TOWN COUNCIL WORK SESSION

Monday, November 4, 2013 @ 7:00pm
Front Royal Administration Building

Town/Staff Related Issues:

1. Request to Remove Lien from Hillidge Street Property – Alan Fox – *Director of Finance*
2. Consideration of EnerGov Software & Cost Sharing with Warren County – *Director of Planning/ Zoning*
3. Resolution to Request Amendment of Virginia State Code re: Authorization to Regulate Tall Grass on Occupied Property – *Director of Planning/ Zoning*
4. Betty West/Assisted Living Facility – *Director of Environmental Services*
5. Cogeneration/Options for Waste to Energy – *Director of Environmental Services*

Council/Mayor Related Issues:

6. Council Discussion/Goals *(time permitting)*
7. CLOSED MEETING – Personnel Matter re: Evaluation of Town Manager

Motion to go Into Closed Meeting

I move that Council convene and go into Closed Meeting for the purpose of assignment, appointment, promotion, performance, demotion, salaries, disciplining or resignation of specific public officers, appointees, or employees of a public body, specific to the evaluation of the Town Manager, pursuant to Section 2.2-3711 A. 1. of the Code of Virginia

Motion to Certify Closed Meeting at its Conclusion *[At the conclusion of the Closed Meeting, immediately re-convene in open meeting and take a roll call vote on the following:]*

I move that Council certify that to the best of each member's knowledge, as recognized by each Council member's affirmative vote, that only such public business matters lawfully exempted from Open Meeting requirements under the Virginia Freedom of Information Action as were identified in the motion by which the Closed Meeting was convened were heard, discussed or considered in the Closed Meeting by Council, and that the vote of each individual member of Council be taken by roll call and recorded and included in the minutes of the meeting of Town Council.

Work Session

Meeting Agenda Item No. 1

Town of Front Royal, Virginia
Work Session Agenda Form

Date: November 4, 2013

Agenda Item: Request to Release Curb & Gutter and Sidewalk Lien

Summary: The Town has received a request from Alan Fox representing his mother, Lillian Sealock Fox, for the Town to consider release of the outstanding lien amount on her property located at 125 Hillidge Street associated with the assessment for curb & gutter and sidewalk installation in 2008. The property is currently being purchased by Warren County. The amount remaining on the original $2,584.62 lien is $1,058.49.

Council Discussion: Council is requested to consider to evaluate the request for release of the outstanding lien.

Staff Evaluation: The Town constructed improvements along Commerce Avenue to enhance pedestrian access and assessed all property owners for these improvements.

Budget/Funding: Release of the outstanding lien will reduce future funding available in the General Fund. The Director of Finance will be available to address fiscal issues.

Legal Evaluation: The Town Attorney will be available to address legal issues.

Staff Recommendations: Staff recommends that Council maintain the lien amount as originally established.

Town Manager Recommendation: The Town Manager recommends that Council maintain the lien amour as originally established.

Council Recommendation:

□ Additional Work Session □ Regular Meeting □ No Action

Consensus Poll on Action: ___(Aye) ___(Nay)

October 1, 2013

Mr. Steven Burke, PE
Front Royal Town Manager
102 E. Main St
Town Administration Building
P.O. Box 1560
Front Royal, VA 22630

Dear Mr. Burke,

In 2008, prior to your tenure as town manager, the Town of Front Royal built a sidewalk adjacent to a property that my mother owns on Hillidge Street. My then 77 year old widowed mother did not want, nor ask for a sidewalk on her property as the property already had one. At the time I petitioned the Town Council to reconsider, but my mother was still charged for the sidewalk. A few months after my mother was charged for a sidewalk that she could not use, and did not want, a new town council decided to stop charging individual citizens for them.

My 82 year old widowed mother is preparing to sell the property to Warren County and would like for the current council to remove the lien, and forgive the remainder of the debt, $2,584.62, for the sidewalk on her property. I believe that she has paid approximately one-half of the original cost.

Sincerely,

Alan Fox
For Lillian Sealock Fox

Cc: Timothy Darr, Mayor of Front Royal.

Work Session

Meeting Agenda Item No. 2

Town of Front Royal, Virginia
Work Session Agenda Form

Date: November 4, 2013

Agenda Item: Consideration of EnerGov Software & Cost Sharing with Warren County
Town Manager/Director of Planning & Zoning

Summary: Warren County previously requested Town Council to table consideration of the EnerGov Software until a potentially cheaper option was evaluated. Since that time, Town and County Staff have participated in the review of Accela, Inc. in comparison with EnerGov. While Accela Software has quoted a considerably lower price than EnerGov, the additional costs are not included in Accela's quote, which leaves the real cost uncertain. EnerGov is believed to be the best program overall program, and is being used or in the process of being implemented by several jurisdictions in the region. The Warren County Board of Supervisors have recently approved the purchase of the EnerGov Software, and has requested the Town to consider a cost sharing partnership.

The proposal is for the Town to pay for 25% of the initial purchase cost and 25% of the annual maintenance cost for the program. The Town would receive 5 user licenses and the County would receive 15. This breakdown is based on the estimated proportional use of the program. The cost breakdown between the Town and the County is shown below for a time period of 3 years.

Cost Breakdown	Year 1	Year 2	Year 3
* County	$144,934	$36,369	$36,369
* Town	$48,312	$12,123	$12,123
TOTALS	$193,246	$48,492	$48,492

Benefits of the software program include the improvement in the efficiency and effectiveness of permit management, plan review, application review, code enforcement, management analysis and tracking, inspections, GIS, and data management. Upon implementation, it would also integrate Town and County permitting and application data. The negatives of the software program include the cost and time for implementation. Attached with this coverpage is a copy of the Warren County Board of Supervisor's agenda report and documentation of their approval.

Council Discussion: This agenda item was previously withdrawn from the August 26, 2013 Town Council Agenda, due to a request by Warren County. It is being brought back to Town Council in Work Session for further discussion after Warren County's evaluation of the Accela alternative.
Budget/Funding: Additional funds would be necessary for the approval of this item. $11,000 could be utilized from Planning & Zoning Department's budget.
Legal Evaluation: The Town Attorney will be available at the scheduled work session.
Staff Recommendations: Staff will be available for questions at the work session.
Council Recommendation:

□ Additional Work Session □ Regular Meeting □ No Action
Consensus Poll on Action: ___(Aye) ___(Nay)

COUNTY OF WARREN

County Administrator's Office
Warren County Government Center
220 North Commerce Avenue, Suite 100
Front Royal, Virginia 22630

Phone: (540) 636-4600
FAX: (540) 636-6066
Email: admin@warrencountyva.net

Douglas P. Stanley
County Administrator

MEMO TO: David C. Beahm, Building Official

FROM: Janice C. Standridge, Deputy Clerk of the Board

THRU: Douglas P. Stanley, County Administrator

SUBJECT: EnerGov Software

DATE: October 2, 2013

This is to confirm that the Warren County Board of Supervisors, at its regular meeting of October 1, 2013, authorized the purchase of the EnerGov software system as outlined in your supporting documentation.

cc: Carolyn W. Stimmel, Finance Director

COUNTY OF WARREN, VIRGINIA
BOARD OF SUPERVISORS AGENDA ITEM

DATE	ITEM	SUBJECT	PAGE 1 OF 4
October 01, 2013		Authorization to proceed with Purchase of EnerGov Software	

EXPLANATION & SUMMARY:

The Building Inspections Department has worked on finding a software solution product since the Springsted Study of the Department was completed in July 17, 2012. The Department, along with County and The Town of Front Royal Planning and Zoning Departments, the Warren County Public Schools and Town IT departments, the County and Town GIS departments and the County and Town Administration have searched for, interviewed and have had presentations provided by no less than twelve firms. Not all firms were part of the entire process, but they were considered.

We have most recently compared two firms, Accela Inc. and EnerGov Software Solutions, that have been part of many jurisdictions top choices and we have made numerous contacts with jurisdictions that have chosen or considered these two firms. Of the jurisdictions that were attempted to contact for EnerGov we have received information from all. The contacts that were provided by Accela, less than half have replied. Of the contacts that were made during this process where both firms were considered, it appeared that EnerGov was the firm that was chosen.

