**Attachment 4. BUDGET**

**South Orange County Wastewater Authority**

**J.B. Latham Treatment Plant Water and Energy Efficiency Project**

| Work Plan Task No. | Line Item | Requested Grant Funding | Cost Share | Total |
|---|---|---|---|---|
| 1 | SOCWA Personnel Services | | | |
| | Design Phase | $ 8,547 | $ 71,453 | $ 80,000 |
| | Bid Phase | $ 2,671 | $ 22,329 | $ 25,000 |
| | Construction | $ 40,064 | $ 334,936 | $ 375,000 |
| | Startup | $ 4,327 | $ 36,173 | $ 40,500 |
| | Project Closeout | $ 2,137 | $ 17,863 | $ 20,000 |
| | Grantee Expenses | | | |
| | Mileage | $ 47 | $ 397 | $ 444 |
| | Office Supplies | $ 53 | $ 447 | $ 500 |
| | Reproduction | $ 53 | $ 447 | $ 500 |
| | Equipment less than $5,000 | $ 21 | $ 179 | $ 200 |
| | Equipment over $5,000 | $ - | $ - | $ - |
| 2 | Land/Easement Acquisition | $ - | $ - | $ - |
| 3 | Professional and Consulting Services | | | |
| | Planning / Pre-Design Engineering | $ 470 | $ 3,930 | $ 4,400 |
| | Engineering Design (Aeration-Cogeneration Element since 7/1/14) | $ 7,311 | $ 61,119 | $ 68,430 |
| | Landscaping Design (Xeriscaping/Irrigation System Mods) | $ 2,137 | $ 17,863 | $ 20,000 |
| | Bid Phase Services | $ 1,709 | $ 14,291 | $ 16,000 |
| | Construction Management | $ 96,154 | $ 803,846 | $ 900,000 |
| | Project Closeout | $ 1,603 | $ 13,397 | $ 15,000 |
| 4 | Environmental Compliance | $ 534 | $ 4,466 | $ 5,000 |
| 5 | Permitting | $ 534 | $ 4,466 | $ 5,000 |
| 6 | Proposal Monitoring Plan | $ 1,068 | $ 8,932 | $ 10,000 |
| 7 | Construction / Implementation Costs | | | |
| | A1. Mobilization and Demobilization | $ 10,684 | $ 89,316 | $ 100,000 |
| | A2. Demolition in W. Blower Bldg. | $ 13,889 | $ 116,111 | $ 130,000 |
| | A3. Demolition in Aeration Basins | $ 39,530 | $ 330,470 | $ 370,000 |
| | A4. Shop Drawings for Blowers | $ 2,137 | $ 17,863 | $ 20,000 |
| | A5. Blowers (equipment) | $ 91,987 | $ 769,013 | $ 861,000 |
| | A6. Blowers (installation) | $ 5,876 | $ 49,124 | $ 55,000 |
| | A7. Aeration Piping in W. Blower Bldg. | $ 11,859 | $ 99,141 | $ 111,000 |
| | A8. Air Compressor Relocation | $ 962 | $ 8,038 | $ 9,000 |
| | A9. Fine Bubble Diffusers (equipment) | $ 21,367 | $ 178,633 | $ 200,000 |
| | A10. Aeration Piping in Aeration Basins | $ 74,786 | $ 625,214 | $ 700,000 |
| | A11. Effluent Slide Gates Replacement | $ 27,778 | $ 232,222 | $ 260,000 |
| | A12. Blower MCP (equipment) | $ 4,808 | $ 40,192 | $ 45,000 |
| | A13. Aeration Flow Meters (equipment) | $ 19,231 | $ 160,769 | $ 180,000 |
| | A14. Electrical Improvements | $ 48,077 | $ 401,923 | $ 450,000 |
| | A15. Aeration System Appurtenances | $ 34,188 | $ 285,812 | $ 320,000 |
| | B1. Mobilization and Demobilization | $ 3,205 | $ 26,795 | $ 30,000 |
| | B2. Aluminum Walkway (installation) | $ 10,684 | $ 89,316 | $ 100,000 |
| | B3. Structural Improvements | $ 4,273 | $ 35,727 | $ 40,000 |
| | C1. Mobilization and Demobilization | $ 16,026 | $ 133,974 | $ 150,000 |
| | C2. Demolition in Cogeneration Bldg. | $ 8,761 | $ 73,239 | $ 82,000 |
| | C3. Natural Gas Pipeline (installation) | $ 3,205 | $ 26,795 | $ 30,000 |
| | C4. Structural Modifications in Cogen Bldg | $ 4,273 | $ 35,727 | $ 40,000 |
| | C5. Shop Dwgs.Cogeneration Engine-Gen | $ 13,889 | $ 116,111 | $ 130,000 |
| | C6. Cogeneration Engine-Gen. (equipmt) | $ 253,275 | $ 2,117,391 | $ 2,370,666 |
| | C7. Cogeneration Engine-Gen. (install) | $ 8,013 | $ 66,987 | $ 75,000 |
| | C8. CEMS Unit (equipment) | $ 7,479 | $ 62,521 | $ 70,000 |
| | C9. Piping and Appurtenances (Cogen) | $ 10,684 | $ 89,316 | $ 100,000 |
| | C10. HVAC Improvements | $ 4,273 | $ 35,727 | $ 40,000 |
| | C11. Gas Conditioning Syst (equipment) | $ 129,850 | $ 1,085,550 | $ 1,215,400 |
| | C12. Gas Conditioning Syst (installation) | $ 10,684 | $ 89,316 | $ 100,000 |
| | C13. Duct Banks (installation) | $ 7,479 | $ 62,521 | $ 70,000 |
| | C14. Cogen System Controls (equipment) | $ 5,342 | $ 44,658 | $ 50,000 |
| | C15. Cogen Switchgear & MCC (equip) | $ 89,209 | $ 745,791 | $ 835,000 |
| | C16. Cogen Electrical Improvemnts(install) | $ 40,064 | $ 334,936 | $ 375,000 |
| | C17. Gas Cond. Electrical (installation) | $ 8,547 | $ 71,453 | $ 80,000 |
| | C18. Cogeneration Appurtenances | $ 21,367 | $ 178,633 | $ 200,000 |
| | Construction Landscaping and Water System Modifications | $ 12,820 | $ 107,180 | $ 120,000 |
| | **TOTAL** | $ 1,250,000 | $ 10,450,040 | $ 11,700,040 |

