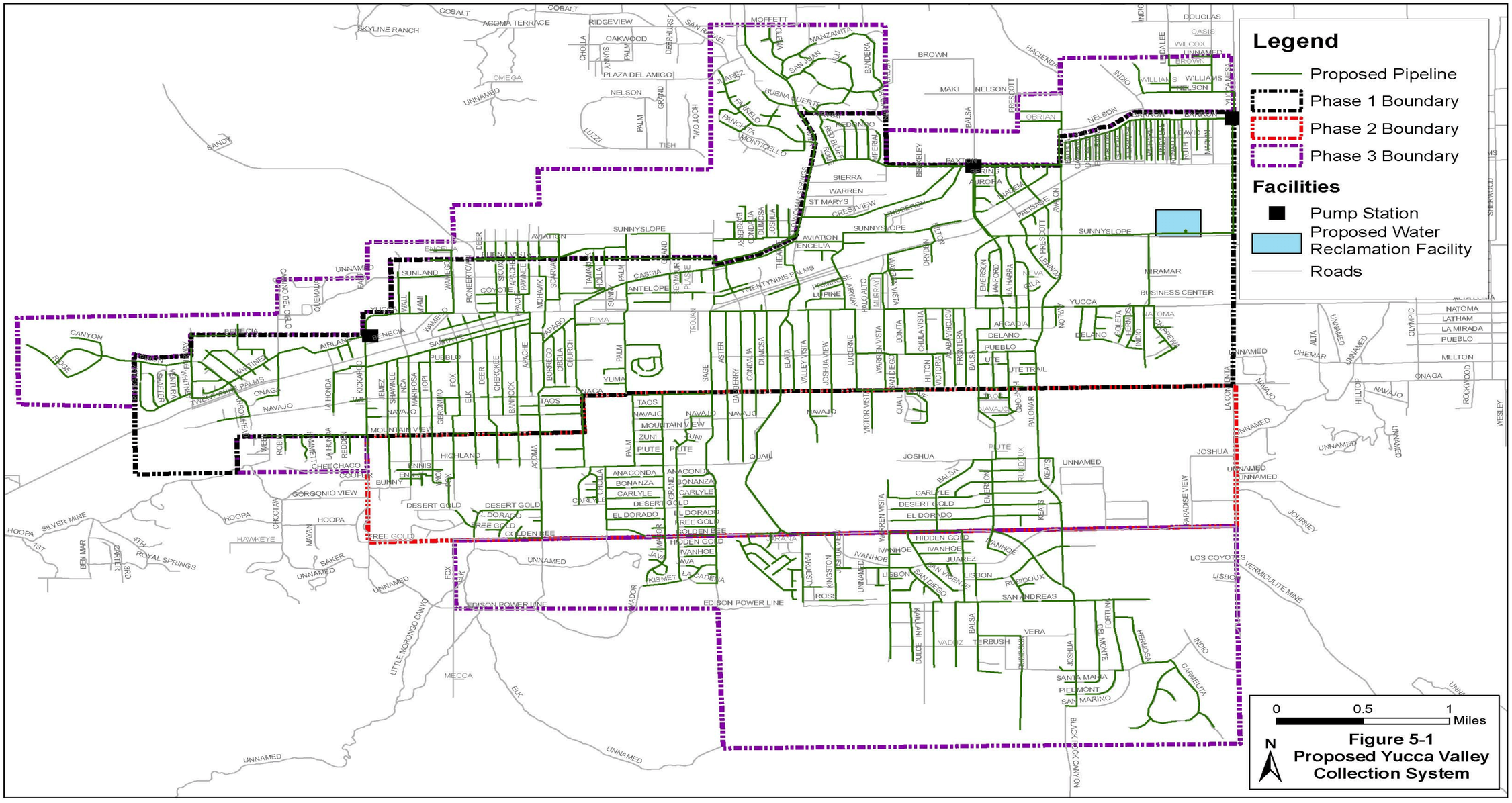


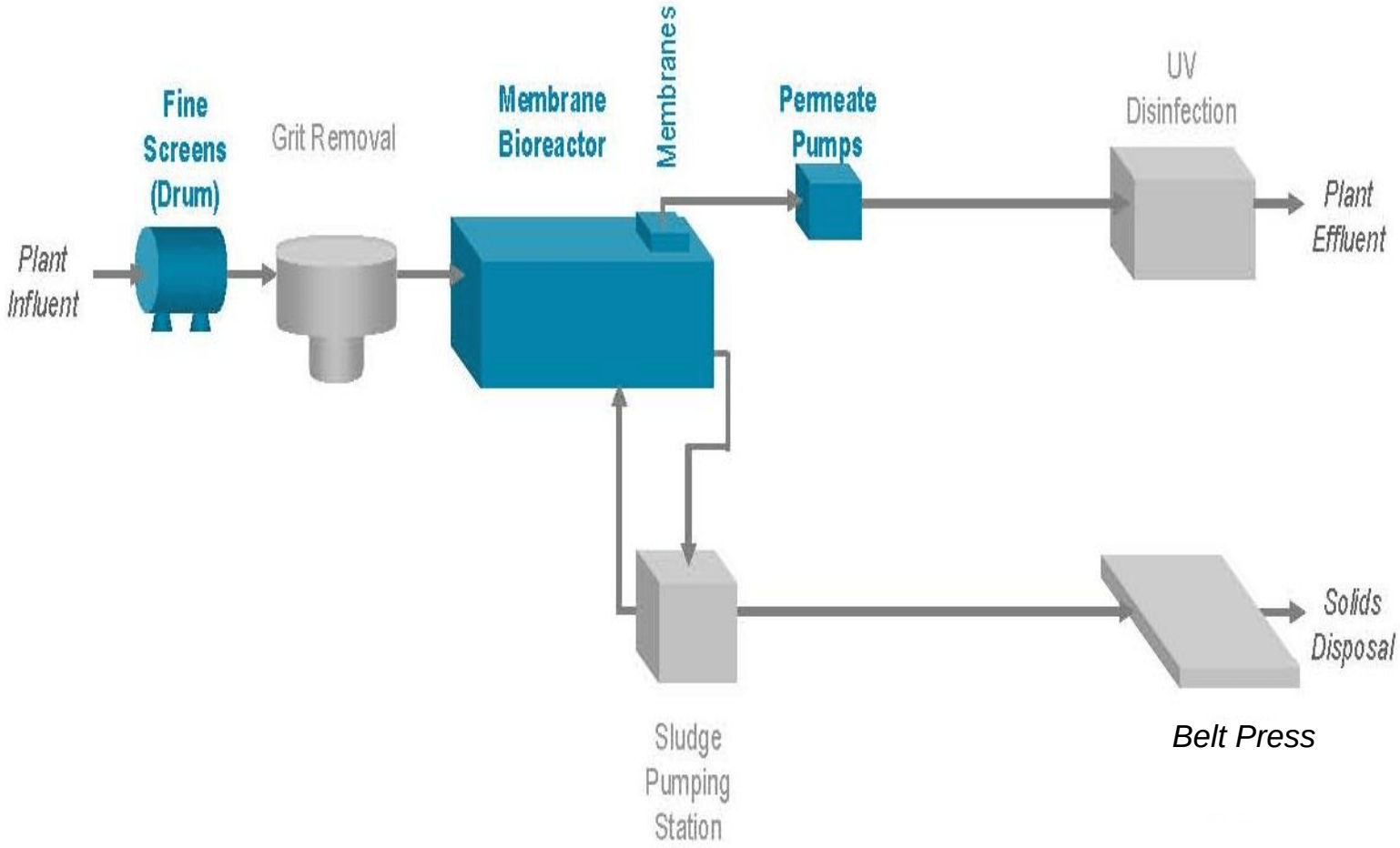

Figure 2. Area of Potential Effects. (Based on USGS Joshua Tree North, Joshua Tree South, Yucca Valley North, and Yucca Valley South, Calif., 1:24,000 quadrangles [USGS 1994a-1994d])