The group (committee) was asked for their input on each of the firms after the most recent presentation and a list is attached for your consideration. The item that was noted by the committee as the most important issue to be considered is the customer service element relative to interaction that the public will have. This seemed to weigh very heavily in the favor of EnerGov and the committee felt this was the best direction for the County/Town citizens.

Additional information is attached.

COST & FINANCING: The overall cost of purchase and implementation is $193,246.00 for the first year. This includes the annual subscription cost of $48,492, the professional services for implementation of $118,454 and the additional equipment required of $26,300. The annual subscription cost after the first year is $48,492.
The software will be used by the Building Inspections Department at 75%, County and Town Zoning at 25% respectively. The software cost will be divided as follows, 50% to Inspections and 50% to Zoning, which will divided evenly between the County and Town Departments. The Inspections office currently issues approximately 25% of all permits to Town residents and business' and these rates reflect the breakdown of costs.

Additional information is attached.

PROPOSED MOTION(S):

I make a motion to authorize the purchase of the EnerGov software system.

-Or-

I make a motion to remove this item from the Consent Agenda for further review and discussion.

-Or-

I make a motion to not authorize the purchase of the EnerGov software system.

SUBMITTED BY:	DISPOSITION OF BOARD: □ APPROVED □ OTHER (DESCRIBE)	PROCESSED BY:
David C. Beahm **Building Official**		

SUPPORTING INFORMATION

	Description	Accela	EnerGov	Selection Committee Choice
1	Presentation Performance	Accela had an initial presentation that they set up to be presented by a third-party firm (reseller). It took some time to set up the demonstration and when it finally took place it was by webinar. Out of the 7 firms considered only one other chose to use a webinar to demonstrate their product.	EnerGov's presentation was attended by two EnerGov employees, one from sales and one from the technical side. The presentations have almost all been flawless. To date EnerGov has made 3 onsite presentations with two individuals and 4 presentations onsite with one presenter.	EnerGov
2	Implementation Team	Third Party implementation firms.	EnerGov technical staff.	EnerGov
3	Program Use for County Staff	Half of the committee felt that the county input side of the program was easier to use from the data entry perspective. The other half felt just the opposite.	Half of the committee felt that the county input side of the program was easier to use from the data entry perspective. The other half felt just the opposite.	Committee evenly Split
4	Citizen's Access	Entire committee felt that the customer (residents) side was more difficult to understand and follow. It appeared not to have a simple process to follow.	The committee felt that the customer (resident) side was very simplified and easy to navigate.	EnerGov
5	Firm's Business Platform	Privately owned with a Board of Directors and Chairman/CEO	Publicly traded firm with Board of Directors and Chairman/CEO	Neutral
6	Company's history of implementation with other jurisdictions	Sarasota County, Florida: Accela and CRW sued Sarasota and CSDC Systems Inc., the county and for discrepancies in using a rider contract and was successful in the case.	Sarasota County, Florida: EnerGov was awarded the contract for $987,000, after the suit was finalized, but the county stated that there were issues with the implementation and canceled the contract. The contract was then awarded to CSDC for $2.6 million.	Neutral
7	Software Cost	Accela has provided a two line general quote of $98,000.	EnerGov has provided a detailed cost breakdown with specific details of $167,000.	Neutral
8	Additional Costs	Accela's quote does not mention the integration of our current system all the way back to 1992. It has been stated verbally that this is included. During the Virginia Beach visit it was stated that they chose not to have their complete records integrated, only to 1999, due to the additional costs that Accela would have charged.	Included	EnerGov
9	Additional Costs	Accela's quote states that travel time and expenses will be set within the Scope of Work document.	Included	EnerGov
10	Contract Termination	Accela requires a one year commitment each time it is renewed and it can only be terminated in writing if received 30 days prior to renewal.	May cancel at any time and only bound by the services used to date.	EnerGov

SaaS Pricing (EnerGov Hosting)

Software Pricing	Annual Software Costs	Optional Extensions	Notes
Permitting & Land Management Suite: • Project Management • Planning & Development Review • Permitting and Land Management • Inspections Management • Code Enforcement Management • Contractor Management • EnerGov Cashiering	$35,880 -20 Named Users		(13) Users@ $129/mo (5) Users w/IG @ $159/mo (2) Read Only @ $69/mo Unlimited Support @ $19/mo/user
Server-Side Extensions • Intelligent Object Engine • Intelligent Workflow Agent • Custom Form Designer	included	-	-
EnerGov GIS Server Standard • Requires ArcGIS Server 9.3.1 or Higher	$5,000		
Citizen Access Web Portal with Decision Making	$13,000		optional
Mobile Applications • IG Workforce / (5) *Named* Users		Included	
Subtotal	$53,880		
Prince William County Cooperative Purchase Discount	($5,388)	10%	
Grand Total Software	**$48,492**	$4041/Month	-

Professional Services	Year 1 Purchase	Resources	Notes / Comments
Assess, Define, Configure, Build	**$63,000 Includes:**	**50 days Includes:**	**See below for deliverables:**
• Permit Management	$11,120	10 days	Project Consultant
• Plan Management	$11,120	10 days	Project Consultant
• Code Management	$11,120	10 days	Project Consultant
• Inspection Management	$3,336	3 days	Project Consultant
• Request Management	$2,224	2 days	Project Consultant
• GIS Configuration	$2,544	2 days	GIS Analyst
• Fee Configuration	$6,360	5 days	Project Manger
• Intelligent Object	$6,360	5 days	Project Manager
• Citizen Access Portal	$3,816	3 days	Project Manager
• Citizen Decision Making Process	$5,000	5 days	Project Consultant
User Acceptance and Production	**$12,096**	8 days	Solutions Architect
End User Training	**$9,520**	10 days	Sr. Software Trainer/Trainer
Report Development	**$9,520**	10 days	Report Developer
Data Conversion (TBD)	**$13,520**	10 days	*estimated for BAI conversion (in industry standard format)
(2) EnerGov Training Certifications	**$3,998**	(2) Certificates	
Travel	**$6,800**	4 weeks on site	

Grand Total Services	**$118,454**	-	-

Total Software & Services	Year 1	Year 2	Year 3
• Software	$48,492	$48,492	$48,492
• Services	$118,454		
TOTAL PURCHASE PRICE	**$166,946**		

Additional Equipment Needed	Equipment Costs
• GIS & ARC Server	**$14,100**
• Microsoft Exchange Server	**$2,100**
• Microsoft Exchange Licenses	**$10,100**
Total Purchase	**$26,300**
TOTAL FIRST YEAR	**$193,246**

Cost Breakdown	Year 1	Year 2	Year 3
• County	$144,934	$36,369	$36,369
• Town	$48,312	$12,123	$12,123
TOTALS	**$193,246**	**$48,492**	**$48,492**

Funding will be as follows:

$48,312	Town of Front Royal
$48,312	Warren County Planning and Zoning Special Projects
$41,466	Warren County Building Inspections Special Projects
$37,174	Warren County Building Inspections 2013-2014 Budget Line 34010-3002
$17,982	Warren County Reserve Contingencies Budget line 91000-5899
$193,246	Total Projected Costs shown above

Work Session

Meeting Agenda Item No. 3

Town of Front Royal, Virginia
Work Session Agenda Form

Date: November 4, 2013

Agenda Item: Resolution to Request the Amendment of Virginia Code Regarding the Authorization to regulate Tall Grass on Occupied Property.
Town Attorney/Planning & Zoning

Summary: Virginia Code § 15.2-901.A.3. only allows the Town of Front Royal the authority to regulate high grass on *vacant developed* or *undeveloped property.* Only certain localities are authorized with the authority to regulate *occupied properties*. In other words, if someone is living in the house, the Town is not authorized to regulate high grass under the authority of this section of the Virginia Code. Upon evaluation, Town Planning & Zoning Staff and the Town Attorney's Office recommend that Town Council request an amendment to the Virginia Code to authorize the Town of Front Royal to regulate high grass on occupied properties.

