

REQUEST FOR DECISION



Meeting: Regular Council Meeting
Meeting Date: October 30, 2023
Presented By: Ron Pelensky, Director of Operations
Title: Revised Estimate for the Central Peace Regional Water Supply System Project

STRATEGIC ALIGNMENT:



Governance &
Leadership



Municipal Services
& Infrastructure



Environmental
Stewardship



Community
Development

BACKGROUND / PROPOSAL:

At the August 22nd, 2023 Council Meeting the following motion was made:

“That Administration work with MPE Engineering Ltd. to review the Tender for the 2.4 kms of waterline on the south bank of the Peace River for the Central Peace Regional Water Supply System Project and provide a report with possible options for funding the entire project.”

Attached is MPE Engineering Ltd.'s updated estimate of \$103,430,000 to complete the Central Peace Regional Water Supply System Project to the Peace River. This estimate is substantially higher than the original estimate of \$42,691,000. MPE Engineering Ltd. is putting together a response to the possible options for funding the entire project, which if received prior to the Council meeting, Administration will provide as a handout.

In discussions with Alberta Transportation, the process of requesting an increase to the Water for Life Grant is to send a letter to Alberta Transportation requesting additional funding.

Administration met with the Town of Fairview to review their intake into the Peace River and to confirm their support with Saddle Hills County completing some engineering if Council wishes to pursue sharing their intake into the Peace River.

As the Fairview intake was constructed by Associated Engineering and they currently use Associated Engineering, Administration obtained a quote to complete some preliminary engineering to research if their Peace River intake has sufficient enough capacity to provide water to The Town of Fairview and the G5 Municipalities. We also asked them to provide an estimate on placing a new pipeline under the river or utilizing the two unused pipelines under the Peace River. Attached is Associated Engineering's proposal with their quote of \$39,500.

Project Phases and Previous Estimates:

The project is broken into 3 phases plus engineering and a new 3 phase powerline:

1. Phase I - Intake into the Peace River and a Pumping Station.
MPE Engineering Ltd. is still working on the design of the pumping station and the design of the intake line. Additional river Geotech is also needed.

The original project budget for this portion of the project is \$12,100,000 (which included the powerline).

2. Phase II – 2.4 kms of Waterline on the South Bank of Peace River (includes 1.8 km underground Drill).

The original budget was \$6,125,000 which was part of the \$30,581,000 of Phase III.

3. Phase III - 36 kms of High Density Polyethylene (HDPE) line drilled from the top of the Peace River Hill to the Town of Spirit River Reservoir and the Hamlet of Rycroft Reservoir.

The original project budget for this portion of the project is \$24,456,000.

4. Powerline- New 3 Phase Powerline to the Pump House at the River
The original budget was \$1,250,000 and the current estimate is \$1,941,600.

The engineering budget is estimated at \$3,561,250.

In the 2023 budget, the Central Peace Regional Water Supply System Project was approved as a carry forward project for the amount of \$37,267,297.

OPTIONS & BENEFITS:

Item 1:

That Administration send a letter to Alberta Transportation to request additional grant funding to complete the Central Peace Regional Water Supply System Project at a cost of \$103,430,000 and advise the other G5 Municipalities of the updated project costs.

Item 2:

That Council ask the Central Peace Regional Water System Collaboration Committee to discuss options of requesting additional funding for the Central Peace Regional Water Supply System Project and to confirm the support to pursue the project.

Item 3:

That Administration enter into a contract with Associated Engineering to investigate capacity and feasibility of sharing the Fairview Intake and the costs of building a pipeline across the river and costs for utilizing the two unused pipelines.

COSTS & SOURCE OF FUNDING:

Original Budget: \$42,691,000

Budget Carry Forward in 2023: \$37,267,297

MPE Engineering Ltd.'s Updated Project Estimate: \$103,430,000

RECOMMENDATION:

For Discussion

APPROVAL(S):

Justine Yanishewski, Legislative Coordinator

Approved - 25 Oct 2023

Cary Merritt, Chief Administrative Officer

Approved - 26 Oct 2023

ATTACHMENTS:

[Updated Estimate of Probable Costs - MPE Engineering Ltd. R](#)
[Associated Engineering-Raw Water Intake Study R](#)

