

FILED

FEB 06 2018

BY *Lupeita Ramirez*
DEPUTY CLERK OF THE BOARD

AGREEMENT NO. 18-29

(Agreement for Wastewater Recycling Facility Repairs and Replacement)

THIS AGREEMENT ("Agreement") is made and entered into this 6th day of February, 2018, by and between the County of Yolo, a political subdivision of the State of California, ("County") and EEI WSD Joint Venture, a partnership consisting of Gary Wert, Environmental Enterprises, Inc. and James Neher, Western Site Development, ("Contractor").

WITNESSETH

WHEREAS, County is authorized by Government Code Section 23004 to make contracts as necessary for the exercise of its powers; and

WHEREAS, County is authorized by Government Code Section 31000 to contract with persons specially trained, experienced, expert and competent to perform special services such as wastewater recycling facility repairs; and

WHEREAS, County became aware of an emergency need, as contemplated by Public Contract Code section 22035 and documented in Exhibit A attached to this Agreement, for repairs and replacements necessary to repair the Wild Wings Wastewater Recycling Facility ("Facility"), a public facility, in order for the Facility to continue to operate safely and to operate in compliance with the County's wastewater discharge permit; and

WHEREAS, violation and potential revocation of the discharge permit would place the County in violation of environmental discharge laws; and

WHEREAS, uninterrupted operation of the Facility and related operations including discharge to the golf course is necessary to provide wastewater service and treatment to the residents and customers of the Wild Wings County Service Area; and

WHEREAS, substantial evidence exists that the emergency repairs needed will not permit a delay resulting from a competitive solicitation for bids, and that the approval of this Agreement is necessary to respond to the emergency; and

WHEREAS, Contractor submitted a proposal to provide immediate and necessary repairs; and

WHEREAS, Contractor has specialized expertise in installing and repairing packaged wastewater treatment plants; and

WHEREAS, because Contractor installed the wastewater treatment system at the Facility when it was constructed, Contractor has specialized expertise with the Facility in particular; and

WHEREAS, Contractor has represented and warrants to the County that it has the necessary training, experience, expertise and competency to provide the services, goods and materials that

are described in this Agreement, at a cost to the County as herein specified; that it will be able to perform the herein described services at minimum cost to the County by virtue of its current and specialized knowledge of relevant data, issues, and conditions; and

WHEREAS, Contractor represents and warrants that neither Contractor, nor any of its officers, agents, employees, contractors, subcontractors, volunteers, or five percent owners, is excluded or debarred from participating in or being paid for participation in any Federal or State program; and

WHEREAS, Contractor understands that the County is relying upon these representations in entering into this Agreement.

NOW, THEREFORE, the County and the Contractor agree as follows:

I. BASIC SERVICES

A. Contractor shall furnish and perform the following services in accordance with the terms of this Agreement and in a manner satisfactory to the County Administrative Officer or his/her written designee (“Administrator”):

1. Install new aeration drops, to include:
 - a) Install new carbon steel 3” x 4” aeration tube
 - b) Install new valves, pipes and fittings
 - c) Piping for diffuser drops will be stainless steel
 - d) Install new DP-75 diffusers
2. Install new spiral screen, to include:
 - a) Procure CleanFlo Spiral Screen
 - b) Modify handrail, decking and equipment supports for screen
 - c) Modify inlet piping to screen
 - d) Install control panel for screen
3. Make control system upgrades, to include:
 - a) Install an ultrasonic flow meter on the influent V notch weir
 - b) Install level transducers
 - c) Remodel and upgrade the existing wastewater plant control panel for PLC based control
 - d) Remodel and upgrade the existing Tertiary Filter control panel for PLC-based control
 - e) Provide and install new Tertiary Filter / Balance of Plant control panel with PLC control

- f) Provide wireless IO hardware to support new analog sensors to be deployed at the treatment facility
 - g) Provide Inductive Automation “Ignition” visualization software for operator interaction with overall treatment facility PLC-based control
 - h) Provide 17” wide screen operator terminal for new Tertiary Filter / Balance of plant control panel
 - i) Provide Systems Integration, programming and startup support services for the above.
 - j) Provide detailed As-Built and Operations & Maintenance manuals.
4. EQ Tank to Emergency Pond, to include:
- a) Install a new 1 HP submersible pump in the EQ tank
 - b) Replace the existing pipe support brackets on top of the plant with longer support brackets
 - c) Install 3” galvanized steel pipe with check valve from the new pump to the overflow pipe near the clarifier
 - d) Install conduit and power wire from the control building to the overflow pump
 - e) Install conduit and control wire from the control building to the overflow pump
 - f) Install a temporary pump control system until the new plant control system is made available
5. Tankage and piping from clarifier to filter, to include:
- a) Enlarge existing concrete pad to fit new filter feed / flash / floc tank
 - b) Procure and install new filter feed / flash / floc tank
 - c) Procure and install 2 filter feed pumps for existing filter
 - d) Install 8” ductile iron pipe from clarifier to filter feed tank
 - e) Install 8” ductile iron pipe from floc tank to existing filter
 - f) Install 3” sch. 80 pvc pipe from filter feed pumps to flash tank
 - g) Install flow meter on discharge line of filter feed pumps
 - h) Install 3” three way valve for connection to emergency storage pond
 - i) Procure and install polymer tank and LMI pump in existing housing
6. Connection between the filter and irrigation pump station
- a) Make pipe connection between the outlet of the filter and irrigation pump station

- b) Because the concrete slab at the irrigation pump station vault is about 18” deep, Contractor will core a hole through the slab in order to get the pipe into the pump vault, rather than cut the slab.
- c) Cut a hole in the existing filter and install a 3” pipe from the filter through the cored hole into the irrigation pump vault.

7. Additional work items

- a) Provide one 3/4HP Goulds Pump for EQ Backup
- b) Provide replacement skimmer for north clarifier
- c) Provide and install 2 De-Chlor Tablet Feeders in the Filter

B. Contractor will provide all facilities, equipment, personnel, labor and materials necessary to provide the foregoing services in accordance with this Agreement.

C. The complete contract shall include the following exhibits attached hereto and incorporated herein:

Exhibit A	SCADA Goals
Exhibit B	EEI / WSD Time and Material Rates

In the event of any conflict between any of the provisions of this Agreement (including exhibits), the provision that requires the highest level of performance from Contractor for the County's benefit shall prevail.

D. The Administrator may approve modifications of the term, scheduling, billing rates, and allocation of funds between the tasks set forth above, provided that there is no increase in the total compensation as set forth in Paragraph III of this Agreement.

II. ADDITIONAL SERVICES

Contractor shall only perform the following additional services upon prior written authorization from the Administrator:

1. Golf Irrigation Project
 - a) Install pipe, valves, control system, coordinate Rain for rent equipment setup to enable effluent from the tertiary filter to be pumped to the Rain for Rent storage tanks during the night time
 - b) Allow stored effluent in the Rain for Rent tanks to be discharged to the golf course irrigation pump lift station.
2. Aeration Blower Replacement

- a) Replace existing aeration system blowers including providing two each Republic Model HRC 1452 regenerative blowers with pressure kit and one each Republic Model HRC 402 regenerative blower
 - b) Remove existing blowers and install new regenerative blowers as part of the aeration system.
3. Unforeseen plant repair or replacement work performed as authorized in a written Work Authorization signed by the Administrator.