For discussion purposes only at this time, Town Staff has also drafted an amendment to the high grass section of the Town Code that would address large parcels of land more effectively, improve the definition of *foreign growth*, clarify language regarding enforcement procedure, and would eliminate the arbitrary enforcement season that runs from May 1st to September 1st and keeping enforcement valid for the entire year. A copy of this draft is attached.

Council Discussion: Should Town Council agree with the recommendation of the above referenced resolution, the Town Attorney will draft a resolution for a future Town Council meeting.

Budget/Funding: This agenda item requires no funding.

Legal Evaluation: The Town Attorney will be available at the scheduled work session.

Staff Recommendations: Staff will be available for questions at the upcoming work session.

Council Recommendation:

□ Additional Work Session □ Regular Meeting □ No Action
Consensus Poll on Action: ___(Aye) ___(Nay)

DRAFT AMENDMENT
CHAPTER 170 UPDATES – HIGH GRASS AND TRASH

This draft amendment is intended to modify the Town's high grass regulations by eliminating the period of enforcement so that the regulations are relevant throughout the year. The drafted changes include a modified definition of "foreign growth", In addition, an exemption is added for agricultural uses, and a partial exemption for nonagricultural parcels over 1 acre. The regulations of Chapter 170 pertaining to the trash and debris are proposed to be modified so enforcement procedures match those used for the high grass regulations.

START ----------

Section 170-1 DEFINITIONS
For the purposes of this chapter, the following words shall have the meanings respectively ascribed to them by this section:

DEBRIS - Includes cuttings of weeds, trees or bushes, trash, junk, discarded motor vehicles or any other material which may provide a hiding place for snakes or rats, or anything or any condition which may be a fire menace, breeding place for mosquitoes or which gives off obnoxious or offensive odors.

~~**GRASS, WEEDS AND OTHER**~~ **FOREIGN GROWTH** – Plants other than grass and weeds that the provisions of this chapter also require property owners to cut, including poison ivy, poison oak, poison sumac, and invasive alien plants, as identified by the Virginia Department of Conservation and Recreation, but specifically excluding shrubs and flowers customarily used for ornamental purposes, common garden vegetables and fruit, trees, and underbrush within a forest or woodland area. ~~Includes grass, weeds, brush, poison ivy, poison oak, honeysuckle or any other vegetable growth other than trees, ornamental shrubbery, flowers and garden vegetables.~~

Section 170-2 REMOVAL OF HIGH GRASS, WEEDS AND FOREIGN GROWTH

A. ~~Between May 1st and September 1st of each year, t~~The owner of any ~~vacant~~ developed or undeveloped property within the Town, ~~including such property upon which buildings or other improvements are located,~~ shall cut the grass, weeds and other foreign growth on such property or any part thereof, except that, parcels of land used for permitted agricultural purposes are exempt from the regulations of this chapter, and nonagricultural parcels of land over 1 acre in land area are only required to cut the grass, weeds and other foreign growth located within 100 feet of a building. Any such owner failing, refusing or neglecting to cut or remove such grass, weeds and other foreign growth, after ten (10) days notice, shall be in violation of this Section and, upon conviction, shall be subject to a civil penalty not to exceed fifty dollars ($50) for the first such violation. Each business day during which the same violation is found to have existed shall constitute a separate offense, however, the total amount of civil penalties arising from the same set of operative facts in a 12-month period shall not exceed $3,000.

B. Whenever the grass, weeds or other foreign growth attains the height of fifteen (15) inches or more, whether such property is vacant or occupied, it shall be presumed to threaten the health, safety and general welfare of the residents of the Town. Under such circumstances, the Town Manager may after ten (10) days notice to the owners or occupants thereof, have

such grass, weeds, and other foreign growth cut by its agents, contractors or employees, and the costs and expenses thereof shall be charged to and paid by the owner of such property, and may be collected as taxes and levies are collected, and shall constitute a lien upon such property until such charges are paid. Any owner of property who is aggrieved by the decision of the Town Manager under this Subsection may note an appeal of the herein described notice within ten (10) days of the date of its receipt, in which case, all efforts to cause said grass, weeds, etc., to be cut by the Town shall cease until the appeal has been decided by the Town Council.

Section 170-3 REMOVAL OF TRASH; TOWN ACTION ON FAILURE OF OWNER TO REMOVE.

Whenever the ~~Town Council~~ Town Manager deems it necessary, because of unsightly, unsanitary or hazardous conditions, the owner of any property in the ~~t~~Town shall, after ten (10) days ~~reasonable~~ notice, remove therefrom any and all trash, garbage, refuse, litter, debris, and other substances which might endanger the health of other residents of the town, and should the owner fail, refuse or neglect to comply with the notice, he shall be subject to a fine not to exceed fifty dollars ($50), or, if the ~~Town Council~~ Town Manager deems it necessary, ~~it~~ he may, after the ten (10) days ~~reasonable~~ notice, have such trash, garbage, refuse, litter, debris and other substances which might endanger the health of other residents of the town, removed by ~~its~~ his agents or employees, and the costs and expenses thereof shall be chargeable to and paid by the owner of such property and may be collected by the town as taxes and levies are collected, and such charge shall constitute a lien upon such property until paid. Any owner of property who is aggrieved by the decision of the Town Manager under this Subsection may note an appeal of the herein described notice within ten (10) days of the date of its receipt, in which case, all efforts to cause said trash, garbage, refuse, litter, debris, or other dangerous substances to be removed by the Town shall cease until the appeal has been decided by the Town Council.

Section 170-4 NOTICE TO OWNER WHEN UNKNOWN.

If the owner of the land or lot is unknown or cannot be found, the notice mentioned in Sections 170-2 and 170-3 may be given to his agent and tenant or, if none, then such notice may be given by publication of the same once in one (1) of the newspapers published or circulated in the town.

----------END

Editorial Notes:

- Proposed new text is shown in highlighted font. Proposed deleted text is shown in ~~strikethrough~~ font. Editorial notes not included.
- Drafted 9/11/12 (JFC)

Work Session

Meeting Agenda Item No. 4

Town of Front Royal, Virginia
Work Session Agenda Form

Date:

Agenda Item: Glenwood Homes, LLC / Betty West – Assisted Living Facility Water & Sewer request for out-of-town connection

Summary: Glenwood Homes LLC / Betty West has requested water and sewer utilities be provided to an Assisted Living Facility development off Harmony Orchard Rd, Warren County, VA

Council Discussion: Council is requested to review the information submitted by the County and Town regarding the request and to determine approval status for said development

Staff Evaluation: Environmental Services has researched the water and sewer request. The estimated usage of 4,160 gallons per day would require the 4H pump to run an extra hour per day.

Budget/Funding:

Legal Evaluation: The Town Attorney will be able to address any legal questions or concerns

Staff Recommendations: Staff recommends that water and sewer be provided with the noted concern of the impact of future availability of water and sewer in the area and overall in other areas outside of the Town.

Town Manager Recommendation:

Council Recommendation:

Additional Work Session Regular Meeting No Action

Consensus Poll on Action: ___(Aye) ___(Nay)

Town of Front Royal

Department of Environmental Services

MEMORANDUM

TO: Steve Burke, Town Manager

FROM: Jimmy Hannigan, DES Director

DATE: October 21, 2013

SUBJECT: Betty West, Harmony Orchard Manor Assisted Living Facility

Steve,

The Department of Environmental Services has reviewed the plans presented by Betty West regarding the development of an Assisted Living facility off Harmony Hollow Rd. Water and sewer is available in the area. However, the amount of water needed would require the Water Treatment Plant to use their pump an additional hour every day.

The Department is concerned with permitting water and sewer to this area due to the future availability of services. The County should be informed how the proposed use will impact the future availability of water and sewer in the area, and overall in the other areas outside of the Town. As water and sewer capacity outside of the Town is limited, it may be beneficial for the County to limit future water and sewer demand created by new residential uses located outside of the Town.

In taking all of the information into consideration, the Town's system can sustain adding water and sewer to this facility.

If you have any questions regarding this memo or wish to discuss this in more detail, please call my cell at 692-4790.

