



Recycled Water for Restoration & Community Projects in Big Pine

Prop 84—Round 2015



Recycled Water for Restoration & Community Projects-- goals, objectives, deliverables, future work

Phase I Evaluation and Planning

Prop 84—Round 2015 funded (\$280,234)

PROJECT GOAL

Establish a wastewater reclamation facility in the town of Big Pine to produce and distribute non-potable recycled water provide for community projects.

PLANNING OBJECTIVE

Evaluate using effluent from the Big Pine Community Services District and Big Pine Paiute Tribe wastewater treatment plants to serve irrigation needs at a number of locations within the community of Big Pine and on the Reservation.

DELIVERABLES

- **Outreach:** Tribal consultation, agency, stakeholder, and public review
- **Feasibility** study report
- **Environmental documentation**
- **Improvement plan** including engineering drawings

Phase II Implementation (future grant)

Constructing a reclamation facility for recycled water to be produced in conformance with California's Water Recycling Criteria

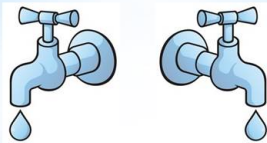
What uses can you think of for

RECYCLED WATER IN BIG PINE?

Come tell us at a community forum...

July 12, 5:30 PM
Big Pine Town Hall

The County of Inyo and the California Department of Water Resources are considering possible uses of recycled water for a community project in Big Pine. We will be looking to the public to identify three projects that will be considered. The most feasible of these three will be studied and a water development plan for this project will be produced.



For more information, or to suggest a potential project, please contact the Inyo County Water Department at 760-878-0011



R|O|Anderson

Report

Feasibility Report Reclaimed Water for Restoration and Community Projects in Big Pine, CA