III. COMPENSATION AND REIMBURSEMENT OF EXPENSES

A. For the services described in Paragraphs I and II above, and subject to the condition that the services have been completed in a manner satisfactory to the Administrator, County shall compensate Contractor as follows:

1. The total amount of compensation payable to Contractor for the services required by this Agreement shall not exceed five hundred ninety-eight thousand, four hundred eighty-six dollars (\$598,486), allocated as follows:

New Aeration Drops:	\$74,600
Spiral Screen:	\$137,500
Control system upgrades	\$206,800
EQ Tank to Emergency Pond:	\$22,000
Tankage & Piping from Clarifier to Filter:	\$70,860
Connection Between Filter & Irrigation Pump:	\$11,136
¾ HP Gould Pump for EQ Back-Up:	\$1,700
Replacement Skimmer:	\$560
De-Chlor Tablet Feeders (w) in Filter:	\$3,500

Additional Services:

Golf Irrigation Project	\$25,000
Aeration Blower Replacement:	\$44,830

2. County will make down payments when required by manufacturers for products related to the services listed above upon receipt of the manufacturer documentation requiring down payment. Such down payments shall be made subject to the maximum compensation limit for each task as set forth above. Contractor shall be responsible for financing any down payment and other costs related to services provided under this Agreement and not authorized in advance by the Administrator.
3. County shall render payment, subject to the work being performed in a manner satisfactory to the Administrator, on amounts payable for each task set forth above, including any balances due after a down payment is made, based on a percentage of completion for each task, on a scale of 0% to 100%.

4. County shall compensate Contractor for services performed in excess of the services outlined above pursuant to written work authorization in accordance with the rates set forth in Exhibit B.

B. The compensation set forth in Section A above includes reimbursement for all expenses incurred by Contractor in the performance of this Agreement, including all freight and taxes.

IV. METHOD OF PAYMENT

A. In consideration of Contractor's satisfactory performance in providing the services described in this Agreement, and upon authorization of the Administrator, County shall, upon receipt of a monthly invoice submitted to County by Contractor, pay Contractor based on a percentage of completion for each task, on a scale of 0% to 100%. Any claim for payment for additional services pursuant to Paragraph II shall also include a copy of the Administrator's written approval in advance of such services being provided. If requested by the County, Contractor shall provide any further documentation to verify the compensation and reimbursement sought by Contractor.

B. Within 15 calendar days of the receipt of Contractor's detailed invoice, the Administrator shall either authorize payment or advise Contractor in writing of any concerns that the Administrator has with the invoice and any need for further documentation.

C. Within 30 calendar days of the Administrator's authorization for payment of an invoice, the County Auditor-Controller shall either issue the payment or advise Contractor in writing of any concerns that the County Auditor-Controller has with the request and any need for further documentation.

V. REPORTS

A. Contractor shall provide such reports as are required elsewhere by this Agreement, and such additional information and reports relating to the services otherwise required by this Agreement as are reasonably requested by the Administrator, as the times and in the manner specified by this Agreement, or by the Administrator if not so specified. Any other provision of this Agreement notwithstanding, should Contractor fail to provide any report required by this Agreement in a timely manner and as otherwise set forth in this Agreement, County may withhold any payments otherwise due Contractor pursuant to this Agreement, and any other agreement between Contractor and County, until such report is properly submitted as determined by the Administrator.

B. County shall provide Contractor with all information pertinent to the services required of Contractor by this Agreement which is requested by Contractor and which is within County's possession. No charge will be made for these materials.

VI. OWNERSHIP OF DOCUMENTS AND WORK PRODUCTS

All professional and technical documents and information developed under this Agreement, and all work products, including writings, work sheets, reports, and related data, materials, copyrights and all other rights and interests therein, shall become the property of the County, and Contractor agrees to deliver and assign the foregoing to the County, upon completion of the services hereunder or upon any earlier termination of this Agreement. Contractor assigns the work products, as and when the same shall arise, for the full terms of protection available throughout the world. In addition, basic data prepared or obtained under this Agreement shall be made available to the County without restriction or limitation on their use.

No additional charge will be made for any of the foregoing.

VII. RECORDS; ACCESS, RETENTION

Contractor shall retain and make available for review by the County and its designees all records, documents, and general correspondence relating to this Agreement and the services required hereunder for a period of not less than five years after receipt of final payment or until all pending audits and proceedings are completed, whichever is later. Contractor shall make such records available for inspection and copying by the County and its designees at any reasonable time. At least thirty (30) calendar days prior to any destruction of these records following the five (5) years, Contractor shall notify the Administrator. Upon such notification, the Administrator shall either agree to the destruction or authorize the records to be forwarded to the County for further retention.

VIII. DISPUTES

Any dispute arising under this Agreement shall be decided by the County Administrative Officer who shall put his or her decision in writing and mail a copy thereof to the address for the notice to Contractor. The decision of the County Administrative Officer shall be final unless, within 30 days from the date such copy is mailed to Contractor, Contractor appeals the decision in writing to the County Board of Supervisors. Any such written appeal shall detail the reasons for the appeal and contain copies of all documentation supporting Contractor's position. In connection with any appeal proceeding under this paragraph, Contractor shall be afforded the opportunity to be heard and offer evidence in support of its appeal to the County Board of Supervisors at a regular Board meeting. Pending a final decision of the dispute, Contractor shall proceed diligently with the performance of this Agreement and in accordance with the County Administrative Officer's decision. The decision of the County Board of Supervisors on the appeal shall be final for purposes of exhaustion of administrative remedies.

IX. TERM AND TERMINATION

- A. The term of this Agreement shall be from December 15, 2017 through December 31, 2018 unless sooner terminated as hereinafter provided.

B. Should either party fail to substantially perform its obligations in accordance with this Agreement, the other party may notify the defaulting party of such default in writing and provide not less than 30 days to cure the default. Such notice shall describe the default, and shall not be deemed a forfeiture or termination of this Agreement. If such default is not cured within said thirty day period (or such longer period as is specified in the notice or agreed to by the parties), the party that gave notice of default may terminate this Agreement upon not less than 15 days advance written notice. In the event of such termination based upon Contractor default, the County reserves the right to purchase or obtain the supplies or services elsewhere, and Contractor shall be liable for the difference between the prices set forth herein and the actual cost thereof to the County. The foregoing notwithstanding, neither party waives the right to recover damages against the other for breach of this Agreement.

C. This Agreement is subject to the County, the State of California and the United States appropriating and approving sufficient funds for the activities required of the Contractor pursuant to this Agreement. If the County's adopted budget and/or its receipts from the State of California and the United States do not contain sufficient funds for this Agreement, the County may terminate this Agreement by giving ten (10) days advance written notice thereof to the Contractor, in which event the County shall have no obligation to pay the Contractor any further funds or provide other consideration and the Contractor shall have no obligation to provide any further services pursuant this Agreement. If the County terminates the Agreement pursuant to this subparagraph, the County will pay Contractor in accordance with this Agreement for all services performed to the satisfaction of the Administrator before such termination and for which funds have appropriated as required by law.

D. This Agreement may be terminated for any reason by either party at any time during its term, by giving 30 days written notice to the other party.

E. If Contractor, or any of its officers, agents, employees, contractors, subcontractors, volunteers or five percent owners, becomes excluded, debarred or suspended from participation in Federally or State funded programs, the County may terminate this Agreement by giving ten days advance written notice thereof to the Contractor.

F. Upon termination of this Agreement or suspension of work by either County or Contractor, Contractor shall furnish to County all documents and drawings prepared under this Agreement, whether complete or incomplete. In the event of termination for any reason, reproducible copies of all finished or unfinished documents, drawings, maps, models, photographs, and reports prepared by Contractor shall become the sole and exclusive property of Yolo County and Contractor shall be entitled to receive compensation for any work completed on such documents and other materials determined by the Administrator to be of satisfactory quality and within the terms and conditions of this Agreement. All creative work undertaken by Contractor such as sketches, copy, dummies and all preparatory work for which Contractor is not compensated by the County shall remain the sole and exclusive property of the Contractor.

G. During and following the term of this Agreement, Contractor shall not use, distribute or otherwise circulate any of the materials developed pursuant to this Agreement and for which Contractor was compensated by the County without the express written permission of the Administrator.

