



Electoral Area Directors & Municipal Regional District Tax Committee

MEETING AGENDA

January 17, 2023 – 11:30 am
RDMW Office – 2044 McNeill Road, Port McNeill, BC

Join Zoom Meeting:

<https://us02web.zoom.us/j/82479733124?pwd=OGdLc09vemt4Ym5sQVY0M3NobIM2QT09>

Page **CALL TO ORDER**

- 1. Agenda**
1 Approval of Agenda as Presented or Amended (January 17, 2023)
- 2. Minutes**
2 Adoption of EA & MRDT Committee Meeting Minutes held October 18, 2022
- 3. Reports – Gas Tax**
 - a) Manager of Operations – Request for Additional Funding
 - 3-6 i) GT2021-02 Woss Water Supply Emergency Generator Power Back Up
 - 7-14 ii) GT2021-04 RDMW Local Service Power Outage Resiliency Project
 - b) Operations Assistant – Request for Additional Funding
15-20 GT2022-01 Woss Sewer Flow Monitoring Pre-Lagoon
- 4. Next Meeting – To be announced**

ADJOURN



Electoral Area Directors & Municipal Regional District Tax Committee

MINUTES

October 18, 2022

RDMW Office – 2044 McNeill Road, Port McNeill, BC

CALL TO ORDER: 11:34am

Attendance:

EA/PA Directors: Chair Andrew Hory, Kevin Cameron (Zoom), Sandra Daniels, James Furney (Zoom), Rod Sherrell

Staff: David Kim, Administrator; Gerry Little, Arena Manager; Nicole McDowell, Recording Secretary

1. Agenda

22-22 It was moved and seconded, that the agenda dated October 18, 2022 be approved. **CARRIED**

2. Minutes

22-23 It was moved and seconded, that the minutes dated June 21, 2022 be adopted. **CARRIED**

3. Reports

Amendment to Gas Tax Project GT2022-02 Woss Heat Pump

Also noted:

- *Original application for gas tax funding was approved on April 19, 2022.*
- *Arena Manager submitted a claim to insurance provider to check if the heat pump was eligible under equipment breakdown policy. Since the heat pump was an RDMW owned asset, the RDMW received a payment of \$27, 841.41 which fully covered the replacement of the heat pump, as well as attempted repairs to the old unit, the crane services, and the duct work for the new unit.*
- *With the receipt of this money, we are requesting to amend the original application to include additional gas tax applicable projects and procurements at an estimated cost of \$16,500 subject to a 50/50 cost share from Woss Recreation Service Reserves.*

22-24
GT2022-02
Amendment It was moved and seconded, that up to \$8,250 be approved for the additional scope of the Woss Community Hall Heat Pump Replacement project, Gas Tax Application GT2022-02. **CARRIED**

Next Meeting – To be announced

Adjournment: The meeting adjourned at 11:53am

CERTIFIED CORRECT

CHAIR

SECRETARY

Woss Water Supply Emergency Generator Power Back Up GT2021-02

Purpose

To request additional Gas-Tax funding to complete the remaining work and cover costs incurred in 2022-23.

Background

In 2021, gas-tax funding for the GT2021-02 Woss Water Supply Emergency Generator Power Back Up Project was approved (Appendix B). This project consisted of the purchase of a mobile 65 kw generator to provide power to Woss wells during an extended power outage. The mobility was deemed necessary as the generator could serve other communities other than Woss if needed. The construction of a shed for the generator was included to preserve its functionality and better protect it from the elements. A propane cache located at Well #2 in Woss was also budgeted to allow for extended power during times when access to propane was difficult. Propane as a fuel source was selected at the recommendation of the community of Woss.

Additional Funding Requested

Today, the total estimated total project cost is \$80,000. Therefore, upon review of the information in this report, I am requesting additional Gas-Tax funding of **\$15,000** for the completion of the project, with residuals being returned upon project close-out.

Breakdown of Actual Costs Incurred

- The purchase of 60 kw 3 phase propane powered genset from Duncan Electric for \$40,000 (CDN).
 - The generator/trailer was upgraded for greater propane storage adding to cost
- Tex Electric has billed approx. \$18,000 for electrical connections
- The rest of the costs (approx. \$13,000) was incurred in the construction of a storage shed for the generator.

