Rosamond Community Services District

DOCKET
08-AFC-2
DATE 08/14/09
RECD. 08/20/09

August 14, 2009

The Resources Agency of California
California Energy Commission
ATTN: Mr. Eric Solorio, Project Manager
1516 Ninth Street
Sacramento, CA 95814-5512

RE: TERTIARY WATER SERVICE LETTER OF INTENT FOR THE BEACON SOLAR ENERGY PROJECT (08-AFC-2)

Dear Mr. Solorio,

The Rosamond Community Services District (RCSD) is pleased to submit a proposal in the form of this Letter of Intent (LOI) to provide tertiary water service to the Beacon Solar Energy Project (08-AFC-2) ("Beacon"), proposed to be located near Cantil, California. This LOI is meant to support the California Energy Commission's policy which mirrors the California State Water Resources Control Board policy regarding the use of water resources in industrial facilities and power plant cooling. In brief, RCSD is prepared to supply 1,456 acre-feet per year of Title 22 tertiary water generated from its customers, to Beacon for a period of thirty (30) years. To carry out this proposal will require a contractual agreement providing for Beacon to purchase the recycled water under mutually agreeable terms, in order for RCSD to secure financing for the required capital improvements.

Rosamond Community Services District is ready to negotiate a final contract to provide tertiary water service to the Project under the following general terms:

1) Water supply quality & levels of constituents: The delivered water will meet Title 22 requirements for tertiary treated recycled water. The constituents will be similar to the RCSD results shown in Appendix "A". Additionally, the tertiary

3179 35th Street West, Rosamond, California 93560
(661) 256-3411 FAX (661) 256-2557
Website: www.Rosamondcsd.com

effluence is expected to contain silica levels of 46 ppm and a bio-nutrient removal process within the treatment plant;

2) Capacity to provide total quantities and peak flows: RCSD currently has an average inflow rate of 1.3 MGD. This equates to 1,456 acre-feet per year. RCSD recognizes Beacon's peak water demands will exceed the average daily outflow from the RCSD WWTP. However, RCSD will provide a constant flow rate of 1.3MGD to Beacon which can be stored on the Beacon site and utilized during peak demand periods to meet 100% of the projects cooling water demand. The storage facility will store excess winter tertiary water production in lined and covered basins for use in the summer months;

3) Proposed routes and Point of Delivery: RCSD has proposed two (2) routes to reach a point on Neuralia Road adjacent to Beacon as shown on the map included as Appendix "B". The delivery point for RCSD is located at the RCSD WWTP;

4) Ownership: RCSD will own and operate the tertiary wastewater plant expansion, including the portion needed to serve Beacon. The seasonal storage and transmission main and related facilities will be owned by Beacon;

5) Capital Cost Estimate: The total capital improvement cost to Beacon would be no more than $47,977,635. Appendix "C" and "D" titled "Beacon Project Water Cost Basis" and "Beacon Project Supplied by RCSD w/o Peaking Capacity" respectively detail the assumptions and conditions related to the cost of service. The total capital cost covers the transmission main and booster stations, seasonal storage, and a portion of the tertiary wastewater treatment plant expansion. RCSD will expand the WWTP in order supply the necessary tertiary water for Beacon. The complete expansion will have a capacity of 2.0 MGD at an estimated cost of $22M. 1.0 MGD of the expansion is needed for Beacon. The propositional cost associated with generating recycled water for use by Beacon is $11M. The summary is as follows:

12" Transmission main, 2-Booster Stations, and related facilities:	$25,777,635*
Beacon Seasonal Storage:	$5,200,000*
RCSD Tertiary WWTP Expansion (portion):	$11,000,000
Easements:	$1,000,000
Contingencies:	$5,000,000
Total:	**$47,977,635**

These estimates **do not provide for public agency construction under prevailing wage requirements*

6) Annual O&M Cost Estimates: The annual O&M and tertiary water cost to Beacon is estimated as detailed in Appendix "D" and summarized below for the first year:

Estimated O&M (@ $0.10/kWh):	$169,456
Cost of Tertiary Water ($624/AF):	$908,544
Estimated Total Annual Cost:	**$1,078,000**

These costs are estimates and must be calculated and adjusted annually based on the actual cost of power, maintenance activity, and potable water rates. The cost of tertiary water is established at $624 with an annual escalator of 4%. RCSD will entertain an option for an initial payment of the full cost of tertiary water for the thirty (30) year period.

7) Financing: RCSD will obtain Certificates of Participation for the tertiary wastewater plant expansion and related facilities using a purchase contract with Beacon as security for the bondholders.

