



## Capital Budget Request - DESIGN

Project Name **FORT CHIPEWYAN LIFT STATIONS - DESIGN** \$ **631,000**

Order Code **601465**

Project Location Fort Chipewyan

Project Category Environmental

Ward 2

Type of Project Lifecycle - Design

Municipal Function 42 - Sanitary Sew - Coll/Disposal

## Project Description and Scope

Following a 2015 assessment, it was recommended to re-build the lift stations in Fort Chipewyan. There are three lift stations in the hamlet, each numbered 1, 2, and 3. Priority was established for replacement in the following order of lift station 2, 3, and then 1. These stations are showing detrimental conditions in their mechanical, structural, and electrical components.

## Project Cash Flows

Year	Total Annual Cost	Federal Grant	Provincial Grant	Reserve	Other	Debenture
2017 & Prior	540,000					
2018	91,000					
2019	-					
2020	-					
2021	-					
2022	-					
Thereafter	-					
<b>Total</b>	<b>631,000</b>	-	-	-	-	-

## Additional Funding Details

Project Sponsor Department Environmental Services

Sponsor Department Director Mazhar Hajhossein

Project Delivery Department Engineering Services

Delivery Department Contact Yogesh Acharya

Project Manager (if assigned) Yogesh Acharya



## Capital Budget Request - CONSTRUCTION

**Project Name** **Fort Chipewyan Lift Station Upgrades - Construction** **\$ 20,000,000**  
**Order Code** **New** **Project Location** Fort Chipewyan  
**Project Category** Environmental **Ward** 2  
**Type of Project** Lifecycle - Construction **Municipal Function** 42 - Sanitary Sew - Coll/Disposal

### Project Description and Scope

Following a 2015 assessment, it was recommended to re-build the lift stations in Fort Chipewyan. There are three lift stations in the hamlet, each numbered 1, 2, and 3. Priority was established for replacement in the following order of lift station 2, 3, and then 1. These stations are showing detrimental conditions in their mechanical, structural, and electrical components.

### Project Cash Flows

Year	Total Annual Cost	Federal Grant	Provincial Grant	Reserve	Other	Debenture
2017 & Prior	-					
2018	6,000,000					
2019	14,000,000					
2020	-					
2021	-					
2022	-					
Thereafter	-					
<b>Total</b>	<b>20,000,000</b>	-	-	-	-	-

### Additional Funding Details

**Project Sponsor Department** Environmental Services  
**Sponsor Department Director** James Sacker (Acting Senior Manager)  
**Project Delivery Department** Engineering Services  
**Delivery Department Contact** Yogesh Acharya  
**Project Manager (if assigned)** Yogesh Acharya



## Capital Budget Request - CONSTRUCTION

Project Name	Fort McMurray WWTP Process Improvements - Construction			\$	13,000,000
Order Code	601316	Project Location	Fort McMurray		
Project Category	Environmental	Ward	1		
Type of Project	Lifecycle - Acquisition and/or Installa	Municipal Function	37 - Storm Sew & Drainage		

### Project Description and Scope

The Fort McMurray Wastewater Treatment Facility (FMWWTF) Process Improvements project detail design commenced with the design of a filtration facility and other process improvements. The filtration component of the FMWWTF Process Improvements Project has been removed from the scope of design after a decision by the Municipality to not proceed with filtration. The decision was made after Alberta Environment and Parks issued an amendment to the EPEA Approval that did not change the current Total Suspended Solids (TSS) and total phosphorus (TP) limits. The other process improvements remained. This change was made after the 50% design was already completed.

The original Scope was mainly for the filtration system and the below eight process areas:

- 1) Grit System Upgrades – to reduce grit pumping system clogging and down time with manual cleaning.
- 2) Septage Monitoring Upgrades – to provide early warning system to profile truck waste delivered.
- 3) Utility Final Effluent (UFE) Pump Upgrades – to provide improved safety/access and efficiency to existing system.
- 4) Sampling and Instrumentation Upgrades – for improvements to sampling systems required for best practices, operational monitoring, and to minimize maintenance requirements.
- 5) Primary Sludge Grinder Installation – to reduce maintenance from frequent clogging.
- 6) Centrate Pipe Upgrades – to hydraulically debottleneck current system.
- 7) Chemical Feed Upgrades – to reduce maintenance on current system.
- 8) UV System Upgrades – to reduce maintenance on current system.

