

RESOLUTION NO. 2066

A RESOLUTION OF THE CITY OF WILSONVILLE AUTHORIZING THE CITY MANAGER TO EXECUTE A CONTRACT WITH BACGEN TECHNOLOGIES FOR ENERGY EFFICIENCY FACILITY UPGRADE AND PROCESS OPTIMIZATION FOR THE WILSONVILLE WASTEWATER TREATMENT PLANT.

WHEREAS, each year the Energy Trust of Oregon funds studies to help identify energy-saving opportunities and then provides financial incentives to help agencies implement these improvements; and

WHEREAS, as a customer of Portland General Electric (PGE) the City is eligible to participate in this program; and

WHEREAS, the City was approached by BacGen Technologies, a Program Delivery Contractor for the Energy Trust of Oregon, about performing an energy audit of the Wastewater Treatment Plant to determine if any energy efficiency upgrades could be made that would qualify for the Energy Trust Incentive program; and

WHEREAS, after City staff provided plant operation and energy use information and a tour of the plant, BacGen completed a scoping study that proposed several energy efficiency upgrades for the plant; and

WHEREAS, a description of the proposed services and equipment is contained in the contract documents, a copy of which is marked Exhibit 1, attached hereto and incorporated by reference as if fully set forth herein; and

WHEREAS, the estimated cost of the improvements is approximately \$200,000 with funding provided by three sources: Energy Trust Incentives; Oregon Business Tax Credit and "in-kind" services provide by City staff;

WHEREAS, the City agrees forward the full amount of Oregon Department of Energy's Business Tax Credit to BacGen Technologies; and the City agrees to provide 'in-kind: services via staff labor hours related to development of the project, construction oversight, and data collections; and

WHEREAS, there is no out-of-pocket costs to the City for this project.

NOW, THEREFORE THE CITY OF WILSONVILLE RESOLVES AS FOLLOWS:

1. The Wilsonville City Council hereby approves and authorizes the City Manager to execute on behalf of the City of Wilsonville the Energy Efficiency Facility Upgrade and Process Optimization Contract for the Wilsonville Waste Water Treatment plant, a copy of which is attached as Exhibit 1 and by this reference included herein as if fully set forth, for services to be provided by BacGen Technologies.

ADOPTED by the Wilsonville City Council at a regular meeting thereof this 16th day of July 2007, and filed with the Wilsonville City Recorder this same date.



CHARLOTTE LEHAN, MAYOR

ATTEST:



Starla J Schur, Deputy City Recorder

SUMMARY OF VOTES:

Mayor Lehan	Yes
Councilor Kirk	Yes
Councilor Knapp	Yes
Councilor Núñez	Yes
Councilor Ripple	Yes

**WASTEWATER TREATMENT PLANT ENERGY EFFICIENCY FACILITY UPGRADE
AND PROCESS OPTIMIZATION CONTRACT
BETWEEN
THE CITY OF WILSONVILLE, AN
OREGON MUNICIPAL CORPORATION AND
BACGEN TECHNOLOGIES, A WASHINGTON CORPORATION**

DATED EFFECTIVE: July 17, 2007

CONTRACT

THIS CONTRACT, is made and entered into, this 17th day of July 2007, by and between the City of Wilsonville, an Oregon municipal corporation, hereinafter called "City", and BacGen Technologies, a Washington corporation, hereinafter called "BacGen" for the project entitled:

Facility Upgrades and Process Optimization for the Wastewater Treatment Facilities located in Wilsonville, Oregon.

City owns and operates a wastewater treatment facility located in Wilsonville, Oregon;
and

BacGen is an engineering and process optimization entity authorized by the Energy Trust of Oregon ("Trust") to provide energy efficiency upgrades and services for water, wastewater and irrigation facilities in accordance with the Trust's Production Efficiency Program, whereby the Trust provides funding support for qualified improvements to City facilities; BacGen is regularly engaged in the business of engineering and optimizing process and energy consumption in water and wastewater treatment facilities and has the necessary experience, equipment and personnel to construct and complete the improvements to specification in a good and workmanlike manner.