Prepared for
Inyo County Water Department
December, 2017



MAILING ADDRESS

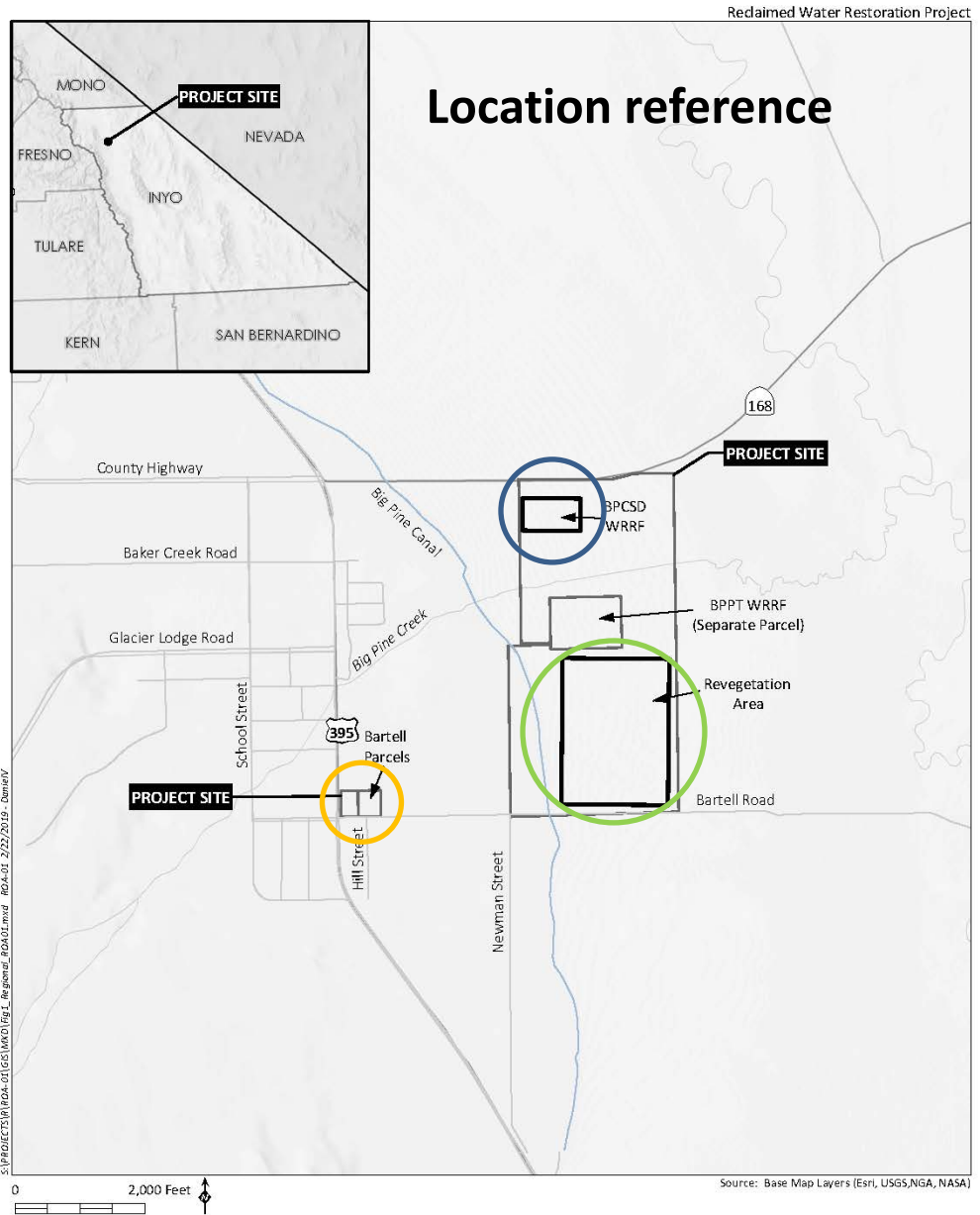
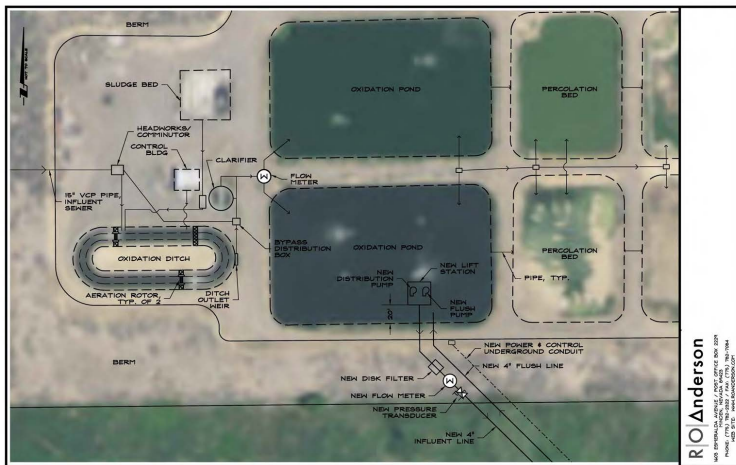
140 W. Huffaker Lane
#507
Reno, NV 89511
www.ROAnderson.com

