

## **EXECUTIVE SUMMARY**

The Cypress Rural Water Co-op Ltd. (the Co-op) retained MPE Engineering Ltd. to provide preliminary engineering services for the feasibility and preliminary design of a proposed potable water co-op within Cypress County, Alberta.

The proposed water co-op will provide potable water to 319 potential shareholders generally between the Hamlets of Dunmore and Irvine. The Co-op will be a low flow trickle system with each service receiving up to 500 imperial gallons per day at a restricted flow rate of 0.33 imperial gallons per minute of potable water for domestic use into a cistern.

The Co-op will be supplied with water from Cypress County from two general locations:

- The Dunmore / Irvine / Walsh Regional Supply Pipeline (DIW Pipeline).
- The Veinerville Booster Station and supply pipeline.

The proposed system contains four major laterals and four smaller service laterals for a total pipe length of approximately 220 km. The Co-op requires four booster pump stations to service all of the proposed shareholders.

The Co-op's capacity to service the shareholders is limited by the amount of water that Cypress County can supply through the Veinerville gate and the gate(s) that supply the DIW Pipeline. The Co-op will require a total flow of 7.98 l/s (689 m<sup>3</sup>/day) of water from the County.

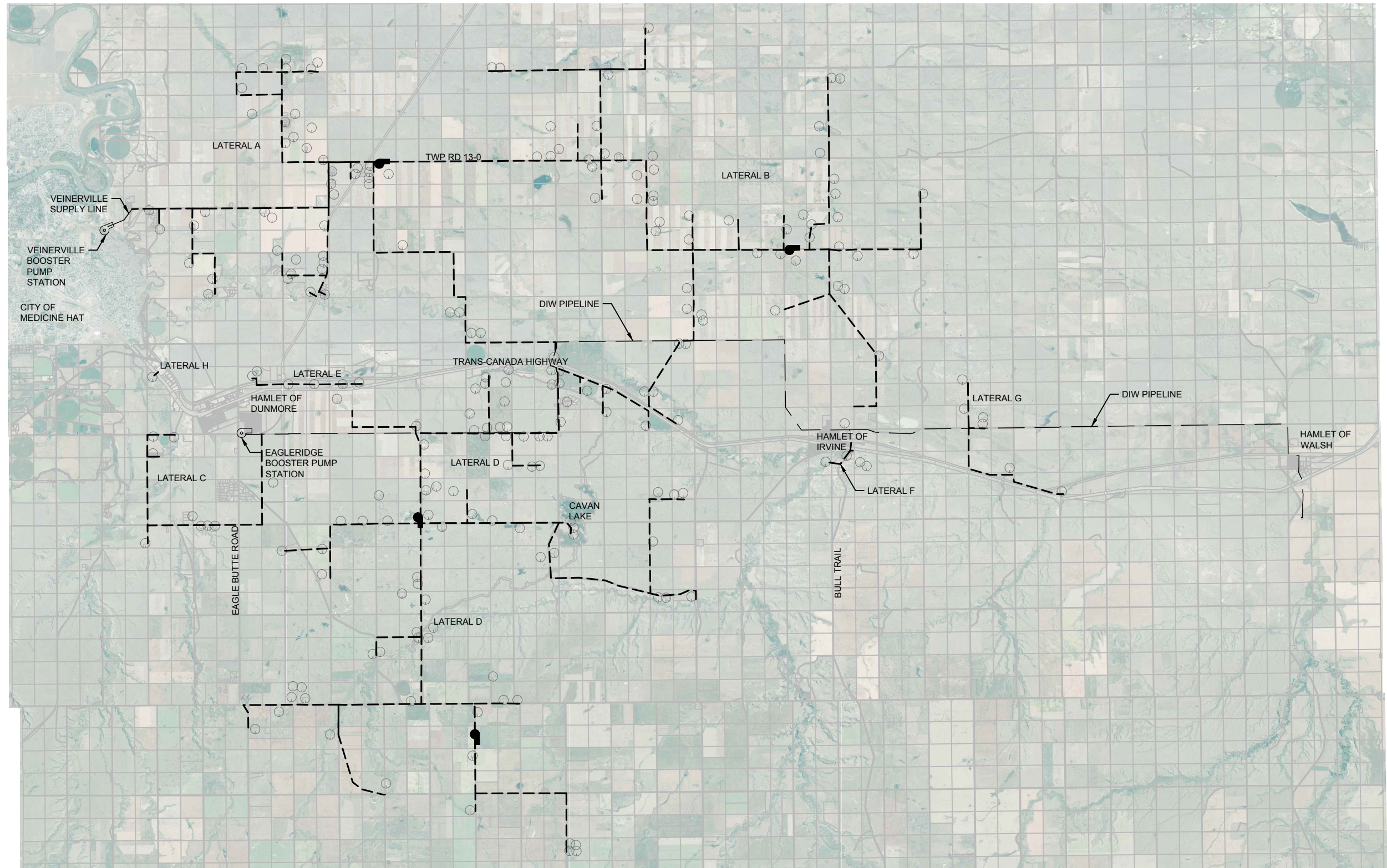
Currently, 1.88 l/s is allocated for rural use by the Co-op through the DIW gate. This is adequate to service approximately 75 shareholders. 137 out of the 319 proposed shareholders are to be serviced from the DIW Gate. However, revising the hydraulic capacities of the pipeline to account for actual Co-op service locations will allow for all of the 137 proposed shareholders to be serviced from the DIW Pipeline with no modifications to the County's system.