NOW, therefore, being fully advised, the Parties agree:

1. **Project Description.** The facility efficiency upgrades and process optimization for the City's wastewater treatment facility are set forth in these contract documents consisting of the Wastewater Facility Optimization Project Proposal, a copy of which is included in Exhibit A, attached hereto and incorporated by reference as if fully set forth herein, and the specifications and or drawings approved by the City, together with any addenda, all bound herewith and which are specifically referred to and by this reference made a part of this Contract.

2. **Duties of BacGen.** BacGen, in addition to its own right to perform the specified work and observe any work performed by City or project-related parties, inclusive of subcontractors or other contractors engaged by the City to perform project related work, herein expressly authorizes City, and or its authorized representatives, to observe and document all work in making certain that there is full compliance with the mutually agreed project specifications. BacGen may withhold payment for unperformed or defective work to any project related contractor or subcontractor unless or until such underperformance or defects are remedied to the satisfaction of City and BacGen.

3. Obligations of the City. The City agrees to cooperate as is necessary to enable BacGen and other project related contractors to perform the work described hereunder. City covenants that upon final completion of the work, if satisfactory and in accordance with the mutually agreed specifications herein, the City shall accept such work by written signature and shall provide BacGen with such documentation as BacGen reasonably requires to satisfy the requirements of the Energy Trust of Oregon, Oregon Department of Energy and or any other governmental agency having jurisdiction in the matter and or funding incentives. Regarding such funding incentives, City recognizes that BacGen has funded all project work without compensation to date and that as an agreed component of project cost reimbursement, once satisfied with the completion of work performed and having executed acceptance of same as outlined herein, City will assign the Energy Trust of Oregon incentive payment to BacGen, per the request for signature on Energy Trust of Oregon Form 440, Project Completion Certification. In addition, and when applicable, any unpaid project costs shall be paid through additional funding potentially available from the Oregon Department of Energy's Business Energy Tax Credit Program ("BETC"). If such funding is deemed to be available, BacGen agrees to develop/complete all of the BETC application documents on City's behalf as well as pre-pay the BETC application fee at BacGen's risk. In the event that the BETC application is approved, BETC, in accordance with its policies, will issue payment directly to the City. City herewith agrees to promptly pay BacGen within 10 days of receipt of BETC funds by City, which will supplement BacGen's partial project cost reimbursement by Energy Trust incentive funding. If the BETC is unavailable it is mutually understood that BacGen will be responsible for any unpaid project costs and the City shall have no other financial obligations to BacGen.

4. Acceptance by the City. BacGen and City specifically acknowledge that upon completion of the work according to the Contract, and acceptance by the City, the project will be the property of the City. Once accepted, the City will be solely responsible for obtaining any warranty work unless that responsibility is specifically assumed in writing by BacGen.

5. Default and Termination. Upon material or substantial failure to perform under this Contract, the non-defaulting party may declare a default and provide the defaulting party with seven (7) days written notice to cure or diligently commence to cure the defect. If such default is not cured or diligent cure is not commenced within the time stated, then the non-defaulting party may declare breach of the Agreement and terminate the Agreement. The non-defaulting party shall have all rights and remedies available under Oregon law.

6. Dispute. It is expressly understood that this Contract is in all respects governed by the laws of the State of Oregon. Unless the parties otherwise agree, this dispute shall be resolved in the Circuit Court of the State of Oregon for the County of Clackamas, which shall have exclusive jurisdiction and venue of all disputes between the parties. The prevailing party shall be entitled to such attorneys' fees, expert witness fees, and other costs and disbursements as may be awarded at trial or on any appeal therefrom.

7. Indemnification and Insurance. To the extent provided by law, each party agrees to indemnify, save and hold harmless and defend the other, its officers, commissioners and employees against all claims and actions and all expenses incidental to the investigation of

defense thereof arising out of or based upon damages or injuries to persons or properties caused solely by the acts, errors or omissions of the Party or anyone over which it has a right of control. City's obligation under this paragraph is limited by the provision and limits of the Oregon Tort Claims act, ORS 30.260 and .300.