OFFICES

- Minden, Nevada
- Reno, Nevada

INYO COUNTY - RECYCLED WATER PROJECTS - HIGH SCORE ALTERNATIVES

SCORING CRITERIA	DOTS	TREATMENT LEVEL (RA)	SYSTEM COST (RA)	PUMP DISTANCE (RA)	COMMUNITY ACCEPTANCE (LF)	LABOR REQUIREMENT (RA)	ECONOMIC POTENTIAL (LF)	IMPLEMENTATION GRANT FUNDING POTENTIAL (LF)	MAINTENANCE COSTS (annual) (RA)	LOCATION/ PARCEL OWNERSHIP	PUBLIC ACCESS PER TREATMENT LEVEL
PROJECT DESCRIPTIONS	SUM OF SCORES	[1] - Disinfected Tertiary [2] - Disinfected Secondary 2.2 [3] - Disinfected Secondary 23 [4] - Undisinfected Secondary	[1] - >\$1,000,000 [2] - \$500,000- \$1,000,000 [3] - <\$500,000	[1] - > 1 mile [2] - 0.5 -1.0 mile [3] - 0.25-0.5 mile [4] - 0.125-0.25 mile [5] - < 0.125 mile	[1] - Opposition [2] - Controversial [3] - Neutral [4] - Accepting [5] - Encouraged	[1] - Daily [2] - Biweekly [3] - Weekly [4] - Monthly [5] - Quarterly	[1] - None [2] - Indirect [3] - Direct [4] - Sustaining [5] - Profitable	[1] - Low [2] - Moderately Low [3] - Moderate [4] - Moderately High [5] - High	[1] - > \$10,000 [2] - 5,000-10,000 [3] - \$1,000-\$5,000 [4] - <\$1,000	[1] - LADWP [2] -PRIVATE [3] - COUNTY/BPPT	[1] - Restricted [2] - Controlled [3] - No Restrictions Note: Not included in DOTS calculation
PROJECT A Revegetation with native vegetation - ≤ 180 acres of abandoned agricultural land owned by LADWP	20.5	Will depend on type and use of vegetation. [3]/[4]	[3] - <\$500,000	[1] Location Dependent		Requires [1] Based on treatment level,daily bacteriological testing will be required.	civic improvement and dust control offer indirect economic potential	LADWP funding	[3] - \$1,000-\$5,000	[1] - LADWP	[1] - Restricted
PROJECT B Irrigate baren parcel - restore to working pasture area	23	Pastures supporting animals not producing milk for consumption: [4] - Undisinfected Secondary Recycled Water [§ 60304.(d)(4)].	[3] - <\$500,000	[1] - > 1 mile 1.53 miles from treatment plant		Requires [4] - Monthly	pasturage for profit.	LADWP funding	[4] - <\$1,000	[1] - LADWP	[1] - Restricted
PROJECT F Irrigate agricultural area for beer brewing crop production (hop, rye and/or barley) Location: Bartell Parcel	19.5	Brewing process likely qualifies as a commercial pathogen-destroying process, [4] - Undisinfected Secondary Recycled Water is required [§ 60304.(d)(6)]	[3] or [2] depending on location and confirmation of pathogen-destroying process	[1] - > 1 mile 1.53 miles from treatment plant		Requires [4] - Monthly	economic development would be a direct benefit	small ag and ed grants available	[1] - > \$10,000	[1] - LADWP	[1] - Restricted
