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REPORT TO BEDDIS WATER SERVICE COMMISSION MEETING OF FRIDAY 16 JULY 2010

SUBJECT CONSULTING SERVICES FOR COMPLETION OF UPGRADE PROJECT

ISSUE

Engineering services are required in order to complete construction of the Beddis water treatment plant and related supply and distribution works.

BACKGROUND

Based on advice and input received from the Beddis Water Service Commission (BWSC) and members of the Beddis community, staff developed a proposed strategy to complete the Beddis water system upgrade project (separate staff report to the 16 July 2010 BWSC meeting). The proposed strategy was reviewed with members of the Beddis community in an informal meeting of 21 June 2010. Based on input received at that meeting, staff requested a proposal from the engineering consultant, Genivar, for design and construction services required to complete and commission the water treatment plant, reservoir and related works; and to remove the existing Sky Valley reservoir (Attachment 1 – Capital Regional District (CRD) letter of June 24, 2010).

Genivar submitted a proposal (Attachment 2 – Genivar proposal of July 9, 2010), which estimates the costs for fees and disbursements to complete the scope of work at \$97,800 plus HST. The estimate includes \$10,130 for direct CRD costs.

The Preliminary Design services (Tasks 1, 2 and 3 of Attachment 1) are required in order to estimate the cost of construction, and to initiate a process to borrow funds for construction. The remaining tasks are required in order to complete the construction and commission the works. The combined Genivar and CRD effort for the Preliminary Design tasks is estimated at \$33,300. (Genivar \$28,300 and CRD \$5,000). The combined cost estimate to complete the Design and Construction phases is \$64,500 (Genivar \$59,370 and CRD \$5,130) plus HST.

ALTERNATIVES

1. That the Beddis Water Service Commission authorize Genivar and the CRD to proceed with the Preliminary Design tasks as described in Genivar's proposal of July 9, 2010, at a cost not to exceed \$33,300 plus HST, with funding provided from the Beddis Water Service capital fund.
2. That the Beddis Water Service Commission receive this report and request further information from staff.

IMPLICATIONS

Funding of up to \$62,000 is available in the Beddis Water Service capital fund, provided from a 2010 Community Works Fund (Gas Tax) grant. There is sufficient funding for Genivar to complete the Preliminary Design tasks including an allowance for the CRD, with no impact on the operating budget.

Funding for the remaining engineering for construction and commissioning would be provided through a future borrowing that will also be necessary to fund construction and commissioning of the works. The annual cost of servicing new debt will necessitate an increase in taxes or fees for the Beddis water service.

A purchase may be made without inviting competitive offers, subject to the approval of the General Manager, and providing that:

- a) there is only a single vendor from whom the purchase can be made; or
- b) there are repetitive purchases where prices have been determined through previous competitive bidding.

Genivar (then Bullock Baur) was selected through a competitive request for proposal process in 2005 for the Beddis upgrade project, and has since also been selected through a competitive process to provide similar services for the Lyall Harbour/Boot Cove Water Local Service. A single source purchase in this case, with the concurrence of the General Manager, complies with the *Procurement Policy*.

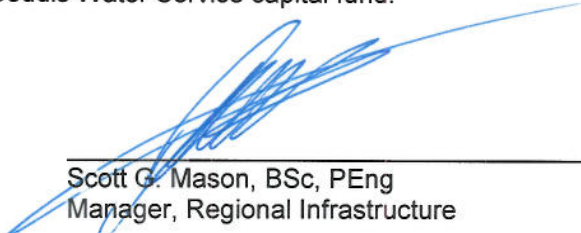
SUMMARY


As requested by the CRD, Genivar has provided a proposal for engineering services required to complete the Beddis water system upgrade project. The proposal meets the requirements of the project, and the estimated cost to complete preliminary design is within the available budget.


RECOMMENDATION

That the Beddis Water Service Commission authorize Genivar and the CRD to proceed with the Preliminary Design tasks as described in Genivar's proposal of July 9, 2010, at a cost not to exceed \$33,300 plus HST, with funding provided from the Beddis Water Service capital fund.


Colwyn Sunderland, ASCT
Local Services Engineering Coordinator


Scott G. Mason, BSc, PEng
Manager, Regional Infrastructure


Ted Robbins, BSc, CTech
Senior Manager, Water Management
Concurrence


Tim Tanton, PEng
Senior Manager, Infrastructure Engineering
Concurrence

CS:ls
Attachments: 2

24 June 2010

File: 5600-20.02

Mr. Matt Hope
Genivar
400 – 401 Garbally Road
Victoria, BC V8T 5M3

Dear Mr. Hope:

RE: REQUEST FOR EXPANDED SCOPE OF SERVICES, BEDDIS WATER SYSTEM UPGRADE PROJECT

Thank you for your proposal letter dated March 19, outlining options for design and construction services for completion of the Beddis Water Treatment Plant on Salt Spring Island. As you are aware, the Capital Regional District (CRD) has been considering expanding the scope of construction to include putting the new Sky Valley reservoir into operation. In consideration of operational experience with the Fulford system, and discussion with the Beddis Water Service Commission and a group of interested service area residents, the scope of construction will be expanded to include the following work, to be completed as soon as possible (subject to funding for construction phase services):

1. Complete and commission Beddis water treatment plant and pumps, including SCADA system.
2. Complete all works required to bring the new Sky Valley reservoir into permanent operation, including booster pump station and associated pipelines and controls (in accordance with original Bullock Baur design unless changes are justified based on new information).
3. Decommission and remove original Sky Valley tank and associated infrastructure.

The CRD requests that Genivar provide a revised, expanded proposal for design and construction services relating to this work, based on the approach presented as *Option 1* in your letter of March 19. The following services are required:

1. Conduct a survey of the existing works to determine the extent of work completed to date.
2. Develop as-constructed civil, mechanical and electrical drawings of existing works in sufficient detail to determine quantities required for accurately estimating costs to complete construction.
3. Confirm suitability of original engineering design, revise where necessary or beneficial, and prepare preliminary engineering design, Class B construction cost estimate and preliminary schedule to complete the full scope of work. Evaluate options and costs to provide standby power systems in order to maintain continuity of water service during outages. Review available water quality data and confirm that the design will provide acceptable chlorine contact time and maintain residual concentrations in the distribution system within the range of 0.3-1.5 mg/l.
4. Produce tender-ready drawings and specifications for all required construction works.
5. Attend one pre-construction meeting and assist in answering questions during the tender period.

6. Provide construction services, including: Bidders' site meeting, responding to bidders' inquiries, field review, and verification of quantities claimed by contractors for payment.
7. Oversee commissioning of the completed works.
8. Prepare final, as-constructed drawings.
9. Secure all regulatory approvals required for construction and operation of the works.

Please provide an estimate of Genivar's level of effort and associated fees and disbursements to complete each task. It is anticipated that Tasks 1-3 will proceed as soon as possible (July 2010), and that Tasks 4-9 would proceed late in 2010 or early 2011, subject to funding. In accordance with standard CRD practice for consulting services, the work will be contracted on a fee for service basis using the standard CRD Integrated Water Services form (attached).

The CRD requests that a proposal be submitted no later than 6 July 2010. Please contact the undersigned should you have any questions.

Yours truly,

Colwyn Sunderland, ASCT
Local Services Engineering Coordinator
Water Management

Scott Mason, BSc, PEng
Manager, Regional Infrastructure
Infrastructure Engineering

CS:ls

Attachments: 1

July 9, 2010
Our File: VI-10-010-00

CRD Integrated Water Services
479 Island Highway
Victoria BC V9B 1H7
Via mail and email (smason@crd.bc.ca)

Attention: Scott Mason, P.Eng.

Dear Sir:

**Re: Request for Expanded Scope of Services
Beddis Water System Upgrade**

As requested the following is a scope of work and fee estimate to:

- Complete and commission Beddis Water Treatment Plant and pumps, including SCADA system.
- Complete all works required to bring the new Sky Valley reservoir into permanent operation, including booster pump station and associated pipelines and controls (in accordance with Bullock Baur design unless changes are justified based on new information).
- Decommission and remove original Sky Valley tank and associated infrastructure.

PREDESIGN

1. **Project initiation:** Includes project start up meeting with CRD to develop the scope of work and coordination of multi-discipline team project review.
2. **Site review:** Site visits to determine extent of work to complete the project.
3. **Existing as-constructed drawings for civil, mechanical and electrical works:** Confirm suitability of original design and revise where necessary. Evaluate options and costs to provide a standby power system.
4. Develop Class B construction cost estimates and preliminary schedule to complete the full scope of work.

DESIGN

5. Produce tender ready drawings for complete works.
6. Review of structural designs for the Sky Valley booster pump station and Lautman Drive PRV building. Update existing drawings as required.

7. Review existing design specifications and update as required for tender of complete works.
8. Secure VHA regulatory approvals required for the construction and operation of the works

CONSTRUCTION

9. Attend one pre-tender meeting and provide technical support during the tender period.
10. Construction review is based on 20 ten-hour days over a four month construction period. Includes preparation of progress payment certificates and change orders.
11. Develop as-constructed drawings based on contractor mark-ups.
12. Develop an Operations and Maintenance Manual.
13. Oversee commissioning based on four ten-hour days over a ten day commissioning period.

