MINISTRY OF INFRASTRUCTURE

Building Broadband Faster in Ontario

A guideline to support accelerated broadband deployment

Version 4.0

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Building Broadband Faster in Ontario

Ontario

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Part 1 Introduction

1 Introduction

The Government of Ontario has committed almost $4B to provide access in every region of Ontario to reliable, high speed internet by the end of 2025.

In April 2021, the *Building Broadband Faster Act, 2021* (BBFA) was enacted along with changes to the *Ontario Energy Board Act, 1998* (OEBA). The main purpose of the BBFA and changes to the OEBA are to expedite the delivery of broadband projects of provincial significance by removing barriers to building broadband projects. In April 2022, changes were made to the BBFA through the *Getting Ontario Connected Act, 2022* to further address barriers to designated broadband projects. These changes also included changes to the *Ontario Underground Infrastructure Notification System Act, 2012* (One Call Act), to mandate the use of a dedicated locator for designated broadband projects.

Since the introduction of the BBFA, the Province has consistently identified the expectation that all partners involved in broadband deployment would work collaboratively to further reduce administrative barriers, support timely broadband deployment, and contain costs.

The Building Broadband Faster in Ontario Guideline (Version 1.0) was released in November 2021 to provide best practices, processes, and timelines for broadband stakeholders to support faster deployment. Version 1.0 included a Statement of Intent that signaled the province's plan to introduce a suite of additional measures to support broadband deployment, including new legislative and regulatory requirements. In August 2022, the Guideline (Version 2.0) was updated and released to reflect the new legislative and regulatory requirements that came into effect after the release of Guideline 1.0. These included BBFA amendments to further address barriers related to municipal permitting timelines and data sharing, One Call Act requirements related to the dedicated locator model, and OEBA regulations on timelines and processes for pole attachments and make-ready work. In August 2023, the Guideline (Version 3.0) was updated and released to reflect additional legislative and regulatory guidance changes as well as , including a process for resolving disputes resolution process between broadband stakeholders, and a framework to support for cost-sharing for pole attachments and updates make-ready work.

Guideline 4.0 provides additional guidance to support successful implementation of legislative and regulatory requirements including enhanced instructions on expediting municipal right of way access, adjustments to the dedicated locator model to support ISPs in obtaining locates, and updates on available tools and resources to reduce make-ready work to optimize aerial deployment. Together, these efforts will help to achieve the government's commitment to connect communities across the province by the end of 2025.

Guideline 4.0

This Guideline was developed to reduce barriers, speed up broadband deployment and support the successful implementation of the BBFA. Broadband stakeholders and Ontario government ministries provided input into the development of the Guideline. The current Guideline reflects the latest legislative and regulatory requirements and will be updated if new measures are developed and implemented.

In summary, Guideline 4.0, in alignment with legislation and regulations includes the following key updates:

- Provides guidance on expediting negotiations over municipal right of way access. Describes enhanced instructions for municipalities when engaging with ISPs to reduce delays and costs for broadband construction and deployment.
- Includes components for consideration when developing municipal access agreements.
- Summarizes Hydro One's recent technical bulletin updates to optimize make-ready work.
- Summarizes Bell Canada's technical updates to optimize make-ready work.
- Further describes the role of the Technical Assistance Team (TAT), including additional guidance and resources on rail crossings, easements and multiple ISPs on the same running line.

Legislation

Under the *Reducing Gridlock, Saving You Time Act, 2024*, which received Royal Assent on November 25, 2024, changes were made to the BBFA to enable the Minister to expropriate, when necessary, an easement on private property for a designated broadband project in an expedited manner to avoid delays. This will help ensure that individual property owners cannot prevent other members of the public from receiving access to high-speed internet.

The proposed process would only be used:

- After all other reasonable avenues for securing the required easement have been exhausted; and
- At the request of the ISP with full knowledge they would be responsible for the costs.

The amendments enhance the Minister's existing expropriation authority under the *Ministry of Infrastructure Act, 2011*. This authority is subject to the provisions of the *Expropriations Act, 1990*. Among other things, the amendments:

- Provide an exemption from the requirement to hold "hearings of necessity" (if requested by landowners) to avoid delays.
- Allow the Minister, by direction, to establish a process to receive and consider comments from property owners about a proposed expropriation.
- Allow for the transfer of the easement from the Crown to an ISP or other entities.
- Require the ISP or other entity to compensate the Crown for costs related to the expropriation, as determined by the Minister.

Regulations

The Province has made changes to a number of existing regulations to further set out clear requirements for stakeholders. These include:

Regulations under the BBFA

A. **Ontario Regulation 436/22 (Definitions and Prescribed Provisions)** has been updated to include requirements that proponents must adhere to when authorized to conduct make-ready work by the Minister of Infrastructure.
B. **Ontario Regulation 324/23: Administrative Penalties** has been implemented and prescribes provisions 5,9, and 20.1 of the BBFA for the purposes of administrative penalties under subsection 24(1) of the Act.
    - Sections 5 and 9 contain requirements for local distribution companies (LDCs) and proponents of designated broadband projects with respect to the Minister's notices and orders.

Section 20.1 requires certain utility infrastructure owners or operators to share data as requested by the Minister within 15 business days of receiving a request.

Regulations under the One Call Act

A. **Ontario Regulation 376/24** - On November 20, 2024, the *Cutting Red Tape, Building Ontario Act, 2024* was introduced which proposes amendments to *the Ontario Underground Infrastructure Notification System Act, 2012*. On December 4, 2024, the bill received Royal Assent and the legislative changes came into effect.

The legislative amendments to the Act will provide flexibility around the requirement that 100% of affected Underground Infrastructure Owners (UIOs) and the project owner must agree on the selection of a Dedicated Locator. The changes will provide Ontario One Call with the authority to allow certain UIOs to complete their locates, based on specified factors (safety concerns, the specialized nature of the affected member's infrastructure, any limitations regarding the affected member's mapping information and any other factors that may be prescribed by the Minister).

The affected underground infrastructure owners and the project owner have not agreed on a dedicated locator service provider; and

- All or part of the project is located in:
    - A local municipality with a population of less than 100,000 (as reported by Statistics Canada in the most recent official census); or
    - Northern Ontario as defined by the One Call Act (i.e., territorial districts of Algoma, Cochrane, Kenora, Manitoulin, Nipissing, Parry Sound, Rainy River, Sudbury, Thunder Bay and Timiskaming and the City of Greater Sudbury).

Hydro One Technical Bulletins to Optimize Make Ready Work

Hydro One has released a number of technical updates to support and fast track broadband development across the province. Updates are related to the following policies:

- Overlash – Previously Accounted For (OPAF)
- Evaluation Requirements When Attaching to Existing Poles.
- Prioritizing Defect Correction
- Materially Insignificant Alteration
- Deviations
- Permit Application Requirements (PAR)
- Pole Refurbishment

A more detailed table providing a summary of Technical Bulletins Hydro One has released related the broadband program can be found on **page 38** of this Guideline.

Bell Canada Technical Updates to Optimize Make Ready Work

Bell Canada has released a number of technical updates to support and fast track broadband development across the province.
Updates are related to the following policies:

- Materially Insignificant Alteration
- Tough Truss
- Support Structure Agreement (SSA) - Expedited Access Work Form

A summary of technical updates by Bell Canada related the broadband program can be found on page 38 of this Guideline.

New Measures Regarding Make-Ready

The Government of Ontario has made a new make-ready investment to address the rising costs associated with make-ready work.

MOI, collaboratively with Hydro One, has developed the operational model to deliver the investment as a subsidy to ISPs. There are two components to the subsidy:

1. Broadband Program Enablement Costs (BPEC): a full offset of the administrative cost line items excluding HST.
2. Make-ready Work: A percentage (%) credit applied to the final invoice in respect of an Application for Joint Use based on the level of make-ready work required to facilitate attachment.[1]

To be eligible for this subsidy, ISPs must be conducting make-ready for aerial deployment on Hydro One poles. Make-ready work must be associated with a designated broadband project. ISPs are required to provide data and information on pole attachment forecasts on a quarterly basis for Hydro One owned poles and aerial route plans to calculate the eligible subsidy amount. The subsidy investments are intended to provide financial relief to ISPs.

For any questions related to the make-ready investment subsidy, please contact the Technical Assistance Team at TAT@infrastructureontario.ca.

[1] The percentage credit will be re-calculated on a regular basis (quareterly) based on ISP pole forecast submissions.

Expediting Municipal Right of Way Access

To support compliance with timelines and requirements for municipal service and right-of-way access under the BBFA, **Section 2.2** of this Guideline has been updated to include enhanced instructions to expedite negotiations through municipal access agreements.

Part 2 Building Broadband Faster Act Guideline 4.0

2.1 General and Administrative Provisions

Purpose of the BBFA Guideline

This Guideline serves as a companion guide to the *Building Broadband Faster Act, 2021* (BBFA). It is a key tool in enabling the Ontario Government's Accelerated High-Speed Internet Program (AHSIP) which together with other provincially funded broadband projects (i.e., designated broadband projects) aim to provide access to high-speed internet to all communities by the end of 2025.

The Guideline has been designed to enhance the coordination and engagement among project stakeholders related to the deployment of high-speed internet infrastructure, including streamlining processes associated with attaching high-speed internet wirelines to Local Distribution Company (LDC)-owned electric utility poles and providing timely access to municipal and provincial rights-of-way (ROWs). It is recognized that Internet Service Providers (ISP), also known as Telecommunications Service Providers (TSPs), need timely access to LDC poles and ROWs. Efficiencies in the process and recommended by this Guideline can have a positive impact on project-level costs, complexity and timelines related to the efficient deployment of broadband networks.

The Guideline is a tool that can be used by, but is not limited to use by, LDCs, ISPs/TSPs and their respective third parties in coordinating installation and service provision as well as Ontario government ministries, Infrastructure Ontario (IO), municipalities, Indigenous communities, and government partners such as the Electrical Safety Authority (ESA), Ontario One Call and the OEB.

This Guideline provides direction and guidance in accordance with legislation and regulations developed for designated broadband projects in order to:

- Encourage early and good faith communication and collaboration among participants;
- Expedite the safe and cost-effective delivery of designated broadband projects;
- Meet the Ontario government's goal to connect every region in Ontario to essential, reliable, high-speed internet by the end of 2025; and,
- Facilitate municipalities and LDCs providing timely access to their infrastructure on reasonable terms, including municipal rights-of-way and LDC owned poles to support high-speed internet projects.

This Guideline also:

- Provides details on an information and data gathering platform – the BOW. The BOW is an electronic system to support the design, procurement, construction, and management of AHSIP designated broadband projects, and potentially other designated broadband projects. Parties are being asked to also provide relevant infrastructure data through this platform to enhance information sharing and proactively anticipate and address issues.
- Provides that Infrastructure Ontario will operate the BOW platform and help mediate informal disputes.
- Establishes the role of the Technical Assistance Team (TAT) that will provide support, informal advice and assistance to municipalities, ISPs and LDCs on the implementation of the Guideline, implementation of designated broadband projects and help with informally resolving disputes.

Overall, the Ontario government has committed to ensuring that every community has access to high-speed internet by the end of 2025. This Guideline, if followed correctly, will be a vital tool in helping to achieve this ambitious goal.

Background

While the Government of Ontario has been working to expand access to high-speed internet throughout the Province for several years, the COVID-19 pandemic highlighted the essential role of reliable high-speed internet for participating fully in today's economy, including through the workplace, educational institutions, telemedicine, and online commerce.

To address this, Ontario announced a commitment of nearly $4 billion to connect every region to high-speed internet by the end of 2025 . This is the largest single investment in high-speed internet, in any province, by any government in Canadian history.

In April 2021 the BBFA was enacted to expedite the delivery of designated broadband projects, prescribed under regulation, by streamlining processes and removing barriers that may result in additional costs and delays in reaching these unserved and underserved communities across Ontario. This legislation builds on the Government's 2019 Up to Speed: Ontario's Broadband and Cellular Action Plan, which outlined a plan to expand broadband and cellular access into unserved and underserved communities.

Link to the BBFA: Building Broadband Faster Act, 2021, S.O. 2021, c. 2, Sched. 1 (ontario.ca).

Link to the OEBA: https://www.ontario.ca/laws/statute/98o15#BK161

Link to the One Call Act: https://www.ontario.ca/laws/statute/12o04

To Whom this Guideline Applies

This Guideline is intended to apply to:

- A Proponent, who is legally bound by the Transfer Payment Agreement entered into with the Government of Ontario for designated broadband projects which are being funded by Ontario
- LDCs whose service territories include coverage of the geographic areas where there are designated broadband projects or LDCs who otherwise anticipate performing or supporting high-speed internet projects and wish to adopt practices within it .
- Ontario municipalities whose municipal boundaries include the geographic areas where there are designated broadband projects.
- Members of Ontario One Call (i.e., owners/operators of underground infrastructure) in submitting and responding to locate requests relating to underground infrastructure.
- Dedicated locators / locate service providers (LSPs) in carrying out locates relating to underground infrastructure for designated broadband projects.
- Any other person with infrastructure within a right-of-way for a designated broadband project and any other person whose cooperation is required to carry out a designated broadband project.

These parties are hereto defined as 'provincially funded project stakeholders'.

This Guideline would also be of benefit for other relevant parties, including construction contractors, engineering providers, geographic information systems providers, and surveyors.

Role of Ministry of Infrastructure

The Ministry of Infrastructure is responsible for the implementation of the regulatory and legislative framework and general oversight of designated broadband projects to ensure timely completion. In this regard, it may:

- Provide clarification of legislative or regulatory requirements, if needed, to the TAT
- Provide clarification, if needed, to the Minister of Infrastructure on the use of their authorities under the BBFA
- Support engagement with partner ministries and government agencies, including oversight and implementation of engagement strategies to ensure readiness of project stakeholders
- Assess and address complaints that are brought to the Ministry directly or indirectly through the TAT
- Execute all legal funding agreements for designated broadband projects and manage oversight of these agreements as part of its obligations under the *Financial Administration Act* and associated policies and directives
- Update the BBFA Guideline to provide transparency to the sector and set stakeholder expectations

Role of Infrastructure Ontario

- Oversight of the Broadband One Window (BOW) platform including its development, maintenance and end user training and platform use. The BOW also enables project reporting, municipal and 3rd party pole attachment permitting process and support request resolution on a common platform.
- Oversight of the Technical Assistance Team (TAT) to monitor ISP project progress on AHSIP and assist delivery partners including ISPs, municipalities, LDCs and other infrastructure owners on designated broadband programs. The TAT will provide assistance with user resources, permits coordination, technical and administrative support (including implementation of legislation, regulations, and guideline) and informal dispute resolution.
- Process development to establish means and methods to support AHSIP Projects and as may be determined, other designated broadband projects' activities
- Risk assessment and mitigation on AHSIP through effective coordination with delivery partners as well as relevant ministry and agency partners

Role of Parties in Designated Broadband Projects

This Guideline is meant to provide guidance and best practice approaches to all parties engaging in designated broadband projects which are being funded by Ontario in accordance with current legislation and regulations.

The provincially funded project stakeholders are expected to engage in good faith, without prejudice, in a manner consistent with the spirit of partnership and collaboration. Stakeholders are expected to ensure that they conduct their work in such a way that ensures the safe deployment and ongoing operation of broadband, municipal, transportation, electrical, and other infrastructure assets.

The legislative authorities outlined in the OEBA and its regulations and the BBFA and its regulations serve in their application as backstops/safeguards in the event that negotiation between designated

broadband projects is not successful, resulting in non-compliance with legislative or regulatory requirements.

Application

This Guideline is intended to apply to any designated broadband project.

Applicable Law

Nothing in this Guideline is meant to limit the obligations that any party has to comply with any other applicable law, including but not limited to the latest versions of:

- The BBFA and regulations made pursuant to the BBFA;
- The OEBA and regulations made pursuant to the OEBA;
- Ontario Regulation 22/04 (Electrical Distribution Safety) made pursuant to the *Electricity Act, 1998* ("Electrical Distribution Safety Regulation" or "Ont. Reg. 22/04");
- Canadian Standards Association C22.3 No.1, the Electrical Distribution Safety regulation notes CSA Standard C22.3 No. 1-15 (or latest) for overhead distribution lines and CSA Standard C22.3 No. 7-15 for underground systems as amended from time to time;
- *Occupational Health and Safety Act* (OHSA) and Regulations;
- Ontario Regulation 164/99 (Electrical Safety Code) made pursuant to the *Electricity Act, 1998* ("Ontario Electrical Safety Code" or "OESC") and,
- *Ontario Underground Infrastructure Notification System Act, 2012* (One Call Act).

Amendments to the Guideline

Amendments to this Guideline must be approved by the MOI and will be made in consultation with the Ministry of Energy and Electrification (ENERGY) and the Ministry of Public and Business Service Delivery and Procurement (MPBSDP) and posted on the MOI website.

Bulletins

MOI may, at times, publish bulletins to this Guideline. The purpose of these bulletins is to provide specific information on issues, conflicts and/or misunderstanding where there is a need for immediate or additional clarification. Bulletins will be posted as supplements to this Guideline and will allow provincially funded project stakeholders to subscribe to an RSS feed for posted updates.

2.2 Accelerating Access to LDC Poles and Rights-Of-Way

This section sets out processes and timelines that are recommended to be followed by Proponents and their service providers, LDCs and municipalities and is generally limited to any designated broadband project in respect of which the Proponent has confirmed its intention to use the Broadband One Window (**BOW**) platform for the permitting and construction of the designated broadband project

Attaching to LDC-Owned Poles

This section outlines the BOW authorization process for LDC owned pole attachments, including the engineered design requirements as well as the applicable standards to which stakeholders are expected to adhere.

Where the Proponent has confirmed its intention to use the BOW platform for permitting and construction of a designated broadband project, an LDC must also use the BOW for the project. The general process to acquire an LDC-approved authorization application to access an LDC owned pole are set out in Table 1 below.

While the below process generally assumes that the BOW will be used, the Proponent and the LDC may agree to alternative arrangements for the purpose of completing an attachment request.

Table 1: Illustrative Process for Aerial Route on LDC-Owned Poles

	Activity	Process Details
1	**Determination of possible route**	• The Proponent determines possible route using best industry practices including digital maps, available information from BOW and existing network records • The Proponent submits planned route to BOW and requests outstanding information from LDCs and existing attachers • If requested, TAT circulates notification of planned/possible route to all known implicated parties (i.e., municipalities, LDCs, Enbridge and other telecoms)
2	**Field inspection/survey**	• The Proponent and LDC coordinate prior to field inspection/survey of the poles applied for and determine who will be developing engineered designs as the ESA guidelines allow for both owner (i.e., the LDC) developed and applicant (i.e., the Proponent) developed plans or work instructions • LDCs and existing attachers provide information requested by Proponent • LDCs and existing attachers provide information requested by proponent. Loading information provided by all parties may be based on assumptions for the purpose of feasibility.
3	**Professional Engineer Approved Design Drawings**	• The Proponent or LDC (as agreed) conducts pole loading structural analysis, prepares P.Eng. approved design drawings (certifying that the design meets the requirements of CSA 22.3 No.1-15 (or latest) and Ontario

	Activity	Process Details
	• Structural analysis • Telecom attachment • Any power make-ready	Reg. (22/04) and determines what telecom and power make-ready work, if any, needs to be completed for safe attachment. Ontario Reg. 22/04 notes CSA Standard C22.3 No. 1-15 for overhead distribution lines and CSA Standard C22.3 No. 7-15 for underground systems. For Proponent led-designs, the Proponent must provide materials to the LDC to review and to inform subsequent steps. • Appendix 1: Application Requirements, Templates and Forms provides templates of Basic Drawing Requirements and Design Requirements that may be used
4	**Determination of Sequencing of Make-Ready Work** • Triage of power make-ready work • Determine requirements needed to accommodate make-ready work	• The Proponent or LDC (as agreed during coordination prior to field inspection/survey) determines whether any power make-ready work can be completed safely after or in parallel with any attachment (including any temporary work) or whether power make-ready work needs to be completed prior to attachment (i.e., "triage" of power make-ready work). • Appendix 2: Further Reducing Complex Make-Ready Work provides guidance on triage of power make-ready work
5	**Authorization application approval** • Authorization application form • Professional Engineer Approved Design Drawings • Full Pole Loading Structural Analysis	• The Proponent submits to BOW an application form including Professional Engineer Approved Design Drawings and Full Pole Loading Structural Analysis. To ensure quality submissions, it is recommended that this analysis is conducted using industry standard software. • IO, as administrator of the AHSIP, reviews application (see Preliminary Authorization Review Checklist below) to ensure all required information has been submitted • LDC reviews and if appropriate approves application. Appendix 1: Application Requirements, Templates and Forms provides information to be included on each application form including Professional Engineer Approved Design Drawings and Full Pole Loading Structural Analysis
6	**LDC issues quote for Power Make-Ready Work**	• LDC advises the proponent whether it will conduct the make ready work or whether the LDC will allow the proponent to conduct the work • LDC (if completing the make-ready work) provides a layout for power make-ready and a quote for the apportionment of the actual cost of the make-ready power work as set out in O.Reg. 410/22 • Proponent provides Purchase Order or certified cheque as determined by the LDC
7	**Advising timing of construction (with ROP)**	• Some municipalities may require a Road Occupancy Permit and have associated timelines and processes that must be adhered to per the BBFA (see row 4 of Table 3).
8	**Advising timing of construction (without ROP, note that #7 would not**	• Where a Road Occupancy Permit is not required, the Proponent notifies the municipality directly prior to work commencement within the established PT

	Activity	Process Details
	apply in this instance)	
9	**Completion of Make-Ready Work**	• The Proponent and LDC negotiate coordination of any power and telecom make-ready work, including planning any necessary outages. See the Section on One-Touch Make-Ready below.
10	**LDC issues authorization**	• LDC issues authorization via BOW or other agreed upon means.
11	**Wireline attachments**	• The Proponent coordinates with other ISPs to conduct any other telecom make-ready work at this time as the Proponent installs its attachment with the same crews
12	**As-built drawings submitted to LDC**	• The Proponent installs attachment and submits "As Built" drawings to an LDC including an acceptable Record of Inspection form. Appendix 1: Application Requirements, Templates and Forms provides a template Record of Inspection form. • The connection of any required bonding of the communication strand should be requested at this time and the LDC may provide a separate quote and obtain a purchase order (PO) for this work as a separate project from the application process
13	**LDC conducts post-build inspection**	• The LDC conducts any post-build inspection. The LDC may recover actual costs of post-build inspection from the Proponent.
14	**Authorization closed**	• LDC invoices Proponent based on actual costs once any outstanding issues discovered in the inspections are resolved

O.Reg. 410/22 establishes the performance timelines (PTs), reflected in this Guideline, that an LDC must adhere to in the absence of an alternative agreement between an LDC and a Proponent. The timelines stipulated in O. Reg. 410/22 begin once the LDC has received notice from the Proponent that the use of or access to the LDC's distribution system is required for the purpose of a designated broadband project and end once the LDC provides authorization to attach.

Table 2 sets out suggested, non-binding PTs for each recommended step provided for in Table 1. Note that under O. Reg. 410/22, LDCs are required to complete a wireline pole attachment request no later than the time specified in the regulation unless the distributor and proponent agree upon and enter into a contract for an alternative timeframe.

Note: *O.Reg 410/22 sets out performance timelines in calendar days, whereas Table 2 sets out non-binding PT for each recommended step in Table 1 in business days.*

Table 2: Performance Timelines Aerial Route on LDC-Owned Poles

	Activity[2]	**Performance Timeline (Business Days)**				
		Up to 29 poles	**30-59 poles**	**60-200 poles**	**500 poles**	**500 poles (permit submitted after January 1, 2025)**
1	**Determination of possible route** [3] [4]	N/A				
2	**Field inspection/survey**	5	10	20	35	35
3	**Professional Engineer approved design drawings** • Structural analysis • Telecom attachment • Any power make-ready work	35	40	60	100	100
4	**Determination of sequencing of make-ready work** • Triage of power make-ready work • Determine requirements needed to accommodate make-ready works					
5	**Authorization application approval** • Authorization application Form • Professional Engineer Approved Design Drawings	15	20	40	70	65

[2] PT provided in the first four activities (determination of possible route; field inspection/survey; P.Eng. approved design drawings; and determination of make-ready work) are only intended to apply to LDCs (i.e. in instances where they choose to conduct this work for owner-developed designs or if they choose to accompany the Proponent for the field inspection/survey).
[3] LDCs should document whether they will opt in or out of participating in the field inspection/survey within 5 business days.
[4] LDCs should document within 5 business days whether they will opt in or out of participating in the field survey.

	Activity[2]	Performance Timeline (Business Days)				
		Up to 29 poles	**30-59 poles**	**60-200 poles**	**500 poles**	**500 poles (permit submitted after January 1, 2025)**
	• Full Pole Loading Structural Analysis					
6	**LDC issues quote for power make-ready** In the instances where there is no make-ready and the permit can be issued at this point, a buffer of 5 business days may be added to this step to issue the permit (as step 9 would no longer apply)					
7	**Advising timing of construction** (in instances where ROP is required)	5 (in advance of start date)	5 (in advance of start date)	5 (in advance of start date)	5 (in advance of start date)	5 (in advance of start date)
8	**Advising timing of construction** (where ROP is not required)	5	5	5	5	5
9	**Completion of make-ready work**	Simple 25 Complex 40	Simple 30 Complex 60	Simple 35 Complex 80	Simple 60 Complex 145	Simple 55 Complex 130
10	**LDC issues authorization**	5	5	5	5	5
11	**Wireline attachments**	Subject to permit validity timelines as stipulated by the LDC				
12	**As-built drawings submitted to LDC**					
13	**LDC conducts post-build inspection**	Within 120 of receipt of completion notification	Within 120 of receipt of completion notification	Within 120 of receipt of completion notification	Within 120 of receipt of completion notification	Within 120 of receipt of completion notification

	Activity[2]	Performance Timeline (Business Days)				
		Up to 29 poles	**30-59 poles**	**60-200 poles**	**500 poles**	**500 poles (permit submitted after January 1, 2025)**
14	**LDC closes authorization**	20	20	20	20	20
	Maximum recommended performance timeline as per O. Reg 410/22 **days in the regulation are in calendar days*	***110** **OR** **July 1, 2025, if the permit is submitted prior to January 1, 2025, whichever is earlier**	***145** **OR** **July 1, 2025, if the permit is submitted prior to January 1, 2025, whichever is earlier**	***215** **OR** **July 1, 2025, if the permit is submitted prior to January 1, 2025, whichever is earlier**	***240** **OR** **July 1, 2025, if the permit is submitted prior to January 1, 2025, whichever is earlier**	***180**

While the above sets out recommended timelines associated with recommended activities in Table 1, O. Reg 410/22 sets out overall timeframe requirements to complete a wireline pole attachment request that apply after the distributor receives the written notice from the Proponent. The timelines stipulated in regulation are binding unless the LDC and proponent enter into an agreement that sets out other timelines.

For work involving more than 200 poles, this Guideline establishes a timeline of 215 days plus an additional day for every 12 poles or fewer over the 200th, rounded to the next day. It also establishes a timeline of 180 days, regardless of the number of poles for notice on or after January 1, 2025. These timelines are reflected in O. Reg 410/22.

Material Deficiencies and Performance Timeline Suspensions

Timelines may be suspended where an LDC gives notice of a material deficiency in accordance with O.Reg. 410/22. If there are disputes on the nature of a material deficiency and how to resolve it, parties are encouraged to resolve these among themselves in a spirit of collaboration. Where an agreement between the proponent and the LDC cannot be reached, the Proponent may seek informal dispute resolution support from the Technical Assistance Team (TAT) (see section 2.3 for more information) or submit an application to the OEB to resolve the matter (please see s. 2.4 'Resolving Disputes for more information).

Technical Assistance Team (TAT) Preliminary Review Checklist

A Technical Assistance Team (TAT) has been established and is available to support ISPs, LDCs and

municipalities with respect to designated broadband projects (see section 2.3 for more information).

Proponents may request TAT's review of the new 3rd party pole attachment application submitted through BOW. The review may include the following:

- Review the authorization application form and confirm that all information has been filled out completely and accurately
- Confirm that the required design drawings and engineering reports are included with the 3rd party pole attachment authorization application form and appear to comply with the standard requirements
- Confirm that the required Pole Loading Structural Analysis files are attached

The above criteria if included and complete in the application package, will ensure a good quality application and will accelerate the approval of the 3rd party pole attachment application.

One-Touch Make-Ready

As part of the AHSIP, this Guideline provides for several mechanisms, processes, and tools to expedite access to LDC poles while also ensuring that safety standards are met. This Guideline adopts the One-Touch Make-Ready (**OTMR**) process as an option whereby Proponents and LDCs should coordinate resources and elect that one crew of resources, rather than multiple crews, undertake the work that is reasonably necessary to prepare poles for new attachments and subsequently attach to the LDC pole.

This Guideline adopts as a baseline the Electrical Safety Authority (**ESA**)'s definition of "make-ready work" which is as follows: "make ready work" to consist of the practice of rearranging, installing, or removing equipment in order to safely accommodate additional infrastructure in or on a supporting structure of a distribution line. The following are the different types of make-ready work that may occur:

1. Telecommunications-Related ("Telecom") Make-Ready

Telecom make-ready is all work performed within the Communications Space dealing with telecom attachments. This work primarily involves rearranging or removing existing telecom strand, fibre, and other equipment (e.g., splice enclosures, power supplies) in order to:

- Make space in the Communications Space for the new telecom attachment
- Fix inadequate separation between existing telecom attachments (but does not include working in the power space of the pole)
- Fix inadequate ground clearance for existing telecom attachments

ISPs are encouraged to proactively work with their host LDCs to accommodate the timely and responsive relocation of telecom assets and infrastructure from poles which the LDC has identified as being in need of replacement or upgrade.

2. Simple Power Make-Ready

Simple power make-ready is non-complex work that is performed outside of the Communications

Space, including the following:

- Replace missing copper ground wire on pole
- Rearrange or shorten transformer conductor dips (e.g., drip loops) encroaching in the Communications Space
- Tension and move (i.e., raise) the neutral to create required separation from the telecom attachments

While not strictly "make-ready work", after the telecom strand has been installed, ISPs and LDCs should continue to consult the relevant electrical safety regulations, standards, and other documents applicable in the circumstances.

3. Complex Power Make-Ready

Complex power make-ready is work that is conducted primarily within the Power Space requiring specialized crews. Some of it is required to correct deficiencies in the power facilities, including:

- Pole replacement, including transferring existing power attachments to the new pole
- Reframe top of pole
- Replace insulators
- Relocate transformers (that are too low)

See Appendix 2: Further Reducing Complex Make-Ready Work for innovative approaches to make ready work.

Pre-qualified Contractors for OTMR

An LDC may allow the Proponent to employ pre-qualified Contractors to conduct any power make-ready work in addition to its own telecom make-ready work. Other telecom parties within the communication space are encouraged to authorize the Proponent to conduct any Telecom make-ready work on its infrastructure.

A Proponent availing itself of the OTMR process should sign a 120-day indemnity clause agreement (see below).

LDCs are encouraged to maintain a list of contractors that are pre-qualified to:

- Operate within the power space; and
- Operate within both the power space and the communications space.

Deploying resources that are qualified to operate in both the power and communications spaces will allow a Proponent to conduct any make-ready work and attachments in a safe, efficient, and timely manner.

The LDC may mandate reasonable requirements for contractors relating to issues of safety and reliability, such as the use of particular hardware or equipment (e.g., LDC-approved bolts, screws, or other parts) with respect to make-ready work.

120-day Indemnity Clause

Where an LDC does not use its own authorized persons to conduct power make-ready work, that work may be conducted by persons identified by the Proponent only if:

1. They meet the requirements set out in the definition of "competent person" in Ontario Regulation 22/04 (Electrical Distribution Safety) made under the *Electricity Act, 1998*, and,
2. The LDC receives from the proponent an indemnity for any damage or deficiency to the distributor's distribution system resulting from the persons identified by the Proponent per paragraph 1 conducting the work during the period in which the work is being conducted by persons referred to. Further, the indemnity in favour of the LDC must last for at least 120 days after the work is completed.

When allowing persons identified by the proponent to conduct the required make-ready work, an LDC is not permitted to withhold access to their distribution system in an attempt to secure requirements that differ from those specified in the regulation (e.g., a longer indemnity period than 120 days).

The Proponent is required to indemnify the LDC during the period of time within which the make-ready work is being done as well as for a period of 120 days post completion of this work. This 120-day indemnity period is expected to take effect post the completion of the make-ready work once the Proponent has submitted "As Built" drawings to an LDC including a completed Record of Inspection form. This provides the LDC, and any existing ISPs already attached to the LDC pole, time to conduct their own inspections and also provides the Proponent with clarity related to the timelines associated with telecom equipment deployment.

LDCs and existing ISPs should notify the Proponent of any damage to their respective infrastructure within the 120-day period following the date on which the Proponent submitted "As Built" drawings to an LDC including a completed Record of Inspection form. Commercial agreements that may be entered between LDCs and Proponents are anticipated to include provisions that deem that unless a Proponent can demonstrate otherwise, the damage will be assumed to be caused by the Proponent. Further provisions of the contract are anticipated to stipulate that within 30 days of receiving a notice from an LDC or existing ISP, the Proponent should remedy the identified damage at its own expense or attempt to otherwise resolve the matter with the LDC or existing ISP through the formal dispute resolution process[5]

Appendix 1: Application Requirements, Templates and Forms provides a template 120-day Indemnity consent agreement.

The 120-day indemnity clause could include:

- The Proponent acknowledges that the LDC is relying on the ISP's own inspection in approving the authorization
- The Proponent understands and accepts all risks with respect to its work
- The Proponent accepts remediation costs with respect to any temporary installations it installs
- Any damage that occurs to the structure within 120 business days of completion of the Proponent's work will be prima facie assumed to have been caused by the Proponent unless it can demonstrate another cause
- While the OTMR process allows time for the review of Proponent-proposed designs, authorizations for the OTMR process must be stamped by a professional engineer, assuming the

LDC does not review or challenge engineering but instead conducts an inspection post deployment

- The Proponent may either accept the risk of having to redo work if corrections are required or may proactively request pre-deployment or simultaneous inspection by the LDC to confirm what is required with respect to its application
- If the Proponent compromises safety, electrical system reliability or acts in a manner that is prohibited by the contract, the Proponent's ability to avail itself of the OTMR process can be revoked by an LDC with written reasons

One-Touch Make-Ready Process: Good Practices

This section outlines a typical Proponent-led OTMR process and recommends good practices to approach LDC-owned pole attachment permits and make-ready work on designated broadband projects including engineering design requirements, applicable standards and BOW authorization processes.

The process recommends and sequences key activities such as standardized design package, the use of pre-qualified contractors for construction, protocols for identifying and disposing of wreckage, and network outage planning. LDCs may have additional or fewer steps depending on their operational policies.

If requested by the Proponent, the LDC would use the BOW for permits and approvals associated with the make-ready work. Table 3 below illustrates the general steps and good practices based on the consultation with Accelerated High Speed Internet Project partners for a typical One-Touch Make-Ready process to access LDC-owned poles.

While the below process generally assumes that the BOW will be used, the Proponent and the LDC may agree to alternative arrangements for the purpose of completing an attachment request.

Table 3: Illustrative One-Touch Make-Ready Process for Aerial Route on LDC-Owned Poles

	Activity	Process Details
1	**Determination of possible route and notice to LDC**	• The Proponent determines possible route using best industry practices including digital maps, available information from BOW and existing network records • The Proponent submits notice and a planned route through an initial proposal (attacher-led) as part of a 3rd party pole attachment request on BOW for LDC review. • The Proponent may also request outstanding information from LDC and existing attachers.
2	**LDC Response and Process Identification**	• Within 10 days of receiving the notice from the Proponent, the LDC notifies the Proponent as to whether it will allow the Proponent to proceed with the attacher-led process. ▪ If yes, the Proponent submits an OTMR proposal to LDC through BOW ▪ If not, the Proponent establishes a separate, mutually agreed process with the LDC

	Activity	Process Details
		• LDCs and existing attachers provide other information requested by Proponent. Loading information provided by all parties may be based on assumptions for the purpose of feasibility. • LDC may also guide on asset replacement and consult on the route's future plans.
3	**Works Agreement**	• LDC and Proponent enter into a works agreement for the specific proposal with a contractual protocol • Both LDC and the Proponent develop a commercial agreement for an attacher-led model including a cost allocation framework to share the cost of the end-to-end OTMR work (Refer to the section below on 'Cost Apportionment for Make-Ready Work' for more details). The agreement may include key OTMR activities and their timelines.
4	**Pre-qualified Contractor procurement**	• The Proponent assigns the OTMR route to a pre-qualified Contractor to start design and construction

5	**Make-Ready design activities**	The Proponent / Contractor would:
		• Conduct pole survey and develop pole information
		• Overlay fibre design on existing infrastructure
		• Further develop Make-Ready design for OTMR routes
		• Flag the need for tree trimming and equipment replacement
		• Identify the series of poles & infrastructure where Make-Ready work is needed
		• Meet with LDC to discuss preliminary design and property owner/Right Of Way considerations
		• Coordinate with LDC to develop Outage Plan for live networks impacted by OTMR
		• Submit OTMR design documents and initial costing for LDC approval through the BOW 3rd party pole attachment application, including
		  ▪ Telecom Design - pole loading analysis, make ready work design package, network outage plan, project plan, 3rd Party consents on easements and Right of Way, bill of materials, procurement items along with alternatives
		  ▪ Electrical Make Ready Work Design Package
		• To ensure quality 3rd party pole attachment applications, it is recommended that the

	Activity	Process Details
		design analysis is conducted using industry standard software.
6	**3rd party Pole Attachment design approval**	• LDC reviews the 3rd party pole attachment application and the OTMR design package • LDC provides inputs at this stage on whether assets and equipment need transferring vs replacement and whether further changes to the design package are required. • If further investigation and changes are not needed, the LDC approves the design • The LDC provides the Proponent a notice to proceed with OTMR construction works
7	**OTMR construction start**	• The Proponent holds construction kick-off meeting with the Contractor to develop construction documents and align on construction costs
8	**Material procurement for One-Touch Make-Ready work**	• The Proponent identifies procurement lead times, and notifies the Contractor to proceed with material procurement • The Proponent and the Contractor follow the list of approved suppliers from the LDC to finalize supply chain strategy and place purchase orders
9	**Completion of Make-Ready work** • Network outage and decommission process	• The Proponent and LDC negotiate coordination of any power and telecom make-ready work, including planning any necessary outages. • The Contractor executes locate process, procures assets for construction, and sends network outage application to the LDC, as needed • The LDC reviews and approves the Contractor's network outage plan and identifies regulatory requirements to obtain clearance for the planned outages • The LDC obtains the necessary notice to proceed with network outage for OTMR work and starts execution After receiving notice to proceed from the LDC, the Contractor proceeds with OTMR construction, coordinates outage activities and confirms incident notification protocols. • The Contractor also plans to manage the disposal of decommissioned poles and other field items. It also records the items found, disposal steps, and pole decommissioning process. • The Contractor conducts final inspection and submits the inspection report draft to the Proponent for review

	Activity	Process Details
10	**As-built drawings**	• The Proponent reviews inspection report and obtains notice to proceed with submitting as-built drawings • The Contractor is responsible for creating as-built drawings and submitting them along with the invoice for total costs in BOW • The Proponent receives as-built drawings, sends invoice to the LDC for allocated costs, and sends a payment application capturing any new costs
11	**Construction Completion**	• LDC receives and reviews the as-built drawings to verify the completion of construction process
12	**Post-build inspection**	• The Proponent compensates the Contractor, develops an agreement with the LDC for post-build inspection, and conducts post build inspection • LDC identifies defects during the inspection • The Contractor investigates and resolve defects, if any • The LDC sends notice to the Proponent with inspection findings, and obtains inspection sign-off satisfying O. Reg. 22/04.
13	**Authorization Closed**	• The Proponent receives inspection sign-off notice • The LDC issues 3rd party pole attachment permit approval on BOW, recognizes OTMR completion, and reimburses the Proponent based on the agreed cost allocation framework

Third Party Attachment Permit Review Approach

Subject to the overall requirement under O. Reg. 410/22 that the counting of days within which the attachment/make-ready work must be completed commences when the first notice is received by an LDC from a proponent, an ISP may submit multiple notices (i.e., permit applications) to an LDC for the same designated broadband project. Although LDC timeline requirements under O. Reg. 410/22 are determined according to the total number of poles identified in the notices taken together for the same project, it is recommended that LDCs promptly review and approve permits as they are submitted. Reviewing permits as they are submitted will spread out the workload and help prevent unnecessary delays, enabling ISPs to start work in discrete areas as they continue to submit permits under other locations. Furthermore, grouping permits together for review and approval purposes may take longer and could be more complicated depending upon the discrepancies or issues within the larger application package.

The following are best practices that LDCs may consider as part of their review process:

- Review and approve permits incrementally, instead of waiting to review and approve all permits as a single submission. This should be done on a network or staged basis, where a

certain number of permits/make-ready poles are reviewed and approved at a time. For example, LDCs may issue approvals to start the construction after a certain percentage of applications are verified for completeness or after a particular stage where most of the proposed make ready work is deemed to be compliant with regulatory requirements. This will help the Proponents ensure that work progresses smoothly and according to their anticipated timelines.

- Clearly communicate expectations to the Proponents regarding incremental review and approval process. This includes providing information on the timeline, requirements, and any specific information needed for each stage of permit review.
- Collaborate with the Proponents and proactively communicate with them throughout the permit application and approval process. This may include regular meetings and joint planning sessions to strategize permit review approach and address any concerns or issues in a timely manner.
- Provide timely feedback to the Proponents during the incremental permit review process. This includes promptly communicating any issues or concerns that may arise during the review process and working collaboratively with the Proponents to resolve them.

Reducing, Deferring, and Streamlining Make-Ready Work

In order to accelerate access to LDC-owned poles, LDCs and proponents of designated broadband projects should work together to optimize make-ready work. Optimizing make-ready work will ensure that the deployment of aerial broadband infrastructure can move forward as quickly as possible.

The Electrical Safety Authority (ESA) has released a number of bulletins that contain directions on how to demonstrate compliance with O. Reg. 22/04 (Electrical Distribution Safety) with respect to several topics. These bulletins provide information on specific measures that can be taken to safely reduce, defer, and/or streamline make-ready work. Please see Table 4 below for a listing of the relevant bulletins that support the accelerated deployment of designated broadband projects.

Table 4: Relevant ESA bulletins (as of July 2024) for reducing, deferring, and streamlining make-ready work for designated broadband projects.

Primary Benefit for Broadband Deployment	Bulletin Number/Link	Bulletin Title	Bulletin Description
Reducing make-ready work	DB-07-15-v3	"Materially Insignificant" Alterations	Allows work declared "materially insignificant" (e.g., fibre overlashing) by a P.Eng and approved by an LDC to be exempt from full engineering and make-ready work requirements. Previously, DB-07-15-v2 detailed fibre overlashing was detailed as an example of materially insignificant.
	DB-01-20-v1	Previous Editions of the Overhead and Underground	Allows for new loading (e.g., adding fibre cable) that was accounted for in the original design and met the standard at

		Standards	the time to be exempt from the current standard.
	DB-01-15-v2	In-Field Equipment Refurbishment	Allows for the in-field refurbishment of poles as an alternative to pole replacement.
Deferring make-ready work			
	DB-11-12-v3	Certificate of Deviation Approval	Allows for deviations from the standard so that make-ready work can be deferred or exempted.
	DB-02-16-v1	Certificate of Deviation – Certified Lists	Allows LDCs and attachers to utilize a certified list of common deviations from required standards.
Streamlining make-ready work	DB-10-12-v1	Attacher Developed Plans/Work Instructions and LDC Review	Clarifies that engineering plans developed by the attacher (e.g., ISP) do not require re-engineering by the LDC.
	DB-10-10-v2	Third Party Attachments Service Drop Definition & Exemption	Clarifies that service drops are exempt from O.Reg. 22/04 Section 13 audit requirements, to avoid review of site documents.

ESA guidelines also contain direction on how to demonstrate compliance with O.Reg. 22/04. ESA guidelines are located under the following link: Regulation Guidelines - ESA (esasafe.com). Please refer to the latest publication (guidelines and bulletins) for direction. If a bulletin is withdrawn, the information has typically moved into the guidelines. Questions can be directed to Utility.Regulations@electricalsafety.on.ca.

Hydro-One Technical Updates to Make-Ready Work

Hydro One has released a number of technical updates to support and fast track broadband development across the province. The below table provides a summary of Technical Bulletins Hydro One has released related the broadband program.

Policy	Description
Overlash - Previously Accounted For (OPAF)	Where an existing bundle can be overlashed and stays within the diameter originally designed for, there is not a requirement to analyze the pole line to today's standards. Only hazards would need to be corrected.

Evaluation Requirements When Attaching to Existing Poles	ISPs to ensure their attachment meets current standards. Design engineers would ensure the pole has sufficient strength and that there are no undue hazards, but where Hydro One has existing guys, anchors, insulators, etc. there is not be a requirement to bring the existing installation up to current standards.
Prioritizing Defect Correction	Hydro One has prioritized what existing defects require correction prior to allowing an ISP to attach. Defects have been categorized as: 1-required, 2- engineer analysis, 3 -not required. Defects that are not required to be corrected prior to attachment will be remediated through Hydro One's defect correction program.
Materially Insignificant Alteration	Hydro One will allow an ISP to remove a larger cable and replace it with a new smaller cable without requiring a full pole line analysis. Only hazards would need to be corrected.
Deviations	Hydro One updated its deviation policy to align with *ESA Bulletin DB-11-12-v3 - Certificate of Deviation Approval*. The policy has increased the applicability from overlashing to also include new strand installations.
Permit Application Requirements (PAR)	Hydro One changed its practice of completing full engineering analysis on all permit requests after submission. To speed up the design of make-ready work, Hydro One will utilize engineering checks already completed by ISPs.
Pole Refurbishment	Hydro One updated its distribution standards to allow for poles that would otherwise be replaced due to groundline rot to be refurbished with the installation of a steel truss.

For more information on Hydro One's updated policies and supports offered to Internet Service Providers, see the Hydro One Distribution Joint Use homepage.
Questions can be directed to : ExternalJointUse@HydroOne.com

Bell Canada Technical Updates to Make-Ready Work

Bell Canada has released a number of technical updates to support and fast track broadband development across the province. The below table provides a summary of technical updates Bell Canada has released related the broadband program.

Policy	Description
Materially Insignificant Alteration	The Bell Canada-owned pole Materially Insignificant Alterations (MIA) process follows *ESA bulletin DB-07-15v2*, allowing an ISP to overlash an existing strand on a Bell Canada-owned pole line. Fibre cable, up to a certain size, would be exempt from full engineering and only the existing hazards would need to be corrected prior to placement of the fibre.
Tough Truss	Bell Canada will allow for poles that would otherwise be replaced due to groundline rot to be refurbished with the installation of a steel truss. This method can be used to avoid pole replacements, ISPs are expected to provide recommendations for use of the truss systems instead of replacing poles.

Support Structure Agreement (SSA) Expedited Access Work Form	Support Structure Agreement (SSA) Expedited Access Work Form is a process to allow the ISP to bypass make ready on Bell Canada poles, expediting fibre placement. An ISP may use the form and work with their engineer as required to expedite access. The SSA Expedited Access Work Form is available to ISPs in the BOW Resource Library.

Process Optimization for Lashing to Electric poles (POLE)

The Process Optimization for Lashing to Electric Poles (POLE) Report details strategies to avoid and defer make-ready work when lashing fibre to electric utility owned poles. To support designated broadband project partners in meeting their obligations and achieve the government's commitment to bring high-speed internet to every region of Ontario by the end of 2025, the Technical Assistance Team proposes within the report strategies which may be implemented to optimize and reduce or defer project make-ready.

The report further describes the challenges faced, potential strategies, and anticipated outcomes for each proposed mitigation measures. In addition to these strategies, there may be other strategies that LDCs may adopt to help achieve the government's commitment to bring high-speed internet to every region of Ontario by the end of 2025.

To access the POLE Report and read more, refer to the Broadband One Window , available with a BOW Login in the Resources Library. If you do not have access, please email the Technical Assistance Team (TAT@infrastructureontario.ca) for a copy of the report.

Cost Apportionment for Make-Ready Work

Regulatory Requirements

On April 21, 2022, Ontario Regulation 410/22 (Electricity Infrastructure – Designated Broadband Projects) was filed under the *Ontario Energy Board Act, 1998*. Section 5(7) of the regulation stipulates how the costs associated with "make-ready" work are to be apportioned between the proponent of a designated broadband project and an electricity distributor. "Make-ready" work refers to all the necessary work required to safely accommodate the proponent's attachment of telecommunications infrastructure to a distributor's distribution poles.

As per section 5(7) of the regulation, an electricity distributor is required to charge the proponent of a designated broadband project an amount to recover a contribution towards the cost of certain "make-ready" work in accordance with a prescribed formula, unless the distributor and the proponent agree to a different apportionment of the costs. The formula has two components:

1. The proponent's share of the cost of replacing existing assets to accommodate the project shall be the lesser of:

(A + B)	OR	Total cost of the replacement assets

in which,

A = the cost of any necessary early retirement of existing distribution assets in respect of the project, calculated at the remaining net book value of those assets

B = the estimated advancement cost associated with accelerating the replacement of capital assets sooner than otherwise would have been required, as a result of the project, together with any incremental costs necessary to accommodate the project that are over and above a like-for-like replacement

2. The proponent's share of the cost of <u>any other work</u> carried out by the licensed distributor to accommodate the project, including the relocation or improvement of existing assets or the installation of new assets, shall be:

The incremental costs associated with that work

OEB Guidance on Cost Apportionment

On February 9, 2023, the OEB issued a letter providing guidance on cost apportionment for designated broadband projects. The letter provides specific guidance on calculating each component of the formula, ensuring that LDCs and project proponents have clarity with respect to cost sharing. The letter is available in Appendix 6 and on the OEB website:

- Letter from OEB re: Guidance on Cost Apportionment for Designated Broadband Projects (pdf)

On May 25, 2023, Hydro One Networks Inc. sent a letter to the OEB advising that it intended to implement a fixed-percentage cost sharing methodology in respect of the make-ready costs for designated broadband projects. The letter is available on the OEB website:

- Letter from Hydro One Networks Inc. re: Use of Fixed-Percentage Cost Sharing with Respect to Provincial Broadband Projects (pdf)

On July 28, 2023, the OEB issued a letter in response to Hydro One Network Inc.'s letter regarding its intended use of a fixed-percentage cost sharing approach. The letter is available in Appendix 7 and on the OEB website:

- Letter from OEB re: Fixed-Percentage Cost Sharing for Designated Broadband Projects (pdf)

Where a conflict may exist between this Guideline and OEB guidance, the recommendation provided in this Guideline is that OEB guidance should be viewed as taking precedence over this Guideline.

Work Categorization and Cost Treatment

In the process of enabling access to electricity distribution infrastructure, it is expected that project proponents and LDCs will encounter conventional make-ready work activities that can be grouped based on their financial treatment according to O. Reg. 410/22 and OEB's guidance. Table 5 below

summarizes these categories in addition to providing descriptive scenarios or examples to aid parties in the successful implementation of cost apportionment. These scenarios or examples are general in nature and may not be valid in every circumstance.

Table 5: Example cost treatment of common make-ready work activities.

Work Category	Scenarios or Examples	Cost Treatment

Work that would be incurred by the LDC in the absence of the broadband project or work unrelated to the broadband project	• Work undertaken exclusively for the benefit of electricity customers
	• Like-for-like replacement of capital/distribution assets with no remaining useful life
	  o Replacement of an existing 35ft, 50-year-old pole with a new 35ft pole. The original 35ft pole has no remaining useful life and would have been replaced by the LDC regardless of the broadband project.
	• Correction of pre-existing critical deficiencies, defects, and/or hazards (e.g., suspect or faulty insulators)
	• Incremental system upgrades for safety/reliability as per LDC's requirements and for the benefit of electricity customers
	  o Composite poles over wood poles
	  o Design requirements for future voltage conversions on feeders
	  o Line route changes for access improvements
		Electricity distributor (LDC)

Replacement of existing assets to accommodate the broadband project	• Replacement of functional capital/distribution assets sooner than otherwise would have been required
	  o Replacement of an existing 35ft, 35-year-old pole with a new 45ft pole. The 35ft pole has 20 years of remaining useful life and the new 45ft pole is needed to accommodate materially significant loading and clearance/separation standards.
	• Replacement of capital/distribution assets with no remaining useful life where the broadband project requires a new asset that is over and above a like-for-like replacement
	  o Replacement of an existing 35ft, 50-year-old pole with a new 45ft pole. The 35ft pole has no remaining useful life and the new 45ft pole is needed to accommodate materially significant loading and clearance/separation standards.
		Cost sharing
		
		Component #1 of O. Reg. 410/22 formula

Other work to accommodate the broadband project	• Work that has no benefit for electricity customers and would only be undertaken for the purpose of facilitating the broadband project
	• Relocation or improvement of existing capital/distribution assets
	  o Configuration changes
	  o Raising/lowering of neutrals, wires, or cables
	• Installation of new capital/distribution assets to facilitate the broadband project
	• Additional work directly attributable to accommodating the broadband project
	  o Pole reframing
	  o Guy/conductor re-tensioning
	  o Incremental easement requirements
	  o Grounding and bonding work required for broadband attachment
	• Temporary measures that do not constitute the final asset replacement (e.g., in-span poles)
		Proponent (ISP)
		
		Component #2 of O. Reg. 410/22 formula

Additional Considerations

Section 5(5) of O. Reg. 410/22 requires LDCs to facilitate the prescribed development, use, or access of their distribution infrastructure by choosing one or more of the following approaches, and in accordance with subsection (6.1) notifying the proponent as to which approach the LDC is selecting within 10 days of receiving the notice:

- Conducting the required make-ready work themselves
- Allowing persons that the distributor authorizes to conduct the required make-ready work
- Allowing persons identified by the proponent to conduct the required make-ready work (provided that regulated competency and indemnity requirements are satisfied)

Due to this flexibility in resourcing, actual expenditures related to the required make-ready work may be incurred by either the distributor or the broadband project proponent (or a combination thereof). As a result, the final allocation of costs may result in either a payment or a reimbursement from the LDC to the proponent (or vice versa).

Agreement on a cost sharing formula other than that provided for in subsection 5(7) of O. Reg 410/22 does not guarantee that the costs borne by the LDC can be recovered through rates. The OEB will ultimately decide the prudency of any cost sharing between an LDC and a Proponent.

<u>Resources & Support</u>

Additional materials, resources, and support are available to both project proponents and electricity distributors in relation to cost apportionment for designated broadband projects:

- **Ontario Regulation 410/22**

  Section 5(7) of Ontario Regulation 410/22 (Electricity Infrastructure – Designated Broadband Projects) amongst other requirements, sets out the requirements for cost apportionment between proponents and electricity distributors with respect to make-ready work on designated

broadband projects.

The official copy of the regulation is available on the Ontario e-Laws website.

- **OEB Guidance**

  The OEB has published letters that provide non-binding guidance on cost apportionment for designated broadband projects.

  The letters are available in Appendix 6 and 7 of this guideline or on the OEB's website. Any questions regarding the letters should be sent to IndustryRelations@oeb.ca.

- **Information from LDCs**

  Specific LDCs may have additional information and resources available to broadband project proponents related to make-ready work and cost sharing. This may include, for example, information on cost sharing methodologies and tools.

  ISPs and other proponents are encouraged to refer to the relevant webpages of LDCs or contact them directly.

- **Technical Assistance Team (TAT)**

  The TAT has been established to provide support, informal advice, and assistance to municipalities, ISPs, and LDCs on the implementation of designated broadband projects. Additionally, the TAT can assist in the informal resolution of disputes between parties.

  To contact the TAT, parties may utilize the case management function in the Broadband One Window (BOW) platform or send an email to TAT@infrastructureontario.ca. More information on TAT is available in section 2.3 of this guideline.

- **Dispute Resolution**

  A dispute resolution framework has been established to ensure that disagreements between parties can be resolved in an efficient and sound manner. This includes both informal and formal processes.

  For more information on dispute resolution, please refer to section 2.4 of this guideline.

Expediting Municipal Consent Negotiations

ISPs and municipalities have a shared responsibility to reduce schedule days and costs for all parties involved in broadband construction and deployment.

Expectations of ISPs

ISPs are expected to be collaborative partners to municipalities by engaging in the following practices:

- **Early engagement and forecasting of work:** ISPs should communicate with municipalities early and often to scope work, develop a resourcing plan and align on high-level project schedules and deployment methods. ISPs should provide accurate project information to anticipate and minimize impact of disruptions like road closures, conflicts to existing capital

plans, proposed accommodations to existing asset management plans. If the ISP is delegating to a vendor or contractor, they should notify the municipality of the appropriate project contacts and delegations in writing.

- **Negotiate a mutually beneficial program:** ISPs must recognize that municipalities and their constituents will benefit from broadband internet access and may incur maintenance costs as a result. Through negotiations ISPs and municipalities should establish a fair cost-sharing framework consistent with Canadian Radio-Television and Telecommunications Commission (CRTC) established principles. Link: CRTC
- **Municipal Consent/Permitting:** ISPs and their respective partners are expected to submit municipal permit applications in totality and to the satisfaction of the application requirements. It is reasonable for municipalities to charge a fee for the labour hours incurred to review a submitted permit. If permit fees are outside regulated guidelines or unreasonable or if permit applications are not being reviewed in a timely manner due to various constraints, ISPs should raise the issue with the Technical Assistance Team.
- **Adhere to Safe Excavation Standards:** ISPs are expected to adhere to safe excavation and road restoration standards outlined by municipalities, including maintaining a safe distance from the road, considering utility locates, controlling the plow's depth, and following industry guidelines for safe excavation practices. Both ISPs and municipalities can refer to the section below with respect to concerns over the 1 metre hand dig.
- **Leverage TAT:** If there are concerns from ISPs regarding municipal collaboration on deployment methods and stringent rights-of-way access requirements, and stalled negotiations with municipalities, or if any other concerns arise, ISPs are welcome to engage TAT for support and facilitation.

Expectations of municipalities

Given municipalities' role as a key delivery partner, it is expected that municipalities put their best efforts forward to collaborate with ISPs on negotiating deployment terms and managing right-of-way access, including:

- **Running Line and Installation Depth Requirements:** Municipalities should strive, when possible, to accommodate ISPs' running line and depth proposals. Any location requirements, whether implemented through municipal by-laws or through a Municipal Access Agreement (MAA), that vary from ISPs' proposed running lines are expected to be connected to a legitimate technical and/or geographic limitation or planned capital works project.
- **New Aerial Infrastructure Proposals**: In rural road segments that require aerial deployment, ISPs may propose adding new poles or additional pole lines. Municipalities should seek to accommodate new pole installations in the public right-of-way where possible and not place moratoriums on new pole lines. These proposals seek to take advantage of the accelerated deployment timelines and cost efficiencies by leveraging aerial infrastructure.
- **Alignment with Asset Management Plans**: Municipalities are expected to work collaboratively and negotiate reasonably with ISPs with respect to aligning long-term asset management plans to ISP proposals for deployment. Municipalities should not reject an ISP's proposal based on excessive caution of future capital works and should enter good-faith negotiations with ISPs to agree on reasonable cost-sharing proposals for maintenance and relocation based on industry standards.
- **Reasonable application of Causal Costs when developing Permit Fees**: Municipalities are expected to calculate Municipal Consent Permit Application fees in a reasonable manner adhering to the tenets of cost recovery and cost neutrality.

Once municipalities have agreed with ISPs on deployment proposals, making mid-program changes

to technical requirements should be avoided. These changes cause significant network redesign, additional costs, and drive project delays.

Municipalities are also expected to be collaborative partners to ISPs by engaging in the following practices:

- **Provide access:** Under the Building Broadband Faster Act, 2021, Ontario municipalities where there are designated broadband projects are required to provide access to municipal highways, right of ways, and property under municipal ownership or control for the construction or operation of a designated broadband project.
- **Timely assessments and approvals of work:** Municipalities are expected to respond, assess and approve or decline permit applications from ISPs in accordance with the performance timelines detailed in the BBFA. In the event of a material deficiency in the permit submitted, municipalities should notify ISPs promptly with clear indication of what is required to correct the application.
- **Leverage TAT:** If the municipality does not believe they are being engaged effectively, deployment methods are negatively impacting existing assets, negotiations with ISPs are not progressing, or if any other concerns arise, municipalities are welcome to engage TAT for support and facilitation.

By following these guidelines and taking a collaborative approach when working with ISPs, municipalities can effectively support the acceleration of broadband deployment.

Municipal Access Agreements

To expedite access to municipal property, municipalities that normally require municipal access agreements (MAAs) prior to construction may consider adopting pre-cursor agreements (e.g., memorandum of understanding) that defer negotiation of certain details related to right-of-way access to a later date. A pre-cursor agreement or MOU is a document that commits both parties to negotiate an MAA concurrently with construction, once ROW access has been granted. ISPs and municipalities may find it useful to agree on terms that are necessary for the initial ROW access needed for design and construction as part of an MOU and agree to settle other terms in the MAA.

In October 2024, the Eastern Ontario Regional Network (EORN), in partnership with MOI, developed a Municipal Access Agreement (MAA) template to support municipalities with negotiations over municipal right-of-way access to expedite broadband construction. The MAA template supports the development of road-use agreements between municipalities and ISPs that provide mutually agreeable terms to govern the construction, maintenance, and operation of broadband equipment deployed for provincially funded broadband projects.
Ontario expects municipalities to leverage existing and new tools available to them to ensure various levels of broadband deployment can proceed seamlessly and work in partnership with ISPs to prevent delays to broadband construction.

For more information on components of MAAs, ISPs and municipalities may consult Telecommunications and rights-of-way: A handbook for municipalities (fcm.ca) as they proceed through their rights-of-way and access negotiations.

Municipalities are reminded that under O. Reg. 436/22 of the BBFA, municipalities may not require proponents to execute a legal agreement in advance of providing access to municipal rights of way under s. 10.1 of the BBFA. However, municipalities may require ISPs to agree in writing to negotiate such agreements in good faith as soon as reasonably possible as a condition for providing access to their rights-of-way.

Should parties require support to facilitate discussions on these agreements they may reach out to the TAT.

Guideline for 1 metre hand dig requirements

Guidance from the Ministry of Labour (MOL) is that hand-digging and daylighting within 1 metre are industry best practices but are not legal requirements. While MOL does not legislate how work is performed in all cases, the expectation remains that workers are always protected from harm, and whatever control measures are implemented ensure this protection. Again, this comes down to the site specific actual and potential hazards at or near where the work is being performed.

Prior to any excavation commencing, section 228 of the Regulation for Construction Projects (O. Reg. 213/91) requires that all underground services be accurately located and marked:

> 228. (1) Before an excavation is begun,
> (a) the employer excavating shall ensure that all gas, electrical and other services in and near the area to be excavated are located and marked;
> (b) the employer and worker locating and marking the services described in clause (a) shall ensure that they are accurately located and marked; and
> (c) if a service may pose a hazard, the service shall be shut off and disconnected.
> (2) If a service may pose a hazard and it cannot be shut off or disconnected, the owner of the service shall be requested to supervise the uncovering of the service during the excavation.
> (3) Pipes, conduits and cables for gas, electrical and other services in an excavation shall be supported to prevent their failure or breakage.

In addition to the regulations, the OHSA requires that all reasonable precautions be taken for the protection of a worker, and in this case, the services themselves. Neither the OHSA nor the regulations speak to how to implement control measures to protect a worker. As every project is different, the control measures must be site specific to the actual and potential hazards that exist at or near where the work is being performed.

Accessing Buried Routes on Municipal Rights-of-Way

This section outlines the BOW Municipal Consent (and Road Occupancy Permit, where required) Application process. The recommended steps and PTs to acquire an approved Municipal Consent and Road Occupancy Permit to access a municipal right-of-way (ROW) are as follows. Where appropriate, binding requirements from the BBFA and One Call Act are mentioned.

Table 3: Buried Route on Municipal Rights of Way

	Activity	Process Details
1	**Underground Drawings of proposed route**	• The Proponent prepares underground drawings of the proposed route using any data that are in the BOW as well as any other information sources (e.g., Google maps). • Appendix 1: Application Requirements, Templates and Forms provides Standard Utility Offsets drawing as well as specific drawing requirements that may be used for municipalities who do not currently have such drawings available.
2	**Submissions of preliminary drawings ("mark-up circulation")**	• The Proponent submits preliminary drawings to a municipality via the BOW. • The municipality circulates preliminary drawings (i.e., conducts a mark-up circulation) to all parties that have infrastructure in the ROW (i.e., municipalities, LDCs, Enbridge and other telecoms). • Respondents review and advise the municipality of any conflicts between the proposed running line and their buried assets within the specified time (specified in the PT on Table 4) of receiving the mark-up circulation from the BOW. • Municipality provides revised mark-up circulation to the Proponent. The Proponent uses mark-ups to resolve any conflicts and finalize drawings. • Municipality may reach out to TAT in case they need any support with permit review and submission.

3	**Municipal application submitted to municipality via BOW**
	• Drawings showing potential route
	• Municipal Consent
	• Road Occupancy Permit if required by municipality
		• A complete application includes:
		  o Drawings showing the potential route
		  o Application form for Municipal Consent
		  o Road Occupancy Permit application if required by municipality
		• Appendix 1: Application Requirements, Templates and Forms provides a template for Municipal Consent that may be used by municipalities who do not currently have such forms available.
		• It is recommended that the Proponent aligns with the municipality on all the requirements of a complete application before submitting the permit application online.
		• A municipality may require that an ISP obtain a Road Occupancy Permit.
		• The ISP shall ensure that the application is complete with all required information before it is submitted to municipality for approval through BOW.

4	**Municipality reviews complete application and issues Municipal Consent (with reasonable conditions) and Road Occupancy Permit where applicable**	• Municipality reviews and approves application(s). Based on section 10.1 of the BBFA, the municipality has10 days or 15 days to either approve the application or inform the applicant of a material issue or material deficiency. • Where there is a material issue or material deficiency in the application, the timeline stops once a proponent is informed, and restarts at day 1 when and if the application is resubmitted. • The municipality engages directly with the Proponent to address any deficiencies in permit application documents.

	Activity	Process Details
		• Municipalities that receive these requests through the BOW are required to respond using the BOW unless indicated otherwise by the Minister.
5	**Locate request submitted through Ontario One Call** (after proponent has provided advance notice of the project to Ontario One Call)	• The Proponent and affected members of Ontario One Call agree on a dedicated locator who will respond to all locate requests by the Proponent in respect of the project except as it relates to transmission infrastructure in which case the relevant member will respond to the locate request. Appendix 4 provides more information on the Dedicated Locator Model. • Locate requests are to be responded to within the PT set out in the One Call Act. Note that the One Call Act allows for another agreed upon timeframe to be determined between the Proponent and dedicated locator. (and noted in Table 4).
6	**Advising timing of construction**	• Some municipalities may require a Road Occupancy Permit and have associated timelines and processes that may be adhered to. The timelines above in respect of 10 days and 15 days would apply to a municipality for a Road Occupancy Permit. • Where a Road Occupancy Permit is not required, the Proponent notifies the municipality directly prior to work commencement within the established PT.
7	**ISP performs construction followed by restoration of the ROW**	• The Proponent and municipality work together to resolve any conflicts where existing facilities are not located as shown in the mark-up or locates. • The Proponent performs the construction and restores surfaces, unless the municipality has indicated otherwise, within a reasonable time determined by the municipality.
8	**Notice of work completion and As-built drawings submitted to municipality via BOW**	• The ISP submits to the BOW a Notice of Work Completion and As-Built drawing detailing any amendments from an initial plan. • The BOW forwards the Notice of Work Completion and As-Built drawing to the municipality. • Appendix 1: Application Requirements, Templates and Forms provides a template Notice of Work Completion and As-Built drawing that municipalities may use.
9	**Municipality inspection any restoration work**	• The municipality may inspect restoration work and follows up with the Proponent for any outstanding issues.

*Table 4: Performance Timelines for Buried Route on Municipal Rights of Way*12F

	Activity	Performance Timeline (Business Days)	
		Up to 30 km of ground	**30 km + of ground**
1	**Underground Drawings of proposed route**	Proponent with timelines set out in Project Agreement.	
2	**If requested, owners of buried assets review and respond to**	20	20

	Activity	Performance Timeline (Business Days)	
		Up to 30 km of ground	**30 km + of ground**
	submissions of preliminary drawings ("mark-up circulation") in BOW		
3	**Municipal application submitted to municipality via BOW**	Proponent with timelines set out in Project Agreement.	
4	**Municipality reviews complete application and issues Municipal Consent (with reasonable conditions) and Road Occupancy Permit where applicable**	10 (for each respective approval)	15 (for each respective approval)
5	**Responding to locate request submitted through Ontario One Call** • For Dedicated Locator Model (see Appendix 4 for explanation)	10 (unless otherwise agreed to by the parties)	10 (unless otherwise agreed to by the parties)
6	**Advising timing of construction**[6]	5 (in advance of start date)	5 (in advance of start date)
7	**ISP performs construction followed by restoration of the ROW**	Negotiated with municipality. Proponent with timelines set out in Project Agreement.	
8	**Notice of work completion and As-built drawings submitted to municipality via BOW**	15	20
9	**Municipality inspection any restoration work**	As negotiated with municipality	

Rural Optimization for Accelerated Deployment (ROAD) Report

The Rural Optimization for Accelerated Deployment (ROAD) Report provides industry best practices to municipalities and Internet Service Providers (ISPs) to promote accelerated underground broadband deployment. The report includes an overview of the relevant federal and provincial regulatory framework for broadband deployment, discusses key strategies to remove barriers to construction for delivery partners, and reviews the guidelines established by the CRTC and province regarding fees and cost recovery for municipalities.

The ROAD Report will help municipalities and ISPs involved in designated broadband projects in Ontario to:

- Define a mutually beneficial program that accounts for operational impacts and resourcing implications of all delivery partners involved.
- Align on standards and the sharing of infrastructure data to accelerate design phase activities and maximize resource allocation.

[6] Some municipalities may have shorter timelines for notice of work to issue a Road Occupancy Permit, Successful Proponents may adhere to municipality timelines instead of PT. Where a Road Occupancy Permit is not required, the Successful Proponent notifies the municipality directly within 5 days prior to work commencement.

- Implement innovative deployment methodologies and processes to expedite construction phase activities.

To access the ROAD Report and read more on the supporting guidance for delivery partners, please visit the BOW Library, available with a BOW Login in the Resources Library. If you do not have access, please email the Technical Assistance Team (TAT@infrastructureontario.ca) for a copy of the report.

Data Requests through the Broadband One Window

Access to up-to-date utility infrastructure data is important so broadband project stakeholders can proactively plan and organize their work using better data on co-located infrastructure, supporting timely decision making, planning and implementation.

Section 20.1 of the BBFA allows the Minster (or delegate) to make requests for utility infrastructure data related to designated broadband projects. The following persons or entities that own infrastructure are required to respond within 15 business days of receiving a request for utility infrastructure data concerning utility infrastructure that the person or entity owns or operates within 100 metres of a designated broadband project,

- Every municipality in Ontario
- Hydro One Inc.
- Ontario Power Generation Inc.
- Every gas distributor and gas transmitter
- Every electricity distribution system operator
- Every entity regulated under the *Oil, Gas and Salt Resources Act*
- Every person or entity that owns or operates infrastructure that crosses a public right of way or is in the vicinity of a public right of way.

Such requests may only be used to enable construction of designated broadband projects. Requests and responses would generally be done through the BOW. For the purposes of the BBFA, data concerning utility infrastructure includes,

a. records of the utility infrastructure and associated rights of way,
b. records of communications and agreements related to the utility infrastructure,
c. data related to the location for all utility infrastructure that may be affected by a proposed excavation related to a designated broadband project, and
d. any other information the Minister considers necessary for the purposes of this Act

Proponents may be asked to submit data on their use of in span poles for designated broadband projects to ensure compliance with ESA Bulletin DB-06-22-v1.

Accessing Provincial Highways

A Proponent will require a permit from the Ontario Ministry of Transportation (MTO) for any installation or works upon, under, within or adjacent to the limits of a Provincial Highway ROW placed by someone other than MTO. ISPs are required to include 'BROADBAND' in the "Project Reference Name" field when applying for a permit in MTO's Highway Corridor Management System (HCMS) to ensure the review of their application can be prioritized.

While the MTO permitting process is not done through BOW but rather though MTO's Highway Corridor Management System, Proponents must notify TAT of permit application such that the BOW can be used

to keep track of the project's progress.

Further information on MTO requirements is set out in Appendix 5: Supplemental Ministry of Transportation Requirements. Relevant information is also in Appendix 1: Application Requirements, Templates and Forms, which provides a template Notice of Work Completion and As-Built drawing that municipalities may use.

Specialty Permit Application Resources

The Proponents are encouraged to refer to the guidance documents and reference materials that have been made available in the BOW Resource Library to support their permit submissions.
These resources have been developed based on publicly available information from reputable sources, such as government agencies, industry standards, and best practices. The guidance documents provide step-by-step instructions, checklists, and templates to ensure that permit submissions are thorough, accurate, and compliant with all relevant regulations and requirements.
The resources include examples of successful permit submissions, sample documentation, and other valuable resources that can serve as references for Proponents to follow and are intended to facilitate the permit submission process and help Proponents submit complete and high-quality permit applications. By utilizing these guidance documents and reference materials, Proponents can gain valuable insights and streamline their permit submission process.

Proponents should ensure that the proposed work under the designated broadband projects meets the requirements of all other federal and provincial agencies, and local municipalities/townships.

Guidance On Rail Crossings, Accessing Easements, and Multiple ISPs on a Running Line

Rail Crossings
Ontario's vast railway network may necessitate ISPs to deploy across railway infrastructure owned by CN, CPKC, and Metrolinx for network expansion. For ISPs, obtaining permits from the necessary railway authorities and adhering to the standard requirements for both overhead and underground deployments is crucial. ISPs are advised to thoroughly review the permitting guidelines and submit comprehensive packages to support timely reviews. Given that railway permits often face extended approval times due to intricate coordination and review resource constraints, TAT has prepared a document providing guidance on railway permit application processes and information on a turnkey railway crossing permit process.

The turnkey railway crossing permit process can expedite railway permit process by using a qualified vendor experienced working and obtaining permits in railway corridors. The qualified vendor would be responsible to work closely to secure permits and place conduit for railway crossings identified by the ISP. It will be the qualified vendor's responsibility to ensure that the proposed work meets the requirements of all other federal and provincial agencies and bodies. ISPs would be responsible to identify the railway crossings, place fibre cable and complete the splicing.
ISPs are encouraged to refer to the guidance in the BOW Resource Library to support planning for works rail crossings.

Easements
Easements are a critical design component for ISPs as they legally define the space where infrastructure

can be deployed. Prior to lashing cables on existing poles or requiring new rights-of-way (ROW), ISPs must secure the proper easements to avoid legal disputes and ensure project continuity. Obtaining these permissions from landowners is essential to maintain network integrity and avoid costly delays. TAT has prepared a resource document and comprehensive checklist, available in the BOW Resource Library, providing ISPs with guidance to navigate these complex processes efficiently.

Multiple Proponents on the Same Running Line
Designated broadband projects, other government-funded initiatives and concurrent ISP expansion efforts may result in multiple ISPs requiring deployment on the same running line.

It is imperative for ISPs to consult the Ontario Connects map to identify nearby projects by other proponents. By being aware of potential overlaps in service routes, ISPs can proactively consider variables that may influence permit applications, thereby minimizing the need for subsequent revisions that could stall progress. TAT is available to support ISPs by fostering an environment conducive to tri-party discussions, sharing latest research on new products or technical solutions.

If a proponent requires assistance, parties may utilize the Support Request module in BOW or send an email to TAT@infrastructureontario.ca.

2.3 Technical Assistance Team (TAT)

A Technical Assistance Team (TAT) has been established and is available to support ISPs, LDCs and municipalities. The TAT may:

1. Provide technical assistance, negotiation support and quality assurance to various permit and authorization applicants.
2. Provide extra support for those smaller municipalities and LDCs who may struggle to meet the demands of the AHSIP.
3. Work with Proponents, LDCs, municipalities and other parties involved in the deployment of broadband to reduce barriers for designated broadband projects.

The TAT may also:

1. Provide informal mediation support in mitigating and managing conflicts, supporting collaborative dialogue between parties.
2. Serve a quality assurance and application support function to reduce errors and missing information in applications for authorizations and permits.
3. Offer a technical capacity to help interpret standards, for example supporting ISPs looking to identify feasible new means and methods to accelerate broadband deployment within the regulated safety framework.

To get in touch with the TAT, parties may utilize the Support Request module in BOW or send an email to TAT@infrastructureontario.ca.

2.4 Resolving Disputes

It is recommended that parties collaborate to resolve disputes amongst themselves in a spirit of cooperation, as the deployment of broadband infrastructure is a shared responsibility. Parties are expected to use the Guideline to understand their roles and obligations in order to minimize disagreements and prevent disputes from escalating. Where a resolution cannot be reached, informal disputes may be referred to the TAT for assistance in finding a resolution parties can agree upon.

Parties seeking to make use of the TAT's informal support may adopt the use of BOW to ensure the TAT has sufficient and detailed project information necessary to provide assistance in the dispute.

Informal Dispute Resolution

Seeking support from the TAT is the recommended first step for parties seeking assistance to resolve a dispute. The TAT will work with the parties involved in the dispute to de-escalate issues and facilitate resolutions in a neutral capacity through the process set out in Table 1 below. Parties are encouraged to participate in the informal dispute resolution process with the TAT to reach a non-binding, mutually agreeable resolution through collaborative discussions when disagreements arise.

Table 1: Informal Dispute Resolution

	Activity	Process Details
1	**Mutual resolution by parties**	• Parties are encouraged to use the Guideline and other resources to understand their roles and obligations in order to minimize disagreements and prevent disputes from escalating.
2	**Request TAT support**	• If parties cannot resolve the dispute through mutual resolution, they are strongly encouraged to request TAT's support to facilitate a resolution. • Parties may request support through BOW using the Support Request module. • Parties should provide information and relevant documentation in BOW to detail the dispute.
3	**TAT reviews information**	• TAT will review information provided by parties. • TAT may request additional information from parties, which they should aim to provide in a timely manner.
4	**Informal dispute resolution discussions**	• TAT will schedule a discussion with parties involved in the dispute. • TAT will document the meeting minutes for these discussions and upload them to the BOW for the parties involved in the dispute to review and take appropriate action. • TAT will continue to facilitate and document discussions with all parties until a resolution is reached.
5	**Review documentation**	• At any time in the process, parties will have the opportunity to refer to the documentation in BOW provided by all parties.

6	**Informal dispute resolution process conclusion**	• Parties may agree on non-binding solutions facilitated by the TAT. • If a mutually agreed solution is not achieved, a proponent may choose to seek a binding resolution from a formal dispute resolution authority. • Parties may retrieve informal dispute resolution documentation records from BOW at any time for their reference and use.

Formal Dispute Resolution

Proponents may seek binding resolutions through applications to authorities including the OEB, the Minister of Infrastructure or OLT in accordance with the appropriate regulation or legislation. It is recommended that these applications be made as a last resort, if a resolution cannot be reached informally through support from the TAT.

If proponents choose to make an application to an authority to resolve a dispute, the records detailing the informal dispute process - available in BOW - are strongly encouraged to be included in ISPs' applications to formal dispute resolution authorities. If the proponent requires support obtaining this information from BOW, TAT will be available to support accordingly.

Formal Dispute Resolution Pathways

For disputes related to **LDC** compliance with O. Reg. 410/22;

- Proponents may apply to the **OEB** for a resolution. The OEB will be required to make a determination - within 30 days of having all the relevant material required to make such a determination - for issues related to material deficiencies. Disputes related to other matters will be dealt with through the OEB's existing processes (see below for more information).
- Proponents may apply to the Minister of Infrastructure for:
    - A notice to an LDC to complete work under s. 4(1)(a) or 4(1)(b) of the BBFA
    - An order to an LDC to comply with a previously issued notice or authorize the ISP to carry out the work described in the notice, under s. 9 of the BBFA.
- It is recommended that proponents seek a resolution from the OEB for compliance issues pertaining to LDC compliance with O. Reg. 410/22 *before* applying to the Minister for a resolution. The Minister may not act while a matter is before the OEB.

For disputes related to **municipalities' compliance with the BBFA**, proponents may apply to the **Minister of infrastructure** for a notice under s. 12 or order under s. 15 of the BBFA.

For disputes related to **locates**, an ISP may contact **Ontario One Call** for assistance, either through the TAT or directly.

For disputes related to compensation owed to proponents for a loss or expense incurred by them as a result of an LDC or municipality's failure to comply with a notice or order, proponents may apply to the **Ontario Land Tribunal** for a determination of compensation.

1. Minister of Infrastructure

The BBFA authorizes the Minister to issue notices and orders to require municipalities and/or LDCs to complete work for designated broadband projects. These authorities are intended to be used as a last resort.

Under the BBFA, ISPs may request the Minister of Infrastructure to:

- Issue a notice to an LDC to complete work under s. 4(1)(a) or 4(1)(b)
- Issue an order to an LDC to comply with a previously issued notice or authorize the ISP to carry out the work described in the notice, under s. 9(1)
- Issue a notice to a municipality that municipal service and right of way access is required under s. 12
- Develop and make a municipal service and right of way access order under s. 15 and s. 16

It is strongly recommended that proponents work with stakeholders to resolve issues with support from the TAT and/or submit issues related to compliance with O. Reg. 410/22 to the OEB **before** seeking a resolution from the Minister of Infrastructure, and may be required by MOI to do so before BBFA authorities are exercised. Table 2 below outlines the process for requesting the Minister of Infrastructure to issue a notice/order to an LDC or municipality.

Note: The Minister of Infrastructure cannot issue a notice for an issue that has been submitted to the OEB and is pending a decision.

Table 2: Process requesting the Minister of Infrastructure to issue a notice or order under the BBFA

	Activity	Process Details
1	**Mutual Resolution by parties**	• Parties are encouraged to use the Guideline and other resources to understand their roles and obligations in order to minimize disagreements and prevent disputes from escalating.
2	**Request TAT support**	• If parties cannot resolve the dispute through mutual resolution, they are strongly encouraged to request TAT's support to facilitate a resolution. • Parties may request support through BOW using the Support Request module. • Parties should provide information and relevant documentation in BOW to detail the dispute.
3	**TAT informal dispute resolution**	• TAT will facilitate informal dispute resolution amongst the parties as per the process outlined in Table 1 above. • Parties may agree on non-binding solutions facilitated by the TAT. • If a mutually agreed solution is not achieved, a proponent may choose to seek a binding resolution from a formal dispute resolution authority.

		•
4	**Proponent to provide written notice**	• If a mutually agreed solution is not achieved, a proponent may submit written notice to the Minister of Infrastructure of the disagreement by email to broadband@ontario.ca
5	**Documentation and Information**	• To expedite the review process, written notice from proponents should include pertinent information, including the nature of the dispute, the regulatory and/or legislative requirements at issue, whether TAT informal dispute resolution support has been requested, and relevant information from the BOW. • If the issue stems from LDC non-compliance, the notice should indicate whether the issue has been submitted to the OEB and if so, documentation of the decision should be provided. • MOI may follow up with proponents and parties involved in the dispute for additional information.
6	**Notification to affected stakeholders**	• Stakeholders against whom a complaint has been raised will be given the opportunity to respond, in a form considered appropriate by the Minister of Infrastructure.
7	**Review and Assessment**	• MOI will review the notice from the proponent and may contact stakeholders involved in the dispute for more information. • MOI may also seek information from other Ministries, Agencies, Boards, or Commissions. • In some circumstances, the Minister of Infrastructure may choose not to issue a notice/order and instead direct the TAT to facilitate a non-binding resolution between disputing parties or direct the Proponent to the appropriate formal dispute resolution body
8	**Issuing Minister's Notice or Order**	• The Minister of Infrastructure may issue a notice or order on a discretionary basis after reviewing the information provided by parties involved in the dispute • The Minister of Infrastructure may provide written notice via email or registered mail.

		• The notice or order may require specific work to be completed and assign a date for which compliance with the notice is required. • The date assigned within the notice may be mutually agreed between the parties. Should the parties in dispute not agree to a specific date, compliance shall be at least 60 days after the notice has been served. • Upon receipt of the notice, the parties will promptly coordinate the work required by the notice.
9	**LDC time appeal**	• If an LDC receives a notice or order from the Minister to complete work and wishes to challenge that notice or order, it may apply to the Superior Court of Justice for additional time to complete the work.

Administrative Penalties under the BBFA
Ontario Regulation 324/23: Administrative Penalties has been implemented and prescribes provisions 5,9, and 20.1 of the BBFA for administrative penalties under subsection 24(1) of the Act.

- Sections 5 and 9 contain requirements for local distribution companies (LDCs) and proponents of provincially funded broadband projects with respect to Minister's notices and orders.
- Section 20.1 requires certain utility infrastructure owners or operators to share data as requested by the Minister within 15 business days of receiving a request.

If satisfied that a person is contravening or not complying with a prescribed provision of the BBFA or its regulations or an order of the Minister under clause 9 (1) (a), the Minister may impose an order to impose administrative penalties in accordance with section 24 of the Act The regulation prescribes several factors that the Minister may consider when determining the penalty amount, which is a maximum of $500,000 as per the BBFA. This includes, but is not limited to, the impact of the contravention, compliance history, any economic benefits gained, and whether actions were taken to remedy the contravention. Further, the regulation specifies that a penalty may only be imposed up to one year after the occurrence of the contravention.

In addition, the regulation prescribes the minimum requirements on the contents of an order imposing an administrative penalty such as the identity of the implicated person(s) or entities, details of the contravening act including the specific provision contravened and on which day(s). The order must also state the amount payable to the Minister of Finance, provide an explanation of payment methods, state that payment is required to be paid within 30 days after the date of service, and provide information on the review process. An order imposing an administrative penalty is deemed served based on the mode of transmission, whether through personal delivery, email correspondence, or registered mail, with distinct timelines for each.

Administrative penalties are intended to serve as a deterrent to non-compliance with prescribed provisions of the BBFA to help ensure that provincially funded broadband projects can be completed by the end of 2025. Under the regulation, those who receive an order imposing administrative penalties have a right to review by applying to the Ontario Land Tribunal within 15 days of when the notice is served. The review is conducted in accordance with the practices and procedures stipulated under the *Ontario Land Tribunal Act, 2021*.

2. Ontario Energy Board (OEB)

As the independent regulator of Ontario's electricity and natural gas sectors, the Ontario Energy Board is authorized by the *Ontario Energy Board Act, 1998* as the initial decision maker on all issues pertaining to interpretation of and compliance with the Act and its regulations, including O. Reg 410/22: Electricity Infrastructure- Designated Broadband Projects as well as O. Reg. 842/21 (Electricity Infrastructure (Part VI.1 of the Act)).

OEB staff use various tools to provide interpretations of the OEBA and its regulations to help clarify requirements, including responses to industry inquiries, issuing bulletins for general compliance and providing guidance on specific circumstances that LDCs are expected to follow.

The OEB has a general process for overall compliance with the OEBA and its regulations as well as an expedited process for adjudicating disputes related to "material deficiencies" under O. Reg. 410/22. See Table 2 below:

1) **Overall compliance:** in addition to the specific role and process set out for the OEB in deciding disputes related to material deficiencies, the OEB is also authorized under the OEBA to enforce compliance of O. Reg. 410/22 broadly. For more information on the OEB's compliance and enforcement process, click here.

2) **Material Deficiencies:** under O. Reg. 410/22, proponents may apply to the OEB to resolve a matter of disagreement between the proponent and the licensed distributor related to a material deficiency enumerated in section 5 of the regulation. The OEB is not permitted to accept such applications by proponents if a notice has been issued under section 4 of the Building Broadband Faster Act.

Table 2: Process to resolve a dispute over material deficiencies through the OEB

	Activity	Process Details
1	**Proponent to provide written notice**	• Proponents would submit a written request to the OEB to resolve a matter of disagreement between the parties. • To expedite the review process, written notice from proponents should include pertinent information, including the nature of the dispute, the regulatory and/or legislative requirements at issue, whether TAT informal dispute resolution support has been requested, and relevant information from the BOW.

2	**OEB information gathering**	• The OEB may request additional information from the parties to support where further information has been requested by the OEB, and relevant information from the BOW to inform its decision making. • During this process OEB may also attempt to offer informal resolutions.
3	**OEB Review**	• In accordance with O. Reg. 410/22, the OEB must issue an order related to the dispute within 30 days of having all information needed to support its decision making.

3. **Ontario Land Tribunal**

The Ontario Land Tribunal adjudicates matters related to land use planning, environmental and natural features heritage protection, land valuation, land compensation, municipal finance, and related matters. You can access their website at: www.olt.gov.on.ca.

On their website, additional information on the Tribunal's processes and requirements, including a copy of the required appeal form for filing an appeal, can be reviewed. If you have any questions on the Tribunal's processes please contact their Citizen Liaison office at OLT.CLO@ontario.ca or toll free (866) 448-2248.

For designated broadband projects, the BBFA sets out formal dispute resolution by the Ontario Land Tribunal in the event of disagreements related to compensation claims:

- s. 10: If an application is made by a proponent, regarding losses or expenses incurred by the proponents arising from LDC non-compliance with Minister's notices or orders of the Superior Court of Justice.
- s. 18: If mediation does not occur or is unsuccessful and an application is made by a proponent, regarding losses or expenses incurred by the proponents arising from a municipality's failure to comply with section 14 of the BBFA or with a municipal service and right of way access order.
- S. 19: If an application is made by the Minister, cost regarding the cost incurred by MOI for authorizing a person to do the work a municipality was initially required to do under a municipal service and right of way access order.

In April 2022, changes were made to the One Call Act to provide excavators and underground infrastructure owners with an opportunity to seek compensation for losses through the Ontario Land Tribunal for any financial losses or expenses incurred due to the other party contravening specific sections of the Act.

- Under s. 16 (1) infrastructure owners may seek compensation from excavators if:
  - An Excavator requests a locate to be delivered without the intention of starting excavation within 30 days or;
  - The Excavator digs in a manner where they reasonably ought to know would damage or interfere with underground infrastructure

- Under s. 17(1) excavators can seek compensation from infrastructure owners if:
  - If the Member has failed to provide accurate locates or;
  - Provided locates outside of the legislated timeframe or;
  - Incorrectly provided a clearance

4. Ontario One Call

Ontario One Call is the administrative authority responsible for coordinating requests from excavators, for the location of underground infrastructure and enforcing compliance with related requirements. Designated broadband projects are required to use a dedicated locator.

For more information on the dedicated locator model, please click here. To support compliance with the *Ontario Underground Infrastructure Notification System Act (*the One Call Act*)*, including requirements pertaining to the use of the dedicated locator model, Ontario One Call has developed an Administrative Penalty (AP) framework in keeping with O. Reg. 87/23 Administrative Penalties under the One Call Act, which came into effect on May 1, 2024.

The following matters are within Ontario One Call's jurisdiction (for a complete list and explanation of disputes, please click here).

- Late Locates
- Late Emergency Locate Response
- Locate Validity Period
- False Renegotiated Date
- Deficient Clearance
- Locate Abuse
- Digging Without a Locate

If parties have reasonable cause to believe there has been non-compliance with the One Call Act, or its regulations, they can submit a complaint to Ontario One Call. If the complaint is verified, Ontario One Call will work with obligated parties to resolve the problem. Ontario One Call cannot guarantee a timeframe by which the non-compliant party will resolve the issue.

Please note that Ontario One Call accepts complaints in writing via its website and aims to review them within 2 business days. For more information on Ontario One Call's complaints and dispute resolution process click here.

Appendix 1: Application Requirements, Templates and Forms

Application Requirements and Guidance Documents

This section includes reference guidance for:

1. As-Built Drawings and Records
2. Drawing Requirements
3. P.Eng. Design Drawings Requirements and Structural Analysis
4. Standard Utility Offsets

Sample Template and Forms

This section includes the following sample templates and forms:

5. Sample One-Touch Make-Ready Agreement
6. Sample Application for Aerial Attachment
7. Sample Materially Insignificant Declaration
8. Sample Certificate of Deviation
9. Broadband One Window Record of Municipal Access Agreements
10. Sample Application for Municipal Consent
11. Sample Application for Road Occupancy
12. Sample Notice of Completion
13. Sample Record of Inspection Form

As-Built Drawings and Records

GENERAL

Municipal, regulatory and other approving authorities often call upon Proponents (and their engineering consultants) to provide records of completed works.

The purpose of this Guideline is to provide guidance for the preparation of record drawings or documents, as well as the preparation of as-built drawings or documents.

The records, documents and as-built drawings should be supplied to the LDC or Municipality within the PT stipulated in the Guideline.

As a minimum, the drawings / documents should include, but are not limited to:

- Any offset dimensions for above grade installed facilities from the specified locations including poles, down guys, pedestals, fibre-optic splice closures, attachment heights;
- Any offset dimensions for below grade installed facilities from the specified locations, including but not limited to trenches, subsurface chambers, subsurface boxes and vaults;
- All references to pictures taken;
- Any changes to bonding or grounding;
- Any new additional items installed that were not on the original design drawings;
- Any items not installed that were not on the original design drawings; and,
- Any materials that were substituted from the materials on the original design drawings.

The Professional Engineers Ontario (PEO) has published a document titled *Preparing As-Built and Record Documents*, which provides the distinction between As-Built and Record information. These are summarized below.

<u>Records</u>

- Record documents are prepared based on information that was observed by a practitioner or by someone under the practitioner's supervision. After a practitioner has reviewed the record documents and is satisfied that they are accurate, the practitioner must seal the documents.
- For record documents, the original design practitioner's seal should be removed. Practitioners preparing record documents must apply their seal.

<u>As-Built</u>

- As-built documents are prepared based on information gathered during construction or fabrication by someone other than a practitioner or someone under their supervision. Often, the information is provided by the contractor in the form of red-line mark-ups of the design drawings. If a practitioner then proceeds to revise the design documents to incorporate the red-line mark-ups, these documents should be clearly marked as "As-Built Documents" and not sealed.
- As-built documents should not be sealed. The original design engineer's seal must be removed when preparing as-built documents.

Proponents may also want to reference the ESA's Guideline for Third Party Attachments.

AERIAL DRAWINGS

Once the new plant has been installed or the modifications to an existing attachment have been completed (regardless of whether Standard Designs, or an Approved Plan were used), the construction should be inspected and approved in accordance with the following references:

- Ontario Regulation 22/04;
- ESA – Technical Guidelines for Inspection and Approval of Construction; and
- ESA – Guideline for Third Party Attachments

A Professional Engineer, ESA or a Competent and/or Qualified Person identified in the Local Distribution Company's (LDC) Construction Verification Program must prepare a Record of Inspection and a Certificate of Construction.

For telecommunication plant installations, the LDC could complete the construction inspection themselves, have the Proponent do it, or both. It is dependent upon the territory and the LDC involved.

Typically, the inspector (note: this is not an ESA inspector) performs a post construction inspection since pole line installations are visibly verifiable after construction. The exceptions are the installation of anchors and ground rods / plates which are buried and not visibly verifiable after construction. It is advisable to observe these before they are buried or the red lines from the construction contractor will need to be relied upon.

The "Record" of this inspection can be in the form of marking compliances and deviations on the Issued for Construction drawings, work instructions assembled from Standard Designs, or a separate document (for example). Any unacceptable deviations should be noted on the Record of Inspection for resolution by the appropriate party. Once the unacceptable deviations have been remedied, the Record of Inspection can be finalized, signed and dated by the Professional Engineer, ESA or a Competent and/or Qualified Person, and a Certificate of Construction can be completed.

The Certificate of Construction can be a separate document or it can be a stamp or signature added to the Record of Inspection and/or construction drawings. It should include the following information:

- name and signature of the inspecting Professional Engineer, ESA representative or Competent and/or Qualified Person;
- name of the LDC; and,
- confirmation that the construction meets the plan, work instruction, or Standard Design; and date of certification.

The Record of Inspection and Certificate of Construction are to be sent to the LDC who must retain them in the event of an ESA audit.

UNDERGROUND DRAWINGS

For buried telecommunications installations, any necessary design modifications and field changes made by the Proponent or requested by the road authority or municipality during construction are to be included.

It is important to predetermine the level of post construction deliverable that is required, as this will impact the level of inspection that is required. For buried installations, after the construction has been completed and most items are concealed (except pedestals for example) inspection accuracy will be limited. During construction inspection will provide the best scenario for accuracy.

During construction "field returns" may be Issued for Construction (IFC) drawings marked up by the construction contractor, the construction inspector, or both.

This information is then added to the original IFC drawings and updated to the final version. Refer back to the GENERAL section of this document to determine what the final version of drawing is called (Record Drawing vs. As-Built Drawing).

The information changes from the field returns that are placed on the final drawing are more easily identified with a cloud around the change, along with a drawing version or issuance number in a triangle beside the cloud.

Both the field returns and the final drawing are to be retained by the Proponent as well as copies sent to the approving authorities that permitted the construction.

Drawing Requirements

GENERAL

This section contains guideline information only to assist Proponents / ISPs and governing/approving authorities of rights-of-way such as municipalities with the preparation of drawings that will assist in the permitting process. These guidelines are not prescriptive or binding, rather they provide good practice for drawing preparation.

This Guideline, along with the other appropriate standards form the basis for complete submissions. Proponents should confirm if the minimum drawing requirements are outlined within the LDC Occupancy Agreement or within the Municipal Consent agreement.

In 2002, the ASCE published the ASCE 38-02, "Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data" document, outlining a credible system to classify quality of utility location information in design plans. The standard defines SUE requirements and sets out guidance for the collection and depiction of subsurface utility information. ASCE 38-02 sets out guidelines for how to qualify the accuracy of mapping existing infrastructure and relay information to a drawing.

All parties submitting drawings of buried infrastructure should follow the requirements outlined in the American Society of Civil Engineers (ASCE) 38-02, ASCE 75 or CSA S250 for all submitted information to the BOW. The ASCE 38-02, ASCE 75 is generally two-dimensional data focused and CSA S250 is a more modern quality standard which reflects modern technical developments to specify accuracy in three-dimensional data collection.

BASIC DRAWING REQUIREMENTS

The basic requirements apply to all drawings.

a. Title block (name & address of Proponent, date, north point, drawing/project number, location of project)
b. Name & phone number of the Project Manager for the specific application
c. Language: English/French as appropriate
d. Scale & Dimensions: Metric
e. Scale Size: (e.g., 1:1000, 1: 500, 1: 250)
f. Legend of symbols
g. Key Map
h. Certified standards that have been applied
i. Street names: clearly indicated

PROJECT SPECIFIC DRAWING ORIENTATION REQUIREMENTS

The orientation requirements apply to all drawings.

a. North Point
b. Key Map
c. Street names: clearly indicated
d. Sidewalks, driveways, curbs, trees, buildings, bridges, rivers, railroads, other utilities if they add clarity to specific issues
e. Lot lines and/or buildings, and house numbers
f. Horizontal offset measurements from proposed facilities to existing infrastructure (i.e. poles, buildings, other utilities, traffic, street lighting, signs, bridges etc.) and above grade elements that may be in conflict (e.g., trees, shrubs, pedestals, street lights, bus shelters etc.)

PROJECT SPECIFIC DRAWING REQUIREMENTS - AERIAL

The project specific requirements apply for every segment proposed on the drawings as they apply to aerial drawings. These sheets contain the specific construction details required for the approving authority (e.g., municipality) to grant permit and for the Proponent (or their contractors) to build. The minimum recommended content to be contained in the drawing area are described below.

North Arrow	Sidewalks where applicable
Legend	Mature tree dripline where applicable
Scale (or NTS if not to scale)	Location of above grade structures
Street Names	Location and depth of ditches
Property Addresses	Location and type of all existing facilities
Building Numbers	Location and type of all proposed facilities
911 Address if applicable	Easements as applicable
Lot number	Property lines
Concession Number	Guard Rails
City, Town or Township	Fencing
Edge of Roadway, pavement and curbs	River features
Horizontal and vertical clearances	Bridges

Notes:

a. Sidewalks, driveways, trees, buildings, bridges, rivers, railroads, other utilities to be included if they add clarity to specific issues
b. Clearly indicated poles and strands and their ownership for aerial designs
c. Proposed cable and Support Strands clearly indicated with heavier line style
d. Proposed cable to be over-lashed to existing support strand and indicate owner of that support strand
e. Indicate which side of the pole the wire is to be attached
f. Slack storage & splice can locations
g. Electrical bonding locations
h. Proposed ground rods
i. Dips and/or risers
j. Ducts, guards, and/or concrete work on poles for dips and/or risers
k. Cable dip/riser details
l. Proposed and existing Proponent anchoring
m. Make ready work anticipated by the Proponent with the Owner's poles or third-party Attachments
n. Railroad, major highway, & river crossing engineering details & associated profiles
o. Pole height contact detail (by drawing or table) indicating dimensions above grade for all existing telecommunications / CATV contacts by name, streetlight contacts, lowest Hydro contacts (neutral, secondary, primary, transformers, unprotected Hydro riser/dips) for both new and existing support strands.
p. Horizontal offset measurements for proposed pole contact close construction to buildings, other non-Owner overhead systems (e.g., traffic, street lighting, signs), and/or bridges.
q. Wiring, wire routing, and Attachment methods to the pole.
r. Caution notes that impact the safe installation of the facilities
s. Clear indication of road names

PROJECT SPECIFIC DRAWING PROVISIONS - UNDERGROUND

The project specific provisions apply for every segment proposed on the drawings as they apply to buried drawings. These sheets contain the specific construction details needed for the approving authority (e.g., municipality) to make a determination of granting a permit and for the Proponent (or their contractors) to build. The minimum recommended content to be contained in the drawing area are described below.

North Arrow	Sidewalks where applicable
Legend	Mature tree dripline where applicable
Scale (or NTS if not to scale)	Location of subsurface structures
Street Names	Location and depth of ditches
Property Addresses	Location and type of all existing facilities
Building Numbers	Location and type of all proposed facilities
911 Address if applicable	Details of proposed road crossing profiles
Lot number	Property lines
Concession Number	Easements as applicable
City, Town or Township	Guard Rails
Edge of Roadway, pavement and curbs	Fencing
Roadway crossings as applicable	Horizontal and vertical clearances
Depth of cover	Joint trench profile, as applicable
Bridges	River features

Notes:

a. Railroad, major highway, & river crossing engineering details & associated profiles should be explicit.
b. Construction notes should detail the size, location and types of conduits, vaults, cables/fibre or other facilities.
c. The method of construction (drilling, boring, ploughing, other) should be provided.
d. Profile view of the buried facilities that displays the depth of installation relative to grade and its position within the trench (trench and road crossing profiles) for all road types.
e. Caution notes that impact the safe installation of the facilities are to be included.
f. A plan view showing proposed running lines in relation to the streets, curbs, driveways, sidewalks and property lines.
g. Profiles of the running line at crossing locations or as otherwise dictated by the Approving Authority for permit acquisition.
h. Representation of new (bold) and existing (normal line weight) Proponent cables and duct.
i. Representation of other utilities' facilities if required by the Approving Authorities.
j. A Construction Notes block that identifies on an "arb by arb" basis the scope of work to be completed. This information includes (but is not limited to) where to install cable / conduit, vaults, and pits and the proposed method of construction for example.
k. Numeric "arbing" should be sequential throughout the entire project design drawing.
    a. Arbs at match lines from drawing to drawing should be the same numeric value.
    b. Each page requires beginning and ending arbs to show the construction identified on the page.
    c. Where possible create match line at a permanent landmark (i.e. utility pole, pedestal, lot line).
l. All risers to aerial drawings should identify associated drawings by their designated drawing number.

m. Construction notes must be specific to the work activity identified in the limits of each individual page as noted by the beginning and ending arbs. If there is an ADDITIONAL NOTES Block, it must contain at a minimum the following mandatory notes as required by the Proponent:

   DRAWINGS ARE NOT TO SCALE. THE CONTRACTOR SHOULD VERIFY ALL DIMENSIONS ON SITE AND REPORT ANY DISCREPANCIES TO THE ORIGINATOR BEFORE COMMENCING THE WORK. THE CONTRACTOR MUSTBE FAMILIAR WITH THIS COMPLETE PACKAGE, INCLUSIVE OF ALL EXHIBITS PRIOR TO COMMENCING WORK.

n. Details for any equipment to be installed are to be included only on the page where it is represented in the plan view.
o. All pedestals should have an inset on the drawing showing both the dimensions of the vault and above grade portions.
p. When required by the approving authority (e.g., municipality), include tree canopy dimensions and tree protection details on the page where it is represented in the plan view.
q. For underground projects, locations of vaults are to be shown relative to curbs or other fixed monuments.
r. A full Bill of Material should be included if required from the approving authorities (e.g., municipalities).

MULTI-SHEET PROVISIONS

All sheets of multi-sheet drawings should be of the same type within a specific project.

a. All information sheets (Schedules, Exhibits) to be identified by alphabetical designation in the title block as A, B, C and so on.
b. All drawing sheet numbering should include the drawing number and total number of drawings, as “Drawing 1 of 1,” “Drawing 1 of 2,” or “Dwg 1 of 2”, “Dwg 2 of 2” and should be uniform for all related sheets.
c. The drawing area indicating the proposed construction should be oriented such that North points to the top of sheet by an industry accepted North Arrow symbol.
d. Where projects have both aerial and buried requirements, aerial portions and buried portions should be on separate design drawings, each following their design requirements.
e. Continuation notes (where the break occurs to be continued on a different page) should be clearly indicated.

TITLE BLOCK PROVISIONS

The title block should contain the minimum information stated below.

a. Key map
b. Legend
c. Proponent Logo
d. Revision Information
e. Design Firm Logo, Address, Phone Number (if a Design Firm is used)
f. Project Number
g. Project Data: Project Type, Project Name, Scale, Date, Drawing Number and the sheet number of the total number included

COVER SHEET

The first sheet of a drawing set should be a “Cover Page” and always contain the following information:

a. Proponent logo and applicable office location
b. Project Name as provided by Proponent
c. Project Location, including street and city reference
d. Project Type (e.g., Buried Fibre Optic Installation)
e. Proponent Project Number
f. Design Firm Project Number
g. Drawing List (use full titles; e.g.., 'SCHEDULE A – KEY MAP')
h. Design firm logo, address, phone number
i. Drawing date to match the latest revision date; positioned at bottom centre of page under Design Firm logo
j. Map of sheets, outlining the sheet numbers on a map
k. Initial date of drawing creation

Bottom of Page:

l. Block with Proponent contact for approving authority (e.g., municipality) information
m. Block with Proponent Planning contact information
n. Block with approving authority (e.g., municipality) contact information
o. Number of page designation required (alphabetical or numerical or both)
p. Revision block showing all changes; identify change and drawing page number and date
q. Permit Kilometers block showing totals for the project

SPECIALTY PERMITS

Specialty permits may be required based on the route selected and whether the proposed running line for the facilities falls within the jurisdiction of the governing authority (e.g., municipality). The Proponent will be required to contact or access published materials in order to determine any specific drawing requirements for each type of permit.

SAMPLE DRAWINGS

Sample drawings are shown below for a typical telecommunications installation.

ISP COMPANY LOGO

PROJECT NAME:	CRAIG RD. FIBRE INSTALLATION
PROJECT LOCATION:	CRAIG RD., WHITE ST. TO JOHN RD.
PROJECT TYPE:	AERIAL FIBRE OPTIC INSTALLATION
ISP PROJECT #:	XXXXX
ENGINEERING PROJECT #:	2021-XXXX

DRAWING LIST

SITE SPECIFIC DRAWINGS	DRAWING NUMBER
KEY MAP	A
NOTES	B
LEGEND	C
AERIAL TYPICALS	D
CRAIG RD.	1 OF 2
CRAIG RD. & JOHN RD.	2 OF 2
DESIGN DATA	E1-E2
SPLICE SCHEMATIC	F
BILL OF MATERIALS	G

POLES WITH EXISTING ATTACHMENT	0
ADDITIONAL POLES REQUESTED FOR ATTACHMENT	0

PERMIT METERS	
TOTAL	0

ROUTE SUMMARY	
CABLE TYPE	###
STRAND SIZE	###

POLE OWNER DISTRIBUTION	
HYDRO	0
ISP	0

MAKE READY SUMMARY	
HYDRO	0
TOWN/CITY OF ----	0
ISP 1	0
ISP 2	0

CONSULTANT'S LOGO

TODAY'S DATE

CONSULTANT CONTACT:
JANE DOE
PHONE: (705) 444-4444
JANE.DOE@CONSULTANT.COM

ISP CONTACT:
JOE SMITH
PHONE: (705)-555-555
JOE.SMITH@ISP.COM

SCHEDULE 'A'
KEYMAP

CITY / TOWNSHIP OF ANYWHERE

CONSULTANT CONTACT:
JANE DOE
PHONE: (705) 444-4444
JANE.DOE@CONSULTANT.COM

ISP CONTACT:
JOE SMITH
PHONE: (705)-555-555
JOE.SMITH@ISP.COM

ADDITIONAL NOTES:
DRAWINGS ARE NOT TO BE SCALED. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS ON SITE AND REPORT ANY DISCREPANCIES TO THE ORIGINATOR BEFORE COMMENCING THE WORK. THE CONTRACTOR MUST BE FAMILIAR WITH THIS COMPLETE PACKAGE, INCLUSIVE OF ALL EXHIBITS PRIOR TO COMMENCING WORK.

COA

P. ENG STAMP

ISP LOGO

NO.	DATE	DESCRIPTION	BY	APP
3	DD-MM-YYYY	ISSUED FOR APPROVAL	--	--
2	DD-MM-YYYY	PRELIMINARY	--	--
1	DD-MM-YYYY	SHEETS CREATED	--	--

CONSULTANT LOGO

PROJECT TYPE: AERIAL FIBRE OPTIC INSTALLATION		
PROJECT NAME: CRAIG RD. FIBRE INSTALLATION		
DRAWN BY: --	DESIGNED BY: --	CLIENT NO.: XXXXX
CHECKED BY: --	APPROVED BY: --	SCALE: N.T.S.
DRAWING NO.: A		DATE: DD-MM-YYYY

CONSULTANT NO: 2021-XXXX

SCHEDULE 'B'
NOTES

ISP REQUIREMENTS:

DRAWING NOTES:

CONSTRUCTOR INSTALLATION REQUIREMENTS:

CONSTRUCTOR DOCUMENTATION REQUIREMENTS

AERIAL CONSTRUCTION

KEY MAP (N.T.S)

CITY / TOWNSHIP OF ANYWHERE

CONSULTANT CONTACT:	ISP CONTACT:
JANE DOE PHONE: (705) 444-4444 JANE.DOE@CONSULTANT.COM	JOE SMITH PHONE: (705) 555-555 JOE.SMITH@ISP.COM

ADDITIONAL NOTES:

DRAWINGS ARE NOT TO BE SCALED. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS ON SITE AND REPORT ANY DISCREPANCIES TO THE ORIGINATOR BEFORE COMMENCING THE WORK. THE CONTRACTOR MUST BE FAMILIAR WITH THIS COMPLETE PACKAGE, INCLUSIVE OF ALL EXHIBITS PRIOR TO COMMENCING WORK.

COA

P. ENG STAMP

ISP LOGO

NO.	DATE	DESCRIPTION	BY	APP
3	DD-MM-YYYY	ISSUED FOR APPROVAL	--	--
2	DD-MM-YYYY	PRELIMINARY	--	--
1	DD-MM-YYYY	SHEETS CREATED	--	--

CONSULTANT LOGO

CONSULTANT'S NO: 2021-XXXX

PROJECT TYPE: AERIAL FIBRE OPTIC INSTALLATION

PROJECT NAME: CRAIG RD. FIBRE INSTALLATION

DRAWN BY:	DESIGNED BY:	CLIENT NO.:
--	--	XXXXX
CHECKED BY:	APPROVED BY:	SCALE:
--	--	N.T.S.
DRAWING NO.: B		DATE: DD-MM-YYYY

SCHEDULE 'C'
LEGEND

LINETYPES

GENERAL
NEW UNDERGROUND
EXISTING UNDERGROUND
NEW AERIAL COAX
NEW AERIAL FIBRE
EXISTING AERIAL FIBRE
EXISTING AERIAL COAX
NEW AERIAL STRAND
EXISTING AERIAL STRAND
FENCE — X
GUARD RAIL
RAILROAD
CENTERLINE
RIGHT-OF-WAY
CURB
SIDEWALK — SIDEWALK
DITCH
UNDERGROUND UTILITIES (EXISTING)

HYDRO — H
TRAFFIC SIGNAL — TS
ISP 1 — ISP1
ISP 2 — ISP2
ISP 3 — ISP3
GAS — G
WATER — W
STORM SEWER — ST
SANITARY SEWER — SS
PIPELINE — //
ABANDONED UTILITY — ABND / ABND GAS / ABND WTR

ENGINEERING SYMBOLS

UNDERGROUND/AERIAL	EXISTING	NEW
HANDHOLE	HH	HH
MANHOLE	MH	MH
PEDESTAL		
NODE		
GROUND ROD		
DOWN GUY & ANCHOR		
SIDEWALK DOWN GUY & ANCHOR		
LOOPBACK (STORAGE SLACK)		30m
SPAN GUY		
OPTICAL SPLICE ENCLOSURE		
COPPER SPLICE		
COIL (STORAGE SLACK)		15m
CABLE RISER (DIP)		
CROSSOVER CLAMP		

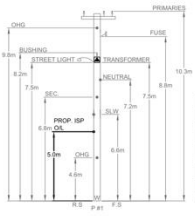
GENERAL

		HP# POLE#
WOODEN POLE	●	
CONCRETE POLE	○	
STEEL POLE		
GAS/WATER VALVE		
TRAFFIC CONTROL BOX		
SIGN	×	
SHRUB		
TREE		
STORM SEWER MANHOLE	ST	
SANITARY SEWER MANHOLE	SS	
HYDRO MANHOLE	H	
WATER MANHOLE	W	
FIRE HYDRANT		
CATCH BASIN		
FOREIGN PEDESTAL		
HYDRO VAULT		
FOREIGN HANDWELL	HW	
HORIZONTAL CONTROL MONUMENT	△	
TRANSFORMER VAULT	TB	
IRON BAR	SIB	
STANDARD IRON BAR		
WORK OPERATION	1	
METRE READING BOX	METER READING	

CONSTRUCTION NOTES

1 TO 2 — OVERLASH 44.6m OF NEW 72 FOC TO EXISTING 12 FOC & 2" STRAND.
A — INSTALL NEW ANCHOR
B1 — BOND STRAND AND LEAVE SUFFICIENT LENGTH OF COIL FOR HYDRO CONNECTION TO MGN
B2 — BOND STRAND TO EXISTING VERTICAL GROUND WIRE
D — INSTALL NEW RISER
DG — INSTALL DOWN GUY ON EXISTING ANCHOR
FN — FOSC NEW
G — INSTALL GROUNDING ELECTRODE, CONDUCTOR AND CONNECT TO MESSENGER STRAND
LB — NEW LOOPBACK (60m SLACK STORE)
LC — NEW POLE MOUNT LCP
MR — MAKE READY LOCATION
RA — REMOVE EXISTING ANCHOR
RG — REMOVE EXISTING DOWN GUY
SB — STRAND TO STRAND BOND
SG — NEW SPAN GUY
SS — SLACK SPAN
TT — TREE TRIMMING
XC — NEW CROSSOVER CLAMP

POLE PROFILE (TYPICAL)



(ENGINEERING) NO.	HP1
POLE NO.	52567
REFERENCE NO.	4524
HEIGHT	55'
CLASS/CIRCUMFERENCE	2
YEAR OF THE POLE	-
TX NO.	-
HYDRO GROUND (Y/N)	Y
S/L GROUNDED (Y/N)	N

KEY MAP (N.T.S)

CITY / TOWNSHIP OF ANYWHERE

CONSULTANT CONTACT:	ISP CONTACT:
JANE DOE PHONE: (705) 444-4444 JANE.DOE@CONSULTANT.COM	JOE SMITH PHONE: (705) 555-555 JOE.SMITH@ISP.COM

ADDITIONAL NOTES:

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COA

P. ENG STAMP

ISP LOGO

NO.	DATE	DESCRIPTION	BY	APP
3	DD-MM-YYYY	ISSUED FOR APPROVAL	--	--
2	DD-MM-YYYY	PRELIMINARY	--	--
1	DD-MM-YYYY	SHEETS CREATED	--	--

CONSULTANT LOGO

CONSULTANT'S NO: 2021-XXXX

PROJECT TYPE: AERIAL FIBRE OPTIC INSTALLATION

PROJECT NAME: CRAIG RD. FIBRE INSTALLATION

DRAWN BY:	DESIGNED BY:	CLIENT NO.:
--	--	XXXXX
CHECKED BY:	APPROVED BY:	SCALE:
--	--	N.T.S.
DRAWING NO.: C		DATE: DD-MM-YYYY

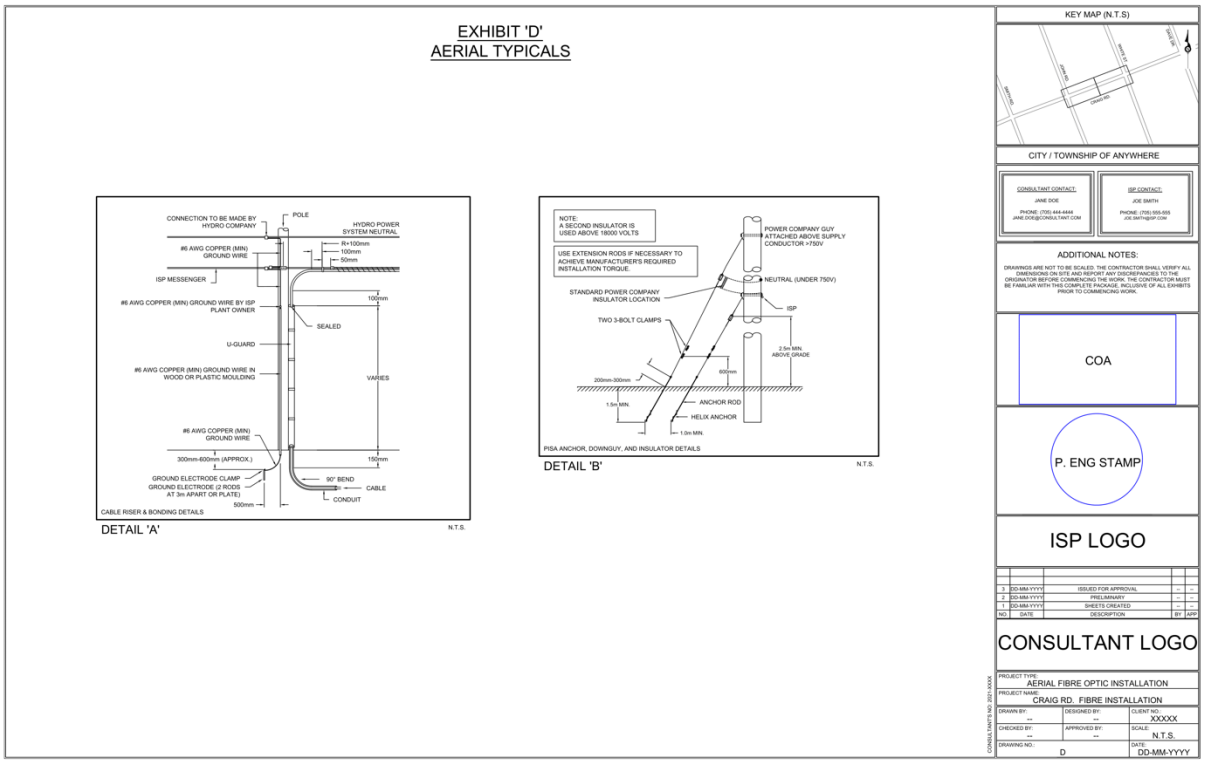
EXHIBIT 'D'
AERIAL TYPICALS
DETAIL 'A'
CABLE RISER & BONDING DETAILS
N.T.S.
DETAIL 'B'
PISA ANCHOR, DOWNGUY, AND INSULATOR DETAILS
N.T.S.
KEY MAP (N.T.S)
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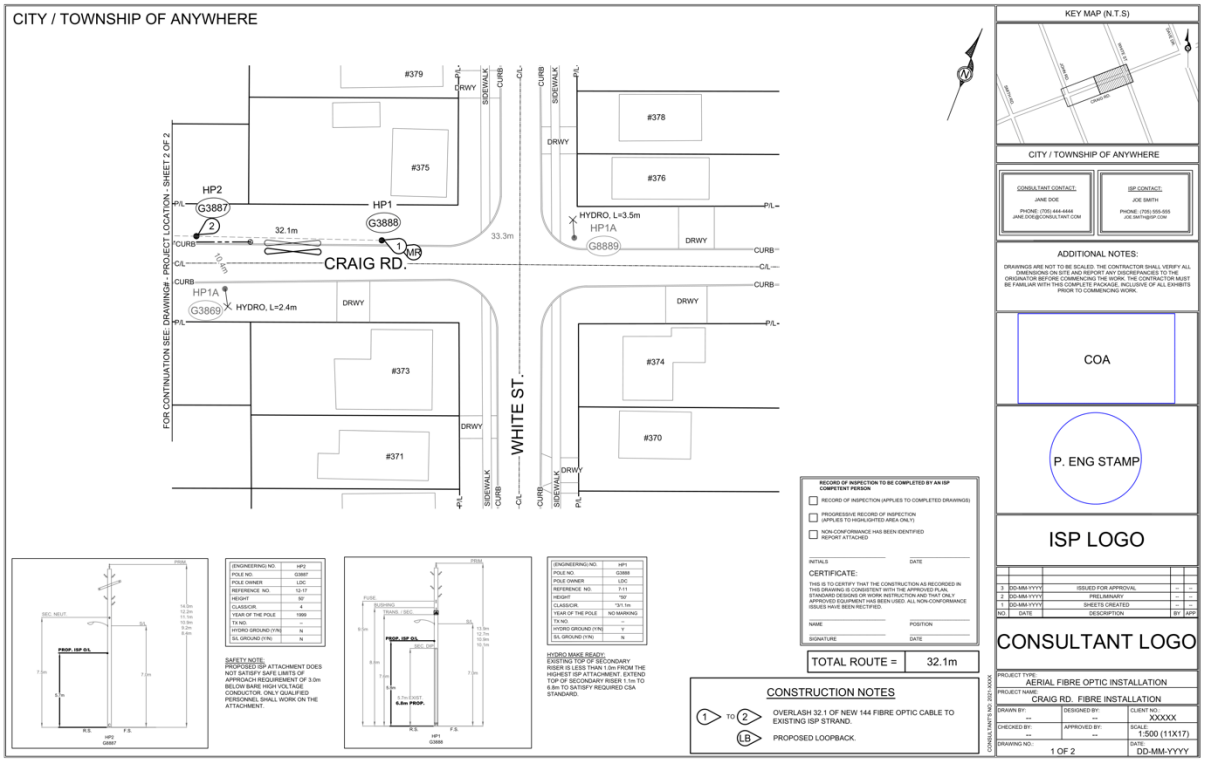
P. ENG STAMP
ISP LOGO
CONSULTANT LOGO
PROJECT TYPE: AERIAL FIBRE OPTIC INSTALLATION
PROJECT NAME: CRAIG RD. FIBRE INSTALLATION
DRAWN BY: --
DESIGNED BY: --
CLIENT NO.: XXXXX
CHECKED BY: --
APPROVED BY: --
SCALE: N.T.S.
DRAWING NO.: D
DATE: DD-MM-YYYY


CITY / TOWNSHIP OF ANYWHERE
FOR CONTINUATION SEE DRAWING#: PROJECT LOCATION: SHEET 2 OF 2
CRAIG RD.
WHITE ST.
HP1
HP2
HP1A
G3887
G3888
G3889
G3869
HYDRO, L=3.5m
HYDRO, L=2.4m
32.1m
33.3m
#379
#378
#375
#376
#373
#374
#371
#370
DRWY
SIDEWALK
CURB
P/L
C/L
RECORD OF INSPECTION TO BE COMPLETED BY AN ISP COMPETENT PERSON
RECORD OF INSPECTION (APPLIES TO COMPLETED DRAWINGS)
PROGRESSIVE RECORD OF INSPECTION (APPLIES TO HIGHLIGHTED AREA ONLY)
NON-CONFORMANCE HAS BEEN IDENTIFIED REPORT ATTACHED
INITIALS
DATE
CERTIFICATE:
THIS IS TO CERTIFY THAT THE CONSTRUCTION AS RECORDED IN THIS DRAWING IS CONSISTENT WITH THE APPROVED PLAN, PROJECT SPECIFICATIONS, THE MANUFACTURE INSTRUCTION AND THAT ONLY APPROVED EQUIPMENT HAS BEEN USED. ALL NON-CONFORMANCE ISSUES HAVE BEEN RECTIFIED.
NAME
POSITION
SIGNATURE
DATE
TOTAL ROUTE = 32.1m
CONSTRUCTION NOTES
1 TO 2 OVERLASH 32.1 OF NEW 144 FIBRE OPTIC CABLE TO EXISTING ISP STRAND.
LB PROPOSED LOOPBACK.
SAFETY NOTE:
PROPOSED ISP ATTACHMENT DOES NOT SATISFY SAFE LIMITS OF APPROACH REQUIREMENT OF 3.0m BELOW BARE HIGH VOLTAGE CONDUCTOR. ONLY QUALIFIED PERSONNEL SHALL WORK ON THE ATTACHMENT.
HYDRO MAKE READY:
EXISTING TOP OF SECONDARY RISER IS LESS THAN 1.0m FROM THE HIGHEST ISP ATTACHMENT. EXTEND TOP OF SECONDARY RISER 1.1m TO 6.8m TO SATISFY REQUIRED CSA STANDARD.
KEY MAP (N.T.S)
CITY / TOWNSHIP OF ANYWHERE
CONSULTANT CONTACT:
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JANE.DOE@CONSULTANT.COM
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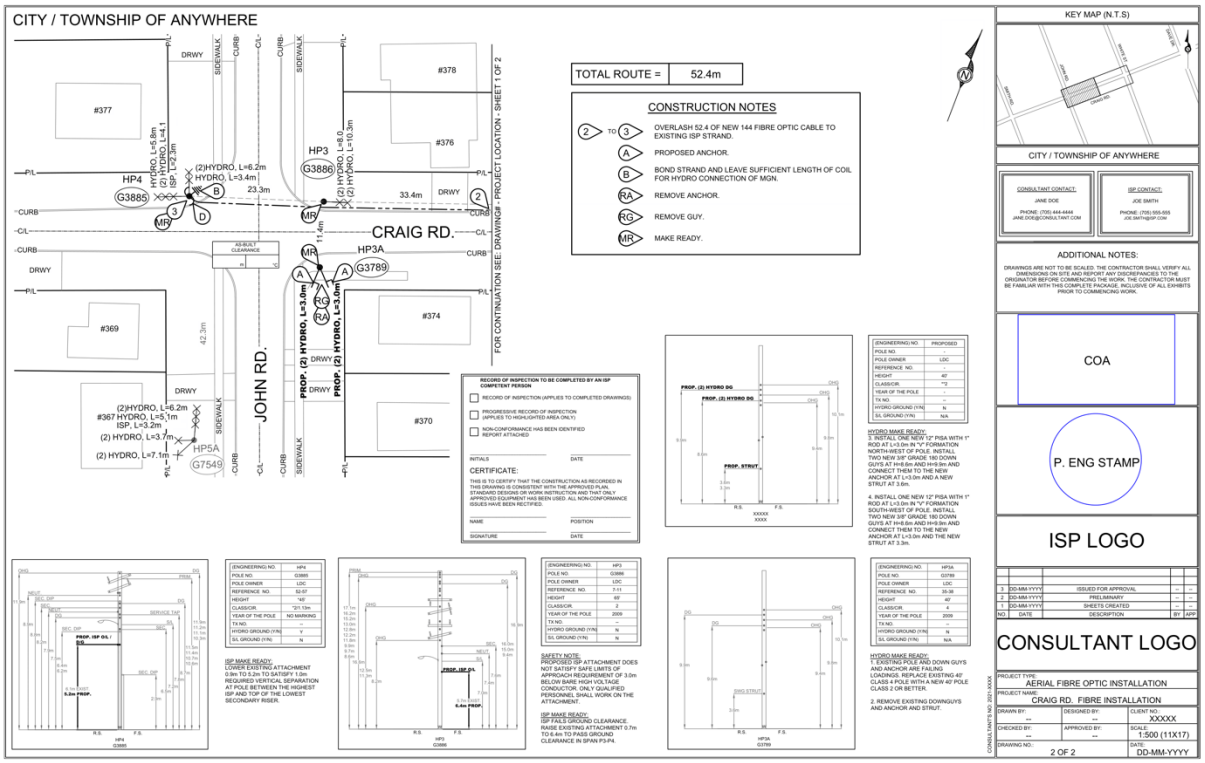
COA
P. ENG STAMP
ISP LOGO
CONSULTANT LOGO
PROJECT TYPE: AERIAL FIBRE OPTIC INSTALLATION
PROJECT NAME: CRAIG RD. FIBRE INSTALLATION
DRAWN BY: --
DESIGNED BY: --
CLIENT NO.: XXXXX
CHECKED BY: --
APPROVED BY: --
SCALE: 1:500 (11X17)
DRAWING NO.: 1 OF 2
DATE: DD-MM-YYYY


CITY / TOWNSHIP OF ANYWHERE
TOTAL ROUTE = 52.4m
CONSTRUCTION NOTES
2 TO 3 OVERLASH 52.4 OF NEW 144 FIBRE OPTIC CABLE TO EXISTING ISP STRAND.
A PROPOSED ANCHOR.
B BOND STRAND AND LEAVE SUFFICIENT LENGTH OF COIL FOR HYDRO CONNECTION OF MGN.
RA REMOVE ANCHOR.
RG REMOVE GUY.
MR MAKE READY.
CRAIG RD.
JOHN RD.
FOR CONTINUATION SEE: DRAWING# - PROJECT LOCATION - SHEET 1 OF 2
RECORD OF INSPECTION TO BE COMPLETED BY AN ISP COMPETENT PERSON
CERTIFICATE:
KEY MAP (N.T.S)
CITY / TOWNSHIP OF ANYWHERE
ADDITIONAL NOTES:
COA
P. ENG STAMP
ISP LOGO
CONSULTANT LOGO
AERIAL FIBRE OPTIC INSTALLATION
CRAIG RD. FIBRE INSTALLATION
XXXXX
1:500 (11X17)
2 OF 2
DD-MM-YYYY

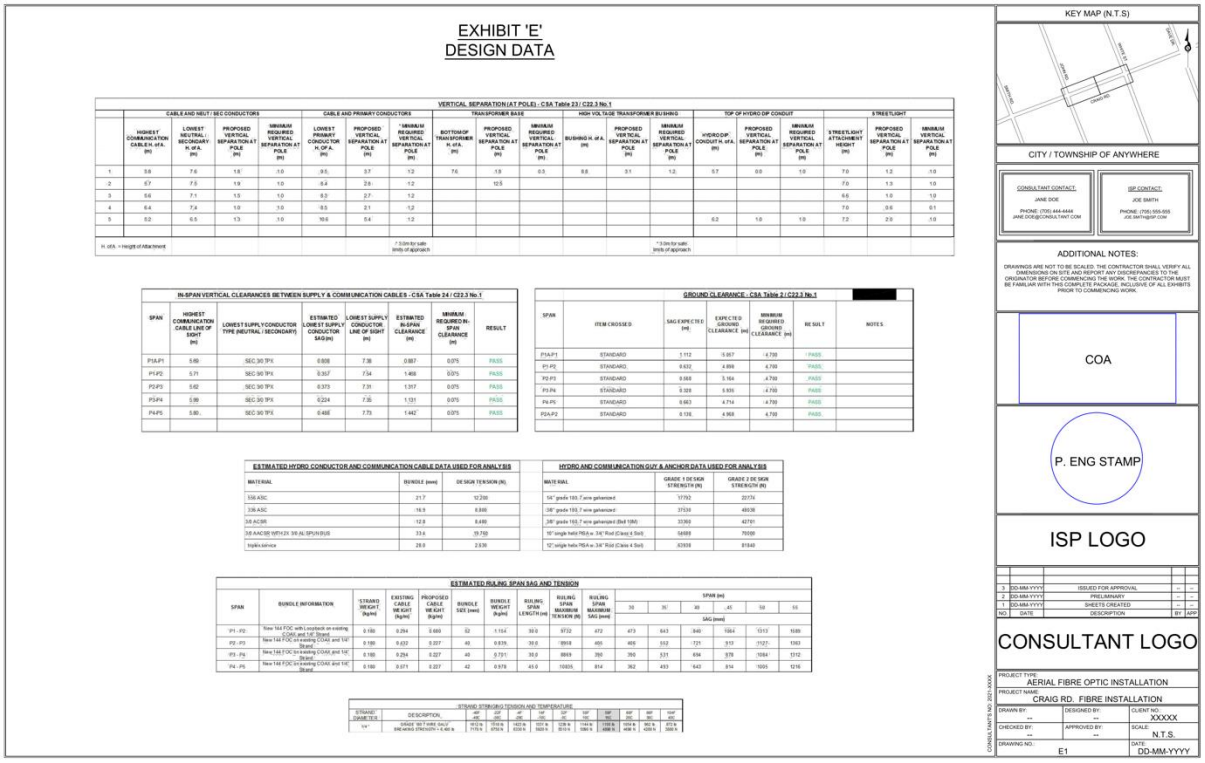


EXHIBIT 'E'
DESIGN DATA
VERTICAL SEPARATION (AT POLE) - CSA Table 23 / C22.3 No.1
IN-SPAN VERTICAL CLEARANCES BETWEEN SUPPLY & COMMUNICATION CABLES - CSA Table 24 / C22.3 No.1
GROUND CLEARANCE - CSA Table 2 / C22.3 No.1
ESTIMATED HYDRO CONDUCTOR AND COMMUNICATION CABLE DATA USED FOR ANALYSIS
HYDRO AND COMMUNICATION GUY & ANCHOR DATA USED FOR ANALYSIS
ESTIMATED RULING SPAN SAG AND TENSION
STRAND STRUCURAL TENSION AND TEMPERATURE
KEY MAP (N.T.S)
CITY / TOWNSHIP OF ANYWHERE
ADDITIONAL NOTES:
COA
P. ENG STAMP
ISP LOGO
CONSULTANT LOGO
AERIAL FIBRE OPTIC INSTALLATION
CRAIG RD. FIBRE INSTALLATION
XXXXX
N.T.S.
E1
DD-MM-YYYY

EXHIBIT 'E'
DESIGN DATA

Project Analysis Summary

Lead: Lead Location: P1

Load	Pole Length/Class	Maximum Load %						Pole Strength Remaining	Loading Adjusted by Strength?	Clearance Violations Present?
		Pole	Guy	Anchor	Cross Arm	Insulator	Sidewalk Brace			
Measured Design	15.2 m/3	12.65 from stress at 3.00 m	No Data	No Data	No Data	No Data	No Data	95.69%	Y	N

Lead: Lead Location: P2

Load	Pole Length/Class	Maximum Load %						Pole Strength Remaining	Loading Adjusted by Strength?	Clearance Violations Present?
		Pole	Guy	Anchor	Cross Arm	Insulator	Sidewalk Brace			
Measured Design	15.2 m/4	15.45 from stress at 3.00 m	No Data	No Data	No Data	No Data	No Data	100%	Y	N

Lead: Lead Location: P3A

Load	Pole Length/Class	Maximum Load %						Pole Strength Remaining	Loading Adjusted by Strength?	Clearance Violations Present?
		Pole	Guy	Anchor	Cross Arm	Insulator	Sidewalk Brace			
Measured Design	13.7 m/3	12.25 from stress at 3.00 m	19.79 (GuyP1)	5.49 (AnchorP1)	No Data	No Data	No Data	100%	Y	N

Lead: Lead Location: P3

Load	Pole Length/Class	Maximum Load %						Pole Strength Remaining	Loading Adjusted by Strength?	Clearance Violations Present?
		Pole	Guy	Anchor	Cross Arm	Insulator	Sidewalk Brace			
Measured Design	15.2 m/3	27.1 from stress at 3.00 m	1.23 (GuyGuyP1)	No Data	No Data	No Data	No Data	100%	Y	N

Lead: Lead Location: P4A

Load	Pole Length/Class	Maximum Load %						Pole Strength Remaining	Loading Adjusted by Strength?	Clearance Violations Present?
		Pole	Guy	Anchor	Cross Arm	Insulator	Sidewalk Brace			
Measured Design	12.2 m/4	140.54 from stress at 9.00 m	125.1 (GuyP2)	110.59 (AnchorP1)	No Data	No Data	31.75 (SidewalkBraceP1)	100%	Y	N
Recommended Design	12.2 m/2	31.25 from stress at 3.00 m	75.67 (GuyP3)	64.73 (AnchorP2)	No Data	No Data	51.39 (SidewalkBraceP2)	100%	Y	N

Lead: Lead Location: P4

Load	Pole Length/Class	Maximum Load %						Pole Strength Remaining	Loading Adjusted by Strength?	Clearance Violations Present?
		Pole	Guy	Anchor	Cross Arm	Insulator	Sidewalk Brace			
Measured Design	18.8 m/2	24.07 from stress at 15.00 m	28.17 (GuyGuyP2)	27.36 (AnchorP1)	No Data	No Data	No Data	100%	Y	Y

Lead: Lead Location: P5

Load	Pole Length/Class	Maximum Load %						Pole Strength Remaining	Loading Adjusted by Strength?	Clearance Violations Present?
		Pole	Guy	Anchor	Cross Arm	Insulator	Sidewalk Brace			
Measured Design	13.7 m/2	28.44 from building	28.17 (GuyP3)	41.12 (AnchorP2)	No Data	No Data	No Data	100%	Y	N

PROPOSED DOWN GUY AND ANCHOR SUMMARY								INSTALLED BY CONSTRUCTOR	
POLE NUMBER	DESCRIPTION	NOTE	STREET NAME	LEAD DISTANCE (m)	GUY DESIGN TENSION (N)	MINIMUM STRAND SIZE	ANCHOR SIZE	INSTALLATION TORQUE (lbf)	DATE OF INSTALLATION
P4A	PROPOSED HYDRO V-GUY (H=9.0m) AND ANCHOR	PROPOSED	MONAGHAN RD	3.0m	19798	PROPOSED 3/8" grade 180	PROPOSED 12" Single Helix PSA with 1" rod (NORTH-WEST OF POLE)		
	PROPOSED HYDRO V-GUY (H=8.6m) AND ANCHOR	PROPOSED			24280	PROPOSED 3/8" grade 180			
P4A	PROPOSED HYDRO V-GUY (H=9.0m) AND ANCHOR	PROPOSED	MONAGHAN RD	3.0m	30929	PROPOSED 3/8" grade 180	PROPOSED 12" Single Helix PSA with 1" rod (SOUTH-WEST OF POLE)		
	PROPOSED HYDRO V-GUY (H=8.6m) AND ANCHOR	PROPOSED			36324	PROPOSED 3/8" grade 180			
ALL EXISTING DOWN GUYS AND ANCHORS ARE ADEQUATE UNLESS NOTED ABOVE									

KEY MAP (N.T.S)

CITY / TOWNSHIP OF ANYWHERE

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COA

P. ENG STAMP

ISP LOGO

NO.	DATE	DESCRIPTION	BY	APP
3	DD-MM-YYYY	ISSUED FOR APPROVAL	--	--
2	DD-MM-YYYY	PRELIMINARY	--	--
1	DD-MM-YYYY	SHEETS CREATED	--	--

CONSULTANT LOGO

CONSULTANT'S NO: 2021-XXXX

PROJECT TYPE: AERIAL FIBRE OPTIC INSTALLATION
PROJECT NAME: CRAIG RD. FIBRE INSTALLATION

DRAWN BY: --	DESIGNED BY: --	CLIENT NO.: XXXXX
CHECKED BY: --	APPROVED BY: --	SCALE: N.T.S.
DRAWING NO.: E2		DATE: DD-MM-YYYY

EXHIBIT 'G'
BILL OF MATERIALS

AERIAL																																				
CABLE															STRAND																		POLES			MAKE READY		
DRAWING NO.	AERIAL FIBRE TAGS	288 FOC	144 FOC	48 FOC	24 FOC	500 COAX	540 COAX	625 COAX	QR715 COAX	750 COAX	LOOPBACKS	SPLICE ENCLOSURE	OVERLASH	TREE TRIMMING	STRAND - 3/8"	STRAND - 1/2"	SIDEWALK ANCHOR/PIPE	EXTENSION SIDEARM	LASH WIRE	GROUND WIRE #6 COPPER	GROUND ROD 16mm (5/8") x 2400mm (8')	3/8" OVERHEAD GUY	1/2" OVERHEAD GUY	1" DOWNGUY	3/8" DOWNGUY	SIDEWALK STRUT	ANCHORS 16mm (5/8") ROD	ANCHORS 19mm (3/4") ROD	SPLICE TRAYS	"C" CLAMP 100mm (4") GAL.	TRANSFER	U-GUARD	RISER POLES	# OF POLE ATTACHMENTS	MAKE READY - EXISTING ISP	MAKE READY - ISP	MAKE READY - HYDRO
1		35m									1																											1
2		104m																							2	2										2		1
TOT		84.5									1														2	2										2		2

KEY MAP (N.T.S)

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CONSULTANT LOGO

CONSULTANT'S NO: 2021-X

PROJECT TYPE: AERIAL FIBRE OPTIC INSTALLATION
PROJECT NAME: CRAIG RD. FIBRE INSTALLATION

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CHECKED BY: --	APPROVED BY: --	SCALE: N.T.S.
DRAWING NO.: G		DATE: DD-MM-YYYY

P.Eng. Design Drawings, Structural Analysis and Design Provisions

GENERAL

This document, relating to the design and construction of telecommunications facilities either in proximity to Local Distribution Companies' (LDC) electrical plant, or in proximity to buried utilities is intended to be used in conjunction with the latest issuances of Ontario Reg. 22/04, the Electrical Safety Authority (ESA) Bulletins and requirements, CSA Standards 22.3 No.1 (Overhead Systems) and CSA Standards 22.3 No. 7 (Underground Systems), and *the Occupational Health and Safety Act* (OHSA). The Proponent is responsible for compliance with all rules and applicable municipal, provincial, or federal laws, codes, and regulations. In all situations, it is the responsibility of the Proponent to be familiar with and adhere to the OHSA, CSA standards during installation, maintenance, and related activities involving their facilities attached to any LDCs facilities.

OVERVIEW

Aerial

The Proponent is to be aware that LDC's poles are part of an overhead electrical distribution system, and that all of the power lines attached to the poles should be presumed energized at all times. All persons, including the Proponent's employees and contractors, must exercise caution and take all reasonable precautions when working on or near electric utility poles and/or near high-voltage lines.

Where Federal and Provincial regulations directly address construction activity in the vicinity of overhead electric lines, and violators are subject to criminal penalties and civil liabilities, these laws apply to employers, contractors, owners and any other parties or persons responsible for or engaged in construction activities.

The Distribution Pole includes:

a) Pole-Top Zone
b) The Electrical Supply Zone or Supply Space
c) Neutral Zone or Clearance Zone
d) Communications Space

The Pole-Top Zone is the pole space located at the top of the pole above the energized portion of the pole.

The electrical supply zone or supply space is reserved for electrical supply facilities. Most supply space wiring consists of uninsulated conductors. The supply space may include separate facilities operating at different voltages; for safety reasons, typically the highest voltages are located uppermost on the pole.

The neutral zone is the safety zone, or "neutral" space, between the lowest electrical supply conductor or equipment and the highest communication cables or equipment.

The communications space is the lower portion of pole containing telecommunications attachments, and other communications cables.

Underground

All proposed buried telecommunications facilities must be designed and installed in compliance with local, provincial, and national standards. The running lines for cable must comply with the approved offsets defined by the ESA (Regulation 22/04) governing road and municipal authority. Additional

approvals may also be required for access to other rights-of-way including creek or waterway crossings, or railway crossings and facilities must be designed and installed in compliance with the requirements of the respective governing authority (e.g., municipality).

DESIGN, ENGINEERING AND CONSTRUCTION PROVISIONS

Design Considerations - Aerial

1. The design should be designed to meet CSA 22.3 No. 1.
2. Telecommunication attachments should be installed as high as permissible within the Communication Space on the pole while respecting established positions.
3. Where there are no previous attachments on the pole, the first attachment should typically be placed at the highest position that complies with the minimum clearance, separation and spacing (clearance) requirements specified by CSA 22.3 No. 1 specifications, as amended from time to time, and the standards of the LDC. In such cases, subsequent attachments should be made at the next highest position while maintaining minimum required clearances from the ground, supply and other communication facilities.
4. If a pre-existing violation is identified, new attachments can be installed only if the new attachments can meet CSA 22.3 No. 1 specifications, CSA C22.3 No. 5.1, clearance requirements, or the existing attachments are adjusted to provide adequate clearance.
5. For attachments proposed on LDC poles located on private property, prior permission must be obtained from the property owners. An LDC assumes no responsibility for securing any permission that may be required, and the Proponents should not assume that permission exists based solely on the presence of an LDC's facilities.
6. An LDC will not obtain or negotiate rights-of-way for the benefit of a Proponent and no guarantee is given by an LDC of permission, from property owners, municipalities or others. Proponents should in all cases be solely responsible for obtaining consent, where necessary, from landowners and governmental entities involved.

Construction Considerations - Aerial

1. Communications cables are typically designed for installation on the same side of poles (typically the street side) as LDC's neutral and secondary conductors and any existing communications cables. In the absence of any existing installations on LDC's poles, communications cables should be installed on the street side of poles.
2. Communications cables should be designed for installation within the communication space as high off the ground as possible and to conform to CSA 22.3 No. 1 specifications and/or LDC's Standards.
3. The Proponent must ground and bond its messenger in accordance with requirements of the CSA 22.3 No. 1 specifications and the OHSA, as amended from time-to-time. Only LDC and its approved contractors are authorized to bond the telecom bonding wire to the LDC neutral conductor. The Proponent should leave on the pole a coil of bonding wire of sufficient length to allow LDC or its contractor to uncoil the wire and make the final bonding connection to the LDC neutral conductor.
4. Communication cables should be identified by tagging every cable at every pole. Existing untagged cables should be identified at every pole during normal maintenance. Untagged cables may be treated as unauthorized attachments.

5. The Proponent is responsible for coordinating adjustments of existing attachments with appropriate third parties; prior permission to adjust existing cable facilities between any new Proponent and any existing attacher should occur before any adjustments are made.
6. Horizontal or vertical extension arms should not be used by the Proponent to achieve required vertical clearances and/or horizontal separation.
7. The Proponent should avoid 3rd party cable risers on three-phase primary cable riser poles, or poles with pole-top switches.
8. Only one communication U-Guard is allowed per pole.
9. Overlashing should be permitted only on cable attachments and telecommunications attachments. The owner of the cable supporting the overlashed installation is responsible for maintaining both the supporting cable and the overlashed cable in compliance with CSA 22.3 No.1.
10. Overlashing to a Proponent's existing cable can be accommodated under the same design criteria as other communication installations, including post-installation inspection and pole loading. The Proponent may apply for a materially insignificant attachment if the results support the submission of a declaration.
11. Make-Ready work should be performed before any proposed overlashing will be performed.
12. The communications grounding system should be on the opposite side of the pole from LDC ground wire with the grounds connected together at the base of the pole.
13. All guying should be considered as part of the structure, with a design/installation consisting of proper tension to support the attachment(s). Guying locations are typically installed at Proponent's dead-ended facilities, line deflections and/or when a LDC guy is present. Guying adds stability to a pole structure, with one end of the cable secured to the pole structure, and the other anchored to the ground at a distance from the pole structure's base.
14. Each company should independently guy and anchor its respective facilities. Guying is required for third-party attachments in all cases where such facilities add an unbalanced tension load to the pole.
15. Guy anchors are part of an LDC's post-Installation Inspection review. Communication cables must be properly guyed and anchored before tensioning. Proponent must install separate guying and anchoring devices to secure their cables. The Proponent is responsible for ensuring that communication cables are independently guyed and anchored.
16. Attachment to LDC's anchors are not permitted.
17. The Proponent should coordinate with the LDC for all vegetation trimming necessary on or around its attachments, both during and after installation. The LDC may or may not provide any vegetation trimming services for communication facilities.

<u>Design Considerations – Underground</u>

The design should be designed to meet CSA 22.3 No. 7. The telecommunication plant should adhere to (but not limited to) the following to satisfy client, Right of Way authority and applicable specifications requirements;

- minimum depths of cover;
- minimum separation from other infrastructure or objects;
- grounding and bonding; and,
- joint trenching design where applicable.

<u>Construction Considerations – Underground</u>

The Proponent should ensure that a Road Occupancy Permit (ROP) and/or Municipal Consent (MC) is obtained prior to commencing any activities in the ROW. All conditions of the ROP and any conditions required by the Municipal Access Agreement (MAA) should be adhered to.

Before commencing the work, the Proponent's contractor should obtain locates to inform themselves of the location of all existing services and infrastructure that may be impacted by their installation activities.

AERIAL DRAWINGS

For submissions based on approved standard designs developed the Proponent, the Proponent will need to supply information to the LDC to ascertain that the proposed attachment is in accordance with the approved standard designs. After review and approval by the owner the permission is granted to proceed with construction. These submissions need only to be prepared by a competent person, as defined by the LDC.

For submission based on the Proponent providing the work plans and wok instructions assembled by a P.Eng, the LDC will grant permission to proceed after a review of the design.

The P.Eng stamped drawings are to be prepared using industry applicable software that has been approved for use by the LDC. The outputs of the software should include, for each affected pole, the relevant information for each of the items below:

- Location Analysis Summary
- Design Properties
- Load Case Properties
- Loading
- Pole Strength
- Pole Static Analysis
- Wire End Points and Wires
- Downguys and Anchors
- Cross Arms
- Insulators and other Equipment (e.g., Transformers, Streetlight Arms etc.)
- Strength Case Appendix
- Load Case Appendix

All drawings should conform to the drawing provisions noted above. A pole profile is required for each affected pole indicating existing and proposed attachments. See Figure 1.

The ESA *Guideline for Third Party Attachments* can be referred to for additional information.

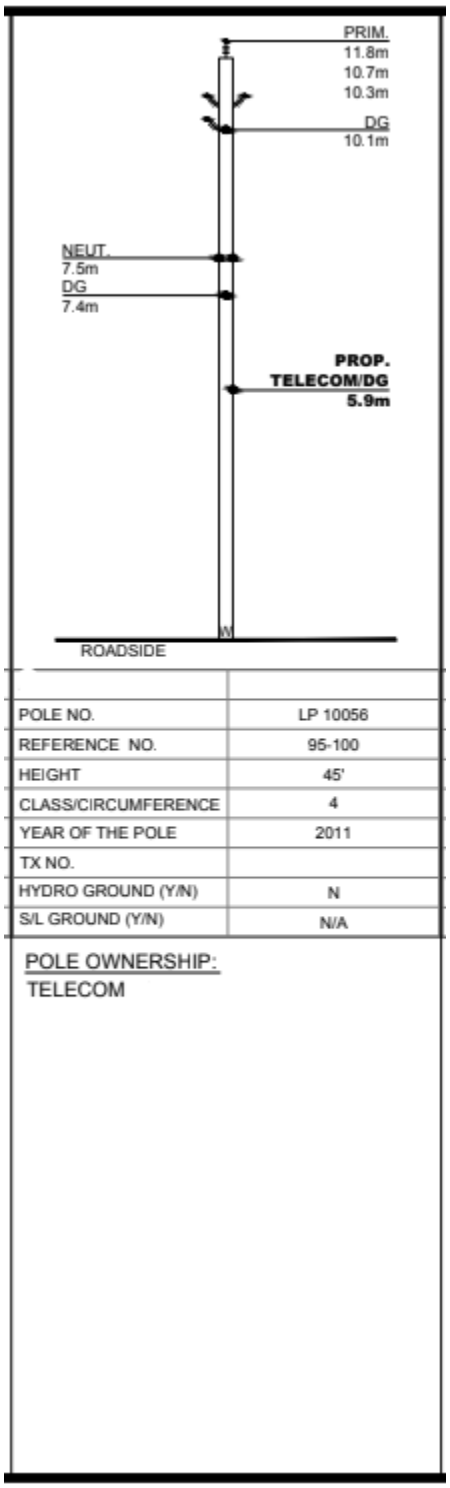


Figure 1: Sample Pole Profile

The drawings should include the seal of the responsible P.Eng, as well as a signed Certificate of Approval (COA). See Figure 2.

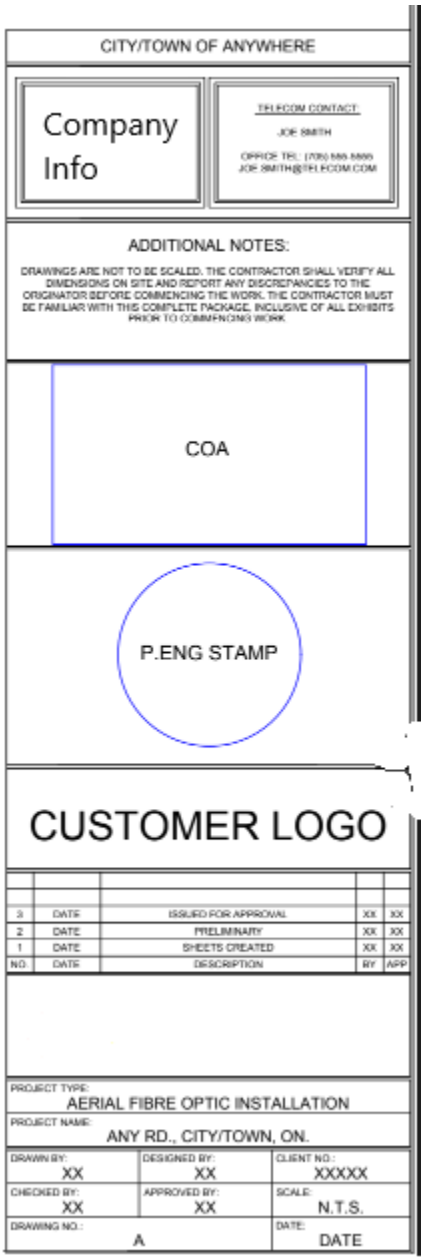


Figure 2: P.Eng Stamp Example

The drawings should also include:

- Key Map
- Constructor installation requirements
- Constructor documentation requirements
- Aerial construction information
- Summary of buried and aerial permit kilometers
- Distribution of pole ownership quantities

- A Make-Ready summary, by attachment owner
- Aerial typical details
- Design data summary tables indicating:
    - Vertical separations at each pole
    - Ground clearance at each span
    - In-span clearances between supply and communications cables
    - Estimated ruling span sag and tension
    - Hydro and communication guy & anchor data used
    - Loading results
- Proposed down guy and anchor summary
- Bill of Materials

Standard Utility Offsets

GENERAL

This document contains guideline information only to assist ISPs and Governing Authorities with the preparation of drawings that will assist in the permitting process. These guidelines are not prescriptive or binding, rather provide good practice for drawing preparation.

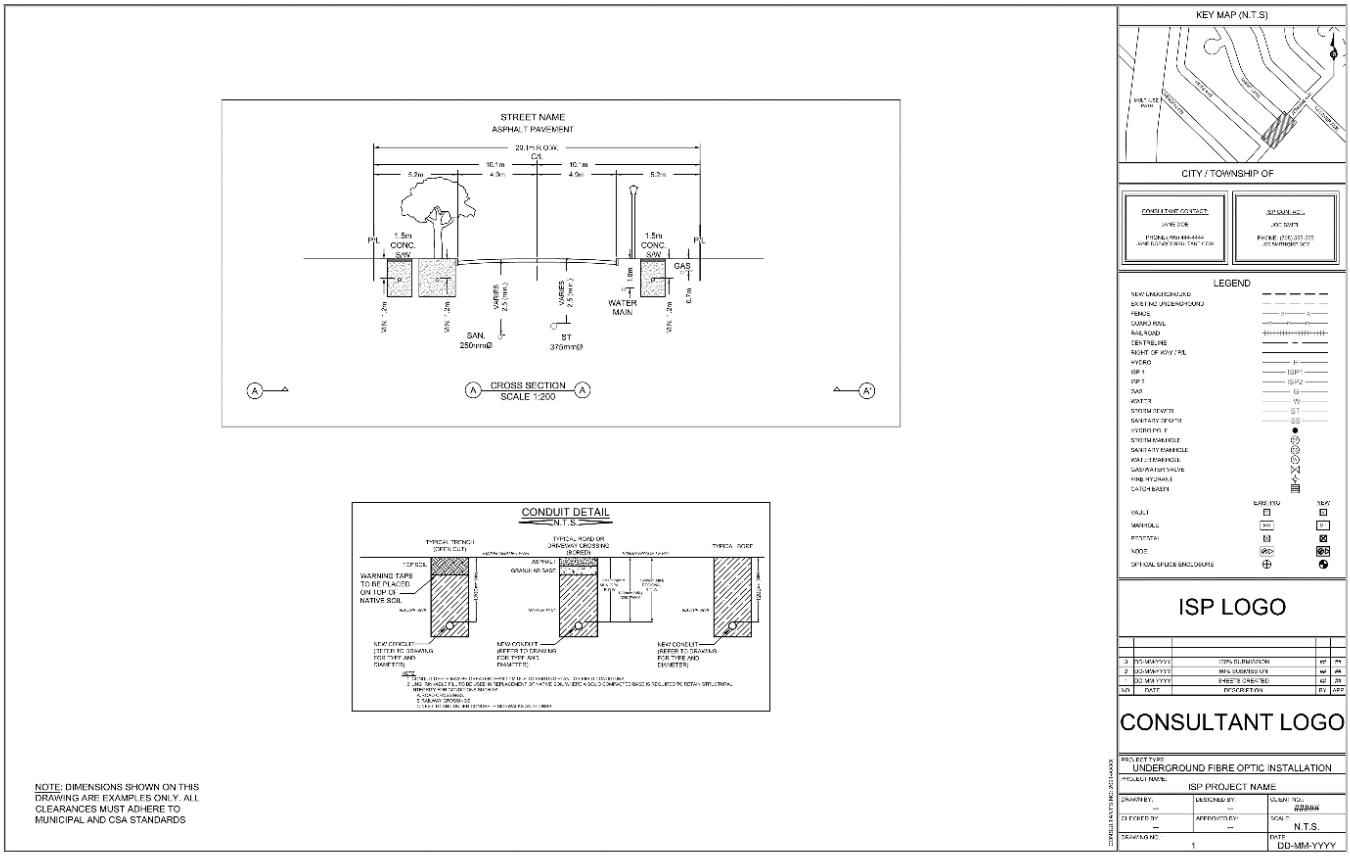
This Guideline, along with the other appropriate standards form the basis for complete submissions. Proponents should confirm if the minimum drawing requirements are outlined within the LDC Occupancy Agreement or within the Municipal Consent agreement.

STANDARD UTILITY OFFSET DRAWINGS

The basic requirements that are stated in *Basic Drawing Requirements* section above should apply to any utility offset drawings prepared.

SAMPLE DRAWING

A sample drawing is shown below for a typical installation.



Sample One-Touch Make-Ready Sample Agreement

The sample agreement provided below is intended to serve as a sample only, users should consult legal counsel to ensure the agreement is adapted to their specific needs and circumstance.

This Agreement is made as of _____ ___, _____:

BETWEEN:

[*Local Distribution Company*], a _____ licensed by the Ontario Energy Board under Part V of the *Ontario Energy Board Act*

(the "**LDC**")

AND:

[*Proponent*], a _____ incorporated under the laws of _____

(the "**Proponent**")

WHEREAS:

A. The Proponent is carrying out the construction of broadband network infrastructure (the "**Project**") under the Province of Ontario's *Ontario Connects: Accelerated High Speed Internet Program*.

B. The Project is a *Designated Broadband Project* under **[The Building Broadband Faster Act Guideline]** (the "**Guideline**").

C. On the date hereof, the LDC has granted the Proponent a permit (the "**Permit**") to attach broadband network infrastructure to the LDCs support structure(s), as described in further detail in the Permit (the "**Attachment**").

D. Pursuant to the one-touch make-ready process set out in Section **[2]** of the Guideline, the LDC has advised the Proponent that the LDC is unable to undertake and complete the power and telecom make-ready work on the LDC's support structure(s) required in connection with the Attachment (the "**Make-Ready Work**") in accordance with the applicable performance timelines set out in the Guideline.

E. In order to expedite completion of the Attachment, the Proponent desires to undertake and complete the Make-Ready Work at its own cost and risk.

F. Pursuant to Section 2 of the Guideline, as a condition to undertaking and completing the Make-Ready Work at its own cost and risk, the Proponent must enter into this Agreement with the LDC.

NOW THEREFORE, in consideration of the mutual covenants and agreements of the parties hereinafter contained and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereto agree as follows:

1. The Proponent acknowledges and hereby agrees that the LDC has, in the context of issuing the Permit, reviewed whether sufficient spare capacity is available on the structure(s) to accommodate the Attachment but the LDC will not conduct a pre-work inspection for

compliance of the structure(s) with construction standards and/or health and safety risks for workers or the public.

2. The Proponent further acknowledges and agrees that the LDC is relying on the information and assessment provided by the Proponent with respect to any structural or other issues with the structure(s) which are inconsistent with applicable construction standards.

3. The LDC hereby authorizes the Proponent to undertake and complete the Make-Ready Work in accordance with this Agreement and the applicable requirements of the Guideline and the Permit.

4. If, as of the date hereof, the LDC has provided the Proponent in writing a list of contractors pre-qualified by the LDC to carry out the Make-Ready Work, the Proponent must select a contractor from such list to carry out the Make-Ready Work. Otherwise the Proponent may propose a qualified contractor for the LDC's approval, and such approval by the LDC should not be unreasonably withheld, conditioned or delayed.

5. The Proponent may proceed with its Attachment prior to the completion of the Make-Ready Work if:

    a. the Proponent has reviewed any structural or other issues with the structure(s) which are inconsistent with applicable construction standards and a professional engineer ("**P. Eng.**") of or for the Proponent has certified that the Attachment can nevertheless proceed in a safe manner, in compliance with applicable law;

    b. a P. Eng. of or for the Proponent has provided to the LDC a signed request and declaration in the form attached as Sample Materially Insignificant Declaration to the Guideline (Appendix 1) stating that the Attachment is "materially insignificant" (within the meaning given to such term in the Electrical Safety Authority guidelines), and the LDC has confirmed to the Proponent in writing that the LDC deems the Attachment to be "materially insignificant".

    The LDC must review and respond to the request and declaration described in Section 5.b above within the performance time period specified in the Guideline.

6. The Proponent acknowledges that the structure(s) will be deemed to be under its control during the performance of the Make-Ready Work for the purposes of compliance with Electrical Safety Authority requirements and guidelines and health and safety obligations arising from the Canada Labour Code and its regulations.

7. In the event that the Attachment cannot be safely performed until Make-Ready Work can be permanently completed, the Proponent may apply to the LDC for a temporary facility, for Proponent's exclusive use, to bypass a structure requiring Make-Ready Work (a "**Temporary Facility**"). The Proponent acknowledges that any request for the installation or use of a Temporary Facility which comes in contact with a structure of the LDC or which may increase the maintenance or replacement costs of a structure of the LDC should be submitted in advance to the LDC, in the standard form requested by the LDC (if any), accompanied by detailed, signed and sealed (P.Eng.) plans of the proposed Temporary Facility and other documents that may be required by the LDC.

8. Each application for a Temporary Facility should be made in a separate application by the Proponent. In addition, any modification, addition or removal that the Proponent wishes to make to its Temporary Facilities requires the filing of a new application. The Proponent acknowledges

that such application may be submitted to a technical committee comprised of technical experts from the LDC and other owners of support structures and that the Proponent may be invited to present its request to the committee. The LDC reserves the right to accept the request as submitted, to propose an alternative at the Proponent's expense, to return the request to the Proponent if it is incomplete, or to reject the request within **[30]** days. If the Proponent believes that a type of Temporary Facility could be performed without P.Eng. stamped plans or otherwise deviating from the Temporary Facilities process set out herein, the Proponent may submit a proposal with a process specific to that type of Temporary Facility to the technical committee for evaluation.

9. The Proponent agrees to clearly identify its Temporary Facilities as being in the Proponent's name with the notation "Temporary Facility" and, upon completion of the work on the Temporary Facilities, to perform, at its expense, the work to remediate or make the Temporary Facilities permanent within **[90]** days of the completion of the preparatory work including the removal of any Temporary Facilities owned by the Proponent such as poles, conduits, pads, overhead conduits, etc., unless another time period is agreed upon by the parties, after which time the temporary facility will be considered an unauthorized attachment. Any unidentified temporary facility will be considered an unauthorized attachment.

10. Upon completion of the Attachment and Make-Ready Work, the Proponent should deliver to the LDC "As Built" drawings for the Attachment and Make-Ready Work which should include a completed record of inspection form in accordance with the Guideline.

11. The Proponent agrees that any and all damages of any nature whatsoever which may reasonably be considered to result or arise directly or indirectly from the Proponent's performance of the Make-Ready Work and/or the installation, use or modification of any Temporary Facility, in each case which occurred during or within a period of 120 days following delivery by the Proponent of "As Built" drawings for the Attachment and Make-Ready Work pursuant to Section 10 above, should be deemed to have been a result of the Proponent's work, except to the extent that the Proponent can demonstrate that another reason was the cause of such damages.

12. During the 120-day period described in Section 11 above, the LDC and any existing internet service provider attached to the relevant structure (an "**Existing ISP**") should have the opportunity to conduct inspections of the Make-Ready Work and any Temporary Facility work for the purpose of identifying any damage, and must notify the Proponent of any damage to their respective infrastructure prior to the end of such 120-day period. Except to the extent the Proponent can demonstrate that its Make-Ready Work or Temporary Facility work did not cause such damages, the Proponent should, at its own cost, rectify the damages identified by the LDC and/or the Existing ISP within 30 days of receipt of written notice of such damages by the Proponent, unless a longer period of time is agreed between the parties, acting reasonably.

13. The Proponent should notify the LDC's representative as soon as possible of any incident, non-conformity or other situation affecting safety or the integrity of one or more structures arising from or following the execution of the Make-Ready Work and/or the installation, use or modification of a Temporary Facility in order to allow the LDC to carry out any necessary verification and work required to rectify the situation.

14. The Proponent should inform the LDC upon completion of its work and certify that the Make-Ready Work and/or the installation, use or modification of a Temporary Facility, as applicable, was conducted safely in compliance with the work conditions required by the Proponent's engineer in consideration of the work to be done.

15. The Proponent acknowledges that the Make-Ready Work and any Temporary Facility work is subject to the conditions set forth herein and in the Permit and that the Proponent's rights to perform the Make-Ready Work and any Temporary Facility work hereunder may be revoked at any time by the LDC if, in the LDC's reasonable opinion, the Proponent is conducting the work in a manner inconsistent with industry standard, including, without limitation, in the event of a breach or failure to respect the conditions set out herein or in the Permit, a failure by the Proponent, its personnel or contractors, to comply with applicable health and safety standards or if the LDC becomes aware of any incidents relating to unsafe practices likely to endanger a person's health or safety. The LDC should provide written notice to the Proponent which should include the LDC's reasons for its decision.

16. The Proponent acknowledges and agrees that it should exercise its rights and perform its obligations under this Agreement at its own cost and risk without recourse to the LDC.

17. This Agreement will be interpreted in accordance with the laws and regulations of the Province of Ontario and the laws and regulations of Canada applicable therein, without regard to conflict of laws principles. Any dispute between the parties hereunder should be resolved pursuant to the dispute resolution procedures in Section **[3]** of the Guideline.

18. No amendment to this Agreement should be effective unless it is made in writing and signed by the parties hereto. Neither party may transfer or assign this Agreement or any part thereof, or its rights, duties or obligations under this Agreement, without the prior written consent of the other party.

19. This Agreement may be signed in counterparts and such counterparts may be delivered by facsimile or by other acceptable electronic transmission, each of which when executed and delivered should constitute an original document; these counterparts taken together should constitute one and the same Agreement.

20. This Agreement has been executed on behalf of the LDC and Proponent as of the date first written above:

[INSERT LEGAL NAME OF LDC]

By: _____

Name:

Title:

By: _____

Name:

Title:

I/We have the authority to bind the corporation.

[INSERT LEGAL NAME OF PROPONENT]

By: _____

Name:

Title:

By: _____

Name:

Title:

I/We have the authority to bind the corporation.

Sample Application for Aerial Attachment

<u>PART 1: REQUEST INFORMATION FROM LDCs</u>

GENERAL

Date Requested: _____

Proponent Name: _____

Proponent Phone: _____

CONTACT INFORMATION

Provide the contact information for the party requesting the Aerial Attachment on behalf of the Proponent.

(Individual) Prime Contact Name: _____

Title: _____

Office Phone: _____

Cell Phone: _____

Email: _____

POLE DATA

Pole Information (note: the information needs to be verified in the field).

Number: _____

Height: _____

Class: _____

Installed Date: _____

Primary Conductor:

Size: _____

Tension: _____

Type: _____

Neutral

Size: _____

Tension: _____

Type: _____

Secondary conductor

Size: _____

Tension: _____

Type: _____

Plans:

Are there any LDC plans to replace or upgrade the pole within the next 5 years, and if yes, when?
_____

PROJECT LOCATION

Provide details that describe the submission geographically.

Project Location Information			
Lot Numbers or Address	**Nearest Intersection**	**Township, Village, Town or City**	**Region, County or District**

Provide a sketch of the location of the proposed attachments, including streets and the locations of the affected poles.

PART 2: SUBMIT PERMIT APPLICATION

Any specific technical requirements, dependent on the LDC, can either be provided on forms or included within the drawings. All application fees are to be provided at this time.

GENERAL

Date Submitted: _____

Proponent Name: _____

Proponent Phone: _____

Location (nearest major intersection): _____

Date of Signed Occupancy Agreement: _____

CONTACT INFORMATION

Provide the contact information for the party requesting the Aerial Attachment on behalf of the Proponent.

(Individual) Prime Contact Name: _____

Title: _____

Office Phone: _____

Cell Phone: _____

Email: _____

PROJECT DESCRIPTION

*Enter **Yes** or **No** for each of the items below for the proposed work within the Right Of Way.*

New Installation _____

Replace Existing Facilities _____

Upgrade Existing Facilities _____

Alter Existing Facilities _____

Underground Work _____

Aerial Work _____

Excavation Required ____

Expected Date of the work to commence _____

Expected Date of the completion of the work _____

Existing LDC Support Strand to be used _____

Existing ISP Support Strand to be used? _____

Has permission been granted to use the support strand? _____

Design Standards to be applied – Owner developed? _____

Design Standards to be applied - Proponent developed? _____

Design Standards to be applied – USF? _____

Design Standards to be applied – Other? _____ Standards by? _____

PROJECT LOCATION

Provide details that describe the submission geographically.

Project Location Information			
Lot Numbers or Address	**Nearest Intersection**	**Township, Village, Town or City**	**Region, County or District**

Drawing Number	Street	From Location	To Location	Comments

Provide a sketch of the location of the proposed attachments, including streets and the locations of the affected poles.

Provide a Description of the Proposed Work

_____
_____
_____
_____

FULLY ENGINEERED PROCESS

If the Proponent is providing the detailed engineering, then the detailed information on all attachments (strand and messenger) including quantity, size (diameter in mm), line tension (kN), and type (fiber, size of fibre count, copper, etc.) are to be provided (either in the form of the table below, or with the contents of the table below included on the drawings).

Pole #	Street Name	Type (new, overlash)	Max Cable Diameter	Existing Permit	Tension Change	Deadend	Deflection Pole	Approval (Y/N)

DEVIATIONS FOR NON-STANDARD MATERIALS AND DESIGNS

Where the designs or materials used do not conform to the required standards, the Proponent is to complete the information to request approval. A sample template for a P.Eng to fill out to approve a deviation is below.

Name of P.Eng. requesting deviation(s) _____

Title of P.Eng. _____

Company Name of P.Eng. _____

Email of P.Eng. _____

TYPE OF DEVIATION (Material - barcode or stock code) or (Design type - engineering or operations)	**DESCRIPTION OF DEVIATION**

PERMISSION TO OVERLASH ON POLES

If permission to overlash on an existing strand is required, the information below is to be supplied.

Date:	
Applicant (Company):	
Applicant Contact Name & Number:	
FAX:	
Applicant E-mail address:	
Municipality:	
Street: (Where work is being requested)	
Pole Owner:	

Applicant's Project No:	
Number of Poles Applicant is overlashing to existing Strand	
Existing Support Strand Owner	
Existing Support Strand Owner Permission Granted By: (Contact) Name & Number	
Additional Comments	

SUBMISSION REQUIREMENTS

A complete Aerial Attachment Permit Application requires submission of:

- the required Application Fee;
- the Drawings completed in accordance with the requirements stated; and
- The appropriate sections completed application on this form.

RETURNED BY THE LDC

Once the LDC has received and reviewed the Application, the information below should be completed by the LDC or its agent.

Permit Number _____

Approved by _____

Title _____

Date of Approval _____

Comments _____

Deposit Amount $_____

Sample Materially Insignificant Declaration

BACKGROUND

ESA Bulletin DB-07-15v2, *Distributor Information Bulletin,* contains direction on how an LDC may demonstrate compliance with Regulation 22/04, with respect to "materially insignificant" alterations to electrical equipment. ESA views "materially insignificant" (MI) alterations to consist of any work that does not materially change the existing electrical equipment, typically relating to forces on poles & strength of poles. ESA recognizes that some forms of overlashing, , including but not limited to flags, traffic signs and flower baskets may be deemed "materially insignificant". The following are key points from the bulletin.

Where the Proponent is undertaking the P.Eng. Design Drawings and they indicate that the proposed work is "materially insignificant", the Permit Application should include a request and a declaration signed by a P.Eng. that the attachment be considered "materially insignificant".

As per ESA's direction, the LDC may exempt "materially insignificant" work from the audit requirements of Sections 7 and/or 8 of Regulation 22/04 and that work will be deemed in compliance with Regulation 22/04.

GENERAL

Date Submitted: _____

Proponent Name: _____

Proponent Phone: _____

Location (nearest major intersection): _____

Date of Signed Occupancy Agreement: _____

CONTACT INFORMATION

Provide the contact information for the party requesting the Materially Insignificant Alteration on behalf of the Proponent.

(Individual) Prime Contact Name: _____

Title: _____

Office Phone: _____

Cell Phone: _____

Email: _____

PROJECT DESCRIPTION

*Enter **Yes** or **No** for each of the items below for the proposed work within the Right Of Way.*

New Installation _____

Replace Existing Facilities _____

Upgrade Existing Facilities _____

Alter Existing Facilities _____

Expected Date of the work to commence _____

Expected Date of the completion of the work _____

Existing LDC Support Strand to be used _____

Existing ISP Support Strand to be used? _____

Has permission been granted to use the support strand? _____

PROJECT LOCATION

Provide details that describe the submission geographically.

Project Location Information			
Lot Numbers or Address	**Nearest Intersection**	**Township, Village, Town or City**	**Region, County or District**

Drawing Number	Street	From Location	To Location	Comments

Provide a sketch of the location of the proposed attachments, including streets and the locations of the affected poles.

Provide a Description of the Proposed Work

_____
_____
_____

MATERIALLY INSIGNIFICANT ALTERATION DECLARATION

The Materially Insignificant Alteration Declaration (MIAD) provides the basic information regarding incremental pole loading resulting for service cable over-lash to an existing permitted attachment.

The MIAD provides the data along with proposed parameters and conditions that confirm that the proposed attachments will not cause any material structural or loading change.

The declaration, dependent on the project, standards, span lengths and location, can be submitted:

- Either as a single form for the entire project;
- As a form for each pole affected;
- As a form for a grouping of poles.

Consideration is still required for:

- The Proponent to perform a survey to confirm the existing facilities and to prepare drawings for submission.
- Defects that directly affect the structural capacity of the pole (i.e. physical damage such as vehicle damage to a pole or anchor) should be communicated to the pole owner.
- The existing separations and clearances have already been approved by the prior design and or audit. If not, calculations by the Proponent will be required.
- That any additional strands added do not affect the existing already approved clearances.
- An existing installation, where the grounding or bonding have already been approved on the basis of the prior design or audit.

Materially Insignificant Alteration Declaration

The installation work covered by this document meets the safety requirements of Regulation 22/04 as the work does not change the existing electrical equipment or materially change the forces on poles and strength of poles.

_____ _____

Name **Date**

_____

Signature and Professional Designation

ENGINEERED DRAWINGS

Where required by the LDC, the Proponent should submit engineered drawings to facilitate installation and to provide complete records.

Sample Certificate of Deviation

CERTIFICATE OF DEVIATION APPROVAL

ESA bulletin DB11-12-v2, *Distributor Bulletin,* contains direction on when a Certificate of Deviation may be applied and the conditions where Approval for the deviation is permitted. More information, including examples, can be found in the Distributor bulletins section of www.esasafe.com.

Accepting deviations can be done through the use of a "Certificate of Deviation Approval". All deviations are to be listed on the Certificate of Deviation Approval.A *Certificate of Deviation Approval* must be signed by a P.Eng. (either the ISP or LDC's P.Eng depending on the party developing the engineered designs)

A sample is seen below.

Certificate of Deviation Approval

The installation work covered by this document meets the safety requirements of Section 4 of Regulation 22/04 with the following deviations:

_____

_____

_____

_____ _____

Name **Date**

_____

Signature and Professional Designation

CERTIFICATE OF DEVIATION – CERTIFIED LISTS

ESA Distributor Bulletin DB-02-16-v1, provides guidance on when a Certificate of Deviation for Certified lists can be applied. It provides direction on how an LDC may demonstrate compliance with Regulation 22/04, with respect to deviations from required standards. ESA accepts that a certified list of deviations from section 5 "When safety standards met" of Regulation 22/04, approved by a P.Eng., is acceptable to meet the requirements of Regulation 22/04. More information, including examples, can be found in the Distributor bulletins section of esasafe.com.

A sample is seen below.

LDC COMPANY NAME & LOGO

Certificate of Deviation Approval for Non-Standard Items. This certifies that the below list of deviations from CSA standards will not materially affect the safety of any person or property, if not resolved immediately. These items can be resolved over time through maintenance, pole line rebuild and street light replacement programs.

The items covered by this Certificate are deemed to not be an imminent safety hazard for workers that are "qualified" to work in the communications space on poles, based on their knowledge, training and experience levels required. This Certificate is not intended to be applied to new pole lines or any situation where a pole is being replaced anyways. In those cases, it is expected that the entire pole be brought up to 100% CSA standards compliancy.

The workers are "qualified" in their ability to recognize electrical hazards and other potential safety concerns, which may cause them to implement specific safety measures or work procedures to avoid the item. They are required to take a training module called "Health and Safety Guidelines for Contractors - Working at Heights Module", among other requirements before they are deemed qualified.

This Certificate can only be applied to Third Party Company projects, at their discretion, by inclusion of this Certificate into their attachment application. On a per attachment application basis, the exact poles and pole spans where this Certificate of Deviation Approval is being applied will be clearly identified on a separate form, completed by a competent person. A suitable form is attached to this Certificate, but similar forms are also acceptable. Third Party Company and the LDC may agree to identify some of these items through existing Joint Use Processes, or other agreed methods, rather than this form.

Prepared by:_ _ _____ Date: _____

Name of P.Eng. _____ Signature: _____

Deviations for Non-Standard Items

Project Name:	**Municipality:**
Permit #:	**Date:**

Street	Bar code/ Pole #	Description of Deviation

Prepared by:_ _ _____ Date: _____

Position: _ _____

Broadband One Window Record of Municipal Access Sample Agreements

A Municipal Access Agreement (MAA) is a legal agreement that provides telecommunication companies the ability to construct, maintain, relocate and operate their equipment within rights-of-ways that are under the jurisdiction of a municipality. It states the roles, responsibilities and requirements for both the signatory and the municipality and deals primarily with issues such as municipal consent, hazardous substances and materials, road occupancy permits, rights-of-way, costs to be carried by municipalities, third party and sub-contractor agreements, service level agreements, maintenance and repair responsibilities as well as equipment use and invoicing.

The One Window system can be used to maintain a database confirming all applied for MAAs, confirming all executed MAAs, maintain a map of which municipalities require an MAA and provide an interface for submission.

MAA FORM

Proponent: _____

Individual Applicant's Name: _____

Application date: _____

Applicant's email: _____

Applicant's Phone: _____

Applicant's Consultant Name: _____

Consultant's email: _____

Consultant's Phone: _____

Municipality Name: _____

Existing MAA in Place (Y/N): _____

Date of Application: _____

Date of Executed Agreement: _____

Expiry date of MAA: _____

Sample Application for Municipal Consent

GENERAL

Date Submitted: _____

Proponent Name: _____

Proponent Phone: _____

Location (nearest major intersection): _____

CONTACT INFORMATION

Provide the contact information for the party requesting Municipal Consent on behalf of the Proponent.

(Individual) Prime Contact Name: _____

Title: _____

Office Phone: _____

Cell Phone: _____

Email: _____

Fax: _____

PROJECT DESCRIPTION

*Enter **Yes** or **No** for each of the items below for the proposed work within the Right Of Way.*

New Installation _____

Replace Existing Facilities _____

Upgrade Existing Facilities _____

Alter Existing Facilities _____

Underground Work _____

Aerial Work _____

Excavation Required ____

Directional drilling or boring required _____

Expected Date of the work to commence _____

Expected Date of the completion of the work _____

Provide a Description of the Proposed Work

_____
_____
_____

SUBMISSION PROVISIONS

In some jurisdictions, the Proponent will be required to obtain approvals from all other regulatory authorities prior to submitting the MC application, showing all owners' facility locations and confirming no conflicts exist.

The Proponent should also have considered if a joint-build venture with any other facility owner was considered, agreed to or declined.

Where required under the guidelines established by the Professional Engineers of Ontario, the application drawings should be signed and sealed by a Professional Engineer.

All minimum horizontal and vertical clearances to existing facilities should be maintained in accordance with published specifications. Stated clearances may be reduced with the written permission of the affected facilities owner(s).

The Proponent may choose to 'bundle' several drawings together as a single application for projects which involve continuous installation over large distances. These should be summarized and listed in the table below.

For pole line installations, all existing poles, poles to be removed and proposed poles are to be shown. This includes all guying and anchoring.

Drawing Number	Street	From Location	To Location	Comments

SUBMISSION REQUIREMENTS

A complete Municipal Consent Application requires submission of:

- the required Application Fee;
- the Drawings completed in accordance with the requirements stated;
- This completed application form; and
- Confirmation of all other required approvals from other agencies.

RETURNED BY THE MUNICIPALITY

Once the Municipality has received and reviewed the Application, the information below should be completed by the Approver.

Municipal Consent Number _____

Approved by _____

Date of Approval _____

Comments _____

Deposit Amount $_____

Additional Comments _____

Sample Application for Road Occupancy

This permit expires 6 months from the date of issue

GENERAL

Date Submitted: _____

Proponent Name: _____

Proponent Phone: _____

Work Location (nearest major intersection): _____

CONTACT INFORMATION

Provide the contact information for the party requesting Road Occupancy Permit on behalf of the Proponent.

(Individual) Prime Contact Name: _____

Title: _____

Office Phone: _____

Cell Phone: _____

Email: _____

Fax: _____

TYPE OF WORK

*Enter **Yes** or **No** for each of the items below for the proposed work within the Right of Way.*

New Installation _____

Replace Existing Facilities _____

Upgrade Existing Facilities _____

Alter Existing Facilities _____

Underground Work _____

Aerial Work _____

Excavation Required ____ Length (m) _____ Width (m) _____

Directional drilling or boring required _____ Length (m) _____

Expected Date of the work to commence _____

Expected Date of the completion of the work _____

Provide a Description of the Proposed Work

_____
_____
_____

AFFECTED ASSETS

Indicate which assets may be affected by the work

Roadway	Sewers
Signs	Curbs
Gutters	Drains
Sidewalk	Boulevard (grass)
Trees	Storm sewers
Pedestals	Traffic Lights
Street Lights	Fire Hydrants
Bus Shelters	Interlocking Brick
Multi-Use Trails	Bollards

WORK LOCATION

Provide a sketch of the location of the work, including lots, streets, the locations of buildings and the location of the construction/work zone.

MUNICIPAL CONSENT NUMBER

Provide the approved consent number.

_____

RESTORATION DETAILS

Provide the anticipated restoration requirements and timing.

_____
_____
_____

SUBMISSION REQUIREMENTS

A complete Road Occupancy Permit Application requires submission of:

- The required Application Fees (application fee plus encroachment deposit);
- This completed application form;
- Completed submission of Insurance related requirements;
- The work location sketch; and
- Written confirmation has been provided to all other affected infrastructure owners.

PERMIT DETAILS

1. The Proponent must have a valid Municipal Access Agreement (MAA) if applicable and must follow the requirements of the MAA or any and all By-laws governing work on public lands imposed by the City/Town/Region.
2. Permits are to be issued by the Utility Coordinator. Up to seven business days are required for processing.
3. The Deposit and Administration and Inspection fees should be paid by the Proponent.
4. The Proponent should notify all affected property owners in writing before work commences. The notification will include utility name, expected duration, contact name and phone number. Short term emergency repair work is excluded from this clause.
5. The Proponent must submit the amount and agree to the terms for Liability Insurance as stated by the City/Town/Region.
6. The Proponent agrees to indemnify and save harmless the City/Town/Region, its officers, employees, servants and agents from and against all liability, claims, demands, suits, arising out of or in any way connected with the granting of this Permit and/or said construction or excavation.
7. The Proponent waives as against the City/Town/Region, its officers, employees, servants and agents any claims that it may have arisen out of or in any way connected with the granting of this Permit and/or the said construction or excavation.
8. The Proponent will provide any cash deposit required by the City/Town/Region with the permit application. The balance of the deposit should be returned twelve (12) months after the work has

been completed if all conditions of the MC are met. Any costs in excess of the deposit amount will be billed to the Proponent.

9. Prior to issuing a permit, the Proponent must have proof of all required approvals and permits.
10. Prior approval must be obtained from the City/Town/Region for closing or restricting any road at any time except under emergency circumstances. The hours of work for closing or restricting any road at any time should be at the discretion of the Municipal Engineer.
11. The Proponent will be charged for the erection and maintenance of detour signs along the detour route at a rate in effect at that time.
12. In case of emergency work, notice should be given and an application for permit made as soon as possible after commencement of the work, namely on the same day, or, if too late in the day, then within one hour of the opening of the Municipal/Regional Office on the following work day.
13. The Proponent should prior to the commencement of any work, obtain stakeouts from all Owners of underground plant and should comply with any instructions from the plant Owners when working in proximity to their plant. All existing plant must be protected, supported, backfilled and compacted to the satisfaction of the plant owner.
14. The Proponent should adhere to all required backfill and restoration requirements.
15. The City/Town/Region reserves the right to do any remedial or restoration work that in the opinion of the City/Town/Region has not been adequately performed by the Proponent. The City/Town/Region will invoice the Proponent for the cost of such remedial or restoration work.
16. The Proponent guarantees and warrants that with ordinary wear and tear the said work should for a period of twenty-four (24) months from the date of completion, remain in such condition and will meet with the approval of the City/Town/Region and that they will, upon being required by the Municipal Engineer, make good in a manner satisfactory to the Municipal Engineer any imperfections therein due to materials used in the construction thereof or workmanship.
17. No open cutting of the roadway will be allowed between November 1 to April 15 unless agreed to prior by the City/Town/Region.
18. Door Hanger Notification letters, in accordance with City/Town/Region requirements, must be provided to all residences affected by the work. This includes trenchless technologies installing utility assets.
19. The Proponent should file a "Notice of Project" with the Ontario Ministry of Labour prior to commencing any work on the road allowance for works exceeding $50,000. A copy of the notice should be submitted to the City/Town/Region.
20. All works should be carried out in compliance with the Occupational Health and Safety Act times and should adhere to the rules and regulations as set out in the Ontario Traffic Manual Book 7. The applicant should supply all signs, flashers and barricades required to close lanes and detour traffic around the immediate working area.
21. All trees in the working area should be protected in accordance with the stated requirements of the City/Town/Region.
22. A copy of this Road Occupancy Permit, the Conditions of approval and stakeout information should be on site at all times.

23. All work must be in compliance with the Approved Municipal Consent drawings.
24. The permit holder is encouraged to take pre-construction photos of the entire area within the project limits. These must be made available upon request by the City/Town/Region in the event that disputes arise regarding responsibility for damages.
25. All excess material must be removed off-site at the expense of the permit holder.

RETURNED BY THE MUNICIPALITY

Once the Municipality has received and reviewed the Application, the information below should be sent back by the Approver.

ROP Permit Number _____

Approved by _____

Date of Approval _____

Comments _____

Fees Owing $_____

Additional Comments _____

Sample Notice of Completion

BACKGROUND

The Proponent is to submit a *Notice of Work Completion* followed by As-Built drawings detailing any changes from the initial plan

GENERAL

Date Submitted: _____

Proponent Name: _____

Proponent Phone: _____

Work Location (nearest major intersection): _____

(Individual) Prime Contact Name: _____

Title: _____

Office Phone: _____

Cell Phone: _____

Email: _____

Fax: _____

TYPE OF WORK COMPLETED

Indicate each of the items below that have been completed.

Underground Work _____

Aerial Work _____

New Installation _____

Replace Existing Facilities _____

Upgrade Existing Facilities _____

Alter Existing Facilities _____

Excavation Required ____ Length (m) _____ Width (m) _____

Directional drilling or boring required _____ Length (m) _____

Date of the completion of the work _____

Comments

_____

_____

_____

PERMIT NUMBERS

Complete the fields as applicable.

Municipal Consent Number _____

LDC Permit Number _____

ROP Permit Number _____

Approved by _____

Date of Approval _____

Comments _____

RESTORATION DETAILS

Provide any future required restoration requirements and timing.

_____
_____
_____

Sample Record of Inspection Form

A "record of inspection" means a record prepared by a professional engineer, ESA, or a qualified person identified in the owner's construction verification program, detailing the inspection of a constructed or repaired portion of an electrical distribution system with respect to the safety standards set out in section 4 of Ontario Regulation 22/04.

A record of inspection is to include sufficient description to identify the work and equipment inspected. A record of inspection can consist of an engineered plan, an as-built drawing, or a set of work instructions signed and dated by a professional engineer or ESA or a qualified person. A sample Record of Inspection is seen below.

RECORD OF INSPECTION FOR PLANNED CONSTRUCTION

Project Name _____

Project Location _____

MC Number _____

ROP Number _____

INSPECTION TYPE	COMPLY?		COMMENTS or DETAILS OF NON-COMPLIANCE
	YES	NO	
The approved plan has been followed, and construction was completed in accordance with the certified design drawings			
OR			
Standard designs applied correctly and construction completed in accordance with certified standard designs			
OR			
Like-for-Like or replacement of existing construction presents no undue hazard: • Metal parts are grounded • Live parts are adequately barriered or insulated • Minimum clearances to buildings, signs and grounds are maintained • Structure has adequate strength (replaced with same or better)			
AND			
Approved equipment was used			

Name: _____

Title: _____

Signature: _____

Date: _____

If a non-compliance is identified, the details should be identified and an action plan stated. Additionally, the completion date and verification date should be stated, followed by a Non-Compliance Correction Inspection. An example is provided below.

Details of Non-Compliance	Corrective Action Required
At Pole P1234, the telecom was installed 0.7m lower than shown on the design drawings.	At pole 1234, telecom to be raised to comply with the drawings. Drawing #100-101, Rev 1, Sheet 3 *Telecom raised on Sept 22, 2021*

Non-Compliance Correction Inspection

Name: _____

Title: _____

Signature: _____

Date: _____

Drawing Number: _____

All field records from the CVP process should be attached with the Record of Inspection, as well as any field records from the Corrective Actions taken.

Appendix 2: Further Reducing Complex Make-Ready Work

This Guideline stipulates that unless otherwise agreed to between a Proponent and an LDC, designs and construction should be done to CSA standards (or other standards recognized by ESA under Regulation 22/04).

Examples of these alternative approaches may include: 22F

Underground Dips and Risers

"Underground Dip" refers to deviating from a contiguous aerial proposed route and "dipping" down a pole to transition to a "buried" path for a limited distance until an aerial attachment is again feasible (Riser). Typically, this "dipping/riser" exercise would take place prior to making a physical attachment to the actual pole that requires complex make-ready work. This approach typically requires the placement of an "Anchor & Down Guy" to support the single sided attachment strain being applied to the pole. This texercise will typically need to be repeated at the next pole where a "Riser/Dip" will be placed to transition back up the pole and continue the linear aerial proposed route.

Pole Stumping

"Pole Stumping" refers to cutting an existing pole, leaving only an attacher's equipment on the pole. A new pole is installed near the stump pole with the agreement that the attacher will transfer the equipment to the new pole within a timeframe. The ESA developed a distributor bulletin DB-06-22-v1In-Span Structures and Overhead Unsupported Conductors) related to this issue. Parties should review this bulletin for additional guidance when doing work where pole stumping may be involved. The bulletin can also be accessed by going to https://esasafe.com/utilities/bulletins/

Temporary Attachments

- Installation of a horizontal extension arm may allow for the required amount of attachment separation (depending on its length – typically 18"). This may, in some instances, temporarily create a safe working space until the required amount of space is available.
- Space crowding entails installing a typical permanent attachment as normal, but at less than the required separation. This resolution only works for ISP-related separation (not with power separation compliance) and can possibly impact the pole's structure by having holes through the pole less than 12" apart. However, this structural concern may not be an issue if the pole is being replaced to resolve a complex make-ready issue. Another concern is if a splice enclosure proposed, if so, rubbing can occur and ultimately cause damage to the ISP.
- Pole boxing allows for the new attachment to be placed on the opposite side of the pole from which all other attachments were installed. This is only feasible in the event that the pole needs to be replaced and at the time of replacement the new pole is placed in a position where the "boxing event" can be remedied without cutting the cable. Typically, this approach needs to be executed near a road with clear, unobstructed access.

Appendix 3: Broadband One Window

Broadband One Window (BOW) Platform

Broadband projects can be extremely complex undertakings in the absence of efficient coordination and collaboration between the many infrastructure parties involved including ISPs. These stakeholders are responsible for a myriad of coordination processes designed to ensure matters such as public safety, permitting, and approvals. In order to be effective, the coordination processes require cooperation from all parties under predictable conditions, with timely and pertinent information sharing.

Under the BBFA and/or O. Reg. 410/22, the use of the BOW is generally required as follows:

- When municipalities receive an application for municipal service and right of way access via the BOW, they are generally required to respond using the BOW
- For LDCs, when the ISP has elected to use the BOW for a designated broadband project
- Requests for infrastructure data, where records are digitally available

The Broadband One Window (**BOW)** platform is a combination of:

- a Geographic Information System (**GIS**) platform
- a Utility Coordination Dashboard (**UCD**)
- a Utility Infrastructure Repository (**UIR**)
- a Corridor Management System (**CMS**)
- an Electronic Document Management System (**EDMS**)

The **BOW** was designed to support the design, procurement, construction and management of designated broadband projects, generally AHSIP projects, through enhanced information sharing, process coordination and monitoring.

The **BOW** uses web-based software platforms applying the capabilities of Microsoft Power BI for reporting and analysis, Environmental Systems Research Institute (ESRI) ArcGIS for spatial and mapping information and Jira for case (ticket) management.

The **UCD** component provides a streamlined, integrated approach to project management, performance tracking and case management. It also provides scalable and flexible business intelligence, enablement and visualization capability for the broadband program.

The **UIR** component collects infrastructure data required to support the completion of provincially funded project, enables proactive decision making, provides a repository for the data and a framework for sharing, viewing and accessing the data. In addition, the UIR has the ability to expand to include all future broadband projects regardless of the build type.

The **CMS** is to help local governments and *utilities* manage public capital assets.

The **EDMS** supports broadband infrastructure by adding spatially enabled joint-use management software to manage telecommunications equipment attachments on LDC poles to assist agencies in improving their communications, streamlining workflows, and tracking historical work data.

The BOW platform allows IO, in consultation with any project stakeholder, to review the impact(s) of any application or project activity. Early identification of issues at the planning stage for the project and the

continuous updating would eliminate some of the issues and delays that are seen today.

In summary, the BOW is a portal for all infrastructure owners to integrate, standardize and streamline project implementation, project management, performance tracking and real-time project status with the goal of expediting the installation of additional infrastructure to adequately provide broadband services to the Province of Ontario. Ultimately, when used in a designated broadband project the BOW would be able to:

- Receive applications to obtain *utility* infrastructure data
- Standardize the application and processing activities for permits and authorizations
- Present live key project KPIs
- Standardize project tracking processes

The BOW increases certainty and predictability and ultimately provides the capability to support smaller municipalities and smaller LDCs to meet their project delivery for the provincially funded initiative. BOW access would be available to all stakeholders in provincially funded projects but limited to their specific assigned projects and activities. As such, ISPs would only see content and data relevant to their projects, municipalities would only see projects within their border and LDCs would only see projects within their licensed service area.

Interoperability is possible in two ways: (1) real-time integration with ArcGIS Online or (2) Nightly batch updates/extractions. In both cases each organization would cover its respective costs. Organizations with existing platforms may seek applicable arrangements through IO who would determine a feasible approach as appropriate.

Mapping & Geographic Information Systems (GIS)

Geospatial data, or data with a geographic component, combines locational, attribute and temporal information that is collected through geospatial mapping. The technique of geospatial mapping uses software to analyze data about geographical or terrestrial databases through the use of a GIS. These are programs, or a combination of programs, that work together to help users effectively display geospatial data through management, manipulation, customization, analysis and creation of visual displays.

Geospatial data are most useful when they can be discovered, shared and used, which is one capability of the BOW process while maintaining the security and confidentiality of sensitive information pertaining to critical infrastructure. Geospatial-enabled data provides visual insight into project and program status, various subsurface utility engineering (**SUE**) quality levels, major milestones of each unique project and identifies risks and conflicts at a program level. By implementing this functionality through the BOW platform, geospatial data enable users to convey information in location-based analytics using intuitive and interactive data visualization to make informed decisions, visualize trends, and monitor status in real time.

The acquisition, integration and consolidation of geospatial data sources from multiple parties and infrastructure sources in one central location on the BOW platform would provide easy access, transparency and enhancement of project information. This would result in a streamlined process for decision making, route selection and determination on the option to select underground or aboveground locations for broadband infrastructure placement, which would assist in expediting the installation of additional infrastructure to adequately provide broadband services across the Province of Ontario.

All parties submitting drawings of buried infrastructure should follow the requirements outlined in the American Society of Civil Engineers (ASCE) 38-02, ASCE 75 or CSA S250 for all submitted information to IO. The ASCE 38-02, ASCE 75 is generally two-dimensional data focused and CSA S250 is a more

modern quality standard which reflects modern technical developments to specify accuracy in three-dimensional data collection.

Application Submission Requirements – CSA S250, ASCE 38-02 or ASCE 75

In 2002, the ASCE published the ASCE 38-02, "Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data" document, outlining a credible system to classify quality of utility location information in design plans. The standard defines SUE requirements and sets out guidance for the collection and depiction of subsurface utility information. ASCE 38-02 sets out guidelines for how to qualify the accuracy of mapping existing infrastructure and relay information to a drawing.

All submitted existing subsurface utility information on engineered drawings and designs should meet or exceed the system requirements outlined in ASCE 38-02 and ASCE 75, to ensure alignment in SUE information provided in the BOW Application and to result in better designs, enhance damage prevention efforts and develop strategies to reduce risk by improving the reliability of information.23F

The standard defines four quality levels outlining methods used to determine the location of underground assets: Quality Level A, Quality Level B, Quality Level C and Quality Level D**.** Refer to Figure 1 and Table 4.

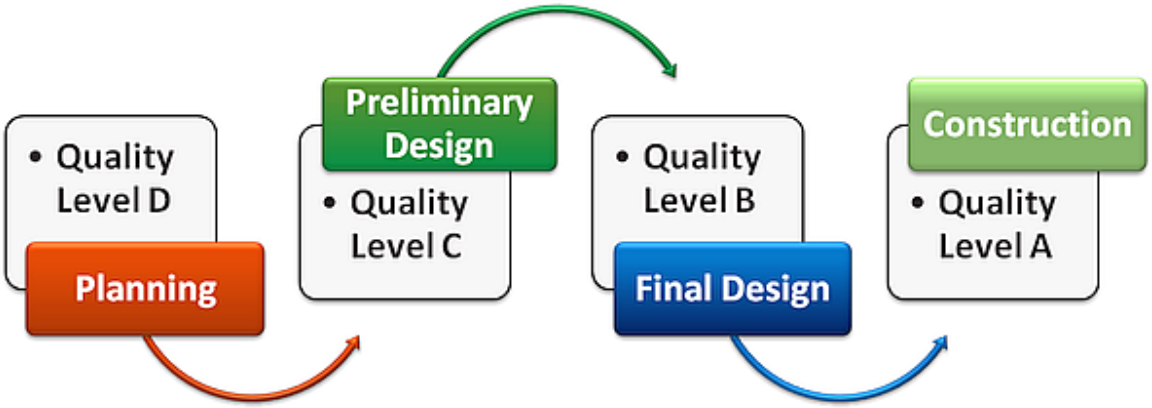


Figure 3: Four SUE Levels

Table 1: SUE Levels

Level D:	Utility records are requested, researched by the utility, marked-up and returned to the requester.
Level C:	Using surface surveying techniques, above ground features of subsurface utilities are identified and recorded.
Level B:	Using surface geophysical equipment and techniques, subsurface utilities are determined and are associated with the horizontal position on the ground surface.
Level A:	Where existing records of underground site conditions may be incorrect, incomplete or have multiple cables buried over several years, SUE Level A allows the physical discovery of buried cables. This is a large contributor to avoiding conflicts. Exposing and recording the size and configuration of a subsurface utility, and it's precise vertical and horizontal location is crucial. Using subsurface geophysical equipment and techniques, subsurface utilities are determined and recorded in three dimensions and are associated with the horizontal position on the ground surface.

The basic deliverable for utility information is in Computer Aided Design (**CAD**) file format or a plan

sheet that assigns quality levels A, B, C or D to each asset. Quality level A data typically requires a supplemental data form for additional information.

In 2011, the Canadian Standard Association (**CSA**) published "Mapping of Underground Utility Infrastructure", CSA S250. This standard defines SUE and sets guidance for the collection and depiction of subsurface utility information. CSA S250 sets out requirements for classifying and specifying the accuracy of mapping records for newly installed or exposed infrastructure.

The CSA S250 requires a finer degree of accuracy for detailing and defining the positional location of the infrastructure that correlates to better-defined reliability in accuracy of records. It is a more modern quality standard that reflects new, modern technical developments specify accuracy in 3D. The CSA S250 serves as an additional standard to complement, rather than replace, ASCE 75.

The standard defines six levels of accuracy for recording the location of underground infrastructure when infrastructure has been exposed either by potholing or excavation: Record accuracy level 0, Record accuracy level 1, Record accuracy level 2, Record accuracy level 3, Record accuracy level 4, and Record accuracy level 5.

All submitted mapping records should meet or exceed the guidelines defined in the CSA S250, to streamline data sharing and accurately record the presence and location of utility infrastructure. The standard encourages a managed systems approach to mapping and record keeping by establishing:

- Governance for utility infrastructure records management and mapping
- Procedures to improve mapping accuracy
- Uniform format for utility feature descriptions
- Processes for notification of GIS errors and practices when sharing data

Use of the BOW Platform in Designated Broadband Projects

Post commercial close, IO's role will focus on using the BOW platform to report on project success through the following metrics:

- Administration and tracking of projects
  This view enables users to have a clear overview of the projects that have been initiated across the Province. This can be viewed by area, lot, ISP or other data filters that users require.

- Monitoring of Contracts
  This view enables users to have a clear overview of the project's contract status across the Province. The display can be selected to include items such as contract start date, terms of contract, amount of contract, ISP, length of main lines, the number of premises included in the contract or other data that users require.

- Issuance of Subsidy Payments
  This view enables users to have a clear overview of the project's subsidies supplied to the ISPs, and can be viewed by ISP, area, lot, by value of subsidies or other data filters that users require.

- Visualization of Ongoing Projects
  This view enables users to have a clear overview of the project's conflicts across the Province, by ISP, with several levels such as: 27F

    - Contract status
    - Main line and segment build locations
    - Area map by ISP

  - Ongoing sue work status or other essential details
  - The completion percentage of construction by area, by ISP, by project or other combinations
  - An indication of the number of safety related incidents across all projects (near misses, days without incidents, number of incidents, days lost to injuries)
  - An overall indication of the risk status (on track, at risk) for timely completion

- Coordination between Stakeholders
  This view enables users to have a clear overview of the project owners, infrastructure owners and the status of upcoming projects that require coordination.

- Issue Management
  This view enables users to have a clear visual overview of the number of existing unresolved disputes across the Province by various filters such as contract, segment, component and LDC.

- Accomplishment Reporting
  This view enables users to visually determine the accomplishments at various stages of the project, including:

  - Number of existing projects across the Province by date started and date completed
  - Number of projects completed ahead of schedule
  - The performance of each LDC involved
  - Variances for cost and schedule
  - The actual expenditure of the project compared to its budget
  - Any other essential indicators

Designated Broadband Project Stakeholders

ISPs undertaking AHSIP related designated broadband projects are strongly encouraged to use the BOW platform for end-to-end project submissions, coordination and completion to limit project delays and conflicts. If the BOW is used by an ISP, there are requirements in place for municipalities and LDCs to follow in-kind. The mechanisms established within this Guideline and the dispute mediation support from IO are available to participants who use BOW.

In addition, BOW will provide insight into the Lots for ISPs and will open that data up to municipalities and LDCs after the Proponent is awarded. BOW will notify municipalities and LDCs of the awards and the targeted addresses and proposed construction approach to open the avenue for early consultations. 29F

The BOW platform will provide approved stakeholders with processes and tools that would spatially:

- Track *markup circulation requests*. All users will have the ability to centrally request pre-engineering markups for all associated utilities through a spatial interface. All stakeholders will have the ability to track the progress of all requests.

- Track municipal consent and road occupancy permits requests. ISPs and utilities will have the ability to track the progress of all requests.

- Track joint use applications to LDCs.

The BOW platform will provide users with data in the following two ways:

- Spatially Linked: Metrics captured and aggregated and exported to a non-spatial format which can be displayed and interacted with.
- Spatially Driven: Metrics or KPI's which are directly driven based on location. These can be dynamically driven based on the spatial limits.

Furthermore, the BOW platform will be a portal to the One-Touch Make-Ready scheme and capture LDC, municipal and MTO Public Service Commitments (PSC) as well as stakeholder coordination and activities. The BOW platform would provide users with several key benefits including:

- A single source of accuracy for information related to the project (managing security, privacy, and storage methods)
- A common platform for spatial data (managing the collection, conversion and cleansing of data sets)
- Enhanced transparency with respect to reporting
- Customizable analysis and reporting (using complex methods and analytical capability through tools to predict current and future performance of LDC relocations)
- Enhanced document management
- Tracking submission and approval management (managing and tracking submissions, actions and approvals incidents and linking it back to KPIs and continuous improvement)
- A single location to obtain project metrics, KPIs, project information, LDC collaboration and data
- Reducing resource constraints by applying technology
- Program management consolidation that brings the project into a streamlined process

Appendix 4: Ontario One Call - Streamlining locates for Designated Broadband Projects

Ontario Underground Infrastructure Notification System Act, 2012

In 2012, Ontario passed the *Ontario Underground Infrastructure Notification System Act* (One Call Act) centralizing the utility locate system in Ontario under Ontario One Call. The One Call Act was amended in April 2022 through the *Getting Ontario Connected Act, 2022* to address immediate pressure points in the locate delivery system, enhance governance and oversight of Ontario One Call, and improve Ontario One Call's compliance tools. These amendments include specific requirements to enhance the locates process, including for designated broadband projects. The description below is reflective of the amended One Call Act.

Utility location requests ("locate requests") are requests made by an excavator working on behalf of the company constructing in the ROW. Locate requests are submitted by the excavator to Ontario One Call who, in turn, sends the request to owners or operators of underground infrastructure (e.g., municipal water and wastewater pipes, natural gas pipelines, telecom fibre and electricity wires) in order for them to identify in the field the location of their underground infrastructure so that the excavator can avoid damaging them while working in that area. Under the One Call Act, locate requests must be responded to in accordance with timelines set out in the Act, or another mutually agreed to timeframe.

To reduce project risk resulting from unforeseen costs and delays posed by the late delivery of locates, the One Call Act requires a dedicated locator who has been selected for the project to respond to locate requests within ten business days for designated broadband projects or another timeframe agreed upon by the proponent and the dedicated locator. This process excludes locate requests relating to transmission infrastructure, which is to be responded to by the member and is treated as a standard locate request under the One Call Act.

Dedicated Locator Model

To enhance the efficiency of the locates process, Proponents (i.e. Project owners) are required to use a Dedicated Locator for certain projects, including designated broadband projects. Under a Dedicated Locator Model, a dedicated locator is selected by the proponent and affected members for the purposes of responding to locate requests on behalf of impacted members for the duration of the project. The Dedicated Locator model provides the Proponent with greater control over the timing of the locates, and will have a say in who the dedicated locator will be. Under the Dedicated Locator Model, the cost of the Dedicated Locator is borne by the Proponent and not the individual underground infrastructure owners.

The industry had strong support through the Guideline consultations.

NOTE: There is a key exclusion from the use of the Dedicated Locator Model. Locate requests relating to transmission infrastructure must still be responded to by the relevant member, and not the dedicated locator. Locate requests relating to transmission infrastructure are treated as standard locate requests under the One Call Act and the member has five business days to respond after receiving a notification of a standard locates request, unless otherwise agreed to in writing by the member and excavator.

Ontario One Call has outlined the following benefits of a Dedicated Locator Model33F[7]:

- Enhanced efficiency
- Reduced downtime as the locates are completed under the direction of the ISP
- Promotion of damage prevention and safer excavation practices
- Increased control: because the project owner has a say in who the dedicated locator is
- Better flexibility when unanticipated conflicts require project changes
- Potential to reduce reliance and burden on regular pool of public locate service providers who are also expected to complete standard locates requests for homeowners and less complex tickets

Setting up a Dedicated Locator

Dedicated Locators are selected by the proponent and the affected members. Proponents and affected members are encouraged to select from the pre-existing pool of dedicated locators in regions with existing available resources. Note: There are no requirements in the One Call Act regarding the certification of dedicated locators. However, Ontario One Call has developed a document to provide guidance, as set out by owners of underground infrastructure, for a Non-Locate Alliance Consortium (Non-LAC) locator to be able to perform the function of a Dedicated Locator (DL). This document was developed to address industry feedback that project owners are not able to use the DL model unless locators selected are part of LAC.

This guidance document has been compiled to enable more locating resources to support DL projects. This framework is not a requirement imposed by Ontario One Call. It is recommended that Locate Service Providers work closely with project owners and underground infrastructure owners to plan how best to resource DL projects.

For further information, please refer to the Non-LAC Locator Framework to Qualify for Dedicated Locator at the following link: https://www.ontarioonecall.ca/wp-content/uploads/Non-LAC-Locator-framework.pdf.

Process Requirements

The following are key requirements related to the use of the Dedicated Locator Model for designated broadband projects.

- Proponents of a designated broadband project must give advance notice (90 days) to Ontario One Call before any excavation or dig is expected to commence, subject to a shorter timeline being stipulated by either One Call or the Minister of Infrastructure.
- Within 10 business days (or such other agreed to timeline between the Proponent and affected members of Ontario One Call) after receiving a notice from Ontario One Call of the proposed excavation/dig:
    - The affected members of Ontario One Call and the Proponent shall agree in writing on a Dedicated Locator, and
    - The affected members of Ontario One Call shall give to the Dedicated Locator mapping information, such as the location of the member's underground infrastructure, and any other information that the Dedicated Locator considers necessary.
- After the Dedicated Locator has been agreed upon for a project, the Proponent shall promptly notify Ontario One Call of the name and contact information of the Dedicated Locator.

[7] Ontario One Call, Dedicated Locator. https://www.ontarioonecall.ca/wp-content/uploads/DedicatedLocator.pdf

- The agreed-upon Dedicated Locator for a designated broadband project who receives a notification from Ontario One Call about a locate request that may affect underground infrastructure owned or operated by an affected member shall respond to the locate request within 10 business days after the day the dedicated locator received the notification or within such different time limit agreed upon in writing by the Proponent and the dedicated locator.
    - Locate requests relating to transmission infrastructure must still be responded to by the member themselves and shall be treated as a standard locate request.

Additional Considerations

The use of the Dedicated Locator model can provide a number of benefits and promote overall project efficiency. However, the following additional considerations should be taken into account to ensure that locates for provincially funded projects are not delayed:

- Proponents should ensure that the timing and input of locate requests are for the areas necessary for the project phase as opposed to blanket requests covering the span of the entire project area. This will reduce the backlog in the locates system and ensure that locates do not expire prior to the start of construction in the identified area.
- IO is working with Ontario One Call to ensure that all locate requests for designated broadband projects are uniquely identified as provincially funded project locates to be prioritized by underground infrastructure owners/operators and One Call (dispatching the requests) where a Dedicated Locator is not deployed.

Locates Validity Period

Once completed, a locate would have a validity period of a minimum of 60 days. Locates may specify a locate validity period that is longer. Despite the validity period, if the markings on the ground that were provided are no longer visible, the validity period would be deemed to have expired and a new locate request would need to be submitted.

Locates Liability– Dedicated Locator Model

Under the One Call Act, a proponent can seek recourse from a member in certain circumstances, including if the member failed to provide information or to provide accurate information to a dedicated locator as required under the act for the purposes of a designated broadband project. If the proponent and member cannot agree on compensation, a claim for compensation shall be determined by the Ontario Land Tribunal on application by the proponent.

Administrative Penalties

Effective April 1, 2023, One Call can issue administrative penalties against non-compliant underground infrastructure owners/operators and excavators in the industry, A new Minister's regulation to amend the effective date to April 1 2024 was filed on May 11, 2023.

The ability to issue administrative penalties is intended to strengthen One Call's enforcement and compliance framework and provide an additional tool for the organization to use to promote compliance with the One Call Act.

The Regulation, O.Reg 87/23 outlines important details, including penalty amounts and how funds generated from administrative penalties may be used by One Call. For more detail, please access the regulation at the following link: https://www.ontario.ca/laws/regulation/230014

Appendix 5: Supplemental Ministry of Transportation Requirements

The following supplemental information has been provided by the Ministry of Transportation to assist proponents (including ISPs and utilities) with meeting MTO requirements to perform work within or adjacent to provincial highway rights-of-way. This information will help streamline the permit application submission process for proponents and facilitate a more efficient review by MTO. The proponents are required to follow this information diligently to ensure that applications are processed in a timely manner.

1. Pre-Consultation
   - Pre-consultation with MTO is mandatory. Applicants shall request a pre-consultation with MTO as early as possible before planning or starting work.
   - A pre-consultation request is to be submitted through MTO's Highway Corridor Management System (HCMS). Include "BROADBAND" in the description when completing the "Description of pre-consultation with MTO" field.
     - Early pre-consultation and ongoing communication will help facilitate exchange of information, provide an understanding of requirements, find opportunities to proactively streamline processes and address any potential issues or conflicts.
     - Proponents are encouraged to consolidate their discussions and inquiries during the pre-consultation phase to support full understanding and ensure efficient processing and review of their requests.

2. Permit Application Package
   - Prepare the application package and apply for a permit through HCMS, incorporating actions and requirements discussed during the pre-consultation meeting.
   - When applying for permits through HCMS, you are required to enter the following note in the Project Reference Name field: BROADBAND. Adding this note will flag the submissions for priority review. This will also allow MTO to maintain line of sight on the various broadband permit applications submitted and support their processing in a timely manner.
   - Provide as much information as possible when applying for the permit, including the pre-consultation number.
   - Contact the MTO representative from the pre-consultation meeting if assistance is needed.
   - See below for more information on MTO permit application requirements.

3. Tracking
   - Applicants can track the status of their application through HCMS using the instructions in the email received after submitting the application.

4. Inquiry
   - For any further inquiry regarding MTO requirements and broadband permit applications, proponents can submit an inquiry through HCMS. Include 'BROADBAND' in the description when completing the "Description of General inquiry with MTO" field to ensure appropriate routing of the inquiry.

The information provided below is in addition to applicable drawing requirements identified elsewhere and is not inclusive of all MTO requirements. MTO may request additional requirements as

needed to support protection of specific highway corridor elements.

General requirements for utility installations within or near a provincial highway right-of-way:

- MTO permits are required for any work within a provincial highway right-of-way, within 45m of any limit of a provincial highway right-of-way, within 180 m of the centre point of an intersection on a King's Highway or within 395m of the centre point of an intersection on a controlled access highway.
- Parallel installations are prohibited within the right-of-way limits of a Class I or II controlled-access highway (e.g., freeway and major highways), except in exceptional cases.
- Installations shall be within a 2 m horizontal strip, placed as close to the provincial highway right-of-way limit as possible, and as a minimum beyond the roadside ditch.
- If highway crossings are unavoidable, they shall be minimized and installed through trenchless methods or aerial, as close to right angles as practical, at a consistent depth/elevation, and completely outside the footprint of any interchange or intersection area.

Additional specific MTO permit application submission requirements for utility installations within or near a provincial highway right-of-way:

- Each MTO Permit Application must be accompanied by a plan or drawing, showing the location and extent of the proposed installation as it relates to the provincial highway.
- As a condition of permit approvals, details of the highway crossings must be submitted for MTO review and approval. These may include geotechnical/foundation investigation reports, plans, profiles, and cross sections indicating the location, depth, and type of crossing for the pipe etc., depending on the complexity of the proposed highway crossings.
- Plans, profiles, drawings, and supplementary notes need to address the following:
    - Location of the installation, which can be easily georeferenced (e.g., coordinates, link to mapping interface, etc.).
    - Highway number.
    - Work being done, including plant being installed (poles, main line and service connections), excavations, tree and vegetation protection, installation methods, etc.
    - Type of installation (aerial, buried, attach to existing plant, etc.).
    - Elevation above highway (for highway crossings) or ground level (for parallel installations) and proposed depth for underground installations.
    - Offset from the plant installation location to existing highway infrastructure (e.g., highway right-of-way limit, highway ditch, highway shoulder, highway edge of pavement, guide rail, culverts, poles. etc.).
    - Party/Parties doing the work.
    - Site access requirements and plans, including traffic control plan.
    - Timing/duration of work.
- Installations that cross under a highway shall include a key plan, a detail plan, and a profile.
- Submitted plans and profiles are to be to the following scales, unless otherwise requested:
    - Key Plan: 1:100 000, 1:250 000, or as necessary for orientation
    - Detail Plan: 1:1000 in rural areas and 1:500 in urban areas
    - Profile: 1:1000 horizontally and 1:100 vertically in rural areas; 1:500 horizontally and 1:50 vertically in urban areas
- The minimum depth of cover in MTO's policy applies to any buried utility infrastructure, in addition to other requirements determined by MTO based on the specific project

situation.

- Field review and constructability assessment of the proposed installation must be completed, with a written confirmation of such assessment submitted prior to permit approval.
- Any specific assessments, studies, etc. identified during permit application review are the responsibility of the applicant.
- Specific sections of Chapter 3 of the MTO's Highway Corridor Management Manual, April 2022 are undergoing review, with updates expected to be completed in 2025. A copy of the current manual can be accessed from the Resources section of the MTO Highway Corridor Management website.

Appendix 6: OEB Guidance on Cost Apportionment for Designated Broadband Projects

Ontario Energy Board | Commission de l'énergie de l'Ontario

BY EMAIL AND WEB POSTING

February 9, 2023

TO: All Licensed Electricity Distributors
All Other Interested Parties

RE: Guidance on Cost Apportionment for Designated Broadband Projects

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On April 21, 2022, Ontario Regulation 410/22 (Electricity Infrastructure – Designated Broadband