PROJECT G Dust control	21	Requires [3] - Disinfected Secondary - 23 Recycled Water [§ 60307.(b)(6)]	[3] - <\$500,000	Likely will require haul truck [5]		Requires [1] Based on treatment level,daily bacteriological testing will be required.	dust control enhances town	GBUAPCD grant	[3] - \$1,000-\$5,000	[3] - COUNTY/BPPT	Not Applicable
PROJECT I Woodlot - Christmas tree farm Location: Bartell parcel	23	Requires [4] - Undisinfected Secondary Recycled Water (conditional, no irrigation with waste water 14 days prior to harvesting or public access) [§ 60304.(d)(3)]	[3] - <\$500,000	[1] - > 1 mile 1.53 miles from treatment plant		Requires [4] - Monthly	economic development and town beautification would be a direct benefit	some private funding would be expected	[4] - <\$1,000	[1] - LADWP	[1] - Restricted Can open to public 14 days after ceasing all irrigation
PROJECT J Irrigation of ornamental and/or native plants for containerized sale Location: Bartell parcel or BPPT lands	19	Requires [3] - Disinfected Secondary - 2.2 Recycled Water [§ 60304.(c)(4)]	[2] - \$500,000 - \$1,000,000	[1] - > 1 mile 1.53 miles from treatment plant (for Bartell parcel)		Requires [1] Based on treatment level,daily bacteriological testing will be required.	economic development from a commercial enterprise is a direct benefit	some mix of ed funding, private funding and possibly LADWP might be expected	[3] - \$1,000-\$5,000	[1] - LADWP [3] - COUNTY/BPPT	[2] - Controlled
PROJECT P Supply water for Big Pine Town Beautification Irrigation - trees, potted plants, planters, etc.	19	Requires [1] - Disinfected Tertiary Recycled Water [§ 60304.(a)(2)]	[2] - \$500,000 - \$1,000,000	[5] - > 0.125 mile On-site storage tank could store recycled water, tank truck would transport water to irrigation uses		Requires [1] Based on treatment level,daily bacteriological testing will be required.	civic improvement offers indirect economic potential	some County funding and possibly LADWP assistance might be possible	[2] - 5,000-10,000	[3] - COUNTY/BPPT	[3] - No Restrictions
PROJECT R Civic Permaculture Project- Main Street Planters	19	Requires [1] - Disinfected Tertiary Recycled Water [§ 60304.(a)(2)]	[2] - \$500,000 - \$1,000,000	[5] - > 0.125 mile On-site storage tank could store recycled water, tank truck would transport water to irrigation uses		Requires [1] Based on treatment level,daily bacteriological testing will be required.	civic improvement offers indirect economic potential	some County funding and possibly LADWP assistance might be possible	[2] - 5,000-10,000	[3] - COUNTY/BPPT	[3] - No Restrictions