8) Construction: RCSD will obtain the necessary easements and rights-of-way for the transmission main and related facilities. Beacon will conduct surveying and design, provide contract documents for construction, and contract to build these facilities. The transmission main and related facilities will be operated and maintained by Beacon unless a separate agreement is reached with RCSD to provide those services; Beacon will be responsible for the peaking requirements by properly sizing the transmission main and booster stations and by constructing seasonal tertiary water storage at the Beacon site.

9) California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA) Compliance: RCSD will work with the California Energy Commission (CEC) and Edwards Air Force Base to complete the required environmental documentation and procedures for facilities.

This Letter of Intent reflects the general terms and conditions under which RCSD is willing to provide tertiary water service to Beacon and serves as a basis for negotiating a mutually beneficial definitive agreement.

This Letter of Intent is intended to be a non-binding letter of intent summarizing and evidencing the terms upon which RCSD is willing to proceed. Any legally binding obligation of the parties with respect to the Beacon Solar Energy Project shall exist only upon the execution and delivery of the definitive agreement, into which this Letter and all prior discussions shall merge. It expressly is understood that this Letter is not a contract to execute the definitive agreement or otherwise to provide recycled water, and that no party shall be entitled to any recourse, in the form of damages, or otherwise, for any expense incurred or any benefit conferred or lost before or after the date of this Letter if there is a failure, for any reason, of the parties to agree on the final terms and provisions of the definitive agreements. RCSD looks forward to a cooperative negotiation process, but expressly reserves the right of final approval or disapproval, of the definitive agreement.

The District is pleased to be considered for this opportunity and its potential benefits for the region. Please feel free to contact me if you have any questions.

Sincerely,

Jack Stewart

Jack Stewart,
General Manager

Cc: RCSD Board of Directors

APPENDIX "A"

EFFLUENT MINERAL CHARACTERISTICS FOR LWRP, PWRP AND RWWTP

TABLE 11, FINAL FACILITIES PLANNING REPORT, ANTELOPE VALLEY RECYCLED WATER PROJECT

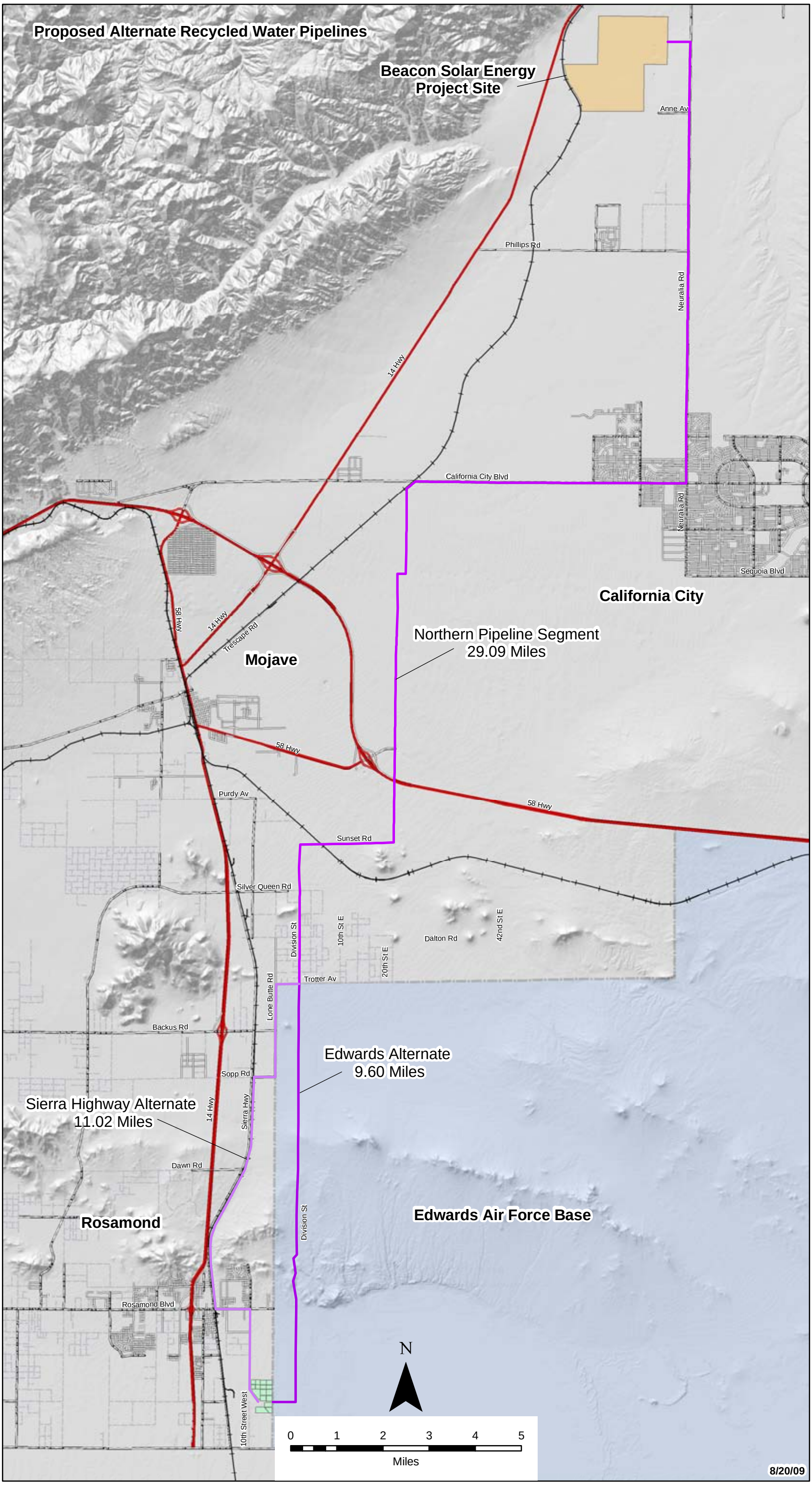
Table 11: Effluent Mineral Characteristics for LWRP, PWRP and RWWTP