# Attachment 4 – Budget

## J.B. Latham Treatment Plant Water and Energy Efficiency Project

Attachment 4 presents the Budget estimate for the South Orange County Wastewater Authority (SOCWA) J.B. Latham Treatment Plant (JBLTP) Water and Energy Efficiency Project and explains how it was developed. Supporting documentation necessary to substantiate work already completed includes the following appendices to Attachment 4:

| | |
|---|---|
| Appendix 4-A | *JBLTP Aeration and Cogeneration Project Consultant Design Fees (costs incurred after July 1, 2014)* |
| Appendix 4-B | *Contractor Bid for Construction of J.B. Latham Treatment Plant Facility Improvements Packages A and C, Aeration Upgrades and Cogeneration Project"* (November 2014) |
| Appendix 4-C | *JBLTP Landscaping and Water Conservation Project Proposal and Contract between SOCWA and Eco Green Team dated 11/18/14 for "Optimized Irrigation Plan"* |
| Appendix 4-D | *JBLTP Landscape Replacement Analysis Memorandum (December 2014)* |

**Budget Format:**

The budget for the J.B. Latham Treatment Plant (JBLTP) Water and Energy Efficiency Project is presented in the recommended format described in the DWR 2014 Water-Energy Grant Program Guidelines and Proposal Solicitation Package. The breakdown of tasks shown in the budget is based on the JBLTP Project Work Plan contained in Attachment 3.