BIG PINE 160 REVEGETATION PROJECT PROGRESS

LADWP Annual Report 2013

It is anticipated that a buried drip system will be installed during 2012-2013.

LADWP Annual Report 2015

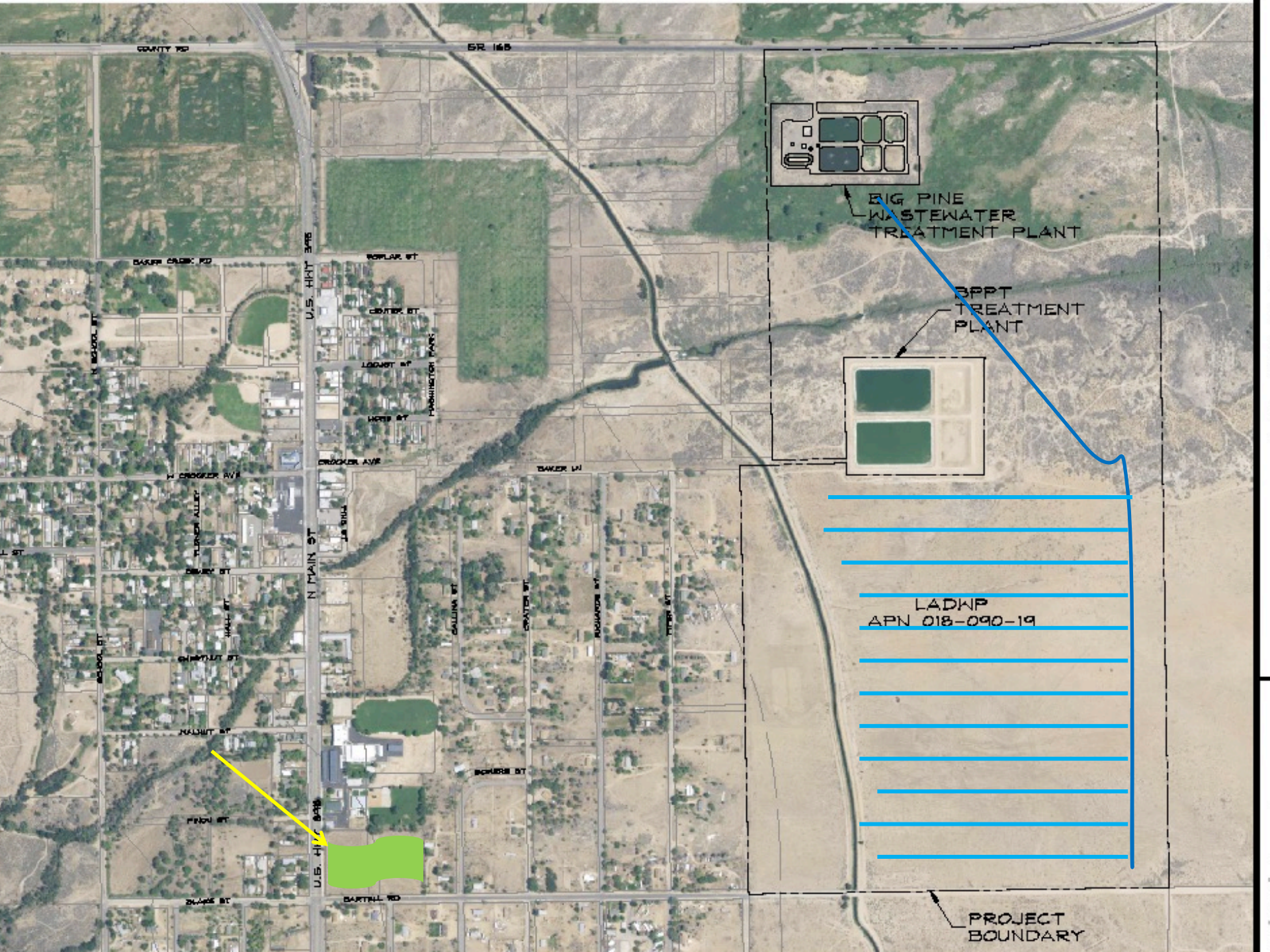
A drip irrigation system is currently being designed for a portion of this site. LADWP anticipates irrigation design will be complete by the end of 2015 and implementation beginning in Spring 2016.