Remaining Work

The project is now 85% complete with remaining work pertaining to finishing the storage shed and purchase of additional propane storage tanks.

Lessons Learned

While the project budget had limited contingencies, certain factors played a part that overcame initial estimations which are as follows:

- Higher than expected electrical connection costs \$18,000 versus initial estimate of \$5,000 which contractor said were due to external factors.
- Extra cost of the mobile generator was agreed to enhance its ability to operate away from base propane fuel cache

The following appendix shows project-related images and the original gas-tax funding application.

Sincerely,

Patrick Donaghy
Operations Manager
Regional District of Mount Waddington

Appendix A

Pictures will be provided at Electoral Area Directors Meeting

Appendix B



REGIONAL DISTRICT OF MOUNT WADDINGTON
2044 McNeill Road, P.O. Box 729, Port McNeill, B.C. V0N 2R0
Phone: 250-956-3161 or 250-956-3301 fax: 250-956-3232

APPROVED GAS TAX-COMMUNITY WORKS

NAME: GT2021-02 Woss Water Supply Emergency Generator Power Back Up

LOCATION AND ADDRESS OF PROPOSAL:

COMMUNITY Principally Woss but also RDMW as a whole **IN ELECTORAL AREA:** **D**

If Figure 1: 6" Parshall flume installation with new 10" SDR pipe and couplers

REGIONAL Regional Wide Service or List Impacted Communities and areas

SERVICE: Woss Water Service **RDMW Land Tenure:**

TYPE OF APPLICATION:

Local Roads/Bridges Public Transit Drinking Water Wastewater Solid Waste
Community Energy Systems Recreational Infrastructure Cultural Infrastructure Tourism Infrastructure
 Disaster Mitigation Capacity Building

NEW DEAL FUNDING REQUIRED Project Budget Attached Community Support Attached

Factoring extra allowances prudent in the current uncertain conditions, \$65,000 is being requested from Gas Tax with any residuals being returned.

PROJECT DESCRIPTION:

The community of Woss has two wells serving its water system that are both dependent upon electricity to access the aquifer that is the sole water source. Power outages usually result in the community cistern being emptied after a day of normal use. When the water runs out, drinking water must be trucked in and the water needed for fire suppression is absent from community hydrants.

After consultations with the residents of Woss, it has been determined that the best solution to serving the community is to purchase a mobile genset, preferably fueled by propane as opposed to diesel. Given the primary well in Woss requires a 3 phase 50 kw capacity, the Manager of Operations has identified a used option that meets genset with + all requirements from a supplier with a long history of providing effective reliable service.

The portable genset will also be available for mutual aid to other North Island communities, should Woss not require its services while other communities do. This model of mutual support between North Island communities has been used in previous emergencies where Woss was the beneficiary.

Description	Quantity	Unit Price	Total Price
60 kw 3 phase propane powered genset	1	\$35,000	\$35,000
Electrical Contractor			\$5,000
500-gallon propane tank	1	\$5,000	\$5,000
Storage structure for genset	1		\$20,000
		Sub Total	\$65,000

COMMUNITY WORKS OBJECTIVES ADDRESSED BY PROPOSAL:

Better performance of operations reduces costs and fosters greater reinvestment in the infrastructure; plus, back up system will create greater community resiliency when dealing with power outages.

TEST OF INCREMENTALITY *This project could not have been considered if New Deal funds were not available.*

MEASURABLE OUTCOMES (expected benefits)

The lithium battery array system will require less usage of portable generator during outages, which will make the generator more available for other needs mitigating the negative impact to residents during power failures.