X. APPLICABLE LAWS

A. In the performance of the services required by this Agreement, Contractor shall comply with all applicable Federal, State, and County statutes, ordinances, regulations, directives and laws. This Agreement is also subject to any additional restrictions or conditions that may be imposed upon the County by the Federal or State government.

B. This Agreement shall be deemed to be executed within the State of California and construed in accordance with and governed by the laws of the State of California. Any action or proceeding arising out of this Agreement shall be filed and resolved in a California State court located in Woodland, California. Contractor waives any removal rights it might have under State or Federal law.

XI. NON-DISCRIMINATION IN SERVICES AND BENEFITS

Contractor certifies that any service provided pursuant to this Agreement shall be without discrimination based on color, race, creed, national origin, religion, sex, age, sexual preferences, or physical or mental disability in accordance with all applicable Federal, State and County laws and regulations and any administrative directives established by the County Board of Supervisors or the County Administrative Officer. For the purpose of this Agreement, distinctions on the grounds of color, race, creed, national origin, religion, sex, age, sexual preferences, or physical or mental disability include but are not limited to the following: denying a participant any service or benefit which is different, or is provided in a different manner or at a different time from that provided to other participants under this Agreement; subjecting a participant to segregation or separate treatment in any way in the enjoyment or any advantage or privilege enjoyed by others receiving any service or benefit; treating a participant differently from others in determining whether the participant has satisfied any admission, enrollment quota, eligibility, membership, or other requirement or condition which individuals must meet in order to be provided any service or benefit; and the assignment of times or places for the provision of services.

XII. CONTRACTOR'S RESPONSIBILITIES

A. Contractor shall exercise all of the care and judgment consistent with good practices in the performance of the services required by this Agreement.

B. With the exception that this section shall in no event be construed to require indemnification by Contractor to a greater extent than permitted under the public policy of the State of California, Contractor shall indemnify, defend and hold harmless the County of Yolo, officers, agents, employees and volunteers from and against any and all claims,

damages, demands, losses, defense costs, expenses (including attorney fees) and liability of any kind or nature arising out of or resulting from performance of the work, provided that any such claim, damage, demand, loss, cost, expense or liability is caused in whole or in part by any negligent or intentional act or omission of the contractor, any subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, regardless of whether or not it is caused in part by a party indemnified hereunder. Contractor and/or Subcontractor's responsibility for such defense and indemnity obligations shall survive the termination or completion of this agreement for the full period of time allowed by law. The defense and indemnification obligations of this agreement are undertaken in addition to, and shall not in any way be limited by, the insurance obligations contained in this agreement.

C. Subcontractor agrees to be bound to the General Contractor/**or** Contractor and the County of Yolo in the same manner and to the same extent as General Contractor/**or** Contractor is bound to the County of Yolo under the Contract Documents. Subcontractor further agrees to include the same requirements and provisions of this agreement, including the indemnity and Insurance requirements, with any Sub-subcontractor to the extent they apply to the scope of the Sub-subcontractor's work. A copy of the County of Yolo Contract Document Indemnity and Insurance provisions will be furnished to the Subcontractor upon request.

In providing any defense under this Paragraph, Contractor shall use counsel reasonably acceptable to the County Counsel.

XIII. PUBLIC LIABILITY AND PROPERTY DAMAGE INSURANCE

A. During the term of this Agreement, Contractor shall at all times maintain, at its expense, the following coverages and requirements. The comprehensive general liability insurance shall include broad form property damage insurance.

1. Minimum Coverages (as applicable). Insurance coverage shall be with limits not less than the following:

[note: the following limits need to be reviewed based upon the scope of services, nature of the contractor, etc.; please review with Risk Management]

a. **Comprehensive General Liability** – \$1,000,000/occurrence and \$2,000,000/aggregate

b. **Automobile Liability** – \$1,000,000/occurrence (general) and \$500,000/occurrence (property) (include coverage for Hired and Non-owned vehicles)

c. **Professional Liability/Malpractice/Errors and Omissions** – \$1,000,000/occurrence and \$2,000,000/aggregate (If any engineer, architect, attorney, accountant, medical professional, psychologist, or other licensed professional performs work under a contract, the contractor must provide this insurance. If not, then this requirement automatically does not apply.)

d. **Workers' Compensation – Statutory Limits/Employers' Liability** - \$1,000,000/accident for bodily injury or disease (If no employees, this requirement automatically does not apply.)

2. The County, its officers, agents, employees and volunteers shall be named as additional insured on all but the workers' compensation and professional liability coverages. [NOTE: Evidence of additional insured may be needed as a separate endorsement due to wording on the certificate negating any additional writing in the description box.] It shall be a requirement under this agreement that any available insurance proceeds broader than or in excess of the specified minimum Insurance coverage requirements and/or limits shall be available to the Additional Insured. Furthermore, the requirements for coverage and limits shall be (1) the minimum coverage and limits specified in this Agreement; or (2) the broader coverage and maximum limits of coverage of any Insurance policy or proceeds available to the named Insured; whichever is greater.

a. The Additional Insured coverage under the Contractor's policy shall be "primary and non-contributory" and will not seek contribution from the County's insurance or self insurance and shall be at least as broad as CG 20 01 04 13.

b. The limits of Insurance required in this agreement may be satisfied by a combination of primary and umbrella or excess Insurance. Any umbrella or excess Insurance shall contain or be endorsed to contain a provision that such coverage shall also apply on a primary and non contributory basis for the benefit of the County of Yolo (if agreed to in a written contract or agreement) before the County's own Insurance or self insurance shall be called upon to protect it as a named insured.

3. Said policies shall remain in force through the life of this Agreement and, with the exception of professional liability coverage, shall be payable on a "per occurrence" basis unless the County Risk Manager specifically consents in writing to a "claims made" basis. For all "claims made" coverage, in the event that the Contractor changes insurance carriers Contractor shall purchase "tail" coverage covering the term of this Agreement and not less than three years thereafter. Proof of such "tail" coverage shall be required at any time that the Contractor changes to a new carrier prior to receipt of any payments due.

4. The Contractor shall declare all aggregate limits on the coverage before commencing performance of this Agreement, and the County's Risk Manager reserves the right to require higher aggregate limits to ensure that the coverage limits required for this Agreement as set forth above are available throughout the performance of this Agreement.

5. Any deductibles or self-insured retentions must be declared to and are

subject to the approval of the County Risk Manager. All self-insured retentions (SIR) must be disclosed to Risk Management for approval and shall not reduce the limits of liability. Policies containing any SIR provision shall provide or be endorsed to provide that the SIR may be satisfied either by the named Insured or Yolo County.

6. Each insurance policy shall be endorsed to state that coverage shall not be suspended, voided, canceled by either party, reduced in coverage or in limits except after thirty (30) days' prior written notice by certified mail, return receipt requested, has been given to the Administrator (ten (10) days for delinquent insurance premium payments).

7. Insurance is to be placed with insurers with a current A.M. Best's rating of no less than A:VII, unless otherwise approved by the County Risk Manager.

8. The policies shall cover all activities of Contractor, its officers, employees, agents and volunteers arising out of or in connection with this Agreement.

9. For any claims relating to this Agreement, the Contractor's insurance coverage shall be primary, including as respects the County, its officers, agents, employees and volunteers. Any insurance maintained by the County shall apply in excess of, and not contribute with, insurance provided by Contractor's liability insurance policy.

10. The Contractor shall waive all rights of subrogation against the County, its officers, employees, agents and volunteers.

B. Prior to commencing services pursuant to this Agreement, Contractor shall furnish the County with original endorsements reflecting coverage required by this Agreement. The endorsements are to be signed by a person authorized by that insurer to bind coverage on its behalf. All endorsements are to be received by, and are subject to the approval of, the County Risk Manager before work commences. Upon County's request, Contractor shall provide complete, certified copies of all required insurance policies, including endorsements reflecting the coverage required by these specifications.