As discussed in the Work Plan, some tasks have already been completed. Actual costs incurred since July 1, 2014, are reported for those tasks. The JBLTP Project will be implemented as two components: (1) Aeration and Cogeneration Upgrades, and (2) Landscaping and Water Conservation.

The Aeration and Cogeneration Component of the Project has been designed and advertised for bids. Competitive bids from contractors were received on November 20, 2014. The costs shown in the budget table represent the actual final design costs incurred by SOCWA since July 1, 2014 (Appendix 4-A), and the apparent low bid for construction of the facilities (Appendix 4-B).

The Landscaping and Water Conservation Component of the Project completed preliminary planning in early December 2014. Costs shown in the budget table for that pre-design work are actual costs incurred since July 1, 2014. Design and construction costs for the landscaping modifications are estimates.

**Budget Breakdown:**

The estimated Project cost shows a breakdown of tasks, activities, cost categories and unit prices and quantities (where applicable). The budget table shows estimated costs for each of the Work Plan tasks. The basis for each of the budget items is described below.

**Budget for Task 1: Direct Project Administration and Reporting:**

SOCWA staff will manage all aspects of the JBLTP Water and Energy Efficiency Project and be responsible all administration and reporting. The budget shows estimated SOCWA personnel costs for Task 1 based on approximately 5 percent of the total project costs per the Program Guidelines and Proposal Solicitation Package. An estimate of the hours of effort and costs for SOCWA personnel is presented.

**Budget for Task 2: Easement(s):**

The budget for land/easement acquisition is zero. No land purchases or easements are required for the JBLTP Water and Energy Efficiency Project. The Project will be located at the J.B. Latham Treatment Plant site, which is owned by SOCWA.

**Budget for Task 3. Project Evaluation/Design/Engineering**

SOCWA has already completed the planning and final design of the aeration and cogeneration elements of the JBLTP Water and Energy Efficiency Project. Planning of the water conservation and landscaping work has been completed with the final design of the modifications to follow.

The budget for Task 3 shows the planning/design/engineering costs for these two elements of the Project that have been incurred since July 1, 2014, and are projected to be incurred as the project elements move forward.

The total design cost for the aeration and cogeneration elements is $1,004,065. The majority of the design effort took place prior to July 1, 2014. The design was completed in October 2014. In accordance with the Program Guidelines and Proposal Solicitation Package, the budget shows only the aeration and cogeneration element engineering design costs after July 1, 2014.

The budget for Task 3 shows the planning/pre-design/engineering design costs for the landscaping and water conservation element of the Project. The cost for the irrigation system planning study, which was completed in December 2014 are firm costs per SOCWA's contract with the landscape architect consultant. The cost for final design of the landscaping and water conservation element is estimated as that work has not yet begun.

SOCWA received competitive bids from contractors on November 20, 2014 for construction of the aeration and cogeneration facilities. The budget table shows a detailed breakdown of the construction cost based on the breakdown of bid items in the apparent low bid.

With regard to the water element of the Project, SOCWA has recently evaluated landscaping modifications to change to more drought-tolerant plant and xeriscape landscaping to reduce or eliminate water demands at the JBLTP site. Actual consultant costs for the landscaping and water conservation evaluation are shown in the budget table as the basis for the preliminary design effort.

**Budget for Task 4: Environmental Documentation:**

The budget for environmental compliance documentation includes estimated costs for a revised Initial Study and Mitigated Negative Declaration (MND) for the aeration and cogeneration elements of the

JBLTP Project and for another Initial Study and MND for the landscaping and water conservation elements of the JBLTP Project.

As noted in the Work Plan, an "*Initial Study"* and a "Notice of Intent to Adopt a Mitigated Negative Declaration" (MND) for the aeration and cogeneration facilities and other improvements was prepared in late 2012. The MND Notice was not adopted at that time because comments were received on the other improvements that are not part of the current Project. For purposes of the JBLTP Water and Energy Efficiency Project, the 2012 MND will be revised to omit extraneous improvements and finalized.