Parameter (Annual Mean Values)	Unit	LWRP[1]	PWRP[1]	RWWTP[2]
Total Dissolved Solids	mg/l	548	520	590
Ammonia-N	mg/l	15.7	22	32
Calcium	mg/l	44	31.1	NA
Magnesium	mg/l	12.3	11.3	NA
Arsenic	mg/l	< 0.0022	< 0.001	0.007
Barium	mg/l	0.014	NA	NA
Aluminum	mg/l	< 0.09	NA	NA
Cadmium	mg/l	< 0.0004	< 0.0004	ND
Total Chromium	mg/l	< 0.010	< 0.010	ND
Hexavalent Chromium	mg/l	< 0.0001	NA	NA
Cobalt	mg/l	< 0.010	NA	NA
Iron	mg/l	0.275	NA	NA
Lead	mg/l	< 0.002	< 0.002	0.006
Manganese	mg/l	0.019	NA	NA
Mercury	mg/l	< 0.00004	< 0.00004	ND
Nickel	mg/l	< 0.020	< 0.020	ND
Potassium	mg/l	17	14.1	NA
Silver	mg/l	< 0.00036	< 0.00033	ND
Antimony	mg/l	< 0.0005	< 0.0005	ND
Beryllium	mg/l	< 0.0007	< 0.0005	ND
Molybdenum	mg/l	< 0.04	NA	NA
Thallium	mg/l	< 0.001	< 0.001	ND
Vanadium	mg/l	< 0.020	NA	NA
Sulfate	mg/l	80	69	NA
Chloride	mg/l	141	113	98
Total Hardness (as C_2CO_3)	mg/l	127	NA	NA
MBAS	mg/l	0.1	0.2	7.8
Copper	mg/l	< 0.010	NA	0.043
Selenium	mg/l	< 0.001	NA	ND
Sodium	mg/l	167	125	NA
Zinc	mg/l	0.067	NA	0.440

NA: not available
ND: None detected at DLR.
[1]2004 Annual Reports.
[2]BSK Analytical Laboratories Certificate of Analysis, Sample Date 07/20/04 of influent sewer.

APPENDIX "B"

ROUTING ALTERNATIVES AND POINT OF DELIVERY MAP


Proposed Alternate Recycled Water Pipelines
Beacon Solar Energy Project Site
Anne Av
Phillips Rd
Neuralia Rd
14 Hwy
California City Blvd
Neuralia Rd
Sequoia Blvd
California City
58 Hwy
14 Hwy
Trescape Rd
Mojave
Northern Pipeline Segment
29.09 Miles
58 Hwy
58 Hwy
Purdy Av
Sunset Rd
Silver Queen Rd
Division St
10th St E
20th St E
Dalton Rd
42nd St E
Trotter Av
Lone Butte Rd
Backus Rd
Edwards Alternate
9.60 Miles
Sopp Rd
Sierra Highway Alternate
11.02 Miles
14 Hwy
Sierra Hwy
Dawn Rd
Rosamond
Edwards Air Force Base
Division St
Rosamond Blvd
10th Street West
N
0 1 2 3 4 5
Miles
8/20/09

APPENDIX "C"

BEACON PROJECT WATER COST BASIS

BEACON PROJECT WATER COST BASIS

RCSD Tertiary Water (TW) Availability

Annual TW = (1.3 MGD) (365) (1/.3259) = 1,456 AF/yr

Capital Costs

RCSD

2.0 MGD Deep Lagoon Tertiary Plant Construction Estimate = $22,000,000

1.0 MGD for Beacon Project: $11,000,000

Beacon

500 AF TW Seasonal Storage Construction Estimate = $5,200,000* (needed for peaking ability)

(*__does not__ provide for public agency construction under prevailing wage requirements)