Work Session

Meeting Agenda Item No. 5

Town of Front Royal, Virginia
Work Session Agenda Form

Date:

Agenda Item: Environmental Services Renewable Energy Options

Summary: CHA (Water Treatment Plant consultant) and GHD (Wastewater Treatment Plant consultant) have submitted proposals to evaluate renewable energy options at both of the Town's plants. The options have been outlined for review.

Council Discussion: Council is requested to consider the options and information submitted regarding renewable energy and the fees associated with the alternatives.

Staff Evaluation: Staff is currently still reviewing the renewable opportunities available

Budget/Funding: Funding to be determined by the Town Manager and Finance Director

Legal Evaluation: The Town Attorney will be able to address any legal issues or concerns

Staff Recommendations: Staff recommends Council to review and discuss the recommendations of CHA and GHD

Town Manager Recommendation:

Council Recommendation:

Additional Work Session Regular Meeting No Action

Consensus Poll on Action: ___(Aye) ___(Nay)

October 2, 2013

Mr. Mike C. Kisner
Superintendent of Water
Town of Front Royal
P. O. Box 1560
Front Royal, VA 22630

RE: Professional Engineering Services
Energy Audit and Renewable Energy Opportunities
Town of Front Royal Water Treatment Plant
CHA Proposal: X39383-P1

Dear Mr. Kisner:

CHA is pleased to present this proposal to conduct an energy assessment and evaluate renewable energy opportunities at the Town of Front Royal Water Treatment Plant (WTP) and water system pump stations. This proposal discusses current conditions at the WTP and pump stations and includes the following:

- Attachment A – Work Plan
- Attachment B – Schedule
- Attachment C – Engineering Fee

If you have any questions, please do not hesitate to call me or Bill Ruch at (804) 897-3564.

Thank you for considering CHA for your energy engineering services, and we look forward to working with you on this project.

Sincerely,

David L. Barlow, P.E.
Vice President

WLR/ms
Cc: Eric Anderson, CHA
Mike Tsakaloyannis, CHA

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9020 Stony Point Parkway, Suite 160, Richmond, VA 23235
T 804.897.3564 ▪ F 804.897.3566 ▪ www.chacompanies.com

ATTACHMENT A - WORK PLAN

Background:

The Town of Front Royal owns and operates a water treatment plant (WTP), which is rated to supply 6.0 million gallons of water per day (mgd) to its customers. The majority of the Town's water is obtained from the South Fork of the Shenandoah River.

CHA engineers conducted a brief tour of the WTP on Thursday, September 26, and discussed the facility operation with Town staff. The plant was originally constructed in 1960 with major renovations completed in 2009. Energy purchased from the Town is used to power the plant, raw water pump station and remote distribution system pump stations. The current electric charge for these facilities is approximately $200,000 per year.

Evaluations of alternative energy opportunities typically include a review of demand-side as well as the supply-side opportunities. With the plant's recent renovation, which included double pane windows, efficient florescent lighting and soft starts on motors in the building, the electric demand (kW) was reduced; however, some further demand reduction opportunities may be possible.

Scope of Work

The proposed scope of work includes an assessment of the existing pump houses and water treatment plant for other possible demand reduction and renewable energy opportunities. With information gathered, CHA will provide recommended energy conservation measures (ECMs) with an opinion of probable costs, savings and payback. CHA will also evaluate the feasibility of renewable energy supply sources.

For this project CHA will:

- Review available facility drawings and historical electrical usage.
    - We will ask the Town to provide CHA with 12-months of utility bills and a summary of any plans for major change in usage (i.e. new equipment, renovations...etc.)
    - Overall electrical consumption and costs will be analyzed for identifying potential ECM opportunities.
- Visit the water plant and all water pump stations (including the raw water pump station), gather information on the facilities, installed equipment, and discuss operation of the equipment with appropriate individuals.
    - The intent of this task is to identify a possible interconnection point for electricity generation.
- Research and summarize local, state, federal, and utility rules and incentive programs pertaining to installation of net-metered renewable energy/distributed generation at the WTP site.
- Perform energy analyses of viable ECMs, including the following:
    - Quantifying energy savings
    - Developing planning-level costs
    - Determining potential incentives available
    - Conducting financial analysis in simple payback format

CHA

- Perform a preliminary screening to assess the feasibility of various renewable energy technologies at the site, including the following:
    - Solar Photo Voltaic
    - Solar Thermal
    - Wind (Micro) Turbines
    - Fuel Cells
- For each feasible renewable energy technology identified, the following will be assessed:
    - Design description and installation overview
    - Probable opinion of cost
    - Project Return on Investment (ROI) or payback
    - Operations/maintenance overview
- Summarize, in a report, the results from the assessment of feasible technologies and submit recommendations to the Town.
    - Submit a draft report
    - Attend one conference call and/or meeting to discuss
    - Generate a final report for distribution to relevant stakeholders.

Deliverables:

1. Meetings:
    a. One (1) project kickoff meeting
    b. One (1) site visit by CHA engineers
    c. Bi-weekly progress report conference calls (as requested by the Town)
    d. One (1) meeting to review draft report
2. Reports:
    a. Draft report in PDF format
    b. Final report in PDF format
    c. Up to three (3) bound hard copies of final report.

Assumptions:

- Facility staff would be available to answer questions as required during the visit
- Ladders and other equipment that may be required for access would be provided by the facility
- Rigorous modeling is not included; energy savings will be based on system-level calculations and ASHRAE Level 2 calculations
- Implementation costs will be generated using Means Estimating Guides, vendor quotes, and facility experience; these costs will be prepared with an accuracy of +/-25%
- Engineering design services are not included

CHA

ATTACHMENT B -- CONTRACT SCHEDULE

SCHEDULE

It is anticipated that the kick-off meeting will be scheduled within 5 business days of award of engagement. It is anticipated that the field work associated with the energy audit will commence after the kick-off meeting and completion will be dependent on available data and the final energy audit field work schedule. During the kick-off meeting, CHA will facilitate scheduling of the energy audit field work.

For preliminary planning purposes, the following is an estimate of the time duration for the project:

- Draft report: 6 to 8 weeks after receipt of a Notice to Proceed or Purchase Order
- Final report: 2 weeks after receipt of comments from the Town

CHA

ATTACHMENT C – ENGINEERING TASK & FEE

Professional Fee:

CHA's fee for the energy services outlined in Attachment A, including expenses, is $15,600.

CHA will bill monthly based upon the estimated project's percent of completion. .

CHA

October 4, 2013

Town of Front Royal
P.O. Box 1560
Front Royal, VA 22630

Attn: Timothy L. Fristoe

Re: Engineering Proposal
Front Royal WWTP ENR Upgrade
GHD No. 8614629.0

Dear Mr. Fristoe:

As you know, GHD provided a sustainability memorandum to the Town dated September 9, 2013. After reviewing this memorandum, the Town requested that GHD provide a proposal to complete a study detailing the costs and payback periods for the technologies listed. The following outlines the scope of work to be included in this study.

SCOPE OF WORK

1. GHD will review the opportunity to implement alternative electrical power generation at the facility including the following:

   a. Evaluate the feasibility of installing hydro-electric power at the plant effluent. The study will include the following:

      - Evaluation of the outfall energy potential.
      - Estimate kWh output based on varying river water elevations.
      - Provide costs and incentives.
      - Provide information on service life.
      - Provide operation and maintenance requirements and costs.
      - Evaluate utility interconnection and other permitting requirements and costs.

      The evaluation will describe the existing site conditions and factors listed above, will calculate the average annual expected electrical generation available from the hydro-electric turbine and the corresponding cost savings resulting from offset purchased electricity, will identify potential funding programs, and will show the simple payback period.

   b. Evaluate the feasibility of installing a photovoltaic array on WWTP's facility roofs and open areas based on factors that would impact the potential electrical power production from PV modules, including:

      - Review average annual daily insolation data for the site (from tables based on data collected by the National Renewable Energy Laboratory).
      - Review available roof area.
      - Complete a shade analysis.
      - Provide specifications of available PV equipment (modules and inverters).
      - Provide costs and incentives.
      - Provide information on service life.
      - Provide operation and maintenance requirements and costs.