C. During the term of this Agreement, Contractor shall furnish the County with original endorsements reflecting renewals, changes in insurance companies and any other documents reflecting the maintenance of the required coverage throughout the entire term of this Agreement. The endorsements are to be signed by a person authorized by that insurer to bind coverage on its behalf. Upon County's request, Contractor shall provide complete, certified copies of all required insurance policies, including endorsements reflecting the coverage required by these specifications. Yolo County reserves the right to obtain a full certified copy of any Insurance policy and endorsements. Failure to exercise this right shall not constitute

a waiver of right to exercise later.

- D. Contractor agrees to include with all subcontractors in their subcontract the same requirements and provisions of this Agreement including the indemnity and Insurance requirements to the extent they apply to the scope of the subcontractor's work. Subcontractors hired by Contractor agree to be bound to Contractor and the County of Yolo in the same manner and to the same extent as Contractor is bound to the County of Yolo under this Agreement. Subcontractors must further agree to include these same provisions with any sub-subcontractor. The Contractor shall require all subcontractors to provide a valid certificate of insurance and the required endorsements included in the Agreement prior to commencement of any work and Contractor will provide proof of compliance to the County of Yolo.
- E. Contractor shall maintain insurance as required by this Agreement to the fullest amount allowed by law and shall maintain insurance for a minimum of five years following the completion of this project. In the event contractor fails to obtain or maintain completed operations coverage as required by this agreement, the County at its sole discretion may purchase the coverage required and the cost will be paid by Contractor.

XIV. WORKERS' COMPENSATION

Contractor shall provide workers' compensation coverage as required by State law, and prior to commencing services pursuant to this Agreement shall file the following statement with the County in a form substantially as set forth below.

WORKERS' COMPENSATION CERTIFICATE

I am aware of the provisions of Section 3700 of the Labor Code that require every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of that Code, and I will comply with such provisions before commencing any services required by this Agreement.

The person executing this certificate on behalf of Contractor affirmatively represents that she/he has the requisite legal authority to do so on behalf of Contractor, both the person executing this Agreement on behalf of Contractor and Contractor understand that the County is relying on this representation in entering into this Agreement.

XV. NOTICE

- A. All notices shall be deemed to have been given when made in writing and delivered or mailed to the respective representatives of County and Contractor at their respective addresses as follows:

Contractor: EEI WSD Joint Venture
PO Box 3805
Paradise, California 95967-3805
Attn: Gary Wert

County: County Administrator's Office
625 Court Street, Room 202
Woodland, California 95695
Attn: CSA Manager

B. Any party may change the address to which such communications are to be given by providing the other parties with written notice of such change at least 15 calendar days prior to the effective date of the change.

C. All notices shall be effective upon receipt and shall be deemed received through delivery if personally served, or on the fifth day following deposit in the mail if sent by first class mail.

XVI. CONFLICT OF INTEREST

A. Contractor shall comply with the laws and regulations of the State of California and County regarding conflicts of interest, including, but not limited to, Article 4 of Chapter 1, Division 4, Title 1 of the California Government Code, commencing with Section 1090, and Chapter 7 of Title 9 of said Code, commencing with Section 87100 including regulations promulgated by the California Fair Political Practices Commission.

B. Contractor covenants that it presently has no interest and shall not acquire any interest, direct or indirect, which would conflict in any manner or degree with the performance of Contractor's obligations and responsibilities hereunder. Contractor further covenants that in the performance of this Agreement, no person having any such interest shall be employed. This covenant shall remain in force until Contractor completes performance of the services required of it under this Agreement.

C. Contractor agrees that if any fact comes to its attention that raises any question as to the applicability of any conflict of interest law or regulation, Contractor will immediately inform the County and provide all information needed for resolution of the question.

XVII. COVENANT AGAINST CONTINGENT FEES

Contractor warrants that it has not employed or retained any company or person, other than a bona fide employee working for Contractor, to solicit or secure this Agreement, and that it has not paid or agreed to pay any company or person, other than a bona fide employee, any fee, commission, percentage, brokerage fee, gift, or any other consideration, contingent upon or resulting from the award or making this agreement. For breach or violation of this warranty, the County shall have the right to annul this agreement without liability, or in its discretion to deduct from the agreement

price or consideration, or otherwise recover, the full amount of such fee, commission, percentage, brokerage fee, gift or contingent fee.

XVIII. AUDITS

A. Contractor shall be subject to examination and audit by the State or the County, or both, throughout the term of this Agreement and thereafter for a period of three years from the date that final payment is made pursuant to this Agreement. This does not preclude access to records by County, State, the Comptroller General of the United States, or any of their authorized representatives, as otherwise provided by this Agreement, the State contract, or State or Federal laws and regulations. Contractor agrees that County and/or State has the right to review, obtain, and copy all records pertaining to the performance of this Agreement, and agrees to provide County and/or State with any and all relevant information requested.

B. Any and all books, records, and facilities maintained by Contractor related to services provided under this Agreement may be audited, inspected and copied at any time during normal business hours. Unannounced visits may be made at the discretion of the County or State. Employees who might reasonably have information related to such records may be interviewed. All expenditures of State and federal funds furnished to Contractor pursuant to this Agreement are subject to audit by County, State and/or Federal representatives. Such audits shall consider and build upon external independent audits performed pursuant to audit requirements of the Office of Management and Budget (OMB) Circular A-133 as described in Paragraph C below.

C. Should Contractor expend \$500,000 or more in Federal funds during any fiscal year, Contractor shall furnish County a certified copy of an Audit Report from an independent CPA firm covering the Contractor's preceding fiscal year of January 1 through December 31. This Audit shall be performed in accordance with OMB Circular A-133 and conducted in accordance with generally accepted government auditing standards as described in Government Auditing Standards (1994 Revision), and provided in a form satisfactory to the Administrator.

Contractor shall provide this Audit Report no later than July 31 of each year. In the event that this Agreement expires or is terminated on a date other than December 31, Contractor shall provide County such an Audit Report covering the preceding period of January 1 through the date of expiration or termination no later than July 31 after the date of expiration or termination. Contractor shall ensure that audit work papers supporting the report are retained for a period of three (3) years from the date of the audit report, and longer if notified by the State or County to extend the retention period, and are made available to the State and/or County upon request.

D. Should an Audit Report or any State or County audit determine that Contractor has mispent funds and been overpaid based on the requirements of this Agreement and applicable laws and regulations, County shall demand repayment from Contractor in the

amount of such audit findings and withhold any payment otherwise due under this Agreement until Contractor repays such amount. Contractor shall repay County such amount within sixty (60) days of the date of the County's demand for repayment. Should Contractor fail to repay County within sixty (60) days of the date of County's demand for repayment, the County may offset the amount due from Contractor against any amounts that would otherwise be due from the County to Contractor pursuant to this Agreement or any other agreement or source.

E. Any failure or refusal by Contractor to permit access to any facilities, books, records or other information required to be provided to the State &/or the County by this Agreement &/or the State contract shall constitute an express and immediate breach of this Agreement.

XIX. ASSIGNMENT AND SUBCONTRACTS

The services and obligations required of Contractor under this Agreement are not assignable in whole or in part. In addition, Contractor shall not subcontract any portion of the services required of Contractor by this Agreement without the express written consent of the Administrator. If any portion of the services required of Contractor are subcontracted, the subcontractor(s) shall maintain the same insurance as required of Contractor by this Agreement and Contractor shall be fully responsible to the County for all work undertaken by subcontractors.

XX. STATUS OF CONTRACTOR

A. It is understood and agreed by all the parties hereto that Contractor is an independent contractor and that no relationship of employer-employee exists between the County and Contractor. Neither Contractor nor Contractor's assigned personnel shall be entitled to any benefits payable to employees of the County. Contractor hereby indemnifies and holds the County harmless from any and all claims that may be made against the County based upon any contention by any third party that an employer-employee relationship exists by reason of this Agreement or any services provided pursuant to this Agreement.