**FIGURE 2-2**
**Proposed Yucca Valley Collection System**



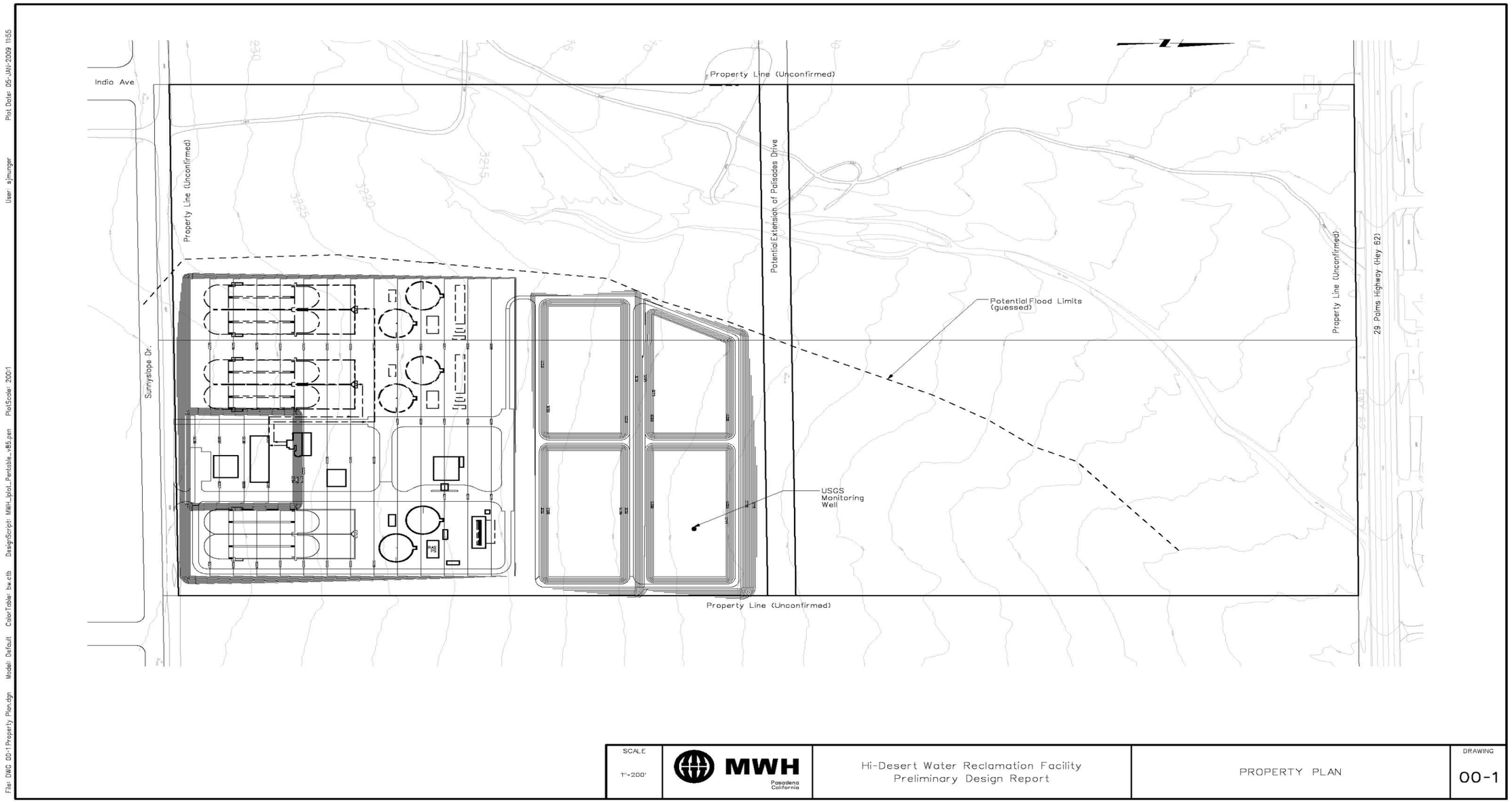

Source: MWH "Hi-Desert Water District Sewer Master Plan" dated January 2009

