

SULTAN CITY COUNCIL AGENDA ITEM COVER SHEET

ITEM NO: A-4

DATE: May 29, 2008

SUBJECT: Waste Water Treatment Plant (WWTP) Design and Construction Options

CONTACT PERSON: Deborah Knight, City Administrator 

ISSUE:

The issue before the City Council is to re-examine the WWTP upgrade timing and objectives in order to prudently expend remaining funds (or secure other funds).

Review the cost to complete the WWTP design and purchase the biosolids and dewatering equipment to address the City's current need to efficiently dry and dispose of plant solids.

STAFF RECOMMENDATION:

1. Discuss proceeding with completing the WWTP design
2. Discuss directing staff to apply for a \$1,000,000 Public Works Trust Fund to complete the design
3. Discuss using General Facilities Charge and Real Estate Excise Tax (REET) as funding sources to repay the loan obligation of approximately \$400,000/year¹ for five years.

SUMMARY:

In light of funding issues the City is facing (both for design and construction), the City Council has reconsidered the WWTP upgrade phasing to minimize the City's financial risk.

The City Council discussed the following option at the May 13, 2008 joint meeting and directed staff to return with additional information:

- Complete the plant design using a combination of REET and Sewer General Facility Charge

¹ The city will have two \$1 million P WTF loans to complete the design the first loan in 2006 and a proposed second loan in 2008.

- Purchase a biosolids handling and dewatering system and install the equipment in the existing solids building.

Complete the Plant Design

In March 2008, the City was notified by Brown and Caldwell that several of the design assumptions have changed during the design process. In addition, City staff have requested additional analysis to aid in making informed decisions regarding alternatives. Representatives from Brown and Caldwell, the project managers, submitted a \$290,500 cost estimate for out-of-scope design work.

The total estimate to complete the final design is \$1,343,000

\$822,500	Brown and Caldwell fee, Enviroquip, PWTF loan payment
\$400,000	Out of scope expenses (project mngt., finance, pre-design, design items)
\$ 82,000	State revolving fund and rural development grant applications
\$ 38,000	Contract contingency
\$1,342,500	Total

The City received a \$500,000 state budget allocation toward the WWTP. Distribution of the allocation is dependent on adopting a compliant comprehensive plan in September and receiving approval from the Growth Management Hearings Board. The compliance hearing with the Board is in November 2008. Notification from the Board will come to the City in December.

Financing the Plant Design

In 2006, the City received a \$1,000,000 Public Works Trust Fund loan for design. The total design estimate was \$1,500,000. The City anticipated receiving connection fees in 2007 to help fund the \$500,000 balance to complete the design.

The City has been careful in making "draws" on the PWTF loan. The first payment in June 2007 was approximately \$145,000. There is a second payment of \$173,000 due in June 2008. The remaining payments of \$257,000 will be due over the next five years unless the City begins construction in which case, the payments are spread over a 20 year period.

Recently, the region has entered a period of economic slowdown. The City's 2008 Budget assumed approximately 26 sewer connections would occur in 2008 generating approximately \$300,000 in revenues for capital projects and debt service from connection fees. This, along with other revenues, would have been enough to cover the Public Works Trust Fund loan payment of \$173,000 due in June 2008.

Now it seems apparent the City will have difficulty meeting its current debt service obligations.

Based on this analysis, City staff and Brown and Caldwell put together four options for the Council's consideration:

Option 1 – 50% design completion in 2008	\$245,000
Option 2 – Substantially complete design completion in 2008	\$450,000
Option 3 – Final design completion in 2008 ²	\$843,000
Option 4 – Solids Handling Facilities Final Design, Remaining WWTP Upgrade Facilities stops at 50% design completion in 2008	\$0

At the April 24, 2008 meeting, staff recommended the Council select Option 4 as the preferred alternative.

At the May 13, 2008 joint meeting, the City Council directed staff to return to Council with the financial impact for Option 3 – Final design completion in 2008. The Council expressed a preference for using a combination of REET and General Facility Charge to fund expenses.