Tertiary Water Rate

Potable Water Rate: Assume ¾" meter, 1 AF/month = 436 HCF/month, Rate effective 10/09

HCF	Flat Rate	$/HCF	$/Tier
3	16.00	-	16.00
4-18	-	1.30	19.50
19-33	-	1.43	21.45
34-43	-	1.61	16.10
44-436	-	1.80	707.40
		Total:	$780.45

80% of Potable Water Cost

TW Cost = ($780.45/AF Potable) (0.8) = $624/AF

Total Cost of Delivered Water

Total Cost/AF with constant flow rate = TW Cost + O&M Cost = (0.8) (Potable Rate) + (Actual O&M)

Dennis D. LaMoreaux, P.E. C45906

June 24, 2009

APPENDIX "D"

BEACON PROJECT SUPPLIED BY RCSD W/PEAKING CAPACITY

CAPITAL AND ANNUAL COST ESTIMATES

BEACON PROJECT SUPPLIED BY RCSD w/o PEAKING CAPACITY

CAPITAL AND ANNUAL COST ESTIMATES

Tertiary Water Demand

Beacon Solar 230 MW Project

RCSD WWTP Capability = 1.3MGD = 4.0 AF/day

= 2.0 CFS

Main Sizing Criteria/Formula

CML pipe;

Minimize head losses;

Q=VA;

$h = [(0.2083(100/140)^{1.852}(900)^{1.852})/D^{4.8655}](52.8)$ = ft head loss/mile

Assume Maximum pressure of 185 psi = 427'

Pumping Cost = (24) (365) (0.746Qhc)/ $(3960u_pu_m)$

Q = 2.0 cfs = 900 gpm

h = total head (ft)

c = Electrical Cost: assume $0.10/kWhr

u_m u_p = plant efficiency = 0.70

Pumping Cost = (212) (h)

Cost Estimates of Transmission Mains

Basis: $13.00/in-dia/ft used in NLA/KC Project ($2005);

1.09 CPI Adjustment to $2009 = **$14.2/in-dia/ft (**Use in areas with pavement, existing streets)

Use **$11/in-dia/ft** in unimproved areas (per City of Lancaster bidding experience)

Preferred Route (EAFB & Western)

Length(ft)	$/in-dia/ft	$/in-dia	
50,713	11.0	557,843	RCSD WWTP to Trotter Road via EAFB
69,454	11.0	763,994	Trotter Road to California Blvd.
84,257	14.2	1,196,449	California Blvd. to Beacon Project
204,424		2,518,286	

Preferred Route Weighted $/in-dia/ft = $12.32

TRANSMISSION MAIN CAPITAL COST ESTIMATES									
Main Size (in)	Main Cost Preferred Rt. ($)	Boosting Head					Booster Stations		Total Capital Preferred Rt. ($)
		Friction Head Loss			Elevation	Total h	No.	Cost	
		(ft/mile)	(Miles)	(ft)	(ft)	(ft)		(@$1M/Sta.)	
8	20,148,029	70.5	21.8	1,537	397	1,934	4.5	5,000,000	25,148,029
10	25,185,037	23.8	21.8	519	397	916	2.1	2,000,000	27,185,037
12	30,222,044	9.8	21.8	214	397	611	1.4	2,000,000	32,222,044
14	35,259,052	4.6	21.8	100	397	497	1.2	2,000,000	37,259,052

ANNUAL WATER COST ESTIMATES			
Main Size (in)	Energy Cost ($212)h	Maint. Cost ($20k/Sta.)	Total ($)
8	409,987	100,000	509,987
10	194,158	80,000	274,158
12	129,456	40,000	169,456
14	105,423	40,000	145,423

Proposed Project and Estimated Costs

Use 12" Transmission main from RCSD to Beacon Project using the EAFB route

Capital Cost = Transmission main + 2.0 Tertiary WWTP + Beacon Onsite Seasonal Storage

Capital Cost = $32,222,044 + $11,000,000 + 6,500,000 = **$49.7M** (RCSD Construction)

Capital Cost = $25,777,635*+ $11,000,000 + $5,200,000*= **$42.0M** (*Beacon Construction)

Total Construction Cost Estimate = Capital Cost + Easements + Contingencies

Total Construction Cost Estimate = $42.0M + $1M + $5M = **$48.0M** (*Beacon Construction)

Annual Cost (First Year) = TW Cost + O&M = ($624/AF) (1,456 AF) + $169,456 = **$1,078,000/yr**

Dennis D. LaMoreaux, P.E. C45906
August 13, 2009