FOR OFFICE USE ONLY		<input checked="" type="checkbox"/> Copy to Finance Finance File Number: WSW003
STAFF LEAD: Patrick Donaghy, Manager of Operations		
DATE RECEIVED: August 11, 2021		PROJECT NUMBER: GT2021-02
CONSIDERED BY NEW DEAL COMMITTEE ON: August 17, 2021		MOTION NUMBERS: 21-32; 139/2021 & 145/2021
DECISION <input checked="" type="checkbox"/> Approved <input type="checkbox"/> Approved subject to: _____ <input type="checkbox"/> Not Approved		
BUDGETED PROJECT COST: \$65,000		
NEW DEAL APPROVED FUNDING: \$65,000		PROJECT CERTIFIED COMPLETED: _____
ACTUAL PROJECT COST: \$		DATE CONFIRMATION PROVIDED TO UBCM: _____

RDMW Local Service Power Outage Resiliency Project

GT2021-04

(Emergency Back Up Battery)

Purpose

To request additional Gas-Tax funding to complete the remaining work and cover costs incurred in 2022-23.

Background

In 2021, gas-tax funding for the GT2021-04 RDMW Local Service Power Outage Resiliency Project was approved (Appendix B). This project consisted of the design, materials, installation, and programming of a series of emergency back up lithium batteries. Funding was initially approved for \$327,000 for all project-related costs. The expected benefits of this project are a reliable backup power system that will automatically replace grid-based power during power outages for normal usage over a 24 hour period with minimal maintenance requirements and minimal environmental risk associated with fuel leakages. Subsequent to the project's approval, the Province of British Columbia's new waste water discharge permits require that backup power be installed in all waste water infrastructure to insure interrupted treatment.

Additional Funding Requested

Today, the total estimated total project cost is \$387,000. Therefore, upon review of the information in this report, I am requesting additional Gas-Tax funding of **\$60,000** for the completion of the project, with residuals being returned upon project close-out.

Breakdown of Actual Costs Incurred

- The purchase of 400CATL Brand 271Ah LIFEP04 Lithium Cells from Specialized Power Systems for \$69,800 (USD) or approximately \$87,948 (CDN).
- The purchase of nine aluminum kiosks from West Port Welding for a cost of \$19,575.29.
- The purchase of the inverter equipment needed for the lithium backup battery project from Lakeshore Power Systems for a cost of \$102,154.53.
- Professional Engineering
 - John Motherwell has billed approx. \$2,850
 - Embotechserv is expected to cost \$25,000 of which approx. \$5,200 has been billed
- Duncan Electric has billed \$18,000 for a new 5 hp Flygt Pump and an impeller.
- Tex Electric has billed approx. \$23,000 for electrical connections.
- The rest of the costs (approx. \$105,000) was incurred in the construction and installation of the batteries.

Remaining Work

The project is now 90% complete with remaining work pertaining to professional engineering documentation and sign-off.

Lessons learned:

While the project budget had contingencies, certain factors played a part that overcame initial estimations which are as follows:

- Higher than expected professional engineering costs were incurred as the RDMW works towards meeting expectations related to being now a registered firm with Engineers and Geoscientists British Columbia (\$28,000).
- The need to purchase a 5 hp Flygt pump and the changing of an impeller needed to make the project viable (\$18,000).
- Unexpected difficulties in getting reimbursement from the Quatsino First Nation for the construction and installation of an emergency battery for their lift station. Successful reimbursement should return up to \$40,000 to the project.

The following appendix shows project-related images and the original gas-tax funding application.

Sincerely,

Patrick Donaghy
Operations Manager
Regional District of Mount Waddington

Appendix A



Figure 1: Coal Harbour Lift Station 2 Lithium Batteries



Figure 2: Coal Harbour Lift Station 2 Invertors

Appendix B



REGIONAL DISTRICT OF MOUNT WADDINGTON
 2044 McNeill Road, P.O. Box 729, Port McNeill, B.C. V0N 2R0
 Phone: 250-956-3161 or 250-956-3301 fax: 250-956-3232

APPROVED GAS TAX-COMMUNITY WORKS

NAME: GT2021-04 RDMW Local Service Power Outage Resiliency Project

LOCATION AND ADDRESS OF PROPOSAL:

COMMUNITY

IN ELECTORAL ARI A&B (C&D)

If **REGIONAL** **Regional Wide Service** or **list Impacted Communities and areas**

SERVICE: Coal Harbour, Sointula **RDMW Land Tenure:** Existing Easements and Fee simple
 (See Lift Station Locations)

TYPE OF APPLICATION:

Local Roads/Bridges Public Transit Drinking Water Wastewater Solid Waste
 Community Energy Systems Recreational Infrastructure Cultural Infrastructure Tourism Infrastructure
 Disaster Mitigation Capacity Building

NEW DEAL FUNDING REQUIRED Project Budget Attached Community Support Attached

Including contingencies, up to **\$327,000** is being requested.