Another Initial Study and Mitigated Negative Declaration will be prepared for the landscaping modifications and water conservation improvements.

The budget shows the estimated cost for completion of the environmental documentation for the entire JBLTP Project.

**Budget for Task 5: Permitting:**

The JBLTP Water and Energy Efficiency Project will require modification of SOCWA's existing air emissions permit from the South Coast Air Quality Management District (SCAQMD). The budget shows the estimated cost to prepare the SCAQMD permit application for the new cogeneration system.

**Budget for Task 6: Proposal Monitoring Plan:**

The budget shows the estimated costs for preparation of the monitoring plan to record and report the progress made on the performance measures to DWR as required by the terms of the Program Guidelines and Proposal Solicitation Package for grantees and the grant agreement.

**Budget for Task 7: Project Construction/Implementation:**

Construction of the JBLTP Water and Energy Efficiency Project will be handled as two separate construction contracts: (1) aeration upgrades and cogeneration element and (2) landscaping and water conservation element. The budget shows costs for each element separately.

The construction cost for the aeration and cogeneration element is based on actual contractor bids that were received by SOCWA in November 2014. The apparent low-bid costs are shown in the budget.

The construction cost for the landscaping and water conservation element of the JBLTP Project are estimated.

**From:** Brian Peck
**To:** Debra Burris
**Cc:** Brandi Thrasher
**Subject:** RE: Grant Application - Costs for Budget Proposal
**Date:** Tuesday, December 02, 2014 8:49:42 AM
**Attachments:** BidSummary JBLTP FacImps A C for DDB Engineering.xls

Debbie:

Please see below. Will shift over to CTP write-up shortly.

Brian

**From:** Debra Burris [mailto:dburris@ddbe.com]
**Sent:** Monday, December 01, 2014 11:33 AM
**To:** Brian Peck
**Cc:** Brandi Thrasher
**Subject:** Grant Application - Costs for Budget Proposal

Hi Brian,
Would you please send me the cost info for the JBLTP Aeration & Cogeneration Project?

1. Design costs (total and those incurred since July 1, 2014)

For the sake of simplicity let us say that the only design involved here is the HDR contract. With change orders the final value of this contract was $1,004,065.40. The bulk of the design work was completed prior to July 1. In August I approved an invoice that brought their cumulative paid to $919,364.16. I believe that in the remaining time that we billed out for the remaining $84,431.24.

2. Construction low-bid (breakdown of bid items because I'm assuming that the secondary clarifier improvements won't be part of the project costs for the grant)

Please see attached. An argument could be made that the grant is only based on A and C Bid Items. However, I am including everything that was in the HDR design (that is A, B, and C). The low bid by Gateway Pacific for those items was $9,994,066.

3. Will SOCWA hire a CM consultant? If so, need the estimated cost for that. If not, will SOCWA provide those services and at what estimated cost for staff time.

We are still working on this. Go with a basic 9% or $900,000.

4. We'll estimate SOCWA's admin costs and send that to you for review. The grant instructions say to limit the admin costs to 5% of the project costs, so we'll go with that as a total.

Ok.

Do you have a consultant cost for the landscaping/water conservation report that's in progress? If so, we need that, plus I assume the report will include an estimated cost for that construction.

No, sorry. Jim and Betty are meeting with Raul so it is in the works.

And the BIG question is….. how large of a grant are we asking for the JBLTP Project (all elements - aeration, cogen & landscaping)? The grant program has no minimum cost share contribution. The maximum per proposal is $2.5 million, which means $2.5 mil total for both the JBLTP and CTP Projects. We could split it equally, $1.25 million each, for example. Or ask for less. Your call.

Go with $1.25 million for right now.

It would be great to get this info or any parts of it today if possible. Thanks!