In order to complete the plant design, City staff recommend applying for a second \$1,000,000 low interest PWTF loan to complete the plant design in 2008. However, this decision will have a serious impact on the city's REET fund and the City's ability to complete any street or parks projects in 2009. **See Below**

The City's Sewer System Improvement Fund is already tapped to pay existing debt service for past projects and the current \$1,000,000 PWTF loan

Project	REET 1	REET 2	Revised Sewer System Improvement Fund
Beginning Balance	\$162,500	\$162,500	\$27,318
Est Revenues	\$62,500	\$62,500	\$122,309
Total Revenues	\$225,500	\$225,500	\$206,170
Expenditures			
Debt Service	-\$125,000 City Hall		-\$175,000 PWTF loan
SBR overlay		-\$200,000	
Skate Park	-\$100,000		
I&I projects			-\$0
Sultan River Crossing Design			-\$0
WWTP Short-term improvements			\$0
Ending Balance	\$0	\$25,000	\$31,170

² Includes \$500,000 state allocation to offset \$1,342,500 total cost

Biosolids Handling

One question the City Council considered at the April 24, 2008 meeting was the more immediate issue is solids disposal. Waste activated sludge is conveyed by gravity to the sludge holding tank. The stored biosolids are intermittently pumped by diaphragm pump to an auger screw press for dewatering to 11 percent solids concentration. The dewatered solids were hauled to a commercial compost manufacturer.

In the last 18 months it has been increasingly difficult to dispose of Sultan's solids. This is a result of supply and demand in the sawdust market. Under a new arrangement, the City has been hauling its solids to the City of La Conner. Staff are uncertain how much longer this arrangement will last.

The City had originally considered modifying the solids handling facility by replacing the auger press with a dewatering centrifuge. The centrifuge is anticipated to achieve 18 to 20 percent solids concentration, resulting in a dryer cake and smaller volumes to haul. This effort was postponed and instead the solids building was wrapped into the WWTP Upgrade project.

Randy Oesch has been working with an industry leader in biosolids handling equipment to get an estimate on the cost to install a centrifuge in the existing building for biosolids handling. The initial review indicates the centrifuge needed for the future plant can fit into the existing building.

The cost to purchase and install the centrifuge and related equipment is approximately \$350,000 to \$450,000.

If the City carefully crafts the second PWTF loan it might be possible to convert the second loan into a 30 year construction loan when the City purchases and installs the biosolids handling equipment.

City staff are further pursuing this issue.

RECOMMENDED ACTION:

1. Discuss proceeding with completing the WWTP design
2. Discuss directing staff to apply for a \$1,000,000 Public Works Trust Fund to complete the design
3. Discuss using General Facilities Charge and Real Estate Excise Tax (REET) as funding sources to repay the loan obligation of approximately \$400,000/year³ for five years.

³ The city will have two \$1 million PWTF loans to complete the design the first loan in 2006 and a proposed second loan in 2008.

ATTACHMENTS

- A- Sultan WWTP Design Completion Options
- B- Dewatering Centrifuge System
- C- 2008 Capital Budget