GHD Inc.
16701 Melford Boulevard Suite 330 Bowie MD 20715
T 1 240 206 6810 F 1 240 206 6811 E bowmail@ghd.com W www.ghd.com

- Evaluate utility interconnection requirements and costs.

The evaluation will describe the existing site conditions and factors listed above, identify the maximum PV array size that could reasonably be installed on building roofs and open areas, calculate the average annual expected electrical generation available from the array and the corresponding cost savings resulting from offset purchased electricity, identify potential funding programs, and will show the simple payback period.

c. Evaluate the feasibility of installing a wind powered turbine at the WWTP site based on factors that would impact the potential electrical power production. Work will include:

- Discussion of various types of wind turbines available.
- Evaluation of the site's wind energy potential and wind speeds based on locally available metrological data.
- Estimate kWh output based on available wind resource.
- Propose siting of the wind turbine on the WWTP site.
- Provide costs and incentives.
- Provide information on service life.
- Provide operation and maintenance requirements and costs.
- Evaluate utility interconnection requirements and costs.

The evaluation will describe the existing site conditions and factors listed above, will identify the maximum wind turbine size that could reasonably be installed on the site, will calculate the average annual expected electrical generation available from the wind turbine and the corresponding cost savings resulting from offset purchased electricity, will identify potential funding programs, and will show the simple payback period.

d. Anaerobic digestion and co-generation of energy. GHD will review the requirements to convert the existing aerobic digesters into anaerobic digesters and to collect the gas from the digester for beneficial reuse. The analysis will include the following:

- Provide calculations showing gas production under current and future loadings.
- Provide a list of alternatives for beneficial use of the digester gas.
- Provide a cost estimate and estimated payback period for the top two gas re-use alternatives.
- Provide a list of alternatives to increase the digester gas production.

2. GHD will review the opportunities for water re-use including providing "purple pipe" water for irrigation to Lyons Park including:

- Review of VADEQ regulations on land application of treated effluent waters.
- Provide a possible forcemain alignment and water demand analysis.
- Cost estimate for a water re-use pumping station and forcemain.

3. GHD will review the opportunities to implement heating, ventilation, and air conditioning (HVAC) energy reduction design techniques. BIN weather data and average solar heat gain coefficients will be used to estimate energy use. The following technologies will be evaluated:

a. Plant water source heating and cooling for different areas of the plant. GHD will look into the possibility of implementing plant source heating and cooling in the following areas:

- Control Building
- Process Building
- Blower Building
- ATAD Building
- Solids Handling Building

b. Solar thermal heating in areas with high heating requirements and available roof area. Solar heating panels could be used in these areas to make up a portion of the heating needs. GHD will look into the possibility of implementing solar thermal heating in the following areas:

- Process Building
- ATAD Building
- Headworks Building

c. GHD will review opportunities for energy recovery, for areas with high ventilation rates. Areas of High ventilation rates use a significant amount of energy and system can be implemented to reduce the energy used in these areas. GHD will look into the possibility of implementing energy recovery in the following areas:

- Solids Handling Building
- Process Building
- ATAD Building
- Headworks Building

4. GHD will evaluate lighting design alternatives for existing areas of the plant to provide recommendations to the Town if existing lighting systems should be upgraded and/or replaced. GHD will review the existing systems against current technology and will summarize economic and technical advantages that the Town may benefit from. GHD will evaluate the following areas:

- Control Building
- Blower Building
- Solids Handling Building
- Site Lighting

GHD will provide an evaluation of lighting system alternatives for new buildings and structures as part of the current scope of work.

5. GHD will review the opportunity to reduce the impact of the WWTP construction project on local solid waste facilities and reduce energy and other impacts of manufacturing processes by requiring the construction contractor to develop and adhere to a plan for diverting construction and demolition waste to recycling and reuse wherever possible. GHD will:

- Identify the most significant types of excess material produced by WWTP ENR Upgrade construction activity.
- Contact receiving landfill(s) and recycling facilities to identify types of materials that can be separated and received.
- Identify the cost impacts of the construction waste management program.

- Outline the requirements that would be incorporated in the project specifications to implement a construction waste management program.

6. GHD will review the opportunity to replace windows and doors on existing buildings with thermally improved units to determine if improved energy efficiency can be realized. The analysis will include the following:

   a. GHD will investigate the costs and benefits of into replacing the windows and doors of the following facilities:

      - Control Building
      - Solids Handling Building
      - Influent Pumping Station

   b. GHD will calculate the possible heating and cooling energy savings attainable by installing high performance glazing materials and window frames in addition to better insulated doors with thermally broken frames. Replacement of the large skylight at the Solids Handling Building will also be considered. Construction costs will be estimated and a simple payback period calculated.

   c. GHD will also complete a site visit to 1) accurately characterize the existing windows and doors, and 2) identify what modifications may have to be made to masonry openings to receive new windows and doors.

SCHEDULE

GHD shall complete the work as outlined in the above scope of work in six (6) weeks after the notice to proceed.

PRICING

In order to provide the Town with flexibility in choosing possible sustainability options, pricing has been broken down for each sustainability alternative. The Town may select any or all of the alternatives as listed in the table below.

Sustainability Alternative	Study Cost
1 - Alternative Electrical Power Generation	$35,000
2 – Water Reuse	$7,500
3 – HVAC Energy Reduction	$20,000
4 – Lighting	$4,500
5 – Construction Waste Management	$5,000
6 – Existing Building Energy Improvements	$6,500
Total for All Alternatives	**$78,500**

WWTP UPGRADE AND EXPANSION PROJECT:

Unless otherwise directed, GHD plans to continue to proceed forward with the WWTP upgrade and expansion design based on previous direction received from the Town (the 60% design submittal is scheduled for October 11, 2013). Please let us know if you want us to stop work on the current design

effort after the 60% design submittal pending these evaluations. Once the evaluations are completed, we can implement any of the sustainability alternatives into the treatment plant upgrade design, however please be aware there will be a likely impact to the cost and schedule of the project to implement any of these alternatives at this point of the project. With the completion of the study, GHD will provide information on additional design effort and schedule impacts that each favorably rated sustainability alterative will have on the WWTP upgrade project.

If the Town elects to proceed with the study, GHD will prepare an amendment to the original agreement with the scope as outlined above. Please let us know if there are any questions about the information to be included in the study.

Sincerely,

GHD INC.

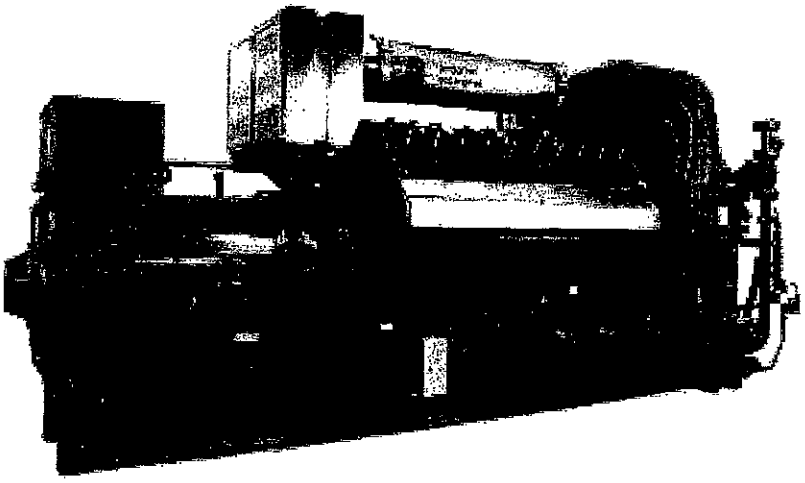
Thor Young, P.E.
Principal Manager

TAY/kab

cc: Steve Burke, Town of Front Royal

GE, Clarke supply first renewable biogas project in Sub-Saharan Africa

June 18, 2013
By PennEnergy Editorial Staff
Source: GE



Showcasing the growing role of distributed power technologies to meet Africa's energy needs, GE (NYSE: GE) is supplying U.K.-based energy project developer Clarke Energy with two of its ecomagination qualified Jenbacher J420 biogas engines for a new 2.8-megawatt (MW) agricultural biogas power project at a large vegetable farm near Lake Naivasha in Kenya.