The revised and final scope is: Removed the filtration system (50% design completed) from the scope & add 9) Foul Air Optimization, to prevent ice formation issues and potential structural damage in the winter months, to the above eight process areas.

### Project Cash Flows

Year	Total Annual Cost	Federal Grant	Provincial Grant	Reserve	Other	Debenture
2017 & Prior	-					
2018	7,000,000					
2019	6,000,000					
2020	-					
2021	-					
2022	-					
Thereafter	-					
<b>Total</b>	<b>13,000,000</b>	-	-	-	-	-

### Additional Funding Details

Project Sponsor Department	Environmental Services
Sponsor Department Director	James Sacker (Acting Senior Manager)
Project Delivery Department	Engineering Services
Delivery Department Contact	Mazhar Hajhossein (Acting Manager)
Project Manager (if assigned)	Adel Youssef



## Capital Budget Request - EQUIPMENT

Project Name **Crane for North Highlift (Lower Level)** \$ **85,000**

Order Code \_\_\_\_\_ Project Location Fort McMurray  
 Project Category Environmental Ward 5 - Muni-Wide  
 Type of Project New Asset - Acquisition and/or Instal Municipal Function 41 - Water Sup & Distribution

### Project Description and Scope

The movement of large valves and pipe spoons requires large dedicated lifting devices. Within the lower level of the North Highlift, the overhead crane was cancelled due to budget constraints within the original capital project. Base plates and beams are installed, only the crane unit itself is required for purchase and installation.

### Project Cash Flows

Year	Total Annual Cost	Federal Grant	Provincial Grant	Reserve	Other	Debenture
2017 & Prior	-					
2018	85,000					
2019	-					
2020	-					
2021	-					
2022	-					
Thereafter	-					
<b>Total</b>	<b>85,000</b>	-	-	-	-	-

### Additional Funding Details

Project Sponsor Department Environmental Services  
 Project Sponsor Director James Sacker (Acting Senior Manager)  
 Project Delivery Department Environmental Services  
 Delivery Department Contact Paul Curtis  
 Project Manager (if assigned) \_\_\_\_\_



## Capital Budget Request - EQUIPMENT

**Project Name** **Fort McKay WTP Telemetry to Ells River Intake** \$ **23,500**

**Order Code** **Project Location** Fort MacKay  
**Project Category** Environmental **Ward** 2  
**Type of Project** New Asset - Acquisition and/or Instal **Municipal Function** 41 - Water Sup & Distribution

### Project Description and Scope

Adjustments to the Fort McKay WTP intake flow require a physical presence at the Ells River. Generally, this is done via helicopter in the summer, and by off-road vehicle in the winter. Travel costs are significant when operating this facility. Telemetry may be justified to operate the facility from the WTP, eliminating expensive travel for routine pumphouse operations.

Due to cost savings associated with this project, it is recommended to go ahead with this project prior to the execution of an agreement with INAC. Further cost efficiencies will be realized once an agreement is signed.

INAC is responsible for funding approximately 78% of the operational and capital costs associated with the Fort McKay Water Treatment Plant.

### Project Cash Flows

Year	Total Annual Cost	Federal Grant	Provincial Grant	Reserve	Other	Debenture
2017 & Prior	-					
2018	23,500					
2019	-					
2020	-					
2021	-					
2022	-					
Thereafter	-					
<b>Total</b>	<b>23,500</b>	-	-	-	-	-

### Additional Funding Details

INAC is responsible for funding approximately 78% of the operational and capital costs associated with the Fort McKay Water Treatment Plant.

**Project Sponsor Department** Environmental Services  
**Project Sponsor Director** James Sacker (Acting Senior Manager)  
**Project Delivery Department** Environmental Services  
**Delivery Department Contact** Robert Rondeau  
**Project Manager (if assigned)** \_\_\_\_\_



## Capital Budget Request - EQUIPMENT

Project Name **Fort McMurray WTP Climate Control for UPS Batteries** \$ **125,000**

Order Code **New** Project Location **Fort McMurray**  
 Project Category **Environmental** Ward **5 - Muni-Wide**  
 Type of Project **New Asset - Acquisition and/or Instal** Municipal Function **41 - Water Sup & Distribution**

**Project Description and Scope**

In 2017, the Water Treatment Plant and Trades Services replaced all of the large UPS batteries within the FMWTP, a total cost of approximately \$105k. During replacement, the installer noted that the lifespan of the previous batteries was reduced as a result of the environment they were stored within. The installer recommended a climate control system be installed to control temperature near the batteries to reduce swelling, fires, and increase battery life.

