



Making a difference...together

**JUAN DE FUCA WATER DISTRIBUTION COMMISSION**  
Notice of Meeting on **Tuesday, April 7, 2015 @ 12:00 pm**  
Goldstream Conference Room, 2<sup>nd</sup> Floor, 479 Island Highway, Victoria, BC

B. Gramigna  
M. Hicks  
G. Baird

J. Rogers  
G. Logan  
L. Szpak

K. Pearson  
W. Sifert

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**AGENDA**

1. Approval of Agenda
2. Adoption of Minutes of February 3, 2015
3. Chair's Remarks
4. Presentations/Delegations
  - No one has requested to speak
5. Summary of Recommendations From Other Water Commissions
6. Juan de Fuca Annual Small Diameter Pipe Replacement Program – 2014 Summary, 2015 Project List and Budget Update (Information Report #JWDC 2015 - 07)
7. Juan de Fuca Five Year Accelerated Fire Upgrade Program – 2014 Summary and 2015 Project List and Program Budget Update (Staff Report #JWDC 2015 - 08)
8. Veterans Memorial Parkway Pump Station – Award of Construction Contract 2015-937 (Staff Report #JWDC 2015-09)
9. Water Watch
10. New Business
11. Motion to Close the Meeting  
That the Regional Water Supply Commission close the meeting in accordance with the Community Charter, Part 4, s. 90(1) (g) *litigation or potential litigation affecting the municipality.*
12. Adjournment

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*To ensure a quorum, advise Margaret at 250.474.9606 if you or your alternate cannot attend.*



**7. EXTENSION OF CONTRACT NO. 2012-744 SUPPLY OF RENTAL EQUIPMENT, EXCAVATORS, GRAVEL TRUCKS AND BACKHOES**

**MOVED** by Commissioner Logan and **SECONDED** by Commissioner Pearson,  
That the Juan de Fuca Water Distribution Commission approve the extension of the award of the contract for the Supply of Rental Equipment, Excavators, Gravel Trucks and Backhoes to Tri-X Excavating Ltd. for one year, effective March 1, 2015, based on the hourly/daily rates as submitted in the 2012 tender, not including taxes.

CARRIED

**8. EXTENSION OF THE AWARD OF CONTRACT FOR SUPPLY OF PAVING SERVICES**

**MOVED** by Commissioner Pearson and **SECONDED** by Commissioner Logan,  
That the Juan de Fuca Water Distribution Commission approve the extension of the award of the contract for the Supply of Paving Services to Capital City Paving Ltd. for one year, effective March 1, 2015, based on the price per unit of measurement as submitted in the 2012 tender, not including taxes.

CARRIED

**9. WATER WATCH**

**MOVED** by Commissioner Logan and **SECONDED** by Commissioner Rogers,  
That the Juan de Fuca Water Distribution Commission receive the report for information.

CARRIED

**10. NEW BUSINESS**

There was no new business.

**11. ADJOURNMENT**

**MOVED** by Commissioner Pearson and **SECONDED** by Commissioner Hicks,  
That the meeting of the Juan de Fuca Water Distribution Commission be adjourned at 12:30 pm.

CARRIED

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Chair

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Secretary

## REGIONAL WATER SUPPLY COMMISSION

### SUMMARY OF RECOMMENDATIONS MADE AT A MEETING HELD FEBRUARY 18, 2015

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Full reports can be reviewed at <https://www.crd.bc.ca/about/document-library/documents/committeedocuments/regionalwatersupplycommission/20150218>

#### 1. LEECH WATER SUPPLY AREA OPEN HOUSE

**MOVED** by Commissioner Derman and **SECONDED** by Commissioner Rogers,  
That the Regional Water Supply Commission direct staff to hold public opens houses, based on the attached materials, to explain the need to extend the GVWSA Protection bylaw to the Leech WSA and collect public comment on the issue for Regional Water Supply Commission consideration, and report back to the Regional Water Supply Commission.

CARRIED  
Commissioner Isitt **OPPOSED**

#### 2. 2015 REGIONAL WATER SUPPLY EDUCATIONAL CAMPAIGN

T. Robbins spoke to the report.

**MOVED** by Commissioner Derman and **SECONDED** by Commissioner Szpak,  
That the Regional Water Supply Commission direct staff to finalize the 2015 Regional Water Supply Educational Campaign materials and implement the campaign beginning in Spring 2015.

CARRIED

#### 3. WATER WATCH

**MOVED** by Commissioner Derman, and **SECONDED** by Commissioner Szpak,  
That the Regional Water Supply Commission receive the report for information.