The project, owned by Tropical Power, marks the first biogas engine project in sub-Saharan Africa for Clarke Energy, GE's authorized Jenbacher gas engine distributor in the region. GE and Clarke Energy have collaborated on numerous natural gas and biogas projects in other countries on the African continent.

The farm grows vegetables for sale in supermarkets and other locations. The farm's biomass waste, including trimmings and unsold vegetables, will be processed in a digester system to create biogas, which will fuel the Jenbacher engines to generate renewable electricity.

The two J420 units will be designed to operate at the farm's high altitude of nearly 2,000 meters above sea level. The containerized gas engines will be configured for cogeneration, with surplus heat recovered as hot water and used to support the biogas plant's process heating.

The project is important for Kenya's local economy because current economic development efforts in the country are putting a strain on the local power distribution network.

Currently, the farm uses power from the grid and diesel generation for pumps, irrigation production, compressors and other equipment. However, Tropical Power's new digester biogas power plant will produce enough electricity to meet all of the farm's on-site energy needs while also delivering surplus electricity to the local grid, which will help stabilize power supplies for the region.

This is noteworthy because reliable power supplies support consistent business operations and help drive local economic growth.

Anaerobic digestion is an established technology in Europe and Asia for the treatment of biodegradable wastes and for the production of renewable power. However, there are not many examples of commercial anaerobic digestion facilities in Africa.

"We selected Clarke Energy to supply GE's biogas engines on the basis of their experience of operating in sub-Saharan Africa, along with a technical solution that offered high electrical efficiency and robust performance using biogas at high altitude," said Mike Nolan, operations director for Tropical Power.

GE will deliver the biogas engines to Kenya by the end of 2013. In addition to GE's gas engines, Clarke Energy will deliver the project with local content originating from local suppliers and operated by Kenyan nationals.

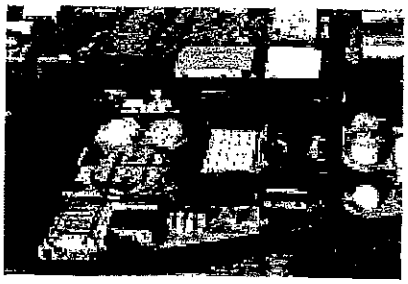
"This first biogas engine project in sub-Saharan Africa for Clarke Energy and GE demonstrates how our fuel-flexible Jenbacher gas engines can provide reliable and cleaner on-site power, using local energy resources and labor to help promote energy and economic security throughout the African continent," said Karl Wetzlmayer, general manager of gas engines for power generation—GE Power & Water.

Clarke Energy will provide Tropical Power with project support, including gas engine operational and maintenance training of workers. Clarke Energy's East African service hub will handle more demanding engine maintenance procedures.

"We are delighted to be supplying GE's Jenbacher biogas engines for our first biogas project in sub-Saharan Africa. This project demonstrates the viability of biogas as a power source in Africa to deliver significant supplies of power to the region," said James Hobday, Clarke Energy's business development manager for Africa.

The project illustrates the ongoing demand for GE's gas engine distributed power solutions to help boost local energy security for industries as Kenya and other countries work to modernize their power and water infrastructure.

Chemical Dependency: A Breakthrough Approach To Ultra-Low Phosphorus



Until recently, chemically enhanced primary treatment (CEPT) wasn't considered a viable option for removing phosphorus to very low levels — even less so when used with membrane bioreactors (MBR). The trailblazing design of a new reclamation facility in Spokane, WA, has changed that view.

Complying with one of the most stringent phosphorus limits in North America was only the beginning of the challenge for CH2M HILL, the consulting engineers enlisted to design, build, and operate the new Spokane County Regional Water Reclamation Facility (SCRWRF) in Spokane, WA. A variety of ambitious performance demands and design specifications forced an innovative approach, resulting in what is today a precedent-setting and award-winning facility.

A Challenging Environment

SCRWRF was needed to accommodate future population growth and facilitate the disconnection of septic tanks in Spokane County, but its design was geared toward meeting the water-quality requirements of the Washington Department of Ecology. The Spokane River (to which SCRWRF would discharge) and the Lake Spokane reservoir had long been plagued by algae blooms and dissolved oxygen (DO) limitations, prompting strict limits on nutrients such as phosphorus, ammonia, and carbonaceous biochemical oxygen demand (CBOD). Therefore, from the moment the 8-MGD facility started up in late 2011, it was subject to a permit requirement of just .05 milligrams per liter (mg/L) — or 50 micrograms per liter (µg/L) — based on an eight-month seasonal average from March 1 to October 31.

As a reclamation facility, the effluent also had to meet Washington's Class A reuse requirements, suitable for irrigation, commercial and industrial uses, fire suppression, enhancing wetlands, indirect groundwater recharge, and stream flow augmentation. Spokane County further dictated in the request for proposal (RFP) that the method of treatment must incorporate membranes for filtration and an anaerobic digester to produce Class B biosolids (to be recycled as fertilizer) and to support cogeneration of heat and electricity.

To ensure sustainable operations well into the future, the greenfield project was allotted 20 acres of land — room enough to grow to three times its current size and accommodate up to 24 MGD.

The Spokane County Regional Water Reclamation Facility, under construction

Treatment Process Modeling

The combination of technology and effluent mandates required creative thinking, with few real-world examples to lean on. Instead, CH2M HILL ran a variety of plant configurations and treatment options through plant simulation, or "whole-plant process modeling," which could calculate, document, and predict outcomes for various scenarios.

Because a membrane application was mandatory, the design team evaluated treatment trains that would incorporate either membrane bioreactors (MBRs) or tertiary membrane systems. In working through the options, however, CH2M HILL also had to consider yet another all-important wrinkle at the behest of the County: the solution must balance the lowest risk of noncompliance with the lowest possible life-cycle costs.

A tertiary membrane system was considered in concert with conventional biological phosphorus removal (BPR), but was discounted because of the complexity, footprint, and capital costs associated with BPR. Another strike against BPR, according to Bruce Johnson, principal technologist at CH2M HILL, was that BPR is subject to slight variances in phosphorus levels, sometimes resulting in one-day excursions from target levels. These slight inconsistencies — especially when there is minimal room for error — can often throw off the seasonal average and result in noncompliance.

By default, MBR became an essential element in the process, but the challenge remained to fit it into a phosphorus treatment process capable of reaching .05 mg/L. The solution that arose was chemically enhanced primary treatment (CEPT) followed by a step-feed MBR system, with both using metal salts (ferric chloride) to precipitate phosphorus.

According to Johnson, this integrated CEPT/MBR approach is extremely novel — SCRWRF being the only facility, to his knowledge, that utilizes MBR and operates at such low phosphorus levels.

Innovative Treatment Train

Minus the MBR component, there was evidence — a small but convincing sample — that metal salts could effectively and consistently remove phosphorus. In particular, Johnson acknowledged DC Water's Blue Plains facility, which uses ferric chloride with conventional filtration, as a pioneering model for SCRWRF. Based on this rare case study and other foundational research, CH2M HILL knew there were two keys to successful and economical deployment of metal salts for phosphorus removal: the initial mixing intensity and appropriating the right amount of contact time.

This knowledge spawned an innovative idea — the inclusion of an aerated grit tank, created as a pit-stop between the headworks and the primary clarifiers. The grit tank, it was discovered, provides optimum conditions for the high-speed mix and the initial dose of ferric chloride.

"It's actually one of the first aerated grit tanks CH2M HILL has designed in quite a while," said Johnson, "It's ideal for getting good contact between the metal salts and the phosphorus, and flocculating it before it goes to primary treatment."

From the aerated grit tank, the stream goes to the primary clarifiers (CEPT) for precipitation and settling of the soluble phosphorus. Another round of ferric chloride further draws down phosphorus in secondary treatment, applied directly to the MBR. The dose is added near the end of the bioreactor, just before the membrane tanks, to take advantage of ferric chloride's rapid uptake of soluble phosphorus and bring total phosphorus to its lowest possible levels.