*Regards,*
*Debbie*

**Debra L. Burris, P.E., BCEE**
**DDB ENGINEERING, INC.**
**15635 Alton Parkway, Suite 117**
**Irvine, CA 92618**
**o: 949.727.4008**
**d: 949.727.4127**

**BID SUMMARY**
**J. B. LATHAM TREATMENT PLANT FACILITY IMPROVEMENT A/C**

| | | Base Bid Items A - Aeration System | Gateway Pacific | Pacific Hydrotech |
|---|---|---|---|---|
| | 1 | Mobilization/Demobilization | $100,000 | $200,000 |
| | 2 | West Blower Building Demolition | $130,000 | $37,600 |
| | 3 | Aeration Basin Demolition | $370,000 | $268,800 |
| | 4 | Blower Submittal | $20,000 | $58,200 |
| | 5 | Procumrent Manufacturing Delivery of Blowers | $861,000 | $643,800 |
| | 6 | Blower Installation | $55,000 | $27,800 |
| | 7 | Aeration System Piping and Valving at Blower Bldg | $111,000 | $428,500 |
| | 8 | Relocation of Air Compressor | $9,000 | $16,500 |
| | 9 | Procurement Manufacturing Delivery of Fine Bubble Diffusers | $200,000 | $119,800 |
| | 10 | Aeration Piping Valving and Diffuser Installation | $700,000 | $276,800 |
| | 11 | Effluent Slide Gates | $260,000 | $284,500 |
| | 12 | PLC Aeration | $45,000 | $143,200 |
| | 13 | Air Flow Meters | $180,000 | $128,800 |
| | 14 | Remaining Electrical Imps | $450,000 | $519,900 |
| | 15 | Other | $320,000 | $256,400 |
| | | TOTAL BASE BID | $3,811,000.00 | $3,410,600.00 |

| | | Base Bid Items B - Structural Improvements/Aeration | Gateway Pacific | Pacific Hydrotech |
|---|---|---|---|---|
| | 1 | Mobilization/Demobilization | $30,000 | $20,000 |
| | 2 | Aluminum Walkway | $100,000 | $129,500 |
| | 3 | Other | $40,000 | $543,300 |
| | | TOTAL BASE BID | $170,000.00 | $692,800.00 |

| | | Base Bid Items C - Co-Generation System | Gateway Pacific | Pacific Hydrotech |
|---|---|---|---|---|
| | 1 | Mobilization/Demobilization | $150,000 | $495,000 |
| | 2 | Demolition | $82,000 | $85,900 |
| | 3 | Natural Gas Pipeline | $30,000 | $54,000 |
| | 4 | Structural Modifications | $40,000 | $96,900 |
| | 5 | Co-Generation Engine Submittal | $130,000 | $132,900 |
| | 6 | Co-Generation Enigne Procurement, Manufacturing and Delivery | $2,370,666 | $1,537,200 |
| | 7 | Co-Generation Engine Installation | $75,000 | $426,800 |
| | 8 | CEMS Procurment and Installation | $70,000 | $368,600 |
| | 9 | Piping, Valving and Appurtenances | $100,000 | $271,600 |
| | 10 | HVAC Improvements | $40,000 | $104,400 |
| | 11 | Procurement, Manufacturing and Installation of Gas Conditioning System | $1,215,400 | $1,332,300 |
| | 12 | Installation of Gas Conditioning System | $100,000 | $160,500 |
| | 13 | Duct Bank System Installation | $70,000 | $20,400 |
| | 14 | CoGen System PLC | $50,000 | $436,500 |
| | 15 | Co-Generation Switchgear and Motor Control Centers | $835,000 | $930,100 |
| | 16 | Electrical System Improvements | $375,000 | $171,700 |
| | 17 | Electrical System Improvement for Digester Gas Treat,emt | $80,000 | $111,800 |
| | 18 | Other | $200,000 | $102,400 |
| | | TOTAL BASE BID | $6,013,066.00 | $6,839,000.00 |