CARRIED

**SAANICH PENINSULA WATER COMMISSION**

**SUMMARY OF RECOMMENDATIONS MADE  
AT A MEETING HELD OCTOBER 2, 2014**

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Full reports can be viewed at <https://www.crd.bc.ca/about/document-library/documents/committeedocuments/saanichpeninsulawatercommission/20141002>

**1. DIVISIONAL SERVICE PLANS - SERVICE PLANS REVIEW PROCESS**

**MOVED** by Commissioner Lougher-Goodey, **SECONDED** by Commissioner Daly, that the Saanich Peninsula Water and Wastewater Commissions approve the attached service plan.

**2. 2015 CAPITAL AND OPERATING BUDGETS**

**MOVED** by Commissioner Loveless, **SECONDED** by Commissioner Lougher-Goodey, that the Saanich Peninsula Water Commission recommend that the CRD Board:

1. Approve the 2015 Capital and Operating budget with the following amendments:
  - Remove \$200,000 for the Airport Runway Project – AC Pipe Replacement; and
  - Fund the five year asset replacement from the Reserve.
2. Approve the 2015 Saanich Peninsula bulk water rate of \$0.8898 per cubic metre, and the Agricultural Research Station water rate of \$0.9250 per cubic metre, adjusted if necessary by any changes in the CRD Regional Water Supply wholesale water rate;
3. Balance the 2014 actual revenue and expense on the transfer to capital reserve fund; and
4. Approve Bylaw No. 3990, "Bulk Water Rates Bylaw, 1977, Amendment No. 34, 2014" to increase the Saanich Peninsula water rates accordingly.

CARRIED

**MOVED** by Commissioner Bryson, **SECONDED** by Commissioner Lougher-Goodey, that the Saanich Peninsula Water Commission ask staff to provide a full accounting on the reserves in the next budget cycle, including revenue.

CARRIED

**3. WATER QUALITY REPORTS (INFORMATION REPORT #SPWC 2014-03)**

**MOVED** by Commissioner Mearns, **SECONDED** by Commissioner Loveless, that the Saanich Peninsula Water Commission receive the staff report for information.

CARRIED

**4. WATER WATCH**

**MOVED** by Commissioner Lougher-Goodey, **SECONDED** by Commissioner Loveless, that the Saanich Peninsula Water Commission receive the verbal report for information.

CARRIED



**REPORT TO JUAN DE FUCA WATER DISTRIBUTION COMMISSION  
MEETING OF APRIL 7, 2015**

**SUBJECT JUAN DE FUCA ANNUAL SMALL DIAMETER PIPE REPLACEMENT PROGRAM – 2014 SUMMARY, 2015 PROJECT LIST AND BUDGET UPDATE**

**ISSUE**

This report provides a summary of the projects completed in 2014 under the Annual Small Diameter Pipe Replacement (Program) and identifies projects proposed for 2015.

**BACKGROUND**

The Program was approved by the Juan de Fuca Water Distribution Commission (JDFWDC) in 1999 and is a comprehensive program to replace water mains based on age, material type and condition of the pipe, leak history, financial risk, environmental risk, service pressure, water quality impacts, and other factors, such as municipal construction and road paving programs.

**2014 PROJECT SUMMARY**

The approved 2014 program budget was \$2,244,000 for design and construction. A total of 3,403 metres of water mains were constructed by Integrated Water Services Engineering and Operations Staff. The total cost for design and construction in 2014 is estimated to be \$1,998,380. In 2014, \$120,000 was allocated from the Annual Small Diameter Pipe Replacement Program and the Five Year Accelerated Fire Upgrade Program to allow advanced completion of design works as described in the April 01, 2014 staff report. A portion of this allocation is included in the 2014 cost. While the majority of works are complete, some paving/restoration works are being finalized with the affected municipalities and subject to better weather conditions. The following table lists the pipe replacement projects identified to the JDFWDC at the meeting of April 01, 2014 and the project status. Variance to the proposed projects is discussed following the table.

**Table 1: 2014 Annual Pipe Replacement Projects**

<b>Municipality / EA</b>	<b>Road Name</b>	<b>Planned Length (m)</b>	<b>Actual Length (m)</b>	<b>Notes</b>
Metchosin	Metchosin Rd	559	559	Completed/Paving Required
View Royal	Wilfert Rd	30	127	Completed
Sooke	Blythwood Rd	565	565	Completed
Colwood	Ridley Dr	454	454	Completed
Colwood	Acland Rd	204	204	Completed
Colwood	Galloway Rd	349	349	Completed
Colwood	Wishart Rd	174	0	Deferred (174m)
Langford	Treanor Ave	92	92	Completed
Langford	Selwyn Rd	731	731	Completed
Langford	Hockley Ave	68	136	Completed
Langford	Bryn-Maur Rd	63	63	Completed
Langford	Dunford	188	123	Completed
<b>Totals</b>		<b>3477</b>	<b>3403</b>	

The project on Wishart Road was deferred as an alternate solution was identified during water system planning. The Wishart Main will be abandoned and existing services will be connected to a newer existing main in a future year.