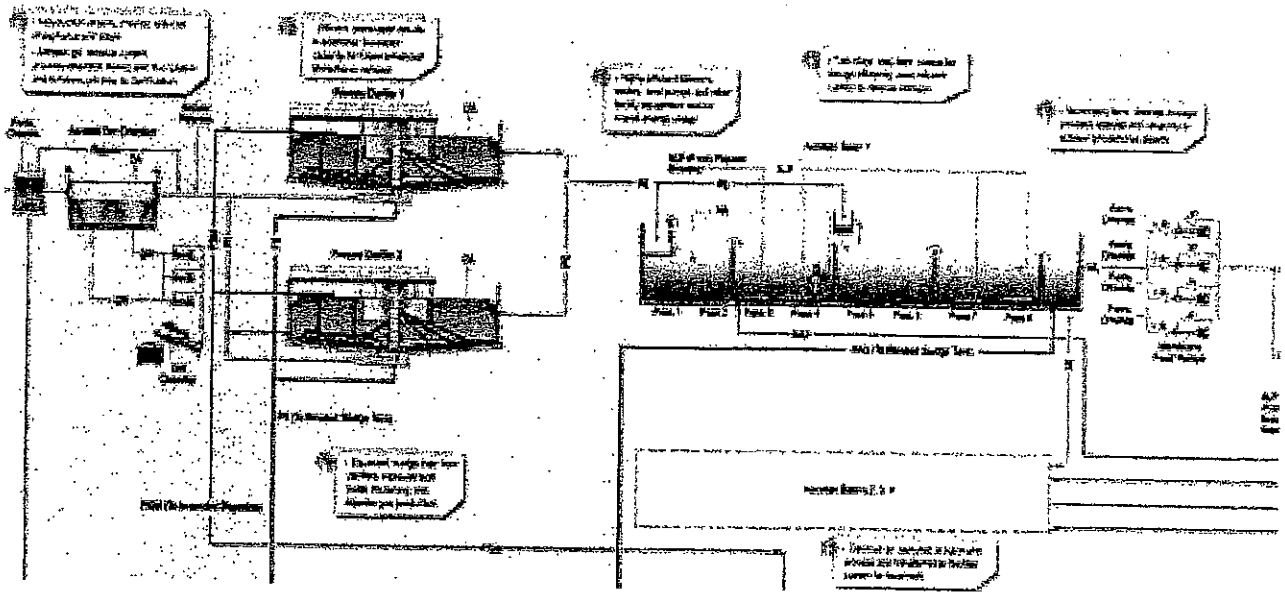


Diagram showing a portion of the SCRWRF liquid treatment train (click for full detail)

Interestingly, the ferric chloride bound with phosphorus — referred to as metal hydroxide flocs — retains the capacity to hold more, and can be recycled to limit phosphorus production in the anaerobic digesters. The bound phosphorus also remains bio-available for other processes, supporting both nitrogen removal and digester gas production (for cogeneration). This interplay with and impact on other systems is precisely what made the SCRWRF treatment train such a challenge, but it was one that ultimately paid off.

Resulting Effluent

Two and a half years after construction commenced, SCRWRF went online on December 1, 2011, working at 85% capacity (a high rate for a new facility) and serving a population of roughly 100,000. Since then, the effluent returned to the Spokane River during the nutrient removal season has been consistently below the 0.05 mg/L total phosphorus requirement, ranging between 0.035 and 0.045 mg/L (reduced from a 12-month influent average of 5.9 mg/L). Furthermore, ammonia effluent levels are less than 0.25 mg/L (from 30 mg/L) and CBOD is less than 2 mg/L (from 179 mg/L).

"We've been operating for 15 months and CH2M HILL hasn't missed a day of target levels yet," said David Moss, water reclamation manager for Spokane County Utilities. "I'm hoping they never do."

With regard to the design-build-operate delivery method, he added: "The County knew we weren't ready or able to operate an exceptionally sophisticated treatment plant. That's why we decided it makes sense to have design-build paired with operation."

Part of the plant's sophistication is a supervisory control and data acquisition (SCADA) system custom-built to operate the facility. The SCRWRF staff includes nine full-time CH2M HILL employees, each trained to maintain operations if any aspect of the SCADA system comes offline. Barring that circumstance, Moss noted that SCADA minimizes the labor effort and "makes everything so much more efficient."

Return On Investment

The capital cost for SCRWRF came in at $172 million — $143 million for the design-build and an additional $29 million for conveyance infrastructure and ancillary costs — financed through ratepayers over a payback schedule of 20 to 25 years. The cost of *not* building the facility, however, could have been much more. Water quality is being restored to the Spokane River and Lake Spokane, some of the burden from the existing downstream plant has been temporarily lifted, and thousands of septic systems were taken out of service for good, which also helps protect the Spokane-Rathdrum aquifer.

In the past year, SCRWRF has been honored with a host of awards, including the Washington Industrial Energy Leaders Award for innovative energy management and the Design-Build Institute of American National Award for its integrated design approach. If necessity is truly the mother of invention (or innovation, in this case), Spokane County did well to compel CH2M HILL's out-of-the-box thinking through its strict standards for phosphorus removal and operational efficiency. As a result, municipalities from all over can reference a newly proven method to achieve both.

What experiences can you share regarding the chemical treatment of phosphorus? What other options have you utilized to get to ultra-low levels? Are these mandates even reasonable? Please share your thoughts.

Wastewater Treatment Cogeneration Plant Wins Renewable Energy Awards

By Sustainable Plant Staff February 18, 2011 07:42:01 pm
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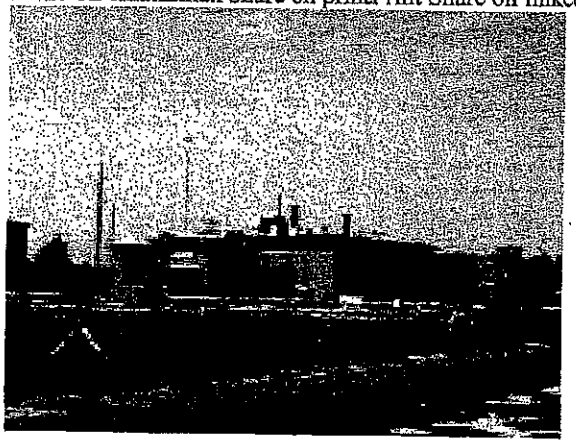


The City of Toledo, Bay View wastewater treatment plant's new 10 megawatt landfill and digester gas cogeneration project includes a two-mile landfill gas pipeline, 5 kV feeder and fiber optic tie, combustion turbine and generator, heat recovery steam generator, steam turbine and generator, paralleling switchgear and control, facility control system, black-start generation and island operation, landfill and digester gas treatment equipment, high- and low-pressure gas compressors, and a landfill gas/digester gas/natural gas mixing station.

This facility has captured the attention of several national organizations and agencies, and recently has won three prestigious awards. First is the U.S. Environmental Protection Agency (EPA)'s Landfill Methane Outreach Program (LMOP) 2010 Project of the Year Award. It was presented to the City of Toledo in January at their annual conference in Baltimore.

The U.S. EPA's LMOP is a voluntary assistance program that helps to reduce methane emissions from landfills by encouraging the recovery and beneficial use of landfill gas (LFG) as an energy resource. LFG contains methane, a potent greenhouse gas that can be captured and used to fuel power plants, manufacturing facilities, vehicles and more.

The second award was given to the Bay View Waste Water Treatment Plant by the Association of Energy Engineers International (AEE) Northern Ohio Chapter for the 2009 Innovation in Cogeneration and Renewable Energy Award. The AEE Regional and Chapter Awards Programs extend special recognition to individuals and organizations that have demonstrated notable contributions to the profession through individual accomplishments, noteworthy projects, or outstanding corporate energy programs.