FEE BREAKDOWN

Pre-design	\$28,300
Design	\$18,000
Construction	\$41,370
CRD Costs	<u>\$10,130</u> (as per detailed Fee Estimate)
Total Fees	\$97,800

This fee estimate is a budget based on an anticipated construction schedule. We plan to work on a time and materials basis and if the actual construction time is shorter there could be cost savings. In developing this fee estimate assumptions and exclusions have been made some of which are as follows:

- This scope and fee estimate is based on the risk assessment for developing accurate as-constructed drawings of the existing work versus putting all the risk on the Contractor. This is done to help reduce the uncertainties and subsequent change orders during construction of the unfinished work on the treatment plant.
- Assessment of the Lautman Reservoir for suitability to moving has not been included. We have talked to Western Tank and they have indicated a budget of \$600 to do a physical review of the tank. From this review they would provide a report indicating if the tank is suitable to move and a cost estimate to move the tank to the new Sky Valley site.
- No structural as-built drawings for the existing treatment plant.

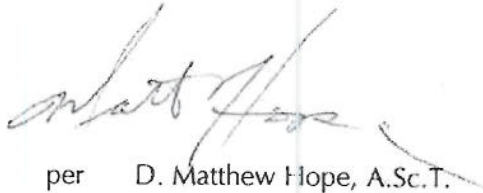
- Information on as-constructed underground piping as supplied by NSSWD. No allowance has been made to excavate or expose existing piping.
- An allowance of eight hours has been included for tender period questions.
- No allowance has been made to review chlorine contact time and residual concentrations. As suggested to the CRD, a computer model and jar testing may assist in this process but actual results will require field testing after the new treatment plant is commissioned. The addition of a second dosing station may be required at the reservoir site. Provisions will be made in the design of the booster station to accommodate the equipment if necessary.
- No allowance has been made for geotechnical review or legal survey.

The draft request for expanded scope of services provided by the CRD on June 24, 2010 indicated tasks 1-3 will proceed as soon as possible. The fees for this portion of the work are \$28,300 as outlined in the predesign tasks 1-4.

If you have any questions or require further information please give me a call.

Sincerely,

GENIVAR



per D. Matthew Hope, A.Sc.T.

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encl.



Professional Services Fee Estimate

**CRD Integrated Water Systems
Beddis Water System Upgrade
Predesign, Design & Construction**

Project No.: 10-010-00

Prepared by: DMH

Date: July 9 2010

Task Description	Staff Hours & Rates							Task Fees	Disb. Cost	Task Subtotal
	Project Manager	Senior Eng.	Civil Eng.	Elec. Eng.	Civil Tech.	Elec. Tech.	Clerical			
	Matt	Eng.	Jeff	Yong	Dwyane	Joyce				
	\$130	\$150	\$120	\$130	\$90	\$85	\$60			
Preliminary Design										
1 project initiation	24	4	2	2			2	\$ 4,340	\$ 40	\$ 4,380
2 site review	1	2	10	8	10			3,570	150	3,720
3 as-constructed drawings	1	12	30	30	40	40	1	16,490	500	16,990
4 cost estimate	1	3	8	7	8			3,170	40	3,210
Subtotal	27	21	50	47	58	40	3	\$ 27,570	\$ 730	\$ 28,300
Design Stage										
5 tender drawings	1	4	10	10	20	20	1	\$ 6,790	\$ 300	\$ 7,090
6 structural.	2	20						3,260	-	3,260
7 specifications	2	2	4	10	16		8	4,260	130	4,390
8 VIHA approval	2	1	16		8		2	3,170	90	3,260
Subtotal	7	27	30	20	44	20	11	\$ 17,480	\$ 520	\$ 18,000
Construction										
9 tender period	2	2	12	12			2	\$ 3,680	\$ -	\$ 3,680
10 construction review	16	3	8	16	200		20	24,770	1,509	26,279
11 as-constructed	2		4	4	16	4		3,040	61	3,101
12 O&M manual	2		4	1	16		4	2,550	50	2,600
13 commissioning	2	2	4	4	40			5,160	550	5,710
Subtotal	24	7	32	37	272	4	26	\$ 39,200	\$ 2,170	\$ 41,370
Genivar Hours	58	55	112	104	374	64	40	807		
Genivar Costs	\$7,540	\$8,250	\$13,440	\$13,520	\$33,660	\$5,440	\$2,400	\$84,250	\$3,420	\$ 87,670

Subconsultants & Others (Direct CRD Costs)	Task Number	Fee Est.	Disb.	Subtotal
1 CRD electrical review	2	\$ 1,720	\$ -	\$ 1,720
2 NSSWD mechanical review	2	860	-	860
3 CRD SCADA	11	6,500	-	6,500
4 Electrical Permit	10	1,050	-	1,050
Subconsultant Costs		\$10,130	\$ -	\$ 10,130

	Fees	Disb.	Total
Total Project Costs	\$ 94,380	\$ 3,420	\$ 97,800