Saddle Hills County
RR#1
Spirit River, Alberta
T0H 3G0

October 18, 2023
File: N:\5201\005\00\L07

Attention: Ron Pelensky
Director of Operations

Dear Mr. Pelensky:

Re: Saddle Hills County
Central Peace Regional Water Supply System Phase 1 and 2
Updated Estimate of Probable Costs

As requested by Saddle Hills County we are providing an updated projection of the overall project costs for the Central Peace Regional Water Supply System Phase 1 and 2 project. The updated cost estimate is based on the original design concept presented previously at Saddle Hills County Council Meetings and Central Peace G5 Meetings that generally includes the following components:

1. River intake located near the Dunvegan Bridge.
2. Raw water pumping station located on the riverbank west of the boat launch area.
3. Steel raw water transmission pipe (350 mm diameter) installed extending from the pumping station up the valley hill to the level ground area above the River valley.
4. HDPE raw water transmission pipe (450 mm diameter) extending south from the top of the River valley to the future Regional Hub Water Treatment Plant location. And HDPE raw water transmission pipeline branches (300 mm diameter) from the future Regional Water Treatment Plant location extending southwest to the Town of Spirit River raw water storage pond and extending southeast to the Village of Rycroft raw water storage pond.

The original cost estimate for the project provided in the *DRAFT G5 Group of Municipalities, Central Peace Regional Water System, Water Source Preliminary Design, November 2018* by Associated Engineering (Preliminary Design Report) was \$42 M. The grant funding request approved by the Federal and Provincial Governments was based on this previous cost estimate.

The recent tender prices received for the Steel Pipe contract that closed in July 2023 exceeded the amount identified in the original cost estimate for that component of the work by almost triple. Having taken note of the very large cost escalation of that Steel Pipe contract and of other major construction contracts that have been reported by the media in recent news reports, the County is seeking an updated cost estimate for the construction that will help guide the next steps for the project.

We are advising that costs have escalated significantly from the amount that was estimated previously in the Preliminary Design Report. Our updated preliminary estimate of the probable cost of the project is \$103.4 M as provided in the attached Table 1000.

We would like to point out that a major cost item is the temporary cofferdam structure in the river that is required for construction of the river intake structure. We are continuing to work with the GeoStructural Subconsultant on clarification information and alternatives to find ways to possibly reduce costs for this item.

Please advise if you require any additional information at this time.

Yours truly,

MPE ENGINEERING LTD.



Haj Oshiki, H.Eng.
Senior Project Manager

encl.



**SADDLE HILLS COUNTY - Central Peace Raw Water Supply System
Phase 1 & 2 - River Intake, Pumping Station and Pipeline**

TABLE 1000: UPDATED PRELIMINARY ESTIMATE OF PROBABLE COSTS - [October 2023]

DESCRIPTION		QUANTITY	UNIT	COST ESTIMATE
A. RIVER INTAKE				
1	Cofferdam	1	LS	\$ 20,000,000.00
2	Intake Structure and Piping	1	LS	\$ 940,000.00
3	In River Geotechnical - Barge Drilling	1	LS	\$ 400,000.00
4	Opposite River Bank Erosion Protection	1	LS	\$ 1,250,000.00
5	Environmental Services - (Water Quality Monitoring, Fish salvage, etc)	1	LS	\$ 90,000.00
SUBTOTAL (A):				\$ 22,680,000.00
B. PUMPING STATION				
1	Wet Well Secant Pile Wall	1	LS	\$ 3,150,000.00
2	ATCO - Power Service to Site	1	LS	\$ 1,945,000.00
3	Civil and Site Works	1	LS	\$ 2,435,000.00
4	Pumping Station	1	LS	\$ 10,315,000.00
SUBTOTAL (B):				\$ 17,845,000.00
TOTAL [1] - RIVER INTAKE and PUMPING STATION:				\$ 40,525,000
C. RAW WATER PIPELINE				
1	Contract 2 - HDD Steel Pipeline (2023 Tender Submissions)	1	LS	\$ 15,000,000.00
2	Contract 3 - Pipeline to Rycroft and Spirit River	1	LS	\$ 25,000,000.00
TOTAL [2] - PIPELINE:				\$ 40,000,000
SUBTOTAL:				\$ 80,525,000.00
D. CONTINGENCY ALLOWANCE				
20% of Construction Subtotal		1	LS	\$ 16,105,000.00
ESTIMATED CONSTRUCTION COSTS:				\$ 96,630,000.00
E. ENGINEERING and TESTING				
Allowance		1	LS	\$ 6,800,000.00
ENGINEERING AND TESTING:				\$ 6,800,000.00
TOTAL ESTIMATED PROJECT COST:				\$ 103,430,000.00