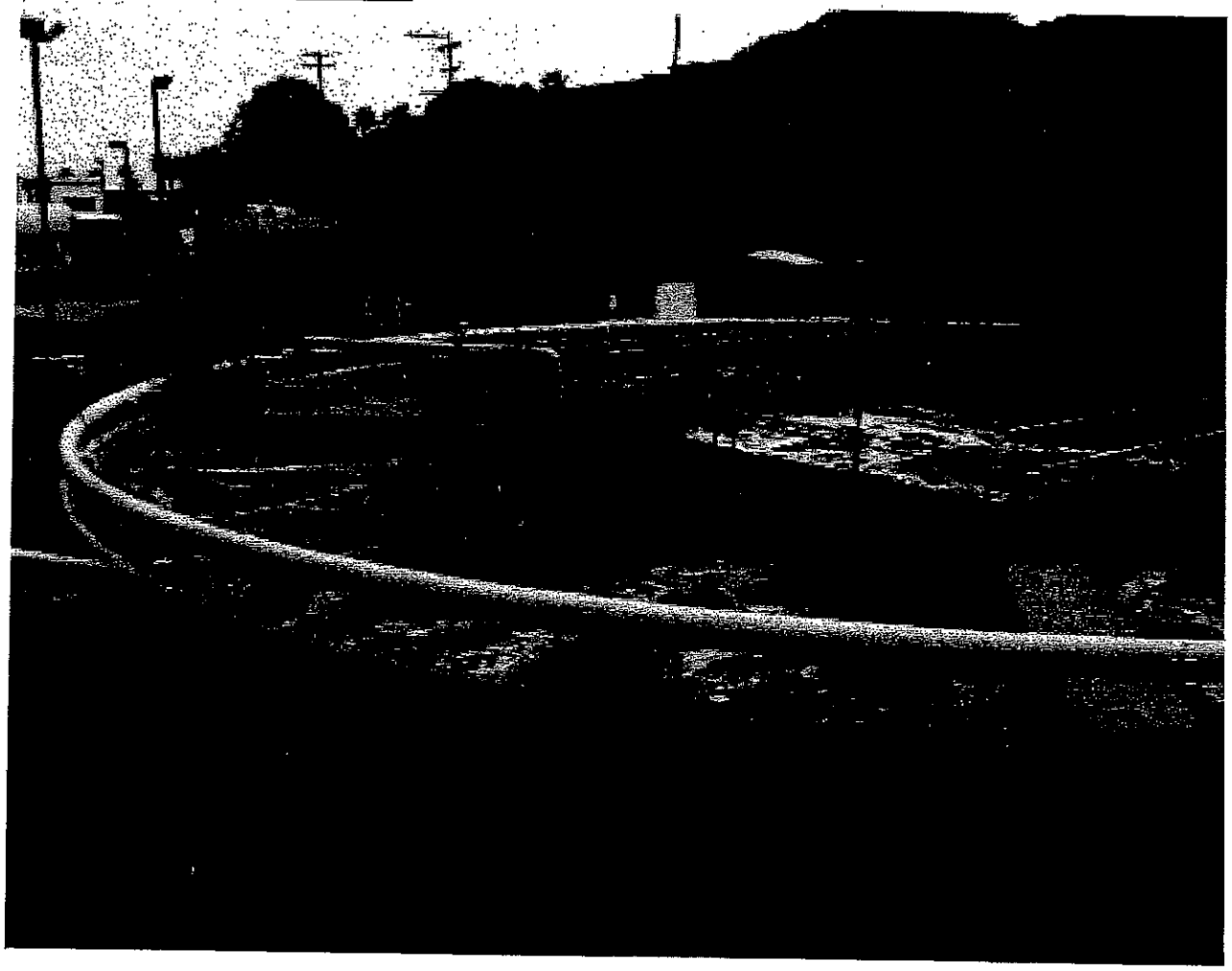
The third recognition is the 2010 Pacesetter Plant Award presented to The City of Toledo by Combined Cycle Journal for excellence in developing a state-of-the-art combined cycle plant that produces renewable energy and reduces the city's carbon footprint. An extensive write-up of the project appeared in the Third Quarter, 2010, issue of Combined Cycle Journal.

"We were pleased and delighted to be a part of this dynamic project," says Marty Ellman, PE and project manager at Middough for the Bay View project. Middough's Energy Team consults and manages projects involving various power plants, substations, wastewater facilities, municipal utilities and numerous other industrial power systems. Middough worked with the city and various partners, including Solar Turbines, to

coordinate the completion of this innovative new plant. "This project allowed us to showcase our technical expertise and hone our skills in the renewable energy market. All of us were very happy for The City of Toledo as they won their awards."

Cogeneration facility will save Oceanside on energy bill

By Promise Yee
May 13, 2013 • 458 views • 0 comments



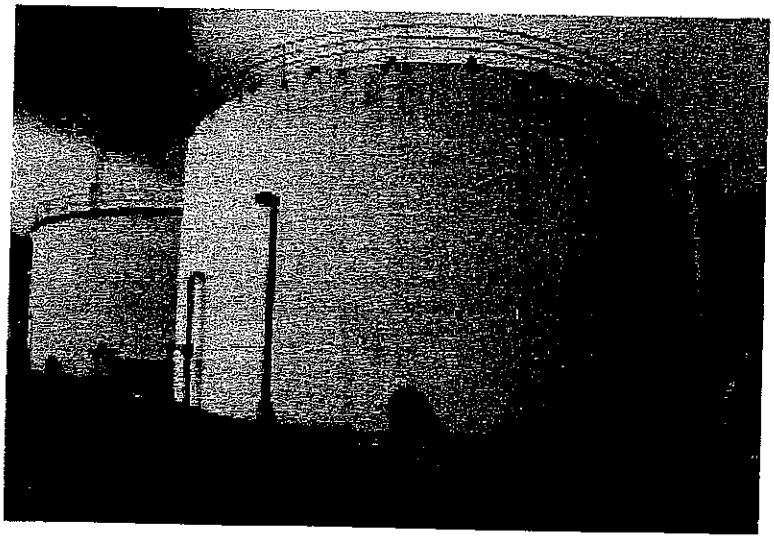
A cogeneration facility will be built at Oceanside's La Salina Wastewater Treatment Plant this summer. Energy purchased from the cogeneration facility operator will save the city about $41,000 annually. Photo by Promise Yee

OCEANSIDE — Alternative energy sources are adding up to big savings for the city.

Oceanside now has three public private partnerships to purchase power from facilities that provide energy at lower rates than SDG&E.

The newest alternative energy source is the cogeneration facility that will be built at Oceanside's small La Salina Wastewater Treatment Plant beginning this summer. The cogeneration facility captures expelled methane gas from wastewater treatment operations and converts it into usable energy. The city then buys

the energy from the facility operator at a lower cost than SDG&E charges. This power purchase agreement is estimated to save the city about $41,000 annually.



The cogeneration facility captures expelled methane gas from wastewater treatment operations and converts it into usable energy. The city then buys the energy at a lower cost than SDG&E charges. Photo by Promise Yee

CHPCE La Salina LLC, a subsidiary of CHP Clean Energy, is working in public private partnership with the city to build and operate the cogenerator. This allows the city to access lower priced energy without investing a dollar in the facility.

"We're pretty excited to bring this type of project to the city," Jason Dafforn, water utilities division manager, said. "The public private partnership is almost zero cost to the city. It gives the city the opportunity to simply buy power at a discounted rate from SDG&E power."

Cogenerators are specific to wastewater treatment plant operations.

Another cogenerator facility was built by CHP Clean Energy at the San Luis Rey Wastewater Treatment Plant in December 2007. The larger facility has saved the city a whopping $335,000 a year in energy bills. Due to the proven benefits it provides the second cogenerator at La Salina Wastewater Treatment Plant was OK'd by City Council May 1.

The San Luis Rey Wastewater Treatment Plant property also houses a Solar Photo-Voltaic System that produces electricity, which is bought by the city. Solar Star Oceanside LLC, a subsidiary of SunPower, installed and operates the solar field and works in a public private partnership with the city that began in June 2012. The solar system saves the city $82,569 a year.

Dafforn said the city is considering adding additional solar systems to city properties when technology improves and the footprint of solar systems becomes smaller.

"We continue to work with local companies to provide that type of technology to the level we see a benefit to it," Dafforn said.