Independent of the Indemnity obligation above, BacGen agrees to maintain coverage of general liability insurance including broad form property damage and risk insurance in amount not less than one million dollars combined single limit for personal injury and property damage. All policies shall contain a clause that coverage will not be cancelled without thirty (30) days prior written notice. BacGen represents that it is an independent contractor for purposes of the Oregon Workers' Compensation Law (ORS 656) and is solely liable for any workers' compensation coverage, as applicable, under this Agreement.

8. The parties incorporate by reference the required clauses of ORS 279.312, .314, .316 and .320.

a) BACGEN shall make payment promptly, as due, to all persons supplying to BACGEN labor or material for the performance of the work to be performed under this Contract. BACGEN shall not permit any lien or claim to be filed or prosecuted against the City on account of any labor or material furnished. [ORS 279C.505(1)(a) & (c)]

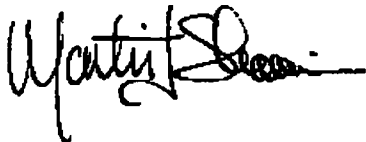
b) BACGEN shall pay to the Oregon Department of Revenue all sums withheld from employees pursuant to ORS 316.167. [ORS 279C.505(1)(d)]

c) BACGEN shall comply with the overtime and maximum hours of labor provisions of ORS 279C.520 and 279C.540.

d) BACGEN, and all other employers working under this Contract, will comply with the workers' compensation provisions of ORS 656.017 (unless BACGEN or other employers are exempt under ORS 656.126.) [ORS 279C.530(1)]

IN WITNESS WHEREOF, WE, the parties hereto, each herewith subscribe the same as of the 17th day of July, 2007.

BACGEN TECHNOLOGIES



President

Date: July 17, 2007

City of Wilsonville, an Oregon Municipal Corporation

By: *A. Goble*

Date: 7/18/07

Title: City Manager

Attest By:

Stoula G. Schur
~~SANDRA C. KING, CITY RECORDER~~
Deputy City Recorder

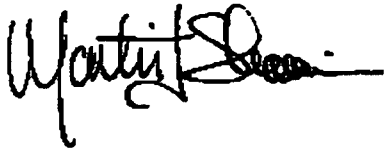
Approval as to form:

Michael E. Kohlhoff
MICHAEL E. KOHLHOFF
CITY ATTORNEY

Exhibit A

WASTEWATER FACILITY OPTIMIZATION PROJECT PROPOSAL CITY OF WILSONVILLE

THESE SPECIFICATIONS HAVE BEEN DEVELOPED BY BACGEN WITH ASSISTANCE FROM THE WILSONVILLE FACILITY STAFF AND EQUIPMENT SUPPLIERS. THEY HAVE BEEN DEVELOPED IN ACCORDANCE WITH GENERALLY ACCEPTED ENGINEERING PRACTICES AND DATA COLLECTED BY BACGEN AND OR PROVIDED BY THE WILSONVILLE WASTEWATER FACILITY. TO THE KNOWLEDGE OF ALL UNDERSIGNED PARTIES, THE INFORMATION PROVIDED IN THIS DOCUMENT IS AS COMPLETE AND ACCURATE AS POSSIBLE GIVEN THE AVAILABLE INFORMATION. BY SIGNING THIS DOCUMENT ALL PARTIES AGREE TO THE INFORMATION SUPPLIED WITHIN INCLUDING THE STATEMENTS WITHIN THIS PARAGRAPH.



BacGen Technologies

July 17, 2007

City of Wilsonville

Date

Scope of Work

The objective of this project is to improve the existing Dissolved Oxygen control system for the main aeration basins, and to address potential inefficiencies of the blower system used for aerobic digestion. The project objectives will work in conjunction with and support the City's process control goals.

The premise of the savings in the aeration basins are as follows:

- Implement triple cascade Program Interface Data (PID) loop control. Specifically, rather than relying directly on Dissolved Oxygen (DO) measurement in the basin to control the DO setpoint, as is current practice, air flow (from independent air flow measurement instrumentation) and blower amperage will also be included in the control loop, providing a much more stable set of measurements and feedback parameters for control purposes.
- Better management of the blower range through enhanced instrumentation (e.g., vibration sensors, temperature sensors) to minimize the deployment of a second blower and to reduce the currently observed frequency of on/off switching of the second blower.
- Review the Dissolved Oxygen set-point to determine the optimum process.
- Retrofit differential pressure gauges in the air intake of the blowers, to prevent increased power usage as a result of filter blockage.
- Eliminate (by manual closing valves) channel aeration of effluent leaving the clarifier, as it is thought to change the dynamics of the control loop and is believed unnecessary to maintain satisfactory conditions in the effluent channel.
- Add discharge pressure gauges and I & C to the blower system, wherein currently there is no pressure monitoring, making interpretation of the blower performance relative to the design blower curve difficult and potentially inaccurate.
- Perform blower true power measurements and change blower sequencing in the control strategy to favor the most efficient blower(s).