**2015 PROJECT LIST**

On October 07, 2014 the JDFWDC met to discuss the 2015 operating and capital budgets. As the Commission may recall, the budget for this program was reduced from \$2,289,000 to \$1,589,000 in consideration of long term debt servicing costs and annual water rate impacts.

The following table lists planned projects for 2015 based on the available \$1,589,000 budget. The final completed works will be dependent on actual construction costs. Based on initial estimates it is expected that all projects will be completed with the exception of the Sooke Road project. The Sooke Road project has been scheduled for the end of 2015 to allow the project, or a portion of the project, to be deferred until 2016. Budgets will be monitored frequently.

**Table 2: 2015 Annual Pipe Replacement Projects**

<b>Municipality/EA</b>	<b>Road Name</b>	<b>Length (m)</b>	<b>Notes</b>
DND/Colwood	Forward Dr	476	Construction Underway
DND/Colwood	Prevost Ave	149	Construction Underway
DND/Colwood	Meade Ave	214	Construction Underway
DND/Colwood	Lacelles Cr	131	Construction Underway
DND/Colwood	Baillie Ave	218	Design Complete
DND/Colwood	Galiano Cr	397	Design Complete
DND/Colwood	Orelebar Cr	46	Design Complete
View Royal	Island Highway / Knollwood	30	Design Complete
Langford	Sunderland Rd	114	Design Complete
Langford	Deville Rd	325	Design Complete
Langford	Strandlund	10	Design Complete
*Langford	*Sooke Rd	*924	Design Underway
<b>Total</b>		<b>3034</b>	

The Forward, Prevost, Meade, and Lacelles projects are all legacy projects that could not proceed in previous years due to a change in the Department of National Defence (DND) environmental practices which required DND to perform additional environmental testing of the sites including trench excavation material. This testing work has since been completed and the projects have been included in the 2015 list.

In addition, the project on Island Highway is also a legacy project that was postponed to coordinate with View Royal. This is a busy commuter corridor and additional planning is required to reduce traffic disruption.

In the past, detailed designs were completed in the same year as construction however, this year all designs were completed a year in advance utilizing engineering consultants and CRD staff. Completing designs well in advance of construction provided the opportunity to improve construction cost estimates, scheduling/staging of work, and coordination with affected municipalities/utilities.

**CONCLUSION**

The Annual Small Diameter Pipe Replacement Program has been a successful program that improves the integrity of the JDF water system and reduces the amount of breakage related callouts and associated cost. The CRD replaced 3,403 metres of water mains in 2014 under the Water Distribution Main Replacement Program. The majority of designs for 3,034 meters of water main for the planned 2015 projects are complete with construction expected to be completed by 2015 year end.

In 2014 the CRD was able to utilize funds to undertake 2015 project designs. Completing project designs well in advance of construction has improved project delivery significantly. Having designs “in hand” allows for better construction staging and flexibility, improved coordination with municipalities and their capital programs, more accurate construction estimates, better management of the project budgets, and will allow for further optimization of internal resources.


The practice of completing the designs well in advance of construction will be continued. CRD staff is currently developing designs for 2016 projects.

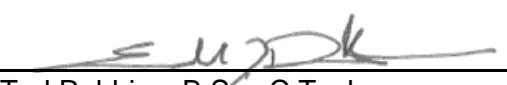
**RECOMMENDATION**

That the Juan de Fuca Water Distribution Commission receive the staff report for information.

  
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Ian Sander, P. Eng.  
Manager, Capital Projects

  
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Scott Mason, P. Eng.  
Manager, Water Planning

  
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Peter Sparanese  
Senior Manager, Infrastructure Engineering  
& Operations  
Concurrence

  
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Ted Robbins, B.Sc., C.Tech  
General Manager, Integrated Water  
Services  
Concurrence

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**REPORT TO JUAN DE FUCA WATER DISTRIBUTION COMMISSION**  
**MEETING OF APRIL 7, 2015**

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**SUBJECT**     **JUAN DE FUCA FIVE YEAR ACCELERATED FIRE UPGRADE PROGRAM –**  
**2014 SUMMARY, 2015 PROJECT LIST AND PROGRAM UPDATE**

**ISSUE**

This report provides a summary of the projects completed in 2014, identifies projects proposed for 2015.