Description	Quantity	Estimated Unit Price	Total Price (incl contingencies)
Inverter	(CH)9 S(12)	CH(\$60,000) S(\$66,000)	\$126,000
3.2v LIFEPO4 Cells	352	CH(\$45,000) S(\$40,000)	\$85,000
Wiring, fittings, sub components and adaptors	1	CH(\$14,000) S(\$14,000)	\$28,000
Aluminum Fabrication of Kiosks & Battery Enclosures	1	8 x Kiosks \$2,000 Battery Box \$200	\$28,000
Assembly and Contract Electrician	8	PG Labour (\$40,000) Electrician (\$10,000) \$5,500	\$55,000
Shipping	1	\$5000	\$5,000
Total Before Taxes			\$327,000

PROJECT DESCRIPTION: (See attached maps for proposed sites served)

The unincorporated communities of the North Island are increasingly being challenged by power outages. An example would be Coal Harbour and Sointula’s waste water collection systems which are served by a network of 9 lift stations which compensate when terrain prevents gravity from exclusively moving sewer water to the waste water treatment plants. During power outages, these lift stations require emergency power the 5 hp pumps to continue to function and prevent escapement of the wastewater into public space. Currently the response to power outages is to use a portable genset to operate individual lift stations one by one which only partially achieves environmental responsibilities as a lift station may over flow while the genset serves another

location. The traditional solution is to set up emergency gensets at each lift station which, in addition to the initial capital costs, also requires extra operational and maintenance costs.

The Regional District has developed and field tested the design of lithium battery emergency power sources that are primarily charged using BC Hydro's grid and can run a lift station for 24 hours before needing to be recharged. The 25 kw gensets currently used to power the lift stations can be redirected to power other equipment for the communities they serve, including the sewage treatment plants which currently directly discharge into the receiving environment during outages. Should the power outage be of an extended duration, smaller gensets can be used to recharge the batteries, if necessary, in such a manner that there would be little risk that the lift stations' operations would be impaired eliminating the risk that a sewer system would have any escapement.

Because the lithium battery emergency power supplies will have minimal moving parts as opposed to gensets, maintenance and expected service life should result in lower operating costs to the sewer services. There will also be lower environmental liabilities as there will be no risks for fuel leakages. Finally, the battery systems over a longer period of time could be used to source power from alternative sources such as wind, solar etc. as the input current will only need to recharge the batteries, not directly drive the pumps.

Where infrastructure power demands make current battery technology impractical, installing genset plug ins can quickly resume essential services. This project will quickly accelerate the implementation of the (currently draft) North Island Power Resiliency Plan which sets priorities to protect key local government infrastructure. A key component of that (attached) document is to have the capacity to share any mobile resources with neighbouring communities experienced localized outages or during regular maintenance of their systems. The recently approved Woss mobile generator was sized appropriately to potentially operate any of the RDMW sewage treatment plants as well as the Coal Harbour Water treatment plant. This infrastructure will be interchangeable for increased functionality and applicability to existing solar backed systems; in addition, data can be logged and tracked to provide fine tuning for efficiency gains from greater system understanding.

If possible, this project will be seeking other grant opportunities to absorb some of the costs and reduce the demand on the Gas Tax funding as well as looking for additional spending efficiencies.

COMMUNITY WORKS OBJECTIVES ADDRESSED BY PROPOSAL:

Better performance of operations reduces costs and foster greater reinvestment in the infrastructure plus back up system will create greater community resiliency when dealing with power outages, as per measurable outcomes, below.