LADWP Annual Report 2016

Site was drill seeded. LADWP is in the process of developing a drip irrigation system for this site. However, a water source must be determined for this site.

LADWP Annual Report 2017

Drill seeding is successful as of 2016, the parcel contained 2% native perennial vegetation cover. Project is implemented but is not yet attaining goals.



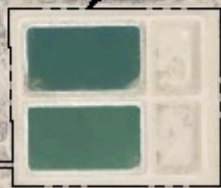
COUNTY RD

SR 165



BIG PINE
WASTEWATER
TREATMENT PLANT

BPPT
TREATMENT
PLANT



LADWP
APN 018-090-19

PROJECT
BOUNDARY

U.S. HWY 395

N MAIN ST

U.S. HWY 395

BAKER CREEK RD

POPLAR ST

CENTER ST

LOQUIST ST

HICKY ST

HARRINGTON PARKS

CROCKER AVE

BAKER LN

N CROCKER AVE

LA ST

CALLUNA ST

CRAWLER ST

REGANZINI ST

PETER ST

TURNER ALLEY

BEVERLY ST

WALL ST

EMERY ST

MALDEN ST

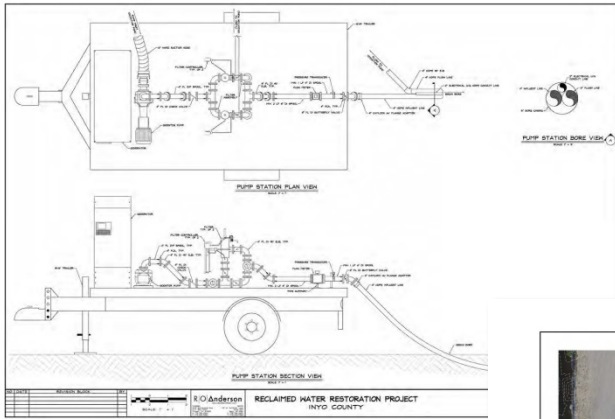
FRANK ST

BLAKE ST

SCHUBERT ST

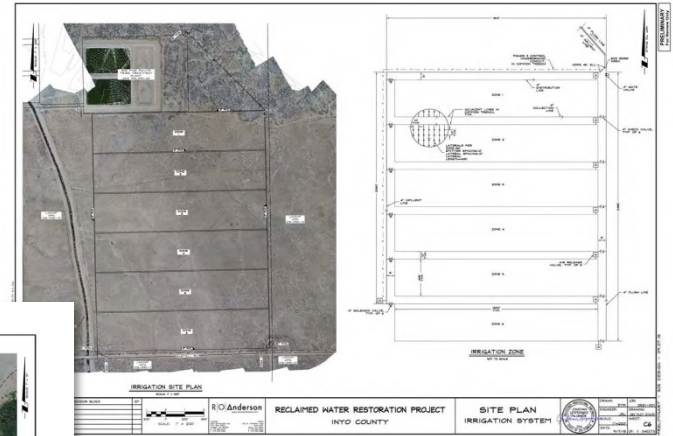
DARTALL RD

Pump



HELIX
Environmental Planning

Irrigation Distribution



Irrigation Zones
Figure 6

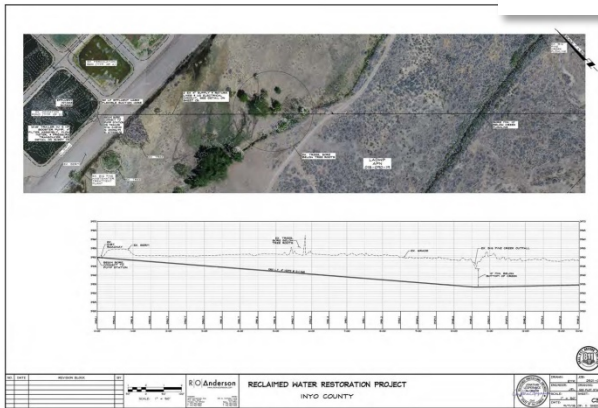
Photovoltaic Array



HELIX
Environmental Planning

PV System
Figure 10

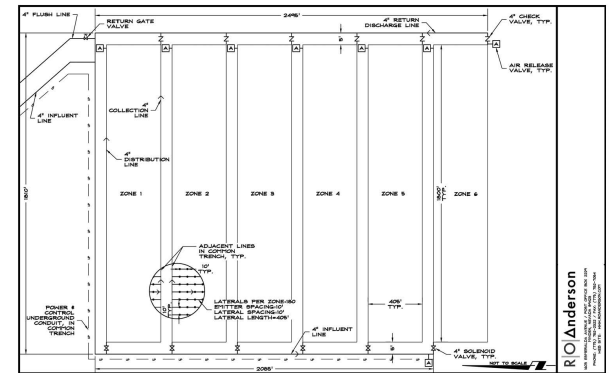
Directional Drilling



HELIX
Environmental Planning

Drilling Installation
Figure 8

Drip Irrigation System



HELIX
Environmental Planning

Irrigation System
Figure 5

Challenge #1

LADWP

LADWP is committed to developing recycled water projects in LA

- Little interest in recycled water on their land in the Eastern Sierra
- Refused to participate in project meetings or feasibility study development
- Refused County/consultant request to permit a topographic survey of BP 160



Los Angeles  Department of Water & Power

The Mar Vista Community Council and the Los Angeles Department of Water and Power invite you to a presentation about the

RECYCLED WATER PROGRAM for Los Angeles

How Recycled Water is Helping to Secure a Reliable Water Supply

- 💧 Where does L.A. get its water?
- 💧 What is the City doing to secure a reliable water supply?
- 💧 What is recycled water and how is it used?
- 💧 Why is recycled water important to everyone in the City?