**BACKGROUND**

The Five Year Accelerated Fire Upgrade Program (Program) is a Term Capital Project that was approved by the Juan de Fuca Water Distribution Commission (JDFWDC) at the April 5, 2011 Commission meeting for the purpose of improving the distribution system's ability to provide flows in accordance with the Fire Underwriters Survey (FUS) recommendations. The JDFWDC approved that the Program be constructed over a five year period, for the years 2012 through 2016, with total Program budget of \$9.4 million (average of \$1.88 Million per year). The staff recommendation was to construct the Program over a period of ten years. The April 5, 2011 staff report and appendices describing the program have been attached for reference (**Attachment 1**).

**2014 PROJECT SUMMARY**

The approved 2014 Program budget was \$1,880,000 for design and construction. A total of 2,123 metres of water mains were designed and constructed by Integrated Water Services Engineering and Operations staff. The actual cost in 2014 is estimated to be \$1,527,869.

In 2014, \$120,000 was allocated, from the Annual Small Diameter Pipe Replacement Program and the Five Year Accelerated Fire Upgrade Program to allow advanced completion of design works as described in the April 01, 2014 staff report. A portion of this allocation is included in the 2014 cost.

While the majority of works are complete, some paving/restoration works and design are being finalized with the affected municipalities and subject to better weather conditions. The following table lists the pipe replacement projects identified to the JDFWDC at the meeting of April 1, 2014 and the project status. Variance to the proposed projects is discussed following the table.

**Table 1: 2014 Summary**

Municipality/EA	Road Name	Planned Length (m)	Actual Length (m)	Notes
JDF EA	Winslow Rd	652	652	Complete
Metchosin	Clapham Dr	536	536	Complete
Sooke	Sooke Rd	13	0	Deferred (13m)
Sooke	Ludlow Rd	632	0	Deferred (632m)
Sooke	Ayum Rd	58	0	Deferred (58m)
Langford	Langvista Dr	350	350	Complete
Langford	Jeanine Dr	422	422	Complete
Langford	Mill Hill Rd	163	163	Complete
<b>Total</b>		<b>2826</b>	<b>2123</b>	

The projects on Sooke Road, Ludlow Road and Ayum Road have been deferred after completing a fire flow analysis that confirmed that upgrading water mains alone will not meet the minimum fire flow requirements. There are other improvements required such as a pump station and possibly reservoir enhancements at additional cost. Staff will be meeting with the municipal Fire and Engineering Departments to discuss how to best accomplish these improvements and incorporate them into the future program.

**2015 PROJECT LIST**

The following table lists planned projects for 2015 based on the available \$1,880,000 budget. Based on initial estimates, it is expected that all identified projects will be completed in 2015 however, the final completed works will be dependent on actual construction costs. Budgets will be monitored frequently.

**Table 2: 2015 Five-Year Fire Upgrade Projects**

Municipality/ EA	Road Name	2015 Capital Plan Planned Length (m)	Updated Planned Length	Notes
JDF EA	Elan Place	260	366*	Under Design
Sooke	Sooke Rd (Ayum Creek)	55	55	Design Complete
Colwood	Baille Ave	218	0*	Design Complete
	Galiano Cr	401	0*	Design Complete
	Mary Anne Cr	189	0*	Deferred
	Fulton Rd	285	285	Design Complete
	Lacelles Rd	86	0*	Construction Complete
Langford	Cecil Blog	360	360	Design Complete
	Jacklin Rd	134	134	Design Complete
	Leigh Rd	400	400	Design Complete
	Sooke Road	732	0*	Under Design
	Vantilburg Cr	380	380	Design Complete
Metchosin	Goldstream Avenue	55	55	Design Complete
	Parry Cross Rd	81	81	Design Complete
	Parry Rd	380	380	Design Complete
<b>Total</b>		<b>4016</b>	<b>2496</b>	

Changes to the 2015 Program are described below:

- Elan Pl: The alignment was revised during detailed design due to system hydraulics.
- Sooke Rd (Ayum Creek): The crossing of Ayum Creek at Sooke Road requires specialized work and environmental approvals; and as a result, the project has been re-scheduled for July/August 2015 to work within the fisheries window.
- Baille Ave, Galiano Cr, Lacelles Rd and Sooke Rd: These projects are captured in the Annual Small Diameter Pipe Replacement Program.
- Mary Anne Crs: The CRD staff are assessing alternate solutions to the pipe upgrade, in particular the potential of simply installing a fire hydrant.

In the past, detailed designs were completed in the same year as construction however, this year all designs were completed a year in advance utilizing engineering consultants and CRD staff. Completing designs well in advance of construction provided the opportunity to improve construction cost estimates, scheduling/staging of work, and coordination with affected municipalities/utilities.