TEST OF INCREMENTALITY *This project could not have been considered if New Deal funds were not available.*

MEASURABLE OUTCOMES (expected benefits)

- Reduced risk of environmental impacts & associated health risks from lift station overflows and or direct discharge of untreated sewage during power outages
- Reduced GHG impact from using fossil fuel generators during outages as well as operating and maintenance cycles
- Greater capacity and resilience during emergencies by having interchangeable and complementary systems directed towards areas of greatest need

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Copy to Finance
Finance File Number: EAA002

STAFF LEAD: Patrick Donaghy, Manager of Operations

DATE RECEIVED: September 21, 2021

PROJECT NUMBER: GT2021-04

CONSIDERED BY NEW DEAL COMMITTEE ON: September 21, 2021

MOTION NUMBERS: 21-39; 169/2021

DECISION: Approved Approved subject to:
 Not Approved

BUDGETED PROJECT COST: \$327,000

NEW DEAL APPROVED FUNDING: \$327,000

PROJECT CERTIFIED COMPLETED:

ACTUAL PROJECT COST: \$

DATE CONFIRMATION PROVIDED TO UBCM:

Figure 1

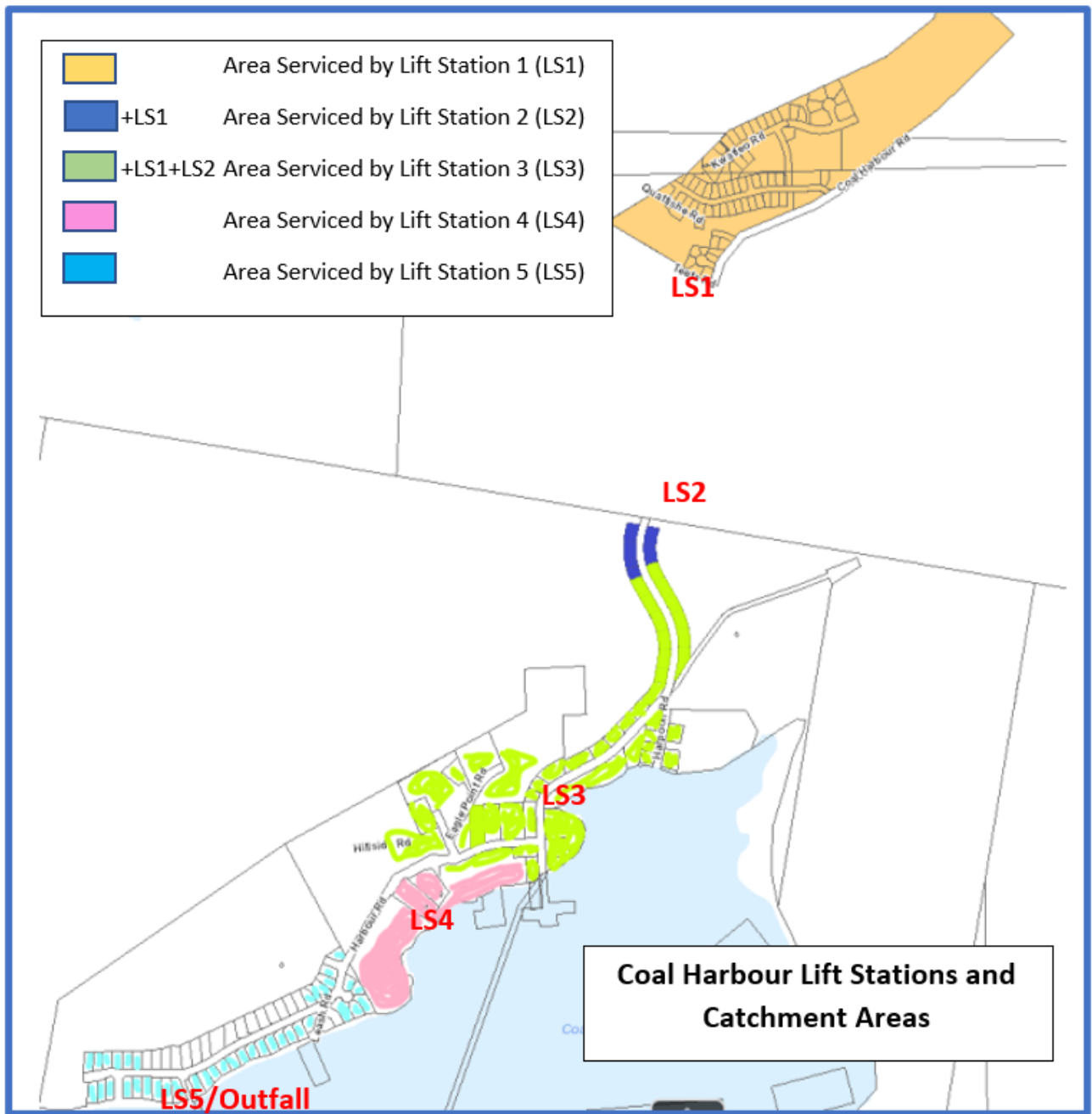
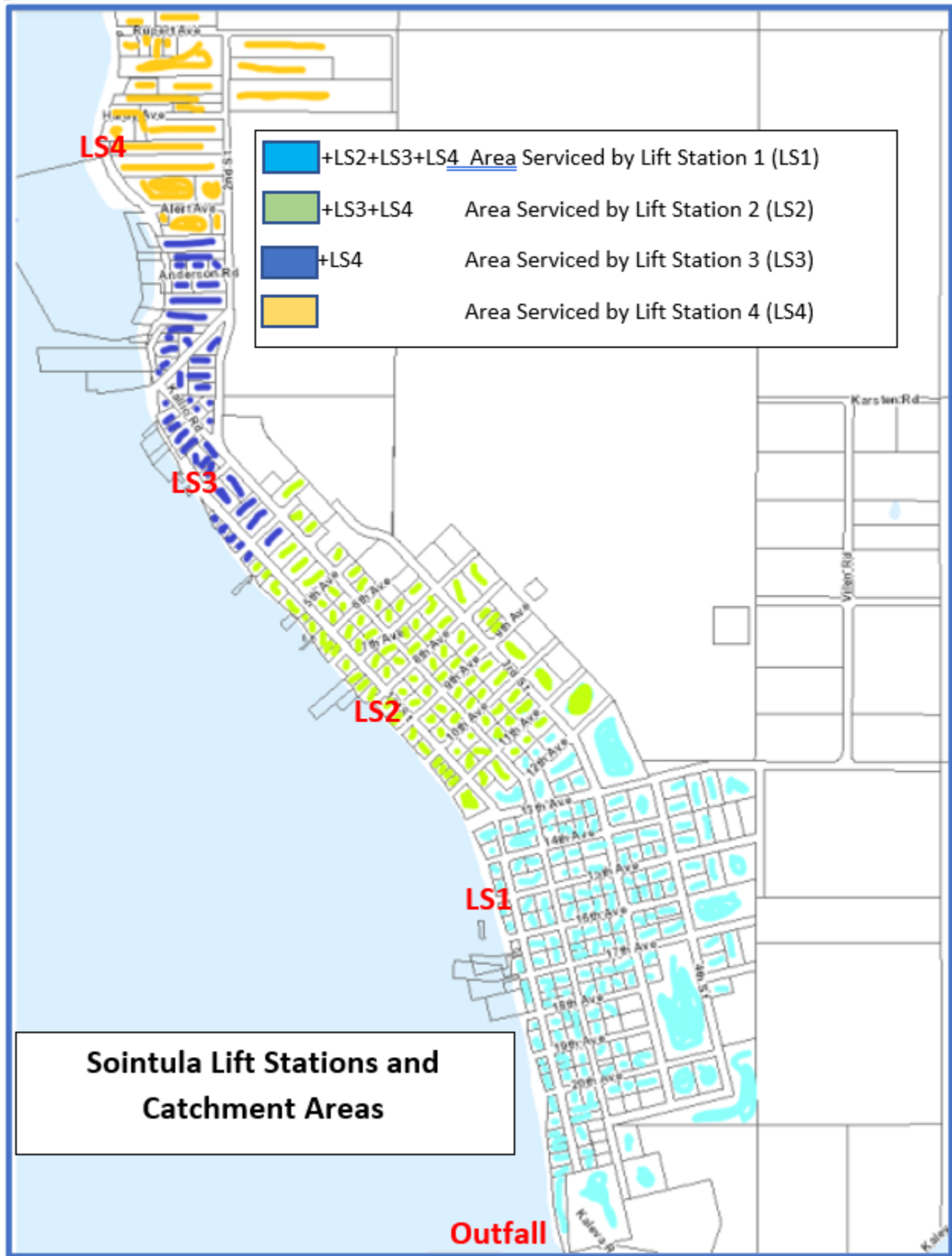


Figure 2



Woss Sewer Flow Monitoring Pre-Lagoon GT2022-01

Purpose

To request additional Gas-Tax funding to complete the remaining work and cover costs incurred in 2022.