Project to include assessment of existing climate control system and purchase/installation of equipment to meet climate control requirements.

**Project Cash Flows**

Year	Total Annual Cost	Federal Grant	Provincial Grant	Reserve	Other	Debenture
2017 & Prior	-					
2018	125,000					
2019	-					
2020	-					
2021	-					
2022	-					
Thereafter	-					
<b>Total</b>	<b>125,000</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>

**Additional Funding Details**

Project Sponsor Department Environmental Services  
 Project Sponsor Director James Sacker (Acting Senior Manager)  
 Project Delivery Department Public Works  
 Delivery Department Contact William Brook  
 Project Manager (if assigned) \_\_\_\_\_



## Capital Budget Request - EQUIPMENT

Project Name **RMWB Storm Outfall Monitoring Program** \$ **100,000**

Order Code Project Location Fort McMurray  
 Project Category Environmental Ward 1  
 Type of Project New Asset - Acquisition and/or Instal Municipal Function 37 - Storm Sew & Drainage

### Project Description and Scope

The RMWB is requesting a capital budget to purchase 5 automated samplers equipped with flow meters intended to be installed at specific stormwater outfalls to monitor water quality. The auto samplers are the most cost efficient method to collect the required outfall water quality data to assess river loadings.

On July 1, 2015, the RMWB submitted two plans to Alberta Environment and Parks (Storm Water Quality Control Strategy and Total Loadings Plan) as per section 4.2.4 and 4.2.6 of the Wastewater Treatment Plant Approval 689-02-00. In these plans, the RMWB commits to implementing an outfall water quality monitoring program to collect background information on the loadings contributed to the Athabasca River via urban storm runoff. The information from this program allows the RMWB to assess the storm water quality discharging from specific urban areas in Fort McMurray to address the efficiency of current storm management strategies and identify areas of concern. Furthermore, the information will be used to update the Total Loadings Plan and Stormwater Quality Control Plan, which are intended to provide strategies for the RMWB to remain in compliance with Federal and Provincial legislation.

In summary, the proposed Outfall Monitoring Program is a regulatory requirement that will project the impacts to the Athabasca River due to urban stormwater. Through this the RMWB can implement storm water strategies to specific areas in Fort McMurray to reduce long term effects and remain in compliance with Environmental Legislation.

### Project Cash Flows

Year	Total Annual Cost	Federal Grant	Provincial Grant	Reserve	Other	Debenture
2017 & Prior	-					
2018	100,000					
2019	-					
2020	-					
2021	-					
2022	-					
Thereafter	-					
<b>Total</b>	<b>100,000</b>	-	-	-	-	-

### Additional Funding Details

\$65,000 was tentatively quoted for the budget proposed to purchase 5 automated samplers with flow meters. An addition \$7,000 dollars per unit was added as a contingency measure to purchase specific shelter/housing materials to prevent theft and/or vandalism of samplers.

Project Sponsor Department Environmental Services  
 Project Sponsor Director James Sacker (Acting Senior Manager)  
 Project Delivery Department Environmental Services  
 Delivery Department Contact Andrew Doucette  
 Project Manager (if assigned) \_\_\_\_\_



## Capital Budget Request - EQUIPMENT

Project Name **Water Tank and Pipe Cleaner** \$ **50,000**

Order Code Project Location Fort McMurray  
 Project Category Environmental Ward 5 - Muni-Wide  
 Type of Project New Asset - Acquisition and/or Instal Municipal Function 41 - Water Sup & Distribution

### Project Description and Scope

Currently, staff is required to clean large pipes and trenches by hand to remove buildups and deposits. Our leaders were encouraged to research innovative approaches to minimize hazards and improve the quality of the clean in these hard to reach places and discovered the potential of using automation. This request is for the purchase of an automated water tank and pipe cleaner.

### Project Cash Flows

Year	Total Annual Cost	Federal Grant	Provincial Grant	Reserve	Other	Debenture
2017 & Prior	-					
2018	50,000					
2019	-					
2020	-					
2021	-					
2022	-					
Thereafter	-					
<b>Total</b>	<b>50,000</b>	-	-	-	-	-

### Additional Funding Details

Funding requested to be drawn from the RMWBs 'Safety' fund.