B. It is further understood and agreed by all the parties hereto that neither Contractor nor Contractor's assigned personnel shall have any right to act on behalf of the County in any capacity whatsoever as an agent or to bind the County to any obligation whatsoever.

C. It is further understood and agreed by all the parties hereto that Contractor must issue any and all forms required by Federal and State laws for income and employment tax purposes, including W-2 and 941 forms, for all of Contractor's assigned personnel.

XXI. AMENDMENT

This Agreement may be amended only by written instrument signed by the County and Contractor.

XXII. WAIVER

The waiver by the County or any of its officers, agents or employees or the failure of the County or its officers, agents or employees to take action with respect to any right conferred by, or any breach of any obligation or responsibility of this Agreement shall not be deemed to be a waiver of such obligation or responsibility, or subsequent breach of same, or of any terms, covenants or conditions of this Agreement.

XXIII. AUTHORIZED REPRESENTATIVE

The person executing this Agreement on behalf of Contractor affirmatively represents that she/he has the requisite legal authority to enter into this Agreement on behalf of Contractor and to bind Contractor to the terms and conditions of this Agreement. Both the person executing this Agreement on behalf of Contractor and Contractor understand that the County is relying on this representation in entering into this Agreement.

XXIV. PUBLIC RECORDS ACT

Upon its execution, this Agreement (including all exhibits and attachments) shall be subject to disclosure pursuant to the California Public Records Act.

XXV. ADDITIONAL PROVISIONS

A. Where there is a doubt as to whether a provision of this document is a covenant or a condition, the provision shall carry the legal effect of both. Should the County choose to excuse any given failure of Contractor to meet any given condition, covenant or obligation (whether precedent or subsequent), that decision will not be, or have the legal effect of, a waiver of the legal effect in subsequent circumstances of either that condition, covenant or obligation or any other found in this document. All conditions, covenants and obligations continue to apply no matter how often County may choose to excuse a failure to perform them.

B. Except where specifically stated otherwise in this document, the promises in this document benefit the County and Contractor only. They are not intended to, nor shall they be interpreted or applied to, give any enforcement rights to any other persons (including corporate) which might be affected by the performance or non-performance of this Agreement, nor do the parties hereto intend to convey to anyone any "legitimate claim of entitlement" with the meaning and rights that phrase has been given by case law.

C.

- 1 By signing this agreement, the Contractor agrees to comply with applicable Federal suspension and debarment regulations including, but not limited to, 7 CFR Part 3017, 45 CFR 76, 40 CFR 32 or 34 CFR 85.
2. By signing this agreement, the Contractor certifies to the best of its knowledge and

belief, that it and its principals:

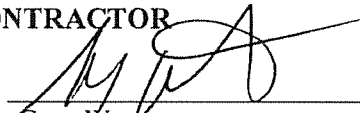
- a. Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded by any federal department or agency;
 - b. Have not within a three-year period preceding this application/proposal/agreement been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;
 - c. Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in Paragraph 2(b) herein;
 - d. Have not within a three-year period preceding this application/proposal/agreement had one or more public transactions (Federal, State or local) terminated for cause or default;
 - e. Shall not knowingly enter into any lower tier covered transaction with a person who is proposed for debarment under federal regulations (i.e., 48 CFR part 9, subpart 9.4), debarred, suspended, declared ineligible, or voluntarily excluded from participation in such transaction, unless authorized by the State; and
 - f. Will included a clause entitled, "Debarment and Suspension Certification" that essentially sets forth the provisions herein, in all lower tier covered transactions and in all solicitations for lower tier covered transactions.
3. If the Contractor is unable to certify to any of the statements in this certification, the Contractor shall submit an explanation to the County program funding this Agreement, and the County shall have the option of terminating this Agreement immediately or at any time thereafter, upon giving Contractor written notice of such termination, if the explanation is not found satisfactory by the County in its sole discretion.
 4. The terms and definitions herein have the meanings set out in the Definitions and Coverage sections of the rules implementing Federal Executive Order 12549.
 5. If the Contractor knowingly violates this certification, in addition to other remedies available to the Federal Government, the County may terminate this Agreement at any time upon giving Contractor written notice of such termination.

XXVI. ENTIRE AGREEMENT

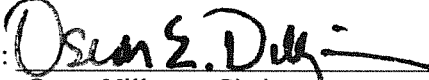
This Agreement constitutes the entire agreement between the County and Contractor and supersedes all prior negotiations, representations, or agreements, whether written or oral. In the event of a dispute between the parties as to the language of this Agreement or the construction or meaning of any term hereof, this Agreement shall be deemed to have been drafted by the parties in equal parts so that no presumptions or inferences concerning its terms or interpretation may be construed against any party to this Agreement.

IN WITNESS WHEREOF, the parties have executed this Agreement as of the day and year first set forth above.


CONTRACTOR

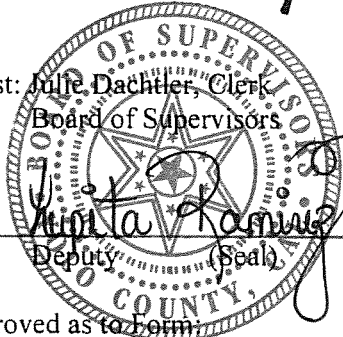
By: 
Gary Wert
EEI WSD Joint Venture

COUNTY OF YOLO

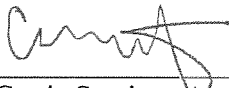
By: 
Oscar Villegas, Chair
Board of Supervisors

Attest: Julie Dachtler, Clerk
Board of Supervisors

By: 
Deputy (Seal)



Approved as to Form
Philip J. Pogledich, County Counsel

By: 
Carrie Scarlata, Asst. County Counsel

MSD

EXHIBIT A: SCADA GOALS

January 22, 2018



Environmental Enterprises, Inc.
Western Site Development

To provide justification for the implementation of the Eight Goals as previously discussed, the following report has been prepared to outline the reasons for proceeding immediately with the stated Goals. There needs to be an immediate response to correct the deficiencies that exist in the current plant control system that do not meet the discharge requirements. By the implementation of the listed Goals, then the plant control system and required wastewater process can be corrected to meet the discharge requirements.

If there are any other questions pertaining to this matter, please respond as soon as possible as the implementation of the Goals is critical to meeting the requirements of the discharge permit. If we can obtain an answer today to proceed, then the Goals as listed will be implemented as soon as possible.

Sincerely,

A handwritten signature in black ink, appearing to read "G. Wert", written over a horizontal line.

Gary Wert
EEI/WSD

JIM NEHER

GARY WERT

EEI / WSD
P. O. Box 3805
Paradise CA 95967-3805

EXHIBIT A: SCADA GOALS

WILD WINGS WWTP OPERATIONS CONTROL JUSTIFICATION

The following statement is included in the current discharge permit.

“All systems and equipment shall be operated to maximize treatment of wastewater and optimize the quality of the discharge, including the treatment of wastewater such that it complies with Title 22 CCR, Section 60301.230 (Disinfected Tertiary Recycled Wastewater).”

The following statement is also included in the current discharge permit.

“The WWRF will include features to ensure design reliability,”

With the various failures in the wastewater treatment process it is evident the current process equipment and procedures need to be upgraded immediately to ensure that the wastewater plant will meet the requirements of the discharge permit. To achieve this emergency upgrade/repair plan we have prepared the following goals to be implemented as soon as possible to allow the wastewater plant to operate in a reliable manner with equipment that will maximize the treatment of the wastewater. For equipment to be reliable there is a requirement for replacement parts and/or upgrades are available for that particular equipment in the event of a system failure. The control system in place at the wastewater plant is a Rockwell SLC 500. The manufacturer has issued a Bulletin pertaining to this platform system as follows.