ATTACHMENT A – DRAFT Sultan WWTP Design Completion Options

Options for Design Completion Level in 2008	Estimated 2008 Line-of-Credit Amount ¹	Comments	Con/Risk	Pro/Benefit
<p>Option 1 – 50% Design² (2008 SRF application)</p>	<ul style="list-style-type: none"> + \$500K from State - \$42K SRF funding application - \$40K RD funding application - \$173K PWTF loan payment <p>Total = +\$245K No line-of-credit needed</p>	<p>This option would use the remaining PWTF loan funds available (~\$125K to date) to advance the design to about 50%. Design would be restarted once design and construction funding sources were known.</p>	<p>No 2008 SRF Funding: The City would not be able to apply for SRF funds in 2008, but would have to instead wait until 2009 (construction started in 2010). However, other construction funding sources could be considered (Rural Development).</p> <p>Design Reactivation: Pickling the design up at a later date would cost more than pushing through to substantial completion in 2008 (Option 2).</p> <p>Project Momentum: Would have to consider risk of losing some of City financial investment in previous planning and design efforts should the project be put on hold for a long period.</p> <p>No Solids Handling: Solids handling at the WWTP would still need to be addressed.</p>	<p>Cash Flow: The City would not have to secure a substantial line-of-credit in 2008 and could perhaps position for more favorable design and construction funding sources.</p> <p>Flexibility in Firming up WWTP Upgrade Program: Delaying design completion would allow time to better understand the funding and loan repayment scenarios before wholly investing in the design.</p>
<p>Option 2 – Substantially Complete³ (2008 SRF application)</p>	<ul style="list-style-type: none"> \$232K to cover original contract BC fee, Entroquip fee, and PWTF payment after using \$500K from State \$45K contingency \$42K SRF funding application \$40K RD funding application <p>Total = \$450,000</p>	<p>This option would use the remaining project budget to submit a substantially complete bid document set to Ecology in August 2008 for review with the goal of getting a required design approval letter for SRF funding application due by October 31, 2008.</p> <p>In 2009, the City would need to acquire the remaining design fee amount to cover addressing Ecology comments and completing the design and an additional amount (estimate \$25K) for reactivating the design after having it stopped in Fall 2008.</p>	<p>Design Reactivation: If SRF funding were not available, the time to acquire other funds may require revisiting the design before actually going to bid. It is assumed that no significant design changes would be required if the project bid before Fall 2009.</p> <p>Additional design cost to pick design back up in mid 2009 (estimated to be about \$25K, but would need to be reviewed at the time of reactivating the design).</p>	<p>Flexibility in Firming up WWTP Upgrade Program: The City would know if SRF funds were available before securing the additional design money to complete the design. This option would allow the City to know funding source before finalizing the design, which would minimize potential redesign efforts should various funding sources impact the design (funding agencies have specific design and bid document requirements that at times can conflict).</p> <p>Cash Flow: Allows getting 2008 SRF application in without securing a larger line-of-credit amount (Option 1).</p>
<p>Option 3 – Final Design⁴ (2008 SRF application)</p>	<ul style="list-style-type: none"> \$232K to cover original BC fee, Entroquip fee, and PWTF payment after accounting for \$500K from State \$40K to cover added scope design items \$38K to cover City support services and contingency if desired \$42K SRF funding application \$40K RD funding application <p>Total = \$843,000</p>	<p>Project would not be a bid until Summer/Fall 2009 if SRF funding secured in early 2009.</p> <p>Depending on when the project bid, there could be some additional cost (estimate \$50K) required for picking back through the documents to revise dates, contacts, and other key design information (codes, etc.) to match the documents current and conforming them to funding agency requirements.</p>	<p>Limited Design "Shell Life": If SRF funding were not available, the time to acquire other funds may require revisiting the design before actually going to bid (limited design "shell life"). It is assumed that no significant design changes would be required if the project bid before Fall 2009.</p> <p>Cash Flow: Ability of the City to secure the required line-of-credit amount and accommodate the cash-flow requirements of the project.</p> <p>Phasing: Advancing the current design to 100% complete could be investing in more of a project than is currently needed given the housing starts/population growth actually expected at this time.</p>	<p>Design complete in 2008:</p> <p>Cash Flow: The City would not have to secure a substantial line-of-credit in 2008 and could perhaps position for more favorable design construction funding sources.</p> <p>Flexibility in Firming up WWTP Upgrade Program: Delaying the liquid stream portion of design (M&R) completion would allow time to better understand the funding, loan, repayment, and phasing scenarios before wholly investing in the current Phase 1 design. At the same time, allowing the Solids Handling portion of the project to proceed would preserve some project momentum.</p> <p>Solids Handling: Solids handling issues at the WWTP would be addressed and designed in the context of future plant expansion (or M&R system etc).</p>
<p>Option 4 – Solids Handling Facilities Final Design⁵, Remaining WWTP Upgrade Facilities stopped at 50% Design⁶ (2008 SRF application)</p>	<ul style="list-style-type: none"> + \$500K from State - \$40K SRF funding application - \$40K RD funding application - \$173K PWTF loan payment - \$245K to complete the Solids Handling portion of the design to 100% <p>Total = \$0 No line-of-credit needed</p>	<p>This option would use the remaining PWTF loan funds available (~\$125K to date) to advance the design to about 50% and a portion of State allocation (\$500K) to advance the Solids Handling aspect of the design to 100% by Fall 2008.</p> <p>Solids handling is a key issue for the WWTP and should not be delayed. The actual scope for the "solids only" project would need to be developed with City staff input.</p> <p>The balance of the design dealing with the M&R etc. would be restarted once design and construction funding sources were better known and secured. The decision to move forward with this option is impacted by when it is anticipated that the rest of the design would be constructed.</p>	<p>No 2008 SRF Funding: The City would not be able to apply for SRF funds in 2008 for the entire project, but would have to instead wait until 2009 (construction started in 2010). However, other funding sources could be considered (Rural Development).</p> <p>Design Reactivation: Pickling the remaining design up at a later date would cost more than pushing through to substantial completion in 2008 (Option 2). Also, producing two public bid documents would cost more than just producing one.</p>	<p>Cash Flow: The City would not have to secure a substantial line-of-credit in 2008 and could perhaps position for more favorable design construction funding sources.</p> <p>Flexibility in Firming up WWTP Upgrade Program: Delaying the liquid stream portion of design (M&R) completion would allow time to better understand the funding, loan, repayment, and phasing scenarios before wholly investing in the current Phase 1 design. At the same time, allowing the Solids Handling portion of the project to proceed would preserve some project momentum.</p> <p>Solids Handling: Solids handling issues at the WWTP would be addressed and designed in the context of future plant expansion (or M&R system etc).</p>