| | | Base Bid Items D - Secondary Clarifier Process Improvements | Gateway Pacific | Pacific Hydrotech |
|---|---|---|---|---|
| | 1 | Mobilization/Demobilization | $100,000 | $100,000 |
| | 2 | Replacement of Isolation Gates | $180,000 | $226,000 |
| | 3 | Replacement of Clarifier Scum Piping | $120,000 | $359,600 |
| | 4 | Replacement of Launders | $170,000 | $531,800 |
| | 5 | Replacement of Mud Valves | $45,000 | $51,100 |
| | 6 | Replacement of Sludge Collector Drives | $180,000 | $208,800 |
| | 7 | Electrical System Improvements | $55,000 | $19,900 |
| | 8 | Other | $250,000 | $100 |
| | | TOTAL BASE BID | $1,100,000.00 | $1,497,300.00 |

| | | Base Bid Items E - Structural Improvements /Secondaries | Gateway Pacific | Pacific Hydrotech |
|---|---|---|---|---|
| | 1 | Mobilization | $50,000.00 | $40,000.00 |
| | 2 | RAS Channel Embeds | $15,000.00 | $46,000.00 |
| | 3 | Mixed Liquor Channel Embeds | $15,000.00 | $84,800.00 |
| | 4 | Walkway Removal | $120,000.00 | $66,000.00 |
| | 5 | Outfall Pipe Support Repair | $10,000.00 | $29,700.00 |
| | 6 | Isolation Gate Concrete Repair | $36,000.00 | $116,600.00 |
| | 7 | Clarifier Stairway | $5,000.00 | $42,800.00 |
| | 8 | Other | $50,000.00 | $10,500.00 |
| | | TOTAL BASE BID | $301,000.00 | $436,400.00 |

| | | Base Bid Items F - Plant 2 Power Supply | Gateway Pacific | Pacific Hydrotech |
|---|---|---|---|---|
| | 1 | Mobilization/Demobilization | $100,000.00 | $200,000.00 |
| | 2 | File Building Demo | $15,000.00 | $41,900.00 |
| | 3 | Plant 2 Electrical Building Structure | $150,000.00 | $237,900.00 |
| | 4 | Plant 2 Electrical Building HVAC | $10,000.00 | $44,200.00 |
| | 5 | Plant 2 Blower Building HVAC | $10,000.00 | $27,000.00 |
| | 6 | Duct Banks and Conduit Runs | $300,000.00 | $430,500.00 |
| | 7 | Electrical Equipment Demo | $150,000.00 | $10,500.00 |
| | 8 | Main Switchgear Submittal | $10,000.00 | $7,700.00 |
| | 9 | Procurement, Manufacturing and Delivery of Switchgear /Switchboard | $300,000.00 | $421,100.00 |
| | 10 | Preparation of Low Voltage Motor Control Center Submittal | $5,000.00 | $5,300.00 |
| | 11 | Procurement, Manufacturing and Delivery of Low Voltage Motor Control Center | $100,000.00 | $82,800.00 |
| | 12 | Plane Electrial Building Electrical System Installation | $65,000.00 | $81,900.00 |
| | 13 | Construction of Plant 2 Blower Building Modifications - Phase I | $250,000.00 | $153,100.00 |
| | 14 | Construction of Plant 2 Blower Building Modifications - Phase II | $100,000.00 | $391,800.00 |
| | 15 | Construction of Plant 2 Blower Building Modifications - Phase III | $90,000.00 | $81,000.00 |
| | 16 | Construction of Plant 2 Blower Building Modifications - Phase IV | $50,000.00 | $20,900.00 |
| | 17 | Plant 2 Blower Building Grounding System | $25,000.00 | $6,300.00 |
| | 18 | Electrical System Modifications at Dewatering/Co-Gen Building | $500,000.00 | $5,800.00 |
| | 19 | Electrical Distribution Study | $200,000.00 | $37,300.00 |
| | 20 | Other | $126,297.00 | $129,100.00 |
| | | TOTAL BASE BID | $2,556,297.00 | $2,416,100.00 |
| | | Total A, B, and C | $9,994,066.00 | $10,942,400.00 |
| | | Construction Asst at 9% | $8,994,659.40 | $0.00 |

| | | | Gateway Pacific | Pacific Hydrotech |
|---|---|---|---|---|
| | | TOTAL ALL BASE BID | $13,951,363.00 | $15,292,200.00 |

| | | BID ADDITIVE ITEMS | Gateway Pacific | Pacific Hydrotech |
|---|---|---|---|---|
| | D1 | Secondary Sludge Collector Mechanisms | $1,400,000.00 | $950,000.00 |