“Our Bulletin 1747 SLC™ 500 control platform is used for a wide variety of applications. Rockwell Automation has announced that some SLC 500 Bulletin numbers are discontinued and no longer available for sale. Customers are encouraged to migrate to our newer CompactLogix™ 5370 or 5380 control platforms”

Our programmer has stated to us he would not try to upgrade the current system since it is out dated, not reliable, and does not meet the intent of the discharge permit.

Therefore, our overall aim is to implement the following goals as soon as possible to provide a process system that is reliable, will maximize the treatment process, and that will meet the current discharge requirements.

GOAL 1: Control Influent Station A

The current pump system in the lift station does not meet requirements of the discharge permit. A dependable duplex system must be in operation at all times with adequate alarms to provide notification of pump failure, over amperage or pump seal failure. The existing transducer in the lift station is broken. The installation of a new transducer and a radio node that is capable of communicating with the new control system will provide a reliable system that complies with the discharge permit.

EXHIBIT A: SCADA GOALS

WILD WINGS WWTP OPERATIONS CONTROL JUSTIFICATION

GOAL 2: Control Flow Passing Through the Plant

The current system in the EQ tank relies upon a float system that can be unreliable due to ragging of the floats and proper alarms as required by permit are not communicated to the control system. The installation of a transducer and ultrasonic flow meter will provide a reliable control system that will be able to provide communication data with the new control system so as to be in compliance with the discharge permit.

GOAL 3: Stop High Flows From Overtopping the Plant

The current wastewater process system does not provide for the control of wastewater that could exceed the limits of the plant tankage capacity. To meet the requirements of the discharge permit an automatic bypass pumping system will be installed to divert the excessive flows to the emergency pond. The new control system has to be in place to make this system work in automatic mode. The new control system will be able to provide emergency alarms to be sent to plant operators as required for a reliable notification system.

GOAL 4: Divert High Turbidity Clarifier Effluent to the Emergency Storage Pond

The discharge permit requires that the turbidity be monitored on a continuous basis and that there is the ability to divert any effluent that does not meet the discharge requirements. The current system does not provide for the adequate monitoring, notification, recording, and automatic diversion as required by the discharge permit. To avert noncompliance with the discharge permit, the new control system will provide the necessary communication with the field devices to control the process as permit requires.

GOAL 5: Have the Ability to Add Flocculant Downstream of the Clarifier

The discharge permit requires that a flocculant system be operable to add polymer to the clarifier effluent when it is not in compliance with discharge permit. To accomplish this required monitoring and automatic injection of polymer the flocculation system needs to be operated by the plant control system. The current control system is not meeting this permit requirement and the need to provide an adequate system needs to be implemented as soon as possible to comply with the permit requirements.

GOAL 6: Have Infrastructure in Place to Treat the Recycled Water Pond in the Existing/New Filter and Control the Amount of Flow to the Tertiary Filters

The effluent wastewater in the Recycle Water Pond is nearing a level that is not in compliance with the discharge permit. A control method needs to be in place to adequately process the wastewater back through the treatment system. The proposed Floc/Post EQ tank system will

EXHIBIT A: SCADA GOALS

WILD WINGS WWTP OPERATIONS CONTROL JUSTIFICATION

have in place all the necessary controls to provide a reliable method of processing the water that is in the Recycle Water Pond. The new plant control system is necessary to implement the required treatment process.

In addition, there are costs being incurred because the Recycled Water Pond is not available for either disposal of tertiary effluent or irrigation of the golf course. The costs being incurred are about \$7,900 for the first month, \$4,500 each month thereafter, and another \$7,900 for the last month in order to be able to dispose of the tertiary treated water from the WWTP to the golf course which will continue until the Recycled Water pond can be emptied and cleaned. If the cleaning process extends into the warmer months starting, in about April, an additional \$4,000 for the first month and \$2,700 for each additional month will be added to the costs to be able to provide supplemental irrigation water to the golf course. Here are the projected costs assuming the pond is cleaned and returned to the golf course at the end of May.

January	\$7,900
February	\$4,500
March	\$4,500
April	\$8,500
May	\$10,600
Total:	\$36,000

GOAL 7: Provide Continuous Monitoring and Recording of Turbidity and Chlorine Residual in the Chlorine Contact Chamber

The discharge permit requires the monitoring and recording of the data that is produced by the various field instruments be operational at all times. This is not currently being accomplished with the existing control system. To comply with the discharge requirement the installation of the new control system needs to be installed as soon as possible.

GOAL 8: Obtain a Functional Control System for the Entire WWTP

As described in the beginning of this report, the existing control system is antiquated and does not provide all the necessary controls that are needed to operate the plant as required by the

EXHIBIT A: SCADA GOALS

WILD WINGS WWTP OPERATIONS CONTROL JUSTIFICATION

discharge permit. To be in compliance with the discharge permit the implementation of the new control system should be installed as soon as possible.

Follow up Comments:

The detailed description of the various GOALS are in the pages following this report.

Each of the above listed goals are required to provide a reliable plant control system that when implemented will achieve the permit requirements that are currently in place. Not implementing these goals at this time could lead to an inadequate operating system susceptible to failures that could violate the discharge permit.

When the new control system is implemented there will be provided As-Built and O & M documentation. The information that will be provided will include manufacturer make and model numbers, pump curves, accuracy ranges for transducers and meters. Training will be provided for the operators to become familiar with the new control system. A detailed Scope of Work for training the operators on the new and existing equipment will be provided by February 15th, 2018.

Originally it was anticipated the control system installation could be started within 2 weeks of the notice to proceed. During the time that discussions have been on going the schedule has slipped to 3 weeks due to other priorities of the programmer.

Current schedule is: Fabrication 3-weeks, Installation 2-weeks, Shakedown period 2 weeks, starting from Notice to Proceed.

Manufactures warranties are one year from date of shipment from the various suppliers.

EXHIBIT A: SCADA GOALS
WILD WINGS WWTP PLC/SCADA OPERATIONS NARRATIVE



Environmental Enterprises, Inc.
Western Site Development

The following narrative is to provide a description of the goals for the implementation of the PLC/SCADA for the wastewater plant. The goals as described in detail on the following pages will include the following.

Goal 1: Control Influent Lift Station A

Goal 2: Control the amount of flow passing through the plant

Goal 3: Stop high flows from overtopping the plant

Goal 4: Divert high turbidity clarifier effluent to the Emergency Storage pond

Goal 5: Have the ability to add flocculant downstream of the clarifier

Goal 6: Have infrastructure in place to treat the recycled water pond in the existing/new filter and control the amount of flow to the tertiary filters.

Goal 7: Provide continuous monitoring and recording of turbidity and chlorine residual in the chlorine contact chamber

Goal 8: Obtain a functional control system for the WWTP

JIM NEHER

GARY WERT

EEI / WSD
P. O. Box 3805
Paradise CA 95967-3805

January 18, 2018

EXHIBIT A: SCADA GOALS

Wild Wings Waste Water Treatment Plant PLC/SCADA Operations

Waste Water Treatment Plant Operational Goals

1. Control Influent Lift Station A
2. Control the amount of flow passing through the plant (Required for proper plant operation)
3. Stop high flows from overtopping the plant (Required by RWQCB)
4. Divert high turbidity clarifier effluent to Emergency Storage Pond (Required by Permit)
5. Have ability to add flocculant downstream of clarifier. (Required by Permit)
6. Have infrastructure in place to treat the recycled water pond in existing filter or new filter. Control amount of flow to the tertiary filters (To be able to clean the pond and return it to the golf course)
7. Provide continuous monitoring and recording of turbidity and chlorine residual in chlorine contact chamber. (Required by Permit)
8. Obtain a functional control system for the WWTP (Required for proper plant operation)

Solutions to Accomplish Goals

Goal 1: Control Influent Lift Station A

1. **Current Operation:** The influent lift station contains the most critical pumps in the system. When both of these pumps fail simultaneously the operator has about 2-hours to obtain a solution prior to sewage starting to flood out of the manholes onto Pintail Street. The pumps have failed simultaneously twice in the last six months.

The lift station is operated by floats, for start, stop, lag, and high level. The high-level float sends an alarm to the operator. The floats currently get tangled in rags and other debris and stop functioning. There is also no way to communicate/control the pumps or to know when one has failed, other than when a high-level alarm is received. There are

EXHIBIT A: SCADA GOALS

no remote alarms sent for pump failure to start, over amperage, or pump seal failure. The existing transducer is also broken. These pumps are currently cycling at up to 35 times per hour. This will greatly shorten the life of these pumps.

The current SCADA system is tracking flow by monitoring pump starts but is not providing any cumulative flow readings. Influent flow totals are read by hand each day from a totalizer, which is leading to inaccurate totals for any given period, depending on the time of day the meter is read.

- 2. New Operation:** A new transducer and a radio node will be installed to establish two-way communication with the pumps. The PLC will monitor the levels in the lift station, optimizing the storage capacity of the lift station, turn pumps on and off at set points, and send a high-level alarm to the operator. A back up float high-level alarm will also be maintained. The PLC will check the readings on the influent flow meter against the pump signal. If the flow is zero and the pump is on, then the PLC will start the alternate pump, and send an alarm that a pump is inoperable. The PLC will also monitor over amperage and pump seal failures and send the appropriate alarms.

The PLC will be programmed to record flow on a 24-hour basis (midnight to midnight) and to maintain the numbers in a historian. The historian will also track the data for the EQ pumps, blowers, mud well pumps, clear well pumps, turbidity, chlorine residual, filter and effluent flows.

Goal 2: Control flow through the plant to protect the aerator, clarifier, and filters from upset and/or plugging of the systems.

- 3. Current Operation:** Influent enters the equalization (EQ) tank and is pumped by 2 pumps to the aeration tank. The controls for the pumps and the alarms are by floats. The floats are prone to tangling in rags which leads to the pumps not operating correctly and high-water alarms not being sent out. When the pumps cannot pass the incoming flow and the levels rise in the EQ tank the plant is designed to automatically pass all incoming flows downstream to the aerator. This results in flooding of the downstream processes (solids tank, aerator, clarifier and filter), which then leads to non-compliance with the clarifier turbidity, which is a permit violation.

Flow can also be controlled by manually adjusting the v-notch weir and the return flow of the pumps to limit what comes into the plant. As this is a manual adjustment, the flow is set at an instant in time and will then vary as the levels in the EQ tank rise and fall. Therefore, delivering excess flow downstream for a portion of the time and too low of a flow part of the time.

EXHIBIT A: SCADA GOALS

The plant has also experienced times when the pumps were not operating, however the current PLC reported them as on, and functional.

4. **New Operation:** A transducer will be installed in the EQ tank which will monitor the levels in the tank and take the place of the floats (with the exception of one alarm high-high water level float which will remain as a backup to the transducer).

The transducer will signal the new PLC system which will then activate one of two pumps at a high-water level and turn the pump off at a low-water level. The PLC will alternate the pumps on each start but will not allow both pumps to come on at the same time. Thus, helping to eliminate excessive flows and protect the downstream portions of the plant. The PLC will send an alarm to the operator at a high-high water level.

The transducer can also be used to keep tighter limits on the storage capacity of the EQ tank. Normal operating levels can be maintained at about the 2-foot level thus giving the added benefit of increased storage (about 27,000 gallons) in the EQ tank for emergency flows.

The transducer can also be used to automatically retard flows in the EQ tank at night, thus allowing the filter to be used exclusively for the Recycled Water Pond treatment, for a portion of each day. The PLC can then communicate with a pump in the Recycled Water pond to start and stop the pump based on levels in the EQ tank and in the Floc Tank.

An ultrasonic flow meter will be added to the V-notch weir which will record flows continuously. The PLC will monitor the flow meter and check it against the EQ pump operation. If the pump is on but the flow meter is reading zero (the pump is activated but is ragged up and/or otherwise is not operating) then PLC will start the alternate pump and send an alarm to the operator. Another benefit will be to have a continuous log of flows for the plant along with EQ levels which can be used to determine if the plant is reaching capacity, and for future planning for a second train.

Goal 3: Stop Overtopping the WWTP

5. **Current Operation:** As previously mentioned, when the plant experiences high influent flows in the EQ tank the flows are automatically passed downstream to the rest of the processes. If additional flow comes in, then the tanks fill up and flow over the top of the

EXHIBIT A: SCADA GOALS

plant and onto the ground. The wastewater ends up flowing into the unlined storm drainage pond. This is a permit violation.

- 6. New Operation:** A 1-horse pump will be installed in the south-east corner of the EQ Tank which will pump excess flows at about 160 gpm automatically through a 3-inch galvanized steel pipe to the Emergency Storage Pond. Thus, eliminating flows over the top of the plant. The overflow pump will be controlled by the new PLC system. Once the EQ transducer signals the PLC that a high-high level is reached in the EQ tank then the PLC will check to see the level in the Emergency Storage Pond via the new transducer to be installed in that pond. If the level is below a set point in the pond (meaning that there is enough capacity in the pond to accept more flows) then the pump will divert excess flows from the EQ tank to the Emergency Pond, and send an alarm to the operator.

Goal 4: Divert High Turbidity Clarifier Effluent to Emergency Storage Pond

- 7. Current Operation:** Currently, the clarifier turbidity meter is not communicating with the PLC and is not recording continually as required by the permit. PLC programmers have been out several times to rectify the situation and have been unable to do so. In addition, the permit requirement that an automatic diversion valve shall be activated when turbidity is high, and send the effluent to the Emergency Storage Pond has been removed from the pipeline, and thus is inoperable.

New Operation: The new PLC system will communicate with both the clarifier turbidity meter, the new Emergency Pond transducer, and a new three-way valve. The PLC will close the valve to the filter and open the valve to the Emergency Storage Pond and pump the effluent to the storage pond when the turbidity is above 10 NTU. Thus, meeting the Permit requirements. This feature will also be used in conjunction with the Filter Flocc unit described below.

Goal 5: Have the Ability to Add Flocculant Downstream of Clarifier

- 8. Current Operation:** All flows which pass through the clarifier go through the currently inoperable floc tank. It has recently been determined that the floc tank is undersized for the system by about 50%. It is also set at a level lower than the rest of the plant and thus provides a location for overflows out of the top of the tank. Furthermore, the polymer station that is supposed to be attached to the floc tank is missing. The

EXHIBIT A: SCADA GOALS

chemicals are not connected to the floc tank, the metering pump is not there, and the electrical wiring has been disconnected. The entire floc tank system is out of compliance.

9. **New Operation:** A new combination Floc/Post EQ tank will be situated between the clarifier and the filter system. The particulars of the tank are described in more detail under Goal 6.

The PLC will control the flocculation based on the turbidity in the stilling chamber of the Floc/Post EQ tank. When turbidity is > 5 NTU for 15 minutes, then polymer will automatically be added to the effluent and an alarm will be sent to the operator. When turbidity is >10 NTU the PLC will check the levels in the Emergency Storage Pond to make sure there is capacity, and if so, will then divert the flows away from the filter and send them to the Emergency Storage Pond. An alarm will also be sent to the operator.

Goal 6: Have infrastructure in place to treat the recycled water pond in the existing filter or a new filter. Control amount of flow to the tertiary filters

10. **Existing Operation:** There is no structure available to safely regulate additional effluent to the filter coming from the Recycled Water Pond. This feature will be needed in order to treat the Recycled Pond water in the scenario of using either the existing filter or in sending water to a new filter in the future. In addition, there is currently no method in place to protect the filters from high flows or high turbidity effluent from reaching and plugging the filters.

11. **New Operation:** The new combination Floc/Post EQ tank will be roughly 10-feet by 13-feet and will have 3 chambers. The three chambers will be utilized as a stilling/pump vault area, a flash tank, and a floc tank. Effluent leaving the clarifier and entering the tank will first pass through an 8-inch diameter pipe to the stilling portion of the tank. The stilling portion of the tank will house the turbidity meter and downstream will accommodate 2 pumps operated by VFD's for the existing filter, with room allocated for additional pumps for any future filters. The duplex pumps will send effluent through a new flow meter and then through a new three-way valve. The three-way valve will control whether the effluent enters the floc tank, or is diverted to the Emergency Storage Pond.

During normal operations the PLC will close the valve to the Emergency Storage Pond, and open the valve to the floc tank. Once the effluent has travelled through the floc tank it will flow through an 8-inch pipe to the filter inlet trough where it will continue to

EXHIBIT A: SCADA GOALS

the filters by gravity flow. In an emergency scenario instigated by high turbidity levels, the PLC will close the valve to the flocculation tank and open the valve to the Emergency Storage Pond and will pump the effluent to the pond. The PLC will also send an alarm to the operator. Pumping the effluent will allow full use of the Emergency Pond as the low head differential associated with the gravity flow will no longer come into play.

It is likely that during an event leading to high EQ levels at the head of the plant that trigger the emergency overflow pump to be activated that the plant will also experience high turbidity levels in the clarifier during the same event. If that scenario occurs then both the emergency EQ pump and the duplex pumps in the Flocculation/Post EQ tank will be activated at the same time, and will safely pump the excess and high turbidity effluent to the Emergency Pond in the same pipeline, which is existing.

This tank will also be used as a pump outfall for water being pumped from the Recycled Water Pond to the Filter for tertiary treatment. When it is time to treat the Recycled Water from the pond, the PLC will control the WWTP in one of two scenarios.

First Scenario: The PLC will hold the influent in the EQ tank at low flow times such as overnight, start the pump in the Recycled Water pond, and activate the duplex pumps in the flocculation/post EQ tank to meter out up to 70 gpm through the flocculation tank, and then on to the filters. If the turbidity is > 10 NTU the PLC will stop the pump in the Recycled Water pond rather than divert it to the Emergency Storage Pond.

Second Scenario: The PLC will meter water from the Recycled Water pond into the stilling area of the flocculation/EQ tank where it will join with the effluent from the clarifier. Both flows will be metered by the duplex pumps up to a maximum flow of 70 gpm in order to protect the filters from damage. If turbidity is > 10 NTU the PLC will stop the Recycled Water pump and activate the 3-way valve and divert the clarifier effluent flow to the Emergency Storage pond.

Goal 7: Provide continuous monitoring of the chlorine and turbidity meters and backwash

12. **Current Operation:** Monitoring of the chlorine and turbidity meters has been almost non-existent for the past year due to problems with communicating with the existing SCADA system. This is in violation of the Permit. There is currently no capability of automatically monitoring the backwash operation.
13. **New Operation:** The new PLC will provide continuous monitoring of the chlorine and turbidity meters. This feature will put Wild Wings back in compliance with the

EXHIBIT A: SCADA GOALS

continuous monitoring portion of the Permit. A counter and logic will be added to the PLC in order to log the number and duration of backwashes. This information will assist with future planning of a second filter skid or second train.

Goal 8: Obtain a functional control system for the entire WWTP and provide space in Control Room to meet Electrical Code for the panels

14. **Current Operation:** The current control system is very limited and does not provide the operator with a way to control the processes in the plant or to track the equipment. There is no communication between the different process in the plant making it harder to manage. The existing SCADA system has screens that are set up with multiple components being read on top of each other thus making it all but impossible to decipher. There is no historian as this feature was never set up for the system. The system has also become obsolete, and is scheduled for a major upgrade this year.

The operations building wall space is taken up by the existing control panels. Therefore, for the new PLC panel to be installed and meet the electrical code of 3-feet of open space in front of each panel, some of the existing panels need to be removed and consolidated into the new PLC.

15. **New Operation:** One new panel will be installed which will house the new PLC, and other relocated functions as follows:

Starters: The current FVNR starters which operate the floc tank mixer, flash tank mixer, and 3 motor operated valves (raw water valve, and 2 diversion valves to emergency pond) will all be relocated to the new panel. This will eliminate the need for 3 of the panels on the south wall and allow room for the new panel.

Time Delay Relays: The three existing time delay relays operate the EQ pumps. These will no longer be needed as the float system for the EQ pumps is being replaced by the transducer and PLC control, so they will be removed.

Time Clock: The time clock operates the blowers in 15-minute increments. This feature will be added to the PLC programming so that the blowers can be operated in any time frame desired which can improve the aeration process. The PLC will be able to automatically alternate the blowers, and track the motor starts and number of hours run. The PLC will also send an alarm to the operator when the blowers fail. Therefore, the existing clock will no longer be needed, and will be removed.

EXHIBIT A: SCADA GOALS

Filter Panel: A new filter panel/PLC will not be needed, instead components from the existing panel will be relocated to the new PLC panel. The HOA's which are operated from the front door of the filter panel will also be relocated to the new PLC panel so that all the pumps for the WWTP are in one location. The filters will continue to operate as they have in the past with the existing float system (timers and relays) used to activate the pumps. These relocations are needed in order to meet the electrical code requirements for space. The relocations will also benefit the operator by having the equipment consolidated in a logical fashion.

Power Management: An added benefit to consolidating the new PLC with all the WWTP components is that the PLC can then perform power management. This will allow the plant to run with the least amount of power.

Phasing

16. **Phase 1:** It is recommended that all of the above work be part of Phase 1 for the WWTP as it is needed to get the plant operating consistently and meet the Permit requirements.

- \$80,400 allocated to the WWTP
- \$126,400 allocated to the Water System.

17. **Phase 2:** Phase two will consist of updating the water side of the system with 9 new radios, new radio power supply, programming logic, cards and IO for reading the remote equipment. A more detailed description of this work will be provided at a later date. This work will be needed within the next year as the existing micro logics system has become obsolete as it is no longer possible to get parts.

- \$60,000 (Budget)

18. **Phase 3:** Additional work will need to be done on the PLC if a new filter is needed or a second train is built. There will be space in the new PLC for control of a second filter. Other options can be added at this time such as current sensors on all the pumps which will be able to detect when a pump is experiencing problems prior to the pump failing.

EXHIBIT B: EEI / WSD TIME AND MATERIAL RATES
EEI / WSD TIME AND MATERIAL RATES

RATE SCHEDULE

PRINCIPALS

Gary Wert	\$125.00 per hour
Jim Neher	\$125.00 per hour

OTHER LABOR

Laborer	\$75.00 per hour
Draftsperson	\$65.00 per hour
Clerical	\$55.00 per hour

CONSTRUCTION EQUIPMENT

Bobcat excavator	\$95.00 per hour
Bobcat loader	\$75.00 per hour
Equipment Move On / Off	Cost plus 15%

OTHER EQUIPMENT

Shop rental	\$65.00 per hour
Welder	\$45.00 per hour
Plasma Cutter	\$30.00 per hour
Cut off saw	\$15.00 per hour
Threading machine	\$25.00 per hour

OTHER SERVICES

Subcontractors	Cost plus 15%
Equipment rental	Cost plus 15%
Coping / Printing / Binding	Cost plus 15%

MATERIALS

EEI / WSD Inventory	Cost plus 15%
Outside Purchase	Cost plus 15%
Consumable materials	Cost plus 14%

TRAVEL EXPENSES

Vehicle Mileage (round trip)	\$0.75 / mile
Lodging and meals	cost plus 15%