Background

In January 2022, gas-tax funding for the GT2022-01 Woss Sewer Flow Monitoring Pre-Lagoon project was approved (Appendix B). This project consisted of the design, materials, installation, and programming of a flow monitoring device (6" Parshall flume) and sensor for the remote collection of flow data for sewage going into the Woss lagoon. Funding was initially approved for \$11,000 for all project-related costs. The expected benefits of this project are greater capacity to assess inflow and infiltration, pipe flow capacity monitoring for sewer back-up prevention during flood events, and improved accuracy of flow monitoring for assessing sewage treatment efficiency.

Additional Funding Requested

Today, the total estimated total project cost is \$24,917.42. Therefore, upon review of the information in this report, I am requesting approval of additional Gas-Tax funding of **\$15,000** for the completion of the project, with residuals being returned upon project close-out.

Breakdown of Actual Costs Incurred

- Due to significant delays in the flume's fabrication and a loss of confidence in the manufacturer (Kenco Plastics), the original order was cancelled, and another manufacturer was chosen (Can-Am). This resulted in an increased cost of approx. \$800
- During this delay, shipping costs had gone up and the original shipping quote of approx. \$600 was increased by approx. \$976.
- Sensor and wiring equipment costs were kept reasonably low (2 sensors for \$862 + 1000' of CAT6 cable for \$531)
- Construction and installation costs were significantly higher than anticipated at \$10,033.20. Reasons for this are:
 - o Cost estimates:
 - Initial cost estimates were made very early on and were based on limited knowledge of local contractor rates
 - o Scope change:
 - Electrical cable installation required 2 additional loads of bedding sand + delivery fee + excavation. Originally, we had planned to run the cable

- above ground along the lagoon's perimeter fence but concluded that direct burial of the cable was superior.
- Additional construction costs for a protective cover to shield the flume and sensor from overhead hazards such as falling tree limbs.
- Contingency:
 - Additional gravel + delivery
 - Additional sewer pipe and couplers to facilitate the plumbing connections
- Externality:
 - High construction costs prompted us to stop work midway and choose a new contractor who finished the excavation/installation at a much lower rate.

Remaining Work

The project is now 90% complete with remaining work pertaining to remote communications programming and testing. This includes programming two long range radios, calibration and programming for the PLC's and HMI, calibration of the sensor, and finishing touches/site clean up.

Lessons Learned

Project estimation and competitive procurement are the areas that need improvement for future capital projects. Construction cost estimates were particularly challenging due to the level of uncertainty when funding was applied for. More time needs to be dedicated to estimating the construction cost in the future.

The following appendix shows project-related images and the original gas-tax funding application.

Sincerely,

Cody Pawluk
Operations Assistant
Regional District of Mount Waddington

Appendix A



Figure 1: 6" Parshall flume installation with new 10" SDR pipe and couplers



Figure 2: Flume complete with cover and sensor



Figure 3: Flume and sensor in operation

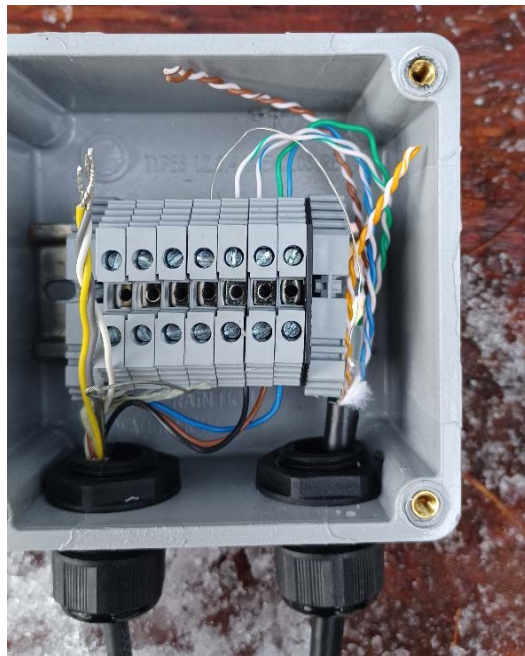


Figure 4: Electrical connections of sensor and CAT6 cable that sends signals to a transmitter approx. 700' away