#### **PROGRAM BUDGET**

The JDFWDC approved that the Program be constructed over a five year period, for the years 2012 through 2016 with total Program budget of 9.4 million (average of \$1.88 Million per year). As of December 31, 2014 approximately \$4,140,000 is available to complete the Program. CRD staff have developed 2015 and 2016 project lists with associated budgets of \$1,880,000 and \$2,660,000 respectively. The additional work in 2016 has been reviewed with CRD water main installation crews who will have the capacity to complete the remainder of main installation in 2016 as the workload for the Annual Small Diameter Replacement Program Budget has been reduced in 2016 from approximately \$2.4M to \$0.85M.

All 2016 designs will be completed in advance in 2015. Completing design well in advance of construction provides an opportunity to improve construction estimates, scheduling/staging of work, and coordination with affected municipalities/utilities. This will provide a higher confidence in construction estimates, better management of the project budgets, and will allow for further optimization of internal resources.

#### **CONCLUSION**

The Accelerated Five Year Upgrade Program has been a successful program that improves the firefighting flow capacity within the Juan de Fuca water system.

In 2014 the CRD was able to utilize funds to undertake 2015 project designs. Completing project designs well in advance of construction has improved project delivery significantly. Having designs 'in hand' allows for better construction staging and flexibility, improved coordination with municipalities and their capital programs, more accurate construction estimates, better management of the project budgets, and will allow for further optimization of internal resources.

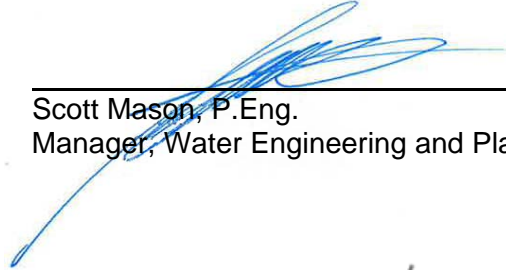
The practice of completing the designs well in advance of construction will be continued. CRD staff is currently developing designs for 2016 projects.

**RECOMMENDATION**

That the Juan de Fuca Water Distribution Commission receive the staff report for information.



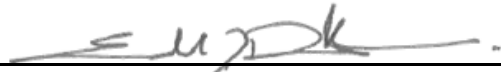
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Ian Sander, P.Eng.  
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Manager, Water Engineering and Planning



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Peter Sparanese, P.Eng.  
Senior Manager, Infrastructure Engineering  
& Operations  
Concurrence



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Ted Robbins, B.Sc., C.Tech  
General Manager, Integrated Water  
Services  
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**REPORT TO THE JUAN DE FUCA WATER DISTRIBUTION COMMISSION  
MEETING OF TUESDAY, APRIL 7, 2015**

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**SUBJECT VETERANS MEMORIAL PARKWAY PUMP STATION – AWARD OF  
CONSTRUCTION CONTRACT 2015-937**

**ISSUE**

The purpose of this report is to seek the Juan de Fuca Water Distribution Commission (JDFWDC) to approve the award of the construction contract for the Veterans Memorial Parkway Pump Station (VMP PS).

**BACKGROUND**

The VMP PS is required to meet the growing potable water demands of developments within the City of Colwood, such as Royal Bay and Olympic View. VMP PS will also replace two aging CRD facilities: Fulton Pump Station and Cairndale Pump Station.

A location has been identified on Veterans Memorial Parkway road Right-of-Way adjacent to lot number 3291/3295 in the City of Colwood. Colwood has approved this location and a Right-of-Way permit has been issued.

The VMP PS has been identified as a Development Cost Charge project. The total Project Budget is \$2,886,000; to date \$180,000 has been expended with \$2,706,000 available budget remaining.

The engineering design has been completed by Stantec Consulting Ltd. (Stantec). Tendering of this project is complete and construction tenders were received on March 10, 2015. The Stantec Opinion of Probable Cost for the VMP PS was \$1,502,105 (including tax).

Four tenders were received for the project and reviewed by CRD staff and Stantec. Stantec reviewed all tenders and confirmed all bids were compliant and, as a result, recommended award of the contract to G & E Contracting LP. Please refer to Attachment 1.