**BID SUMMARY**
**STATEMENTS BY BIDDER**

| Suppliers | Gateway Pacific | Pacific Hydrotech |
|---|---|---|
| High Speed Turbo Blower | Aerzen | Aerzen |
| Fine Bubble Aeration System | Sanitaire | Sanitaire |
| Digester Gas Conditioning | Unison | Unison |
| CEM Equipment | Cemtek | Cemtek |
| PLC System (Aeration/CoGen) | Allen Bradley | Allen Bradley |
| Butterfly Valve Actuators | AUMA | AUMA |
| Water Control Gates | Waterman | Mechanical Associates |
| CoGeneration System | Penn | GE Jenbacher |
| Low Voltage Switchgear (Aeration/CoGen) | Cutler Hammer | Eaton |
| Low Voltage Motor Control Centers (Aeration/CoGen) | Cutler Hammer | Eaton |
| Chain and Flight Sludge Collectors | Evoqua | Envirex |
| Chain and Flight Sludge Collector Drives | Evoqua | Envirex |
| Rotating Scum Pipes | Jim Myers | Jim Myers |
| Mud Valves | Waterman | Troy Valve |
| Slide Gates | Waterman | Mechanical Associates |
| VFDs Below 100 HP | Toshiba | Toshiba |
| Low Voltage Switchgear (Plant 2) | Cutler Hammer | Eaton |
| Low Voltage Motor Control Centers (Plant 2) | Cutler Hammer | Eaton |
| PLC System (RWPS) | Allen Bradley | Allen Bradley |

| Subcontractors | Gateway Pacific | Pacific Hydrotech |
|---|---|---|
| Coatings | | National |
| Demo | | Graham Crackers Demo |
| HVAC | | AMS |
| Electrical | Mark Maddox Elect. | Leed Electric |

ECO Green Team.US

# PROPOSAL & CONTRACT

*Approximately estimate a total of 10 extra hours to oversee all aspects of project; Meetings, plan /documents review, research: not to exceed $1000.00*

***Total Investment $4400.00***

*Note:Additional hours to oversee project installation from selected* **South Orange County Wastewater Authority's** *Contractor to install design will be charge @ a rate of $100.00 per hour.*

This is a contract between **South Orange County Wastewater Authority** and Eco Green Team. We will provide the above mention services for the listed location as set forth in this agreement.

PLEASE NOTE - This proposal may be withdrawn by us if not accepted within 14 days.

Any alteration or deviation from above specifications involving extra cost, will be executed only upon written orders, and will become an extra charge over and above the estimate.
Acceptance of Proposal

The above prices, specifications and conditions are satisfactory and are hereby accepted. You are authorized to do work as specified. Payment will be made as outlined above.

This agreement by and between the parties herein referred to and any change must be in writing and signed by an authorized agent of each party.

Eco Green Team
Raul Rodriguez
Landscape Designer

Betty Burnett (Signature) 11-18-14 Date


9151 Atlanta Avenue Suite No. 5633 Huntington Beach, CA 92615 ~ Phone (714) 660-3261
E-mail: begreen@ecogreenteam.us

# PROPOSAL & CONTRACT

Tuesday, November 18, 2014

Attn: **Betty Burnett [W] (949) 234-5400 E-mail: bburnett@socwa.com**

Location: **34156 Del Obispo St, Dana Point, CA 92629**

SUBJECT: **Landscape Design and Calculations of savings in water for South Orange County Wastewater Authority - CONTRACT AGREEMENT**

We believe every Landscape should be naturally beautiful and in balance with local ecosystems. Our sustainable landscape designs emphasize the use of geographically appropriate plant palettes that require minimal amounts of water. We use only the latest and most efficient water-saving technology in our Southern California landscape design. Our designs require just a fraction of the water and energy than standard older systems use.