**Associated
Engineering**

*GLOBAL PERSPECTIVE.
LOCAL FOCUS.*

Associated Engineering Alberta Ltd.
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Edmonton, AB T5J 5C6 Canada
www.ae.ca

September 8, 2023
File: P23-01652

TEL: 780.451.7666

Ron Pelensky
Director of Operations
Saddle Hills County
Junction of Highway 49 and Highway 725
79177 Range Road 84 RR #1
Spirit River, AB T0H 3G0

**Re: G5 COMMUNITIES RAW WATER SUPPLY - TOWN OF FAIRVIEW
RAW WATER INTAKE STUDY**

Dear Mr. Pelensky:

Saddle Hills County (County) has requested a proposal from Associated Engineering (AE), outlining consulting services to support the evaluation of the Town of Fairview's (Town) intake as alternative to a new intake for raw water supply to the G5 communities (G5). The County's request is for AE to evaluate the capacity of the Town's raw water supply in relation to the current and future demands of the Town and the G5 and provide an "Order of Magnitude" opinion of probable cost for the options conceptualized. AE proposes the following scope, team, and consulting fees in considering the County's request.

1 SCOPE

1.1 CAPACITY ASSESSMENT

AE will review the current and future projected raw water demands of the Town, in conjunction with the G5 demand projections, provided by Saddle Hills County. This information will be compared to the Town's diversion licence allowances, and the observed raw water capacity.

County Assistance: County to provide G5 demand projections.

1.2 PIPELINE ALIGNMENT OPTIONS

As requested by the County, AE will conceptualize two possible pipeline alignments for the study:

- Using the existing Pembina Crossing.
- A new line under the Peace River.



Platinum
member



AE will produce two high-level layout and profile figures for these alignments. AE understands the Town's raw water supply system, "Point A", but is unaware of the G5 raw water system fill location, "Point B". The County will need provide a "Point B" location for AE's pipeline alignments.

County Assistance: Details of the G5's raw water fill point, "Point B". Design and current ownership information for the Pembina 8" NPS pipelines.

1.3 REGULATORY FRAMEWORK

AE will identify the limits of the regulatory framework for the intake, river crossings, and pipeline. The purpose of this activity is to highlight potential cost risks that may be incurred during downstream regulatory reviews.

1.4 ORDER OF MAGNITUDE ESTIMATE

AE will provide high-level pricing breakdowns for the two conceptual pipeline alignments, complete with supporting infrastructure to make the alignments feasible. AE will summarize any easily foreseen scope risks, but the scope of this technical memorandum will not include an exhaustive evaluation of cost risks or attempt to price those risks.

County Assistance: County to provide pipeline scope and pricing received from recent contractor bid submissions.

1.5 PROJECT MANAGEMENT AND REPORT

AE will provide draft and final copies of the report, summarizing the work completed. AE will provide three virtual meetings to convey the following:

- Meeting #1: Review of County submitted information and discussion on pipeline alignments.
- Meeting #2: Presentation of draft report.
- Meeting #3: Review of County comments.

County Assistance: Attend meetings and obtain comments from Town and G5 representatives.

AE Deliverables: Draft and final report, meeting minutes.

2 PROJECT TEAM

- Project Manager: Ryan Wirsz, P.Eng.
- Civil Engineer: Sean Nicoll, P.Eng.
- Trenchless Technologies Specialist: Jason Lueke, P.Eng., Ph.D.



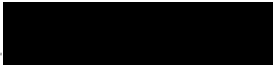
- Senior Mechanical Engineer: Michael McCracken, P.Eng.
- Regulatory Specialist: April Ziegler, P.Biol.
- Overall Quality Control: Jeff Fetter, P.Eng.


3 CONSULTING FEES

Associated Engineering proposes to complete this work on a Lump Sum basis of \$39,500, excluding GST.

Associated Engineering will follow-up with you shortly to ensure this proposal meets your needs for the requested consulting services.

Yours truly,


Ryan Wirsz, P.Eng.
Project and Urban Water Manager


Grant Dixon
Manager, Regional Water