Received tenders are summarized in the following table:

<b>TENDERER</b>	<b>TENDER AMOUNT (INCLUDING TAX)</b>	<b>COMPLIANT BID</b>
1. G & E Contracting LP	\$1,463,280.00	Yes
2. Ridgeline Mechanical Ltd.	\$1,659,966.45	Yes
3. Trittech Group Ltd.	\$1,680,094.50	Yes
4. West Rock Construction Ltd.	\$1,789,110.75	Yes

The Juan de Fuca Water Distribution Commission's authority to approve contracts is outlined in the *Capital Regional District Delegation Bylaw No. 1, 2001* (a Bylaw to Delegate Powers, Duties and Functions of the Capital Regional District Board). Accordingly, the Commission has the authority to approve contracts over \$200,000. As the estimated value of the VMP PS contract is

over \$200,000, the Juan de Fuca Water Distribution Commission's approval is required. The contract value of \$1,463,280 is within the Consultant's Opinion of Probable Cost and within the project budget.

### **ALTERNATIVES**

Alternative 1 – That the Juan de Fuca Water Distribution Commission award the contract for the Veterans Memorial Parkway Pump Station (Tender No. 2015-937) to G & E Contracting LP for the amount of \$1,463,280.00 including tax.

Alternative 2 – That the Juan de Fuca Water Distribution Commission award the contract to another tenderer.

Alternative 3 – That the Juan de Fuca Water Distribution Commission not award the contract.

### **FINANCIAL IMPLICATIONS**

Alternative 1 – Award of the contract to G & E Contracting LP for the amount of \$1,463,280.00 including tax is within the approved budget for this project. The bid meets the terms of the tender documents. G & E Contracting LP has previously undertaken contracts with the CRD and is experienced and capable of undertaking the work.

Alternative 2 – Award of the contract to another tenderer without valid reason will increase the project cost and would likely result in legal action by the low tenderer.


Alternative 3 – Not awarding the contract would have no financial implications, but the supply to Fulton Reservoir would become inadequate in the near future, negatively affecting development and the service levels to residents in the area.


### **CONCLUSION**

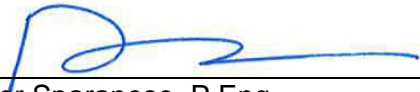
The bid received from G & E Contracting LP meets the terms of the tender (Tender No. 2015-937) and is within the project budget. The bid is approximately \$69,000 below the construction cost estimate completed by Stantec. It is recommended that G & E Contracting LP be awarded the Contract for the Veterans Memorial Parkway Pump Station.

### **RECOMMENDATION**

That the Juan de Fuca Water Distribution Commission award the contract for the Veterans Memorial Parkway Pump Station (Tender No. 2015-937) to G & E Contracting LP for the amount of \$1,463,280.00, including tax.

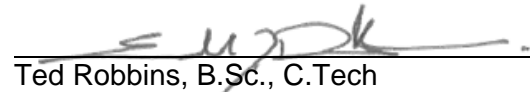
  
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For: Shayne Irg, P.Eng.  
Project Engineer, Infrastructure Engineering  
and Operations

  
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Ian Sander, P.Eng.  
Manager, Capital Projects  
Concurrence



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Peter Sparanese, P.Eng.  
Senior Manager, Infrastructure Engineering  
and Operations  
Concurrence



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Ted Robbins, B.Sc., C.Tech  
General Manager, Integrated Water  
Services  
Concurrence

SI:mm

## CAPITAL REGIONAL DISTRICT - INTEGRATED WATER SERVICES

### Water Watch

Issued: March 30, 2015

#### Water Supply System Summary:

##### 1. Useable Volume in Storage:

Reservoir	March 31 5 Year Ave		March 31/14		March 29/15		% Existing Full Storage
	ML	MIG	ML	MIG	ML	MIG	
Sooke	92,727	20,400	92,727	20,400	92,727	20,400	100.0%
Goldstream	9,576	2,107	9,330	2,053	8,794	1,935	89.5%
Total	102,303	22,507	102,057	22,453	101,521	22,335	99.0%

##### 2. Average Daily Demand:

For the month of March	98.2 ML	21.60 MIG
For week ending March 29, 2015	99.3 ML	21.85 MIG
Max. day March 2015, to date:	103.5 ML	22.76 MIG

##### 3. Average 5 Year Daily Demand for March

Average (2010 - 2014)	103.2 MLD <sup>1</sup>	22.70 MIGD <sup>2</sup>
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<sup>1</sup>MLD = Million Litres Per Day      <sup>2</sup>MIGD = Million Imperial Gallons Per Day

##### 4. Rainfall March:

Average (1914 - 2014):	161.3 mm
Actual Rainfall to Date	201.9 (125% of monthly average)

##### 5. Rainfall: Sep 1 - Mar 29

Average (1914 - 2014):	1402.2 mm
2014 / 2015	1337.3 (95% of average)

##### 6. Water Conservation Action Required:

If each of us saves a little, together we can save a lot.