Whenever appropriate, we also incorporate recycled materials in our hardscape designs. It is our mission to create sustainable landscape design that is beautiful, vibrant and energy and water efficient.

The key ingredients to California gardens are simplicity and naturalness. Incorporating beautiful, practical plants that are virtually maintenance free, help create an impressive outdoor area that balances the elegance of Southern California's architecture.

**Contract Intent and Requisite:**

Billing SOCWA base on time and material basis for hours actualy expended on the following estimated hours.

Evaluate existing Irrigation systems and calculate to determine the future savings in water usage.
*5 labor hours @ $100.00 per hour Sub total $ 500.00*

Create a Concept Landscape Plan & water conservation.
*25 labor hours @ $100.00 per hour Sub total $ 2500.00*

Prepare presentation for California Friendly Plants and its benefits and savings.
*4 labor hours @ $100.00 per hour Sub total $ 400.00*


9151 Atlanta Avenue Suite No. 5633 Huntington Beach, CA 92615 ~ Phone (714) 660-3261
E-mail: begreen@ecogreenteam.us

# Memorandum

**DATE:** December 8, 2014

**TO:** File

**FROM:** James L Burror, Jr., P.E., Director of Operations

**SUBJECT:** Evaluation of Xeriscape Water Impacts from New Landscaping

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**BACKGROUND:**

The South Orange County Wastewater Authority (SOCWA) is planning for the replacement of its landscaping for the Administrative Building serving SOCWA's four (4) treatment facilities. There were two options investigated:

1) Optimize existing landscaping and irrigation system
2) Replace the existing landscaping and irrigation with a Xeriscape landscaping and irrigation system

**ANALYSIS:**

Option 1 - Optimize existing landscaping and irrigation system

A recent audit was conducted to optimize the existing landscaping and irrigation system for SOCWA's Administrative Building. The results of the audit concluded that water usage could be reduced by 20%, or 115.5 HCF/yr (86,400 gal/yr.). The report titled "Optimized Irrigation Plan" December 2014 prepared by Eco Green Team's Certified Auditor is attached for reference. The estimated cost for this effort is minimal.

Option 2 - Optimize existing landscaping and irrigation system

A recent design was prepared to replace the existing landscaping and irrigation system for SOCWA's Administrative Building. The plan would install landscaping with low to very low water use landscaping, also known as Xeriscape. The landscaping would also incorporate California friendly plants but maintain the mature trees at the site. According to the Yield and Reliability Demonstrated in Xeriscape Final Report Metro Water Conservation, Incorporated (MWCI) December 2004, Xeriscape type landscaping requires 0.8 to 2.9 gallons per square foot. At 2.9 gallons per square foot, the 0.332 acres of landscaping would require about 60 HCF/yr of water, or 90% less water than today's landscaping. The estimated cost for replacement of the landscaping is $120,000. The Landscaping plan and the report titled "Yield and Reliability Demonstrated in Xeriscape" Final Report Metro Water Conservation, Incorporated (MWCI) December 2004 are attached for reference.

**RESULTS:**

SOCWA is seeking to replace its landscaping with Xeriscape type landscaping. The estimated savings from reduced water demand is $3,000 per year. The payback period is nearly 40 years without rebates and grants. However, in light of the extraordinary drought conditions in California, SOCWA will proceed with these landscaping improvements to save about 400,000 gallons per year. SOCWA staff will also seek grants and rebates to offset it costs to reduce the payback period.

Attachments

1) "Optimized Irrigation Plan" December 2014 prepared by Eco Green Team
2) Xeriscape Landscape Plans prepared by Eco Green Team
3) Yield and Reliability Demonstrated in Xeriscape" Final Report Metro Water Conservation, Incorporated (MWCI) December 2004