It is our understanding that Cypress County is planning to relocate and upgrade the Veinerville Booster Pump Station as early as 2017 pending grant funding. The Co-op requires 2.88 l/s from Veinerville for Laterals A and B.




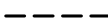

Based on discussions with the Co-op and for the purpose of this report, it is assumed that Cypress County will purchase water licenses and will provide the Co-op with the water they require. The Co-op will require up to 215 acre-feet (264,662 m<sup>3</sup>) of water per year at 500 imperial gallons per day per service.

The estimated cost of the project, including engineering and contingencies, is \$14,822,000 (GST not included). This represents a cost of \$46,464 per share based on a total of 319 shares. The costs do not include purchase of any land easements as it is assumed that the Co-op's pipelines will generally traverse shareholder lands.





**LEGEND**

-  PROPOSED SHAREHOLDER
-  PROPOSED BOOSTER PUMP STATION
-  EXISTING CYPRESS COUNTY BOOSTER PUMP STATION
-  PROPOSED WATER LINE
-  EXISTING CYPRESS COUNTY WATER LINE



CYPRESS RURAL WATER CO-OP LTD.

PRELIMINARY DESIGN REPORT  
FIGURE 1  
OVERALL PLAN

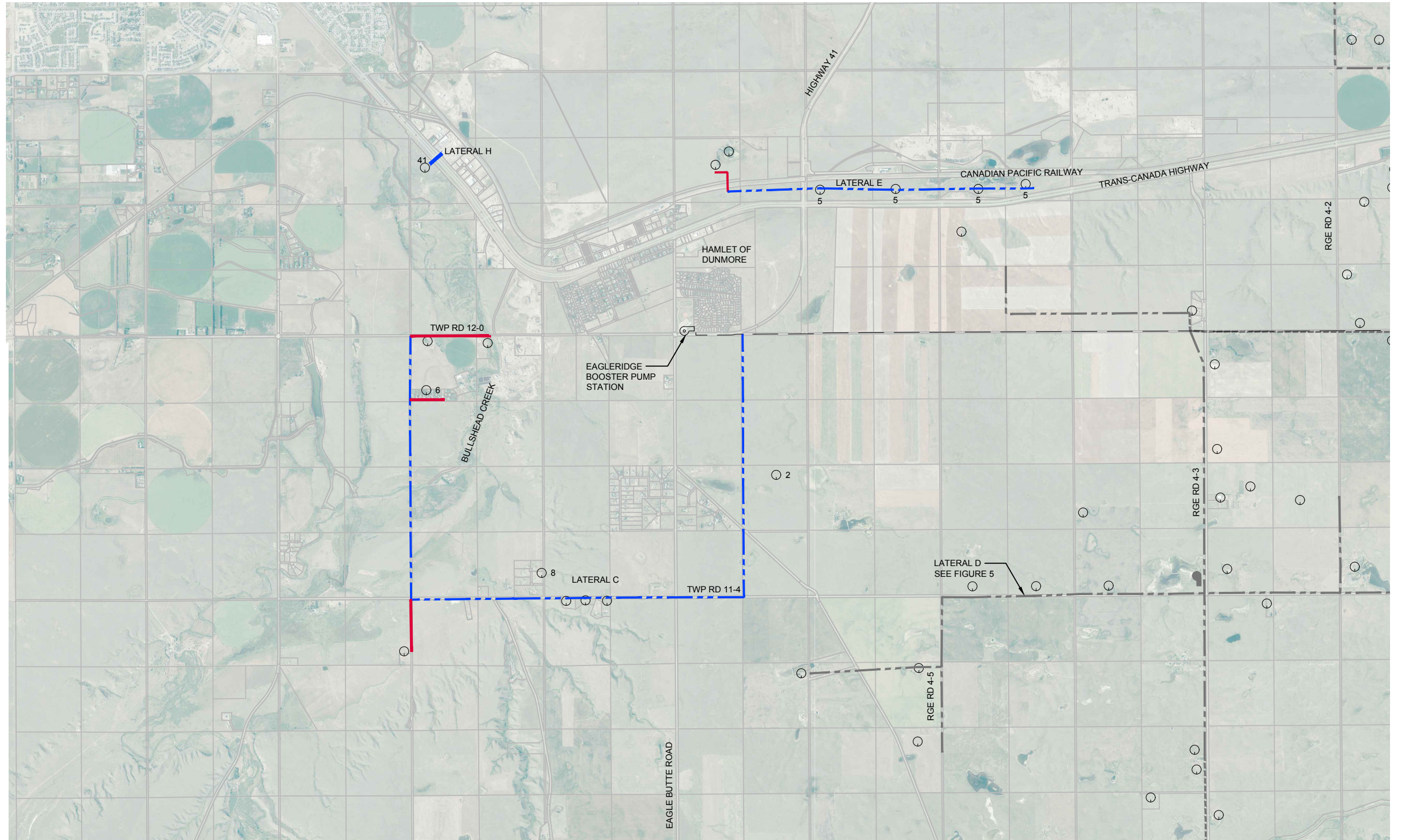
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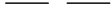
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FIGURE: 1





LEGEND

-  PROPOSED SHAREHOLDER
-  40mm DR11 HDPE
-  50mm DR11 HDPE
-  EXISTING CYPRESS COUNTY WATER LINE



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PRELIMINARY DESIGN REPORT  
FIGURE 4  
LATERAL C, LATERAL E, LATERAL H

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FIGURE: 4