Check our website at [www.crd.bc.ca/water](http://www.crd.bc.ca/water) for more information.

If you require further information, please contact:

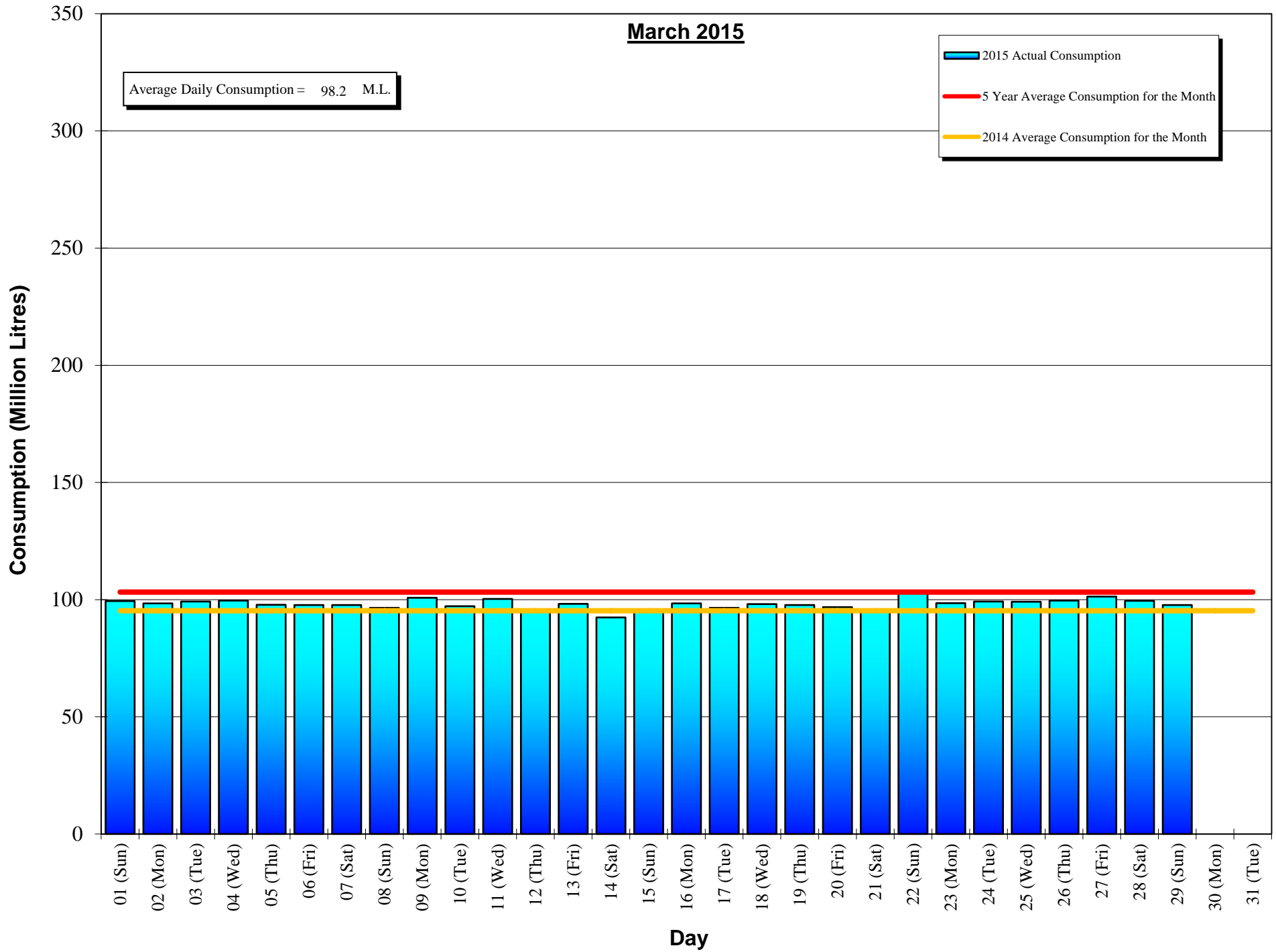
Ted Robbins, B.Sc., C.Tech  
General Manager, CRD - Integrated Water Services

or

Deborah Walker  
Demand Management Coordinator

Capital Regional District Integrated Water Services  
479 Island Highway  
Victoria, BC V9B 1H7  
(250) 474-9600