¹ Portions of the estimated costs presented may be covered by sources other than a line-of-credit, such as other City and/or developer funding sources. See Note 3 regarding SRF application impacts should schedule slip to allow identification of other funding sources.

² Alternative delivery (e.g., design-build) options could be considered for completing portions of the project that are only advanced to the 50% completion level in 2008.

³ Because of the limited schedule, achieving the 2008 SRF application would be tight. To have a chance, it would require continuing with the design at this time and with no further delays in order to submit substantially complete documents to Ecology in August 2008. In addition, SERP/SEPA requirements would need to be addressed as part of the SRF application.

⁴ There could be other interim solids handling options besides completing the full Solids Building and centrifuge design. For example, it could be that installing a skid-mounted centrifuge in near the existing Equipment Building would address interim solid handling concerns for less design and construction money in Year 2009/2009.

Attachment B



May 19, 2008

To: Mr. Randy Oesch
WWTP Supervisor
City of Sultan WWTP
203 W. Stevens Ave
Sultan, WA 98294

Alfa Laval Inc.
1900 The Exchange
Suite 300
Atlanta, GA 30339
Tel: +1 770-956-8512
Fax: +1 770-956-8553
www.alfalaval.com

Subject: Dewatering Centrifuge System

Dear Mr. Oesch:

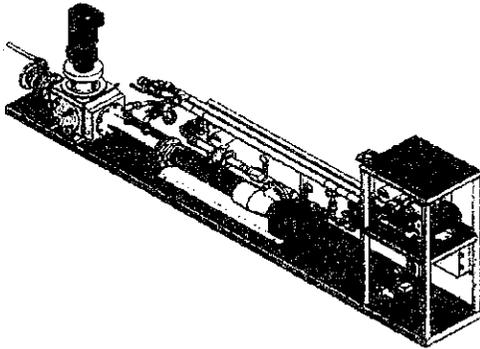
We are pleased to propose the following decanter centrifuge system complete as follows:

One (1) Alfa Laval ALDEC G2 40 Decanter Centrifuge System for dewatering extended aeration sludge. The units will be shipped f.o.b. in accordance with attached terms and conditions.

- DecanterCentrifuge machine including
 - Modular Stand
 - Centrifuge Casing
 - Bearings
 - Bowl & Conveyor
 - 3.5 kNm Gear Box
 - Maindrive and Backdrive Motors
 - Nema 12 free standing control panel, w/
 - ⇒ ABB PLC, Decanter Logic Manger (DLM+)
 - ⇒ ABB Graphic Operator Interface
 - ⇒ VFD Motor Starters
 - ⇒ All required I/O
 - Standard Solids Outlets
 - Centrate Discharge Chute
 - Flexible Connectors for feed, polymer, centrate and solids discharge
 - Vibration Isolators & Vibration Switch
 - Belt guards
 - One year spare parts kit
 - One (1) set required tools
 - One (1) year warranty against defects
 - Three (3) sets submittal drawings
 - Five (5) O&M Manuals
 - Field Service including travel time as follows:
 - ⇒ Centrifuge Installation Assistance- 5 days (1 trip)
 - ⇒ Start-up and Training Assistance- 5 days (1 trips)
- Note: Training includes-Operations, PLC Programing and Maintenance.