**FIGURE 2-3**
**Process Flow Schematic for Extended Aeration MBR**



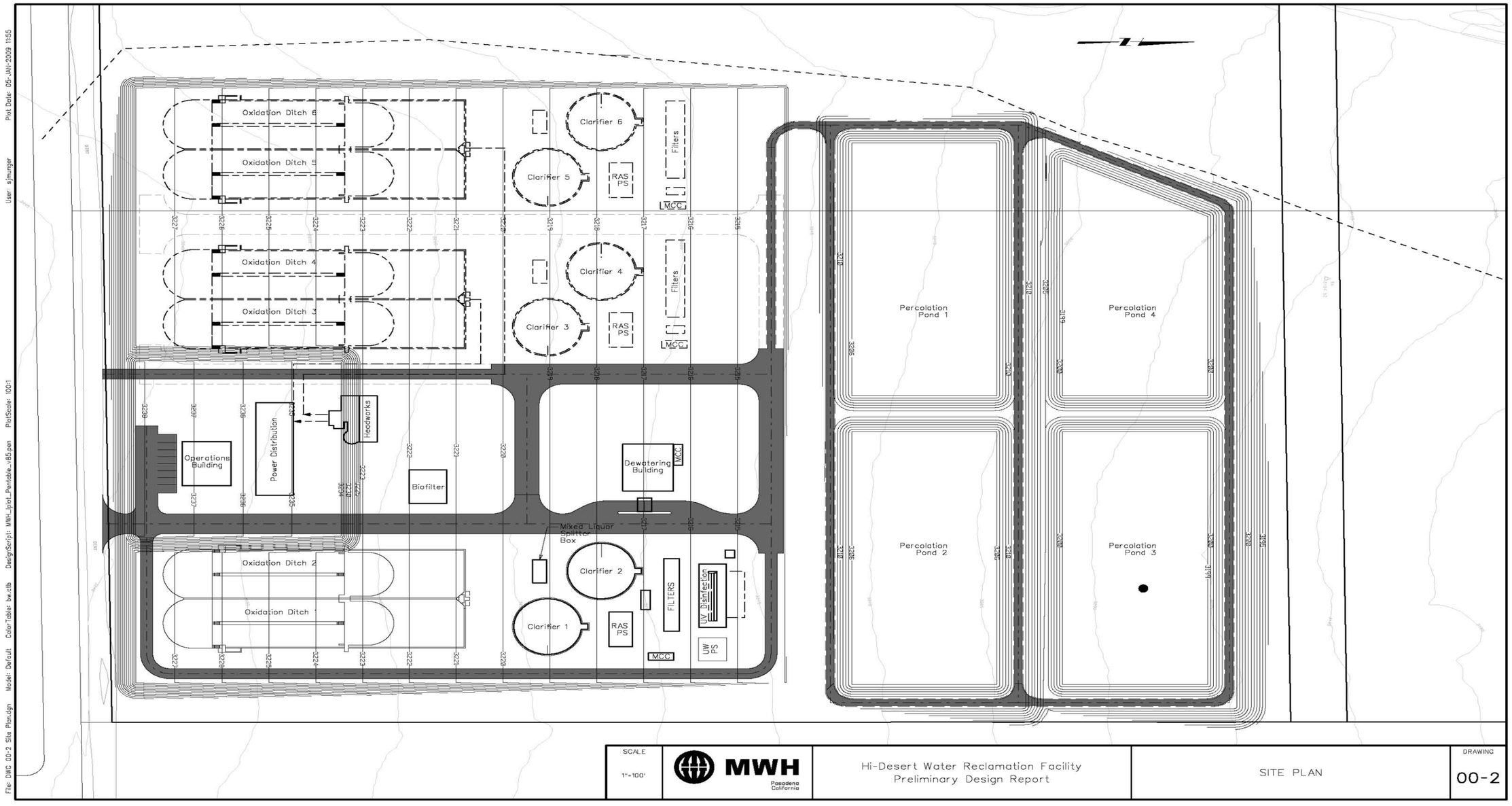

Source: MWH "Hi-Desert Water District Water Reclamation Facility PDR" dated January 2009