Project Sponsor Department Environmental Services  
 Project Sponsor Director James Sacker (Acting Senior Manager)  
 Project Delivery Department Environmental Services  
 Delivery Department Contact Paul Curtis  
 Project Manager (if assigned) \_\_\_\_\_



## Capital Budget Request - CONSTRUCTION

<b>Project Name</b>	<b>Conklin Sewage Lagoon- Design and Construction</b>	<b>\$</b>	<b>15,750,000</b>
<b>Order Code</b>	<b>New</b>	<b>Project Location</b>	Conklin
<b>Project Category</b>	Environmental	<b>Ward</b>	4
<b>Type of Project</b>	Lifecycle - Construction	<b>Municipal Function</b>	42 - Sanitary Sew - Coll/Disposal

### Project Description and Scope

This project is to expand the existing Conklin lagoon to meet the increased demands of residential, industrial and commercial areas of Conklin anticipated after the completion of the piped water and sewer system. It will also accommodate flows from the water treatment plant. The existing lagoon was not designed for receiving backwash water from the water treatment plant. The lagoon receives wastewater from the water treatment plant through a force main however, the flows from other areas (residential, industrial and commercial) are received by truck haul. With the proposed implementation of piped water and sewer services, it is estimated that the per-capita wastewater generation will increase to the typical values encountered in urban settings. The existing lagoon discharge through natural steams. Accordingly a new outfall pipe is also included in the scope.

The camp grounds are assumed to discharge elsewhere. Based on the 2015 and 2016 flow rates, it is estimated that the land requirement to accommodate sewage from the campground would be approximately 10 times the land needed for the hamlet residential, commercial/industrial and backwash water. The current economic uncertainty does not warrant accommodating work camp discharge. 75% of the project scope is eligible for grant funding under Alberta Municipal Water and Waste Water Program (AMWWP). Under the eligibility requirements of the program the percentage of grant funding will be greatly compromised if the lagoon is constructed to accommodate other users in addition to immediate population. The design and construction budgets are combined so that a suitable method of procurement ( design-build or design-bid-build/traditional) is selected to deliver the project.

### Project Cash Flows

Year	Total Annual Cost	Federal Grant	Provincial Grant	Reserve	Other	Debenture
<b>2017 &amp; Prior</b>	-					
<b>2018</b>	750,000					
<b>2019</b>	12,955,000					
<b>2020</b>	2,045,000					
<b>2021</b>	-					
<b>2022</b>	-					
<b>Thereafter</b>	-					
<b>Total</b>	<b>15,750,000</b>	-	-	-	-	-

### Additional Funding Details

<b>Project Sponsor Department</b>	<u>Environmental Services</u>
<b>Sponsor Department Director</b>	<u>James Sacker (Acting Senior Manager)</u>
<b>Project Delivery Department</b>	<u>Engineering</u>
<b>Delivery Department Contact</b>	<u>Mazhar Hajhossein (Acting Director)</u>
<b>Project Manager (if assigned)</b>	<u>Moges Gebreleoul</u>



## Capital Budget Request - CONSTRUCTION

Project Name **Fort McMurray WTP PACL TANK Design/Build** \$ **3,800,000**

Order Code Project Location Fort McMurray  
 Project Category Environmental Ward 5 - Muni-Wide  
 Type of Project Lifecycle - Construction Municipal Function 41 - Water Sup & Distribution

### Project Description and Scope

The PACL chemical tanks at the Fort McMurray Water Treatment Plant are approximately 30 years old and have reached their life expectancy. These tanks are critical to the water treatment process in ensuring the quality and reliability of the water supply to the Municipality.

### Project Cash Flows

Year	Total Annual Cost	Federal Grant	Provincial Grant	Reserve	Other	Debenture
2017 & Prior	50,000					
2018	3,750,000					
2019	-					
2020	-					
2021	-					
2022	-					
Thereafter	-					
<b>Total</b>	<b>3,800,000</b>	-	-	-	-	-

### Additional Funding Details

Project Sponsor Department Environmental Services  
 Sponsor Department Director James Sacker (Acting Senior Manager)  
 Project Delivery Department Engineering Services  
 Delivery Department Contact Mazhar Hajhossein (Acting)  
 Project Manager (if assigned) Adel Youssef