Subject: Sultan, WA WWTP

Also included in our pricing are the following:



- Poly Cube - pre-piped and wired Sludge Feed Assembly, including:
 - SeepexMascerator
 - Seepex PC Sludge Feed Pump
 - Polymer System
 - Pressure Switch, Pressure Gauge & Flow meter
 - Piping & valves
- Seepex 17-12-BTE Cake Pump

Not included in our pricing are the following

- Field Interconnecting Wiring between Decanter, Control Panel, & Sludge Feed Module
- Field interconnecting Piping between Decanter and Sludge Feed Module
- Cake pump discharge Piping
- Anchor Bolts
- Taxes
- Unloading at job-site
- installation
- Bonds
- Service other than listed above
- Witness Testing

PRICE: \$ 290,000.00

DELIVERY: Submittals- 10 weeks after approved order acknowledgement by all parties, in order to meet this delivery the Alfa Laval standard submittals will be used.
Equipment- minimum 4-5 months after approval of submittal drawings, Owner to submit required delivery date with order

TERMS OF PAYMENT:

- 20% with approval of submittals, net 30 days
- 70% upon delivery, net 30 days
- 10% upon installation & acceptance, net 120 from delivery*
www.alfalaval.com

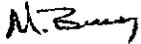
Subject: Sultan, WA WWTP

NOTES OF CLARIFICATION:

1. Warranty is for one (1) year after acceptance or fifteen (15) months after delivery, whichever occurs first.
2. The field service portion of this proposal has been structured to include normal and expected field service requirements for installation inspection, startup, testing and training on a project of this size. Adequate training for all systems can be accomplished in the time allotted by the noted schedule. Additional service days, resulting from non-warranty delays, are available at the standard Alfa Laval rate, included as a part of this proposal.
3. Alfa Laval will provide anchor bolt sizing calculations. Anchor bolts are to be supplied by the installing contractor.
4. If this project proposal results in an order, this proposal shall be the defining scope of supply for Alfa Laval.
5. This proposal is good for 60 days, after which time Alfa Laval reserves the right to adjust the pricing or scope to account for changes in the \$ - Euro exchange rate and increases in stainless steel prices.

We thank you for this opportunity to present our System for your project and look forward working with you. If you have any questions, please feel free to contact me directly.

Kind regards,



ALFA LAVAL

Michael Berry
Western Regional Sales Mgr.

CC: Mike Reilly - WH Reilly, Co

Attachments: Alfa Laval Standard Terms and Conditions

Capital Budget
2008

2008 CIP Revenues/Expenditures													
261	REET 1 Capital Project Fund	REET 2 Capital Project Fund	Trans. Impact Fee	Park Impact Fee	Sewer System Improvement Charge	Water Utility Reserve	Surface Water	Grant	Debt	Private Contributions	Contributions (fee-in-lieu)	Special Parks Fund (Treasurers' Trust)	Rev Totals
	\$162,500	\$162,500	\$652,000	\$153,739	\$27,318	\$1,124,500	\$0	\$1,250,000	\$500,000	\$0	\$0	\$138,217	\$4,170,774
Beginning Balance 2008	\$62,500	\$62,500	\$60,621	\$112,695	\$173,852	\$173,328	\$50,000	\$1,603,914	\$0	\$10,000	\$10,000	\$0	\$2,304,410
Revenues 2008	-\$125,000					-\$500,000							-\$625,000
Transfer Debt Service	\$0	\$100,000	\$712,621	\$266,434	\$206,170	\$797,828	\$50,000	\$2,853,914	\$500,000	\$10,000	\$10,000	\$138,217	\$5,650,184
Total Revenues		\$225,000						25,000					25,000
2nd Street Reconstruction - Phase I and II													
6th Street Overlay													
Date Avenue - Phase II								185,000					185,000
Railroad Crossing Improvements								5,000			5,000		10,000
Sultan Basin Road - Overlay		200,000											200,000
Sultan Basin Rd - Phase III								720,000					720,000
Non-Motorized													
Light guard crossing								60,000					60,000
Sultan Basin Rd Sidewalk			500,000										500,000
Parks													
Park - Westside			120,173					279,827					400,000
Reese/Sportsmans Parks								111,256				138,217	249,473
Skate Park	75,000												75,000
Water													
Highlevel reservoir and transmission line - Design Only													
Sultan Basin Rd - waterline						100,000							100,000
Sultan River Crossing, 12" - Design only						25,000							25,000
Sewer													
Inflow and Infiltration Rehabilitation								60,000					60,000
Sultan River Crossing, 12" force main - design only								25,000					25,000
Waste water treatment plant - short term								120,000					120,000
Waste water treatment plant - MBR													
Facilities									500,000				500,000
Total Expenditures	\$0	75,000	500,000	120,173	205,000	125,000		1,386,083	500,000		5,000	138,217	3,254,473
Ending Fund Balance	\$0	25,000	212,621	146,261	1,170	674,828	50,000	1,467,831		10,000	5,000		2,995,711