**FIGURE 2-4**
**Property Plan**



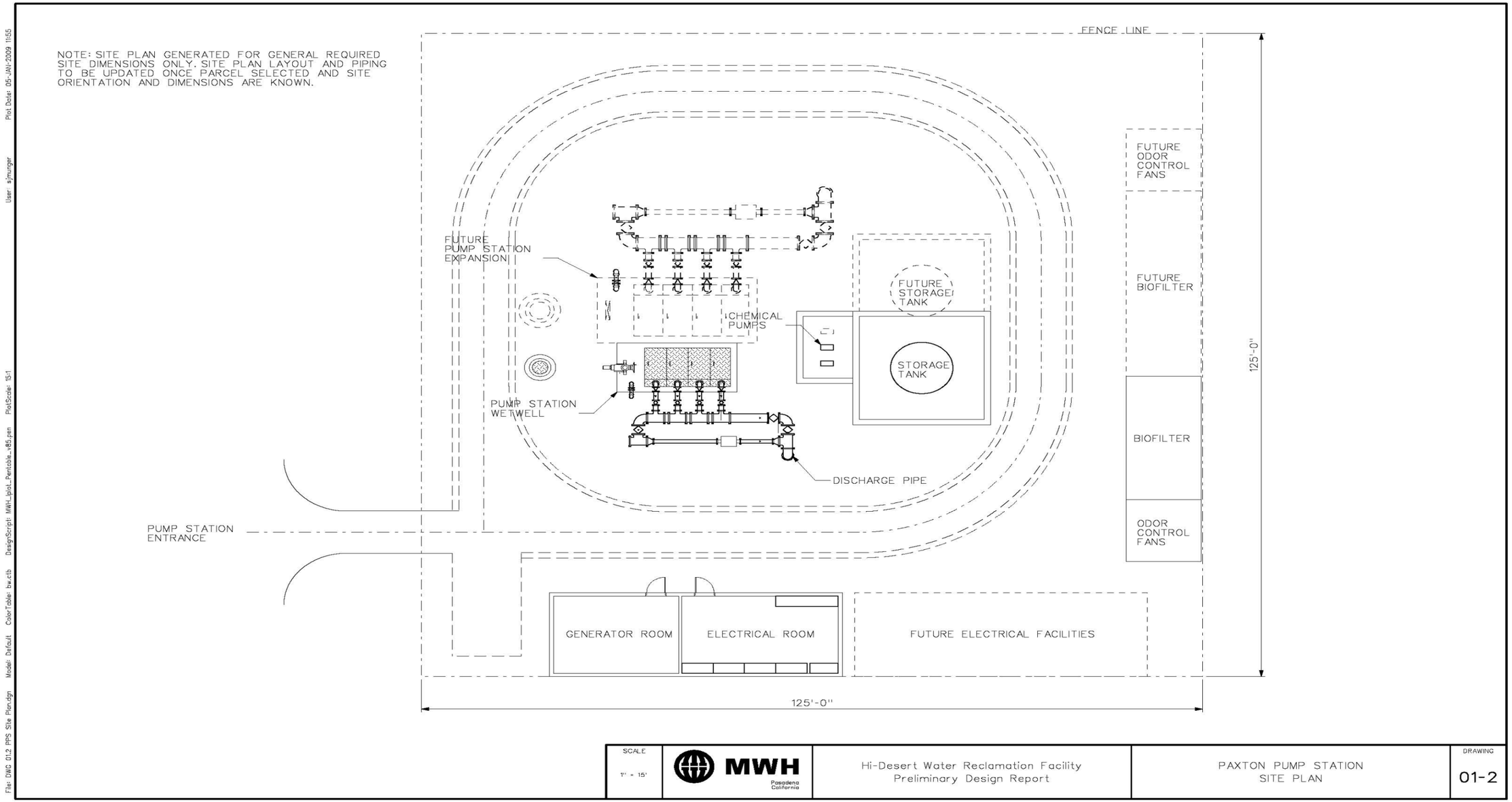

Source: MWH "Hi-Desert Water District Water Reclamation Facility PDR" dated 9/15/08

**FIGURE 2-5**
**Site Plan**



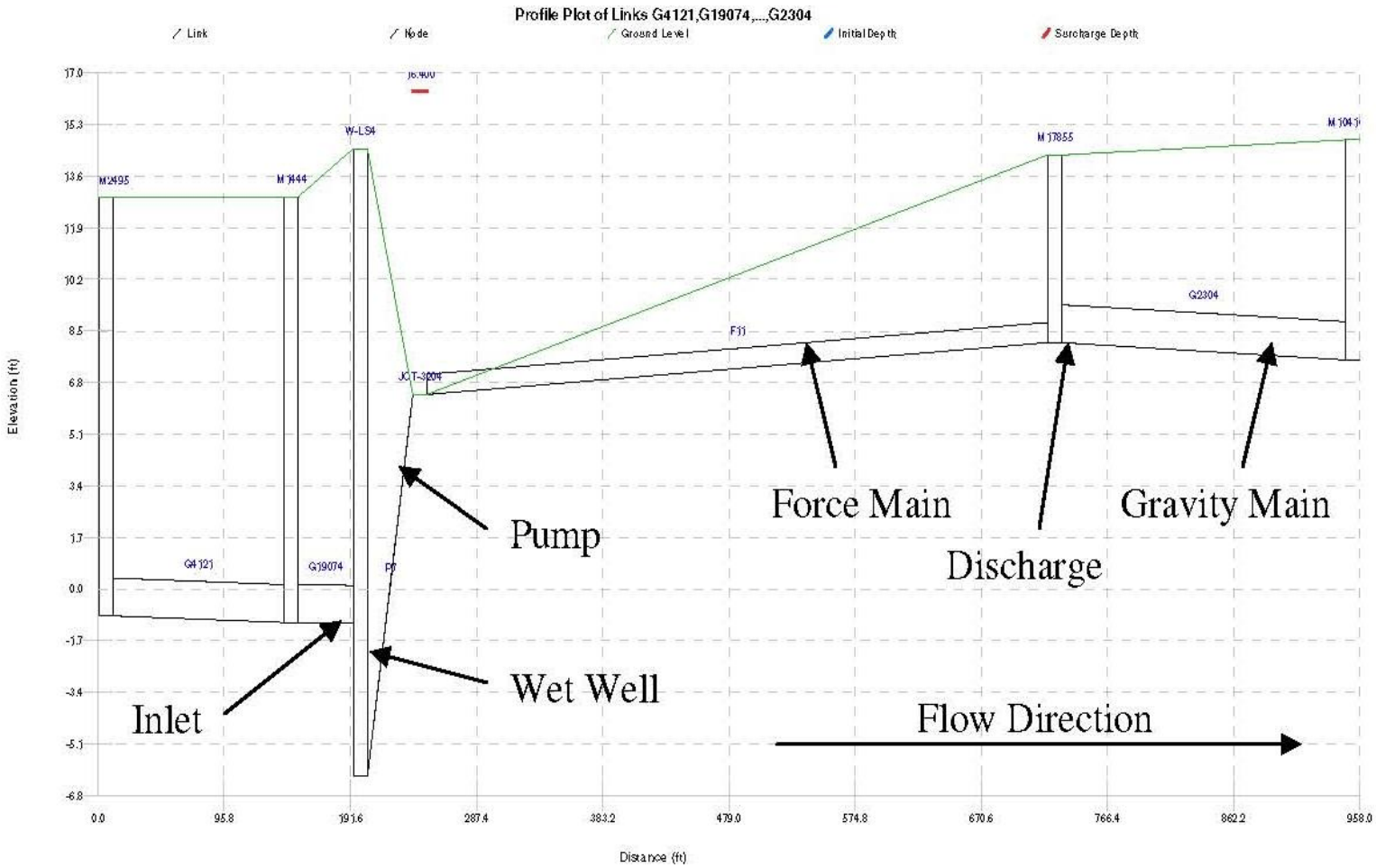

Source: MWH "Hi-Desert Water District Water Reclamation Facility PDR" dated 9/15/08