REGIONAL DISTRICT OF MOUNT WADDINGTON
2044 McNeill Road, P.O. Box 729, Port McNeill, B.C. V0N 2R0
Phone: 250-956-3161 or 250-956-3301 fax: 250-956-3232

APPROVED GAS TAX-COMMUNITY WORKS

NAME: GT2022-01 Woss Sewer Flow Monitoring Pre-Lagoon

LOCATION AND ADDRESS OF PROPOSAL:

COMMUNITY Woss

IN ELECTORAL AREA: D

If **REGIONAL** **Regional Wide Service** or **list Impacted Communities and areas:**

SERVICE: Woss Sewer Service

RDMW Land Tenure:

TYPE OF APPLICATION:

Local Roads/Bridges Public Transit Drinking Water Wastewater Solid Waste
Community Energy Systems Recreational Infrastructure Cultural Infrastructure Tourism
Infrastructure Disaster Mitigation Capacity Building

NEW DEAL FUNDING REQUIRED Project Budget Attached Community Support Attached

Factoring extra allowances prudent in the current uncertain conditions, \$11,000 is being requested from Gas Tax with any residuals being returned.

PROJECT DESCRIPTION:

The community of Woss has a simple wastewater treatment system consisting of a passive lagoon and settling ponds. The lagoon has been experiencing excessive volumes following rainfall events and the RDMW needs to determine whether infiltration is occurring around the lagoon or in the upstream network of sanitary pipes throughout Woss. The best way to achieve this is by adding a flow meter at the inflow of the lagoon to compare the flows with the existing meter at the outflow of the lagoon.

The ideal flow meter for this application is the Parshall flume with an ultrasonic sensor. The RDMW's research has shown that this is the most cost-effective solution delivering accurate results with low long-term maintenance. This system will utilize an existing solar power and transmission system to allow for remote data collection. This secondary device will also improve the overall accuracy of the RDMW's wastewater flow data collection.

Below are the associated project costs

Description	Quantity	Unit Price	Total Price
6" Parshall flume + shipping	1	\$5,000	\$5,000
Ultrasonic Sensor and electrical hookup	2	\$1,000	\$2,000
Misc. construction and installation costs		\$500	\$500
Research and planning		\$1,650	\$1,650
Contingency		20%	X 1.2
		Sub Total	\$11,000

COMMUNITY WORKS OBJECTIVES ADDRESSED BY PROPOSAL:

- First step in determining future maintenance requirements for the lagoon and the upstream network of sanitary pipes throughout Woss.
- Meeting wastewater permit requirements with improved accuracy.

TEST OF INCREMENTALITY *This project could not have been considered if New Deal funds were not available.*

MEASURABLE OUTCOMES (expected benefits)

- Second set of wastewater flow data collected remotely

FOR OFFICE USE ONLY		<input checked="" type="checkbox"/> Copy to Finance Finance File Number: WSS002
STAFF LEAD: Cody Pawluk, Operations Assistant		
DATE RECEIVED: January 11, 2022		PROJECT NUMBER: GT2022-01
CONSIDERED BY NEW DEAL COMMITTEE ON: January 18, 2022		MOTION NUMBERS: 22-03; 013/2022
DECISION: <input type="checkbox"/> Approved <input type="checkbox"/> Approved subject to: <input type="checkbox"/> Not Approved		
BUDGETED PROJECT COST: \$11,000		PROJECT CERTIFIED COMPLETE: _____
NEW DEAL APPROVED FUNDING: \$11,000		COMPLETION DATE:
ACTUAL PROJECT COST: \$		DATE CONFIRMATION PROVIDED TO UBCM: