

CRSWSC



Capital Region Southwest
Water Services Commission

CAPITAL REGION SOUTHWEST WATER SERVICES COMMISSION

Replaces: Water Supply Policy approved November, 2021

Policy Name: 6 – Water Supply

Related Bylaws and Policies: Bylaw 01/2021

Date Approved: Feb 8 / 24

Chairman: *JWS Han*

Commission Manager: *BCO*

Next Review Date: January 1, 2027

Policy Objective:

The Water Supply Policy is intended to outline how and to whom the Capital Region Southwest Water Services Commission provides water. This policy is the formal adoption of the Associated Engineering Water Supply Policy from November of 2021 and is attached in its original submission form.

Definitions:

Associated Engineering – The Capital Region Southwest Water Services Commissions contracted Engineering Firm that developed the Water Supply Policy.

Commission Managers host municipality – Municipality holding the contract for the management of the Capital Region Southwest Water Services Commission. As of the approval of this policy, the contract is currently held by the City of Leduc.

Water Supply Policy – Document created by Associated Engineering and approved by the Capital Region Southwest Water Services Commissions Board of Directors on December 2, 2021 per motion 56-21.

Policy:

Water Supply Policy – Associated Engineering, November 2021

The Capital Region Southwest Water Services Commission formally acknowledges that

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any policies and procedures not addressed in this, or other posted policies adhere to the Commission managers host municipalities Policies and Procedures.

Responsibilities and Authorities:

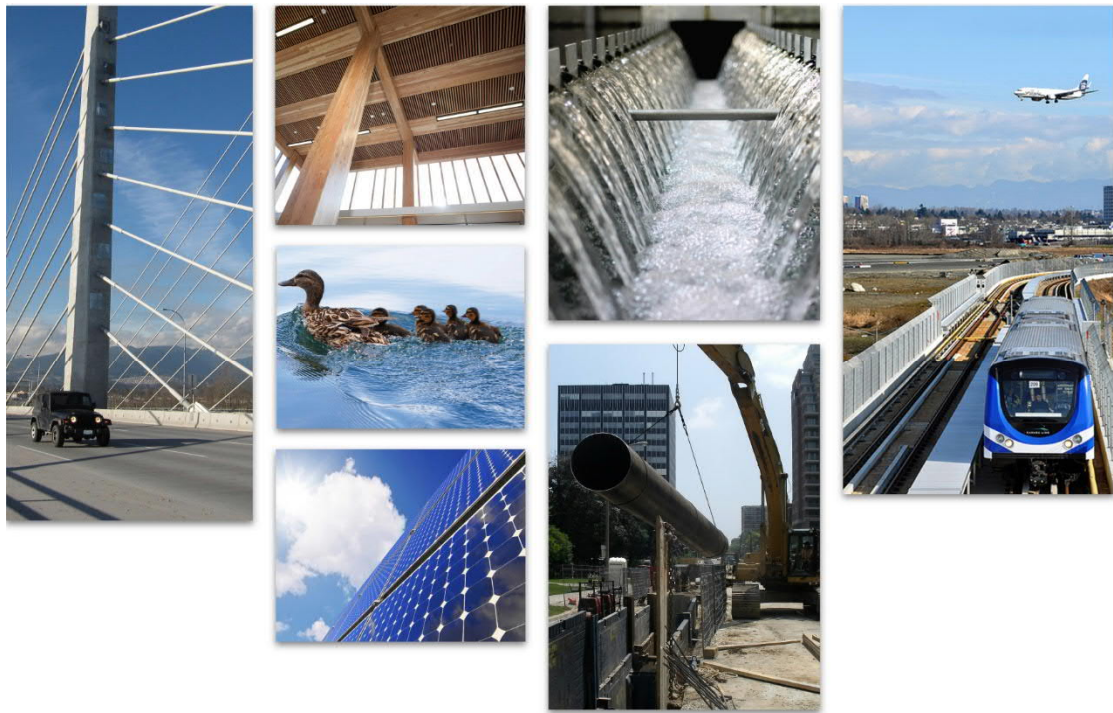
The Capital Region Southwest Water Services Commission Board of Directors is responsible for the review and approval of this policy at the review date specified and every 4 years thereafter.

The Commission Manager is responsible for the development, implementation, monitoring, and adherence to this policy.

PROPOSED AMENDMENTS

Capital Region Southwest Water Services Commission

Water Supply Policy



NOVEMBER 2021

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CAPITAL REGION SOUTHWEST WATER SERVICES COMMISSION – WATER SUPPLY POLICY

This Water Supply Policy replaces and supersedes all previously adopted Water Supply Policies.

Date Adopted _____

1 DEFINITIONS

Word/Phrase	Definition
Air Gap	300 mm physical gap between the end of the Commission pipe and the top of the high-water level within the reservoir.
Applicant	Municipality or Corporation who has applied for approval of a water service connection, or to cross the Commission's pipeline.
Average Day Demand	Annual total volume of water delivered divided by 365.
AWWA	American Water Works Association.
Commission	Refers to the Capital Region Southwest Water Services Commission .
Commission Transmission System, or Commission's Pipeline	The Commission's system or pipeline which transports water from EPCOR to the Member's reservoir.
Contractor	Shall mean any person or corporation, which shall undertake the installation and/or Crossings on behalf of either the Applicant or the Commission .
Crossing	Any above ground, on ground or below ground installation across the Commission's system or pipeline.
Distribution System	Delivers water from a reservoir to the end point of user.
Member	Member Municipality of the Commission as outlined in Bylaw 01/2021
Point of Metering	The Commission's designated billing meter.
Point of Transfer	The point of ownership transfer between the Commission and the Member/Customer .
Regional Water Customers Group	An Edmonton regional group comprised of nine regional water Commissions who work together in communication for EPCOR.
Rural Resident	Leduc County residents which have a grandfathered connection to the Commission Pipeline.
SCADA	Supervisory Control and Data Acquisition
Water Supply Agreement	Agreement between the Capital Region Southwest Water Services Commission and EPCOR, which outlines the supply of water from EPCOR.

2 GENERAL

The Capital Region Southwest Water Services **Commission** (herein after referred to as “the **Commission**”) supplies water to the following **Members** and **Customers**:

Members of the **Commission**:

- Leduc County
- City of Beaumont
- City of Leduc
- Town of Calmar
- Camrose County
- Town of Millet

The Edmonton International Airport and the **Rural Residents** are **Customers** of Leduc County.

1. The **Commission** System is a treated water transmission system. Its primary function is to deliver water from EPCOR to **Members** and **Customers**.
2. Cross connections with other water sources, or to process water, are not permitted.
3. The **Commission** is a **Member** of the **Regional Water Customers Group** and as such is subject to its rules and regulations.
4. The **Commission** is subject to the terms and conditions of the **Water Supply Agreement** with EPCOR.
5. The **Commission** intends to minimize the number of connections to the **Commission Pipeline** to maintain system pressure. New connections must follow an application procedure and need to be approved prior to construction. New connections will not be approved if determined to be a hindrance on the system operation and performance.
6. **Regional Water Customers Group**, and the **Commission** requires monitoring of fill levels within the **Members** and **Customers** reservoirs. This includes the reservoirs downstream of the **Point of Transfer**.

2.1 Water Demand Projections

1. The **Commission** strives to provide **Members** with their requested water demands on a daily basis to a max of 1.8 times **Average Day Demand**. The ability of the **Commission** to provide these demands is based on, current water demand within the system, overall system capacity, direction from the **Regional Water Customers Group** and EPCOR.
2. Each **Member** or **Customer** will provide the **Commission** with a 5-year water demand projection as per **Commission** Bylaw 01/2021 on/or before November 1 of each year.
3. As requested by the **Commission**, each **Member** or **Customer**, will provide long term (25 years) water demand projections as part of the **Commission**'s long-range forecasting.
4. **Members** or **Customers** are responsible to notify the **Commission** in writing of any changes to their water demand requirements which may impact their short term or long-term water demand projections.

3 WATER SERVICE

3.1 Service

1. The **Commission** will service **Member's** or **Customer's** underground reservoirs through an **Air Gap** at zero pressure. Direct connections to the **Commission's Pipelines** are not allowed except for the existing grandfathered connections which service the **Rural Residents**.
2. The **Commission** shall not be responsible for any aspects of distribution downstream of the **Point of Transfer**. In the case of the **Rural Residents**, the **Point of Transfer** is the property line.
3. The **Commission** will endeavour to provide continuous service, and to supply the user's normal demands. However, interruptions in service may result from repairs or unforeseen or unavoidable circumstances. The **Commission** shall not be responsible for any loss, costs, or damages arising from any stoppage or interruption of flow.
4. The **Commission** requires **Members** and **Customers** provide a minimum water storage of 2 times **Average Day Demand**, plus fire protection (if provided). **Rural Residents** are exempt from this requirement.
5. The **Commission** may, without notice, shut off the water supply or from any portion thereof when an emergency in any form whatsoever renders such action necessary.
6. When it is intended to shut off water supply, for any reason of a routine or non-emergent nature, reasonable notice of such intention shall be given.
7. Peak Rates of water supply from the **Commission** to its **Members** and **Customers** are subject to variations in peak supply rates from EPCOR and the **Regional Water Customers Group**. EPCOR and the **Regional Water Customers Group** may implement restrictions during high demand conditions. During these periods, the **Regional Water Customers Group** enforces a peak demand management policy under which supply rates to the **Commission** will be reduced and the **Commission's Members** and **Customers** are expected to enforce water distribution restrictions similar to those implemented by the **Regional Water Customers Group**.
8. The **Commission** limits its maximum rate of supply to 1.8 times **Average Day Demand** subject to conditions of supply from the **Regional Water Customers Group** and EPCOR.
9. The **Commission's** maximum water velocity within its system is 1.5m/s.
10. Whenever leakage on private service pipes constitutes a waste of water, whether metered or unmetered, the **Commission** may, after reasonable notice has been given, shut off the supply.
11. The **Member** shall be responsible for all aspects of retailing water within its municipal boundary.

3.2 Water Metering

1. All water leaving the **Commission's** Pipeline shall be metered. Meters will be complete with remote readouts and in metric units. Meters will be owned, operated, and maintained by the **Commission**.
2. Distribution and sale of water within the limits of the Municipality is the responsibility of the **Member** unless the **Commission** is otherwise authorized to bill directly at the request of the **Member**.
3. The **Point of Metering** is the **Commission's** meter and the **Point of Transfer** is the **Air Gap** at the reservoir.
4. The **Commission** will read all meters drawing water from the **Commission's** System.

5. All meters shall be read on the same date as EPCOR reads the Master Meter(s), or such other particular day as the **Commission** may direct.
6. Meters downstream of the **Point of Metering** will not be recognized by the **Commission**.

3.3 Water Rate

1. The **Commission** will bill for all water consumed on a monthly basis, which is based on a unit water rate times the volume consumed. These charges are subject to revision on an annual basis.

3.4 Payment

1. The **Commission** will bill the **Members** directly for all water metered during the billing period. Water bills are to be paid within 30 days of the receipt of same. Overdue accounts are subject to interest at 1.5% per month.
2. The **Commission** will remit to the supplier (EPCOR) payments of water delivered to the **Commission**, based on the **Water Supply Agreement**.
3. The **Member** will remit to the **Commission** payments of water delivered to the **Member** and any other fees in accordance with the **Commission's Bylaw 01/2021**.
4. Water supply may be shut off if any water rates or charges remain unpaid for thirty (30) days after such becomes due and payable, and the supply shall remain shut off until all outstanding sums have been paid in full or until satisfactory arrangements have been made for the payment thereof.

4 CONNECTIONS

4.1 Existing Connections

1. The **Commission** shall not be responsible for damage to meters caused by heat or frost or by any other means, due to neglect, carelessness or willful act of the occupant.
2. **Rural Residents** are as follows:

	Rural Residents	Legal
1	Brezden, Noel and Maureen	SE 05-050-25-4
2	Cunningham Fertilizers	PT SE34-059-26-4
3	Gene's Excavating & Bob Cat Services Ltd.	SE36-049-26-4
4	Leduc Heritage Society	49541 RR 260
5	Lowie, Tom and Elaine	SE36-049-26-4
6	Scott Truss	NW 33-059-25-4
7	Cargill AG Horizons	SE 34-49-26-W4

3. Rural Residents

- a. **Rural Resident** meters shall be supplied, installed, and maintained by Leduc County.
- b. All **Rural Residents** shall give reasonable access to buildings or meter vaults for the installation, inspection, removal, replacement, repair, and reading of meters, in order that they may be ascertained to be in good working order at all times. It is the **Rural Resident's** responsibility to maintain the meter vault (i.e. keep clean, de-watered, and maintain reasonably accessible).
4. Where the **Commission** and **Members** share a common meter room. The **Member** will provide unrestricted access to the space and **Commission** equipment.

Where the **Commission's** water line or supply line is located on private property the **Commission** has unfettered access to the property when investigating a water leak.

4.2 Request for New Service Connection

4.2.1 Application Requirements for Existing Members and Customers

1. Prior to reviewing a new water connection application, the **Applicant** is to provide the following:
 - a. A five-year and a 25-year water demand projection.
 - b. Proposed point of connection.
 - c. Reservoir location, floor plan and floor elevation.
 - d. Reservoir capacity including fire storage requirements (if being provided).
 - e. Reservoir filling plan.
 - f. Location and size of reservoirs located within **Distribution System**.

- g. Size and material type of connection pipe.
- h. Proposed service date.
- i. Reservoir Operation Plan.

Additional details may be requested by the **Commission** as required.

2. Each fill station is housed within a separate building or room accessible by the **Commission** only. The **Commission** is to be provided access to the facility in which the building or room is situated. The **Member** municipality owns and maintains the building. The **Commission** has sole rights to the area where its equipment and/or piping is located. The **Commission** is responsible for maintenance of its equipment within this area. The **Commission** is to be provided with separate electric and gas meters.
3. **Applicants** are to comply with the **Commission** Design Standards as outlined in [Appendix A](#).
4. The **Applicant** is to provide the **Commission** preferred equipment as outlined in [Appendix A](#).
5. The **Applicant** is to provide engineering drawings signed by a Professional Engineer registered in the Province of Alberta.
6. Prior to operation, the **Applicant** is to provide the **Commission** with a detailed reservoir operation plan which outlines the following: fill level requirements, and monitoring of downstream fill reservoirs.
7. Only the **Commission** has the right to undertake work or operate valves on the **Commission's** Pipeline.
8. The **Commission** may permit the **Member/Customer's Contractors** to undertake work.
9. The **Commission** has preferred **Contractors**, which **Members/Customers** are expected to use for the following:
 - a. Pipeline taps or Hot Taps on the **Commission's** Pipeline.
 - b. Programming of the **Commission's** SCADA System.
10. **Commission's** approval and inspection shall be required for the service connection installation of the meter facility and upstream of the **Air Gap**.
11. Any service line installed under a Provincial highway, municipal roadway, water body or a railway shall be installed to the requirements of the respective authorities and applicable legislation.
12. Service lines on or across the **Commission** easement require approval and installation supervision by the **Commission**.
13. Minimum depth of cover for all service lines will be 2.8 metres, unless otherwise approved by the **Commission**.
14. Downstream of the **Point of Transfer**, the **Distribution System** is subject to the approval of the local Municipality.
15. The applicant will be responsible for any and all cost related to upgrading the **Commission's** system to provide water at the identified service location.

Infrastructure facilities and services shall not be permitted to operate as part of the existing **Commission** water system until the respective infrastructure facilities and services have been inspected, tested and approved by the **Commission**.

4.3 Application Requirements for New Members/Customers

1. New **Members** or **Customers** are required to follow the requirements outlined in Bylaw 01/2021 and **Section 4.2**.
2. The applicant will be responsible for any and all cost related to upgrading the **Commission's** system to provide water at the identified service location.

4.4 Commission Review of New Applications

1. Applications for new connections to the **Commission** system will be reviewed, any comments on the application will be provided to the Applicant for clarification.
2. Finalized applications will be presented to the **Commission's** Board for review and acceptance. Presentations will be made at the next regularly scheduled Board meeting.
3. The **Commission** has the right to accept or decline an application for a new connection on the system.
4. If the application has been accepted/ approved by the **Commission**, it is the **Applicant's** responsibility to complete the connection within two years of the original application date. If the application is not completed within two years of the original application date, the original application is considered null and void and a new application and corresponding fees will be required by the **Commission**.
5. The **Applicant** will be responsible for any costs associated with the proposed service installation according to **Commission** standards.

4.5 Facility Turnover

1. Service from the **Commission** will not be extended without approval of the **Commission**.
 1. Prior to **Applicant** commencing use of the completed service, the service must be flushed with the water from the **Commission's** pipeline, with a minimum volume equal to three times the volume of the application's service and chlorine residuals must be a minimum of 0.5 mg/litre.
 2. The **Applicant** is to provide a minimum of 21 days notice when the initial reservoir fill is to occur.
 3. Work undertaken on behalf of the **Commission** will be constructed to the standards outlined by the **Commission**. The **Commission** will operate and maintain full control of the infrastructure from the time the infrastructure is deemed by the **Commission** to have achieved substantial performance and is ready for its intended use. Ownership of the infrastructure asset will be transferred to the **Commission**, at no cost, after a minimum 2-year post construction warranty period and a final inspection/acceptance of the infrastructure.

5 PIPELINE CROSSING AND PROXIMITY AGREEMENT TO COMMISSIONS PIPELINE

1. **Commission Members** shall identify the **Commission's** infrastructure within related planning/permitting documents and identify related information to developers. (*Strategic Plan Item 4.4.3*)
2. **Commission Members** shall refer all new developments within 30m vicinity of the **Commission's** infrastructure for review and issuance of a crossing/proximity agreement if required. (*Strategic Plan Item 4.3.2*)
3. The **Commission** has a GIS map of their system which shows the location of the **Commission's** infrastructure. To set up and obtain access contact the **Commission Manager** (web address, company user name and password). The **Commission Manager** can be contacted at CRSWSCManger@leduc.ca.
4. The procedures for crossing the **Commission** pipeline are outlined in **Appendix B**.

CERTIFICATION PAGE

This report presents our findings regarding the Capital Region Southwest Water Services Commission Water Supply Policy.

Respectfully submitted,

Prepared by:

Sean Nicoll, P.Eng.
Project Manager

APPENDIX A - TECHNICAL REQUIREMENTS

The **Commission** has the following technical connection requirements:

- Separate building or room to house the **Commission** piping and equipment. Entrance door to be keyed to Commission requirements.
- Separate access with entry alarm, to be connected to keyed switch.
- Isolation valve located downstream of the connection to the **Commissions** pipeline.
- Isolation valve located outside the building.
- Air release valve on the highest portion of the line as it comes into the building.
- Two pressure transmitters; one upstream of the pressure sustaining valve and the second downstream of the pressure reducing valve.
- Pressure sustaining valve.
- Flow meter (Flow meter to be maintained in a flooded position).
- Pressure reducing valve.
- Fill control valve with power actuator.
- An **Air Gap** between the discharge pipe and the top of the water reservoir (min 300mm).
- Level sensor or a 4-20mV signal from the level transmitter installed within the reservoir.
- Inline chlorine analyzer and sewer disposal connection.
- Independent PLC with UPS and supporting power connection.
- **SCADA** system and software to monitoring and control **Commission** equipment.
- Radio communication tower and supporting hardware and software systems to connect to the **Commission** system at Highway 21 Booster Station. As part of this work, a Radio Path Study will likely be required to be conducted. In addition, approval from Industry Canada for the expanded use of **Commission** radio system will be required along with an approval from Transport Canada for the construction of the radio tower.
- Bypass piping of the flow meter.

All pipelines are to be pressure tested and disinfected to meet **AWWA** requirements. Written certification and test results must be provided to the Commission.

All pipelines are to be swabbed with a minimum of four medium density foam swabs, which are 50 mm larger than the inside diameter than the largest pipe to be swabbed.

PLC/SCADA Requirements

The **Commission** has preference for the following system instrumentation and **SCADA** hardware requirements:

**Appendix Table A-1
Preferred System Instrumentation**

Item	Preferred Manufacturer
Total Chlorine Analyzer	Prominent w/CTE Sensor
Pressure Gauge	Ashcroft/Wika
Pressure Transmitter (PIT)	Endress + Hauser (PMC 71 Series)
Flow Meter	Endress + Hauser (53W Series)
Valve Actuator	Rotork w/Folomatic 4-20mA control options

**Appendix Table A-2
Preferred PLC/Radio Components**

Description				Catalogue No.	Vendor
Modicon M340	CPU	Ethernet and Modbus Communications		BMX P34 2020	Schneider
Modicon M340	Discrete In	16pt	24VDC	BMX DDI 1602	Schneider
Modicon M340	Discrete Out	16pt	24VDC	BMX DRA 1605	Schneider
Modicon M340	Analog In	8pt Isolated	24VDC	BMX AMI 0810	Schneider
Modicon M340	Analog Out	8pt Isolated	-	BMX AMO 0802	Schneider
Modicon M340	Power Supply	100-240VAC Line supply	24VDC supply	BMX CPS 2000	Schneider
Modicon M340	Mounting Rack	8 Slot		BMX XSP 0800	Schneider
Industrial Ethernet Managed Switch 8 –port				SLX-8MS-1	Sixnet
Ethernet Radio				MDS SD4 Series	General Electric

Upon acceptance of the installation of the PLC and **SCADA** system, the **Commission's** selected integrator will undertake the system programing. System program and integration will be paid by the **Applicant**

The **Applicant** will be responsible for any costs associated with the proposed service installation according to **Commission** standards.

1. Work undertaken on behalf of the **Commission** will be constructed to the standards outlined by the **Commission**. The **Commission** will operate and maintain full control of the infrastructure from the time the infrastructure is deemed by the **Commission** to have achieved substantial performance and is ready for its intended use. Ownership of the infrastructure asset will be transferred to the **Commission**, at no cost, after a minimum 2-year post construction warrantee period and a final inspection/acceptance of the infrastructure.

APPENDIX B - PROCEDURE FOR CROSSING COMMISSION PIPELINE

1. The company or authority requesting permission to cross **Commission** Pipelines makes application to the **Commission**. That application is submitted complete with documentation and drawings outlining the crossing. This includes the following:
 - a. Detailed Drawings as outlined.
 - b. Grantee Legal Company name and Mailing information.
 - c. Contact name and information for representative.
 - d. Proposed date of installation.
 - e. Duration of crossing if temporary.
 - f. A field representative's name and contact information for coordination of the field work.
2. The **Commission** acknowledges receipt of the application and reviews technical criteria with the **Applicant**.
3. The **Commission** returns a pipeline crossing agreement between the **Commission** and the **Applicant**. The **Applicant** will execute the agreement and return a copy to the **Commission**. The **Commission** will execute the agreement and return a copy to the **Applicant**. A copy of the approved application form is to be kept on site by the **Applicant** during all construction activities.
4. Once the crossing is completed, "as-constructed drawings" are to be deposited on file with the **Commission** by the **Applicant** within 60 days of completion. At the same time, names and telephone numbers should be left on file as to the persons to contact should an emergency arise at the crossing in question.
5. The **Applicant** will be responsible for any **Commission** costs incurred in connection with the crossing and any processing fee.
6. **Applicant** will be responsible to restore any surface disturbance to existing condition or better.

Permanent Installations

All proposed permanent installation drawings MUST contain the following items:

1. Plan Number, including any revision number and the respective date.
2. North Arrow.
3. Scale.
4. Legend.
5. Location indicator including legal land description, and GPS coordinates.
6. Plan view of whole quarter section or affected area including:
 - Lot lines, road limits.
 - Proposed facilities (including curbs, footing, guard rails, guy wires, poles, fences, etc.) with tie dimensions to lot survey line preferably along pipeline and/or right-of-way boundary.
 - Location of cathodic test lead terminals (if applicable).

7. Cross section view and/or profile view including:
 - a. For surface structures, show profile along pipeline(s) with highest elevation
 - b. For underground facilities show profile along facility
 - Property lines, pipeline(s) and depth of cover
 - Drill path plan for trenchless installations
 - Open Cut Installations: unsupported spans are not permitted. Outline method for backfill and compaction.
8. Crossing Angle. The Commission's pipeline is to be crossed at an angle of 90 degrees.
9. Crossing location circled.
10. Method of Installation.
11. Profile of crossing, showing a minimum clearance requirements as detailed on Page B-3
12. Facility specifications:
 - **Pipe/Cable:** pipe diameter, pipe material, product conveyed, cable size, if cable is within a conduit, conduit material, cable voltage.
 - **Road:** width of road, cover at ditch, cover at center of road, surface material, road type/use.
 - **Overhead Power:** pole number(s), location of pole/guy wire/anchors/etc., method of installation of pole/guy wire/anchors/etc., horizontal clearance to pipe from proposed pole/guy wire/anchors/etc., vertical clearance to ground/grade, type of power (AC/DC), AC mitigation plan may be required.
13. Drawings to be signed by a Professional Engineer registered in the Province of Alberta.

Temporary Activities

All temporary activities drawings MUST contain the following:

1. Plan Number, including any revision number and the respective date.
2. North Arrow.
3. Scale.
4. Legend.
5. Location indicator including legal land description, and GPS coordinates.
6. Plan view of whole quarter section or affected area.
7. Temporary activities location circled.
8. Identify all affected Commission facilities.

9. Facility specifications:

- **Workspace:** location, measurement of workspace, purpose.
- **Access of Row:** location, km usage of ROW, width of access; egress/ingress points, **Applicant** is to provide a Equipment Specification and Data Sheets
- **Equipment Crossing:** complete the Equipment Specification and Data Sheet (attached).
- **Road Use:** indicate road(s) to be utilized, km usage, reason required, frequency of use; complete the Equipment Specification and Data Sheet (attached).

10. Drawings to be signed by a Professional Engineer registered in the Province of Alberta.

Clearance Requirements

Minimum Clearance means the required distance between the existing **Commission** Pipeline and the proposed facility based on the selected method of installation.

- The Commission maintains top pipe position unless otherwise approved.
- Minimum horizontal clearance required for proposed adjacent infrastructure is 5 m from the center of pipe.
- Minimum vertical clearance required for installation **BELOW Commission** Pipeline by OPEN CUT is 1.0 m.
- Minimum vertical clearance required for installation **BELOW Commission** Pipeline by horizontal directional drill is 3.0m. Other trenchless crossing methods will be review at time of application.
- Minimum vertical clearance required for road installation from bottom of ditch to top of **Commission** Pipeline is 2.8 m and from centerline of road to top of **Commission** Pipeline is 2.8 m, unless otherwise authorized by the **Commission**.