**FIGURE 2-6**
**Paxton Pump Station – Site Plan**



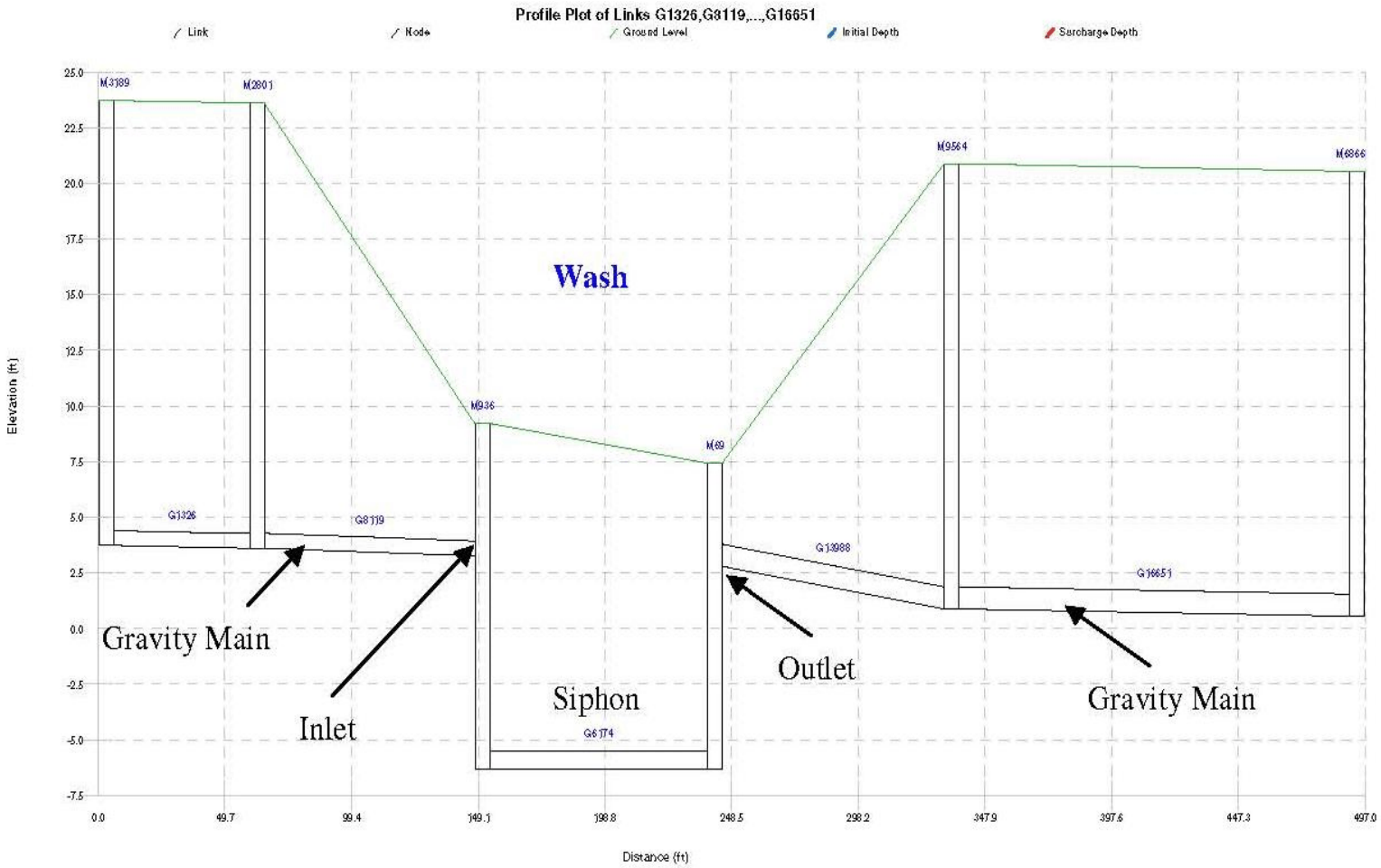

Source: MWH "Hi-Desert Water District Water Reclamation Facility PDR" dated 9/15/08

# FIGURE 2-7
# Profile of Pump Station




Source: MWD "Hi-Desert Water District Sewer Master Plan" dated 9/22/08

# FIGURE 2-8
# Profile of Modeled Siphon




Source: MWH "Hi-Desert Water District Sewer Master Plan" dated 9/22/08

# APPENDIX 1

# PRELIMINARY DESIGN REPORT

# APPENDIX 2

# SEWER MASTER PLAN

# APPENDIX 3

# USGS REPORT

# APPENDIX 4

# BIOLOGICAL REPORT

# APPENDIX 5

# CULTURAL RESOURCES REPORTS

# APPENDIX 6

# FEMA MAP