Presented by Jim Yannotta
LADWP Assistant Director of Water Resources

April 11, 2015

Subject: Feasibility Study for Reclaimed Water Project in Big Pine

Thank you for providing the Los Angeles Department of Water and Power (LADWP) a copy of the "Feasibility Study for the Use of Reclaimed Water to Support Restoration and Community Projects in Big Pine" (Study) for review. In this Study, Inyo County's consultant evaluated 18 potential reclaimed water projects in the vicinity of Big Pine, California. LADWP has reviewed the Study and has concerns with regard to the preferred alternative proposed at Big Pine 160 on City of Los Angeles (City) property.

The Study's preferred alternative will add additional water demands onto the City over and above its obligations. This would result in a loss of water for the City and result in replacement water having to be purchased at the expense of the LADWP Ratepayers. The Study proposes to provide reclaimed water onto the revegetation parcel Big Pine 160 in exchange for LADWP providing surface water from the Big Pine Canal to irrigate the Bartell Parcel. LADWP has no obligation, nor any responsibility to provide irrigation water onto the Bartell Parcel.

The revegetation parcel Big Pine 160 is already being naturally restored since it was seeded by LADWP two years ago. The plants in this area are comprised of 7 perennial species that have naturally germinated from seed and have grown utilizing natural precipitation without supplemental water. These plants are not only well adapted to the dry and harsh conditions of the site, but are thriving. Ultimately, this approach is the most beneficial to the sustainability of the environment.

In addition, given that we are in the nascent stages of plant establishment, it is premature to destroy the existing native vegetation, which is uniquely adapted to the site, to install a reclaimed water drip line irrigation system to grow the same vegetation that

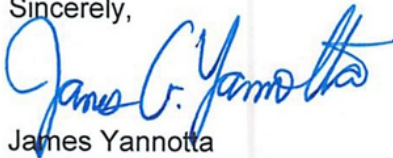
currently exists at the site. Further, the vegetation at the site ultimately needs to be self sustaining, relying upon precipitation.

The reclaimed water Study proposes to use is secondary treated and undisinfected wastewater which poses a public health and safety issue. Title 22 of the California Environmental Health Code allows only a very few uses of this classification of water (Undisinfected Secondary Treated). Some of the uses that are not allowed for this type of water in Title 22 include "any non-edible vegetation with access control to prevent use as a park/playground/schoolyard". The site will likely be visited by the public and LADWP employees. Therefore, there are potential hazards associated with human contact.

This project could result in a high cost for an obligation that the City does not have a fiduciary obligation or responsibility. The report describes that the project will be funded by LADWP as a potential grant funder.

Given the additional water obligations to the City, potential harm to the environment, health risk to the public and LADWP staff that may be onsite, and costs to the City of Los Angeles, LADWP cannot provide support for the preferred alternative as proposed. We encourage you to focus your efforts on the other potential reclaimed water projects in the Big Pine area identified in your study that do not occur on City property.

Sincerely,



James Yannotta
Manager of Aqueduct

Challenge #2

ARCHEOLOGY

Phase 1 Archaeological Survey

potentially significant tribal/cultural resources are likely located within the project site.

Mitigation

Prescribed mitigation in the Initial Study includes undertaking a Phase 2 excavation study (\$200,000-250,000) and potentially Phase 3 recovery action in advance of project construction.

Additional Impact Analysis Required

Given these findings the Initial Study indicates a project Environmental Impact Report be produced. The EIR would focus on tribal and cultural resources (~\$60,000).

Moving Forward

- 1) The IS would be circulated for public comment and an EIR prepared for the two outstanding topic areas outlined above.
- 2) LADWP would need to be brought on-board

Big Pine Reclaimed Water Restoration Project

Initial Study

Prepared by:
Inyo County Water Department
135 S. Jackson Street
Independence, CA 93526

Prepared in Support with:
HELIX Environmental Planning, Inc.
11 Natoma Street, Suite 1155
Folsom, CA 95630

October 2019