## Daily Consumptions: - March 2015

Date	Total Consumption		Air Temperature @ Japan Gulch		Weather Conditions	Precipitation @ Sooke Res.: 12:00am to 12:00am		
	(ML)	(MIG)	High (°C)	Low (°C)		Rainfall (mm)	Snowfall (mm)	Total Precip.
01 (Sun)	99.4	21.86	9	0	Cloudy / Showers	2.8	0.0	2.8
02 (Mon)	98.4	21.66	10	1	Sunny	0.0	0.0	0.0
03 (Tue)	99.2	21.81	8	-1	Sunny	0.0	0.0	0.0
04 (Wed)	99.6	21.92	9	-1	Sunny	0.0	0.0	0.0
05 (Thu)	97.8	21.51	10	1	Cloudy / P. Sunny	0.0	0.0	0.0
06 (Fri)	97.7	21.50	12	2	Sunny	0.0	0.0	0.0
07 (Sat)	97.7	21.49	13	3	Sunny	0.0	0.0	0.0
08 (Sun)	96.5	21.24	14	3	Sunny	0.0	0.0	0.0
09 (Mon)	100.8	22.17	13	3	Sunny	0.0	0.0	0.0
10 (Tue)	97.2	21.38	13	3	Sunny / P. Cloudy	0.0	0.0	0.0
11 (Wed)	100.3	22.07	15	7	Cloudy / P. Sunny / Showers	4.6	0.0	4.6
12 (Thu)	95.7	21.05	16	7	Cloudy / P. Sunny / Showers	1.3	0.0	1.3
13 (Fri)	98.2	21.60	15	6	Cloudy / Showers	3.3	0.0	3.3
14 (Sat)	92.4 <=Min	20.32	11	6	Cloudy / Rain	27.2	0.0	27.2
15 (Sun)	95.5	21.01	6	4	Cloudy / Rain	35.8	0.0	35.8
16 (Mon)	98.4	21.64	9	3	Cloudy / P. Sunny	0.0	0.0	0.0
17 (Tue)	96.5	21.22	13	3	Sunny / P. Cloudy	1.0	0.0	1.0
18 (Wed)	98.1	21.57	13	4	Sunny / P. Cloudy	0.0	0.0	0.0
19 (Thu)	97.7	21.50	10	7	Cloudy / Rain	23.6	0.0	23.6
20 (Fri)	96.8	21.29	11	8	Cloudy / Rain	19.8	0.0	19.8
21 (Sat)	95.8	21.07	11	5	Cloudy / Showers	13.7	0.0	13.7
22 (Sun)	103.5 <=Max	22.76	11	5	Cloudy / Showers	4.1	0.0	4.1
23 (Mon)	98.5	21.67	9	4	Cloudy / P. Sunny / Showers	4.3	0.0	4.3
24 (Tue)	99.2	21.81	12	3	Cloudy / P. Sunny / Showers	1.3	0.0	1.3
25 (Wed)	99.1	21.80	13	6	Cloudy / Rain	19.0	0.0	19.0
26 (Thu)	99.6	21.90	17	9	Sunny / P. Cloudy	0.0	0.0	0.0
27 (Fri)	101.3	22.29	17	8	Cloudy / Showers	5.3	0.0	5.3
28 (Sat)	99.5	21.90	13	7	Cloudy / Showers	7.9	0.0	7.9
29 (Sun)	97.7	21.49	12	7	Cloudy / Rain	26.9	0.0	26.9
30 (Mon)								
31 (Tue)								
<b>TOTAL</b>	<b>2848.1 ML</b>	<b>626.52 MIG</b>				<b>201.9</b>	<b>0</b>	<b>201.9</b>
<b>MAX</b>	<b>103.5</b>	<b>22.76</b>	<b>17</b>	<b>9</b>		<b>35.8</b>	<b>0</b>	<b>35.8</b>
<b>AVE</b>	<b>98.2</b>	<b>21.60</b>	<b>11.9</b>	<b>4.2</b>		<b>7.0</b>	<b>0</b>	<b>7.0</b>
<b>MIN</b>	<b>92.4</b>	<b>20.32</b>	<b>6</b>	<b>-1</b>		<b>0.0</b>	<b>0</b>	<b>0.0</b>

ML = Million Litres    MIG = Million Imperial Gallons

Average Rainfall for March (1914 - 2014)	161.3
Actual Rainfall: March	201.9
% of Average	125%
Average Rainfall (1914 - 2014): Sept 01 - Mar 29	1402.2
Actual Rainfall (2014 - 2015): Sept 01 - Mar 29	1337.3
% of Average	95%

**Note:** 10% of Snow depth applied to rainfall figures for snow to water equivalent.

Number days with precip. 0.2 or more
17

Water spilled at Sooke Reservoir to date = 6.05 Billion Imperial Gallons  
= 27.50 Billion Litres

# SOOKE LAKE RESERVOIR STORAGE SUMMARY

2014 / 2015