The premise of the savings in the aerobic digester is as follows:

- Currently the air flow of the existing blower is controlled on the discharge side, which causes back pressure and power use increases. Replacing/retrofitting valves on the intake side of the blower will enable enhanced air flow control on the intake side of the blower, and substantially enhanced efficiencies.
- Adding monitoring capability and/or (a) Dissolved Oxygen sensor(s) to the digester basin will likely enable air flows to be reduced, as a result of better monitoring. The intention would be to implement manual control of the digester

air system, as air demand within the digestion component are markedly stable and air demand changes typically occur on a very gradual basis.

BacGen (or a selected subcontractor) shall be responsible for supplying a site survey, mechanical design, electrical design, project management, hardware, construction, construction supervision, programming, software upgrades (as required), start-up, optimization and training services, including but not limited to:

- Hardware and mechanical / electrical installation of instrumentation (mass air flow meters, temperature sensors, vibration sensors, pressure gauges, Dissolved Oxygen sensors (in digester, if appropriate).
- Valves and mechanical installation of valves on digester blower intake.
- Communication hardware and software (including upgrades, if required) for all instruments.
- PLC and SCADA programming.
- Blower testing.
- Commissioning, system testing and troubleshooting.
- Follow up as appropriate.

Project Timing

Project implementation is anticipated to occur on a schedule convenient to City, during the third quarter of 2007.

Parties' Responsibilities

In addition of those responsibilities described elsewhere in this document, the City of Wilsonville management and staff shall provide 'in kind' contributions, including but not limited to assisting BacGen staff with data collection or contractor supervision, recording project progress with digital photos, as pertinent. City has no other obligations to BacGen or other contractors.

Sequence of Events

The following sequence of events is anticipated:

1. BacGen Technologies and City of Wilsonville staff agrees on the scope of work, the project timing and the responsibilities of both parties.
2. BacGen submits the proposal to the Oregon DEQ to obtain approval for the project, if required.
3. BacGen submits an application and fee for a BETC pass-through tax incentive with the Oregon Department of Energy on City's behalf. BacGen assumes the risks associated with the BETC funding.
4. BacGen/City receives a BETC pre-certification document, which signifies approval for the project by the Department of Energy.
5. BacGen will purchase all necessary project components, such as instrumentation and valves and develop software code to improve the control system
6. BacGen will commission, troubleshoot and optimize the implemented components during periods of site presence.
7. BacGen to provide overall detailed schedule and three week 'look-ahead' schedule that will be updated weekly.
8. BacGen will coordinate daily with City to discuss equipment shut-down and testing.
9. BacGen to provide 4 hours of training services to City staff that will be schedule at least five days in advance.
10. BacGen to provide City the site survey, design as-built drawings, I&C programming logic (including ladder diagrams), and software licenses (as required).
11. Once completed to mutually agreed standards, Wilsonville and BacGen accept and sign off the project. The Energy Trust of Oregon inspects, acknowledges and approves the installation.
12. City is provided with Energy Trust Form 440 for sign-off of project completion and assignment of incentive funding to BacGen for reimbursement of all costs.
13. Upon receipt of Form 440, Energy Trust re-confirms installation and system performance. Upon Trust satisfaction, Trust reimburses BacGen its project costs.
14. Contractors and suppliers invoice BacGen. BacGen pays contractors and suppliers.
15. BacGen notifies the Oregon Department of Energy of completion of the project.
16. Oregon Department of Energy sends project funding check pertinent to BETC pass-through incentive to City when pass-through funds become available. City makes payment for full amount of tax credit to BacGen as a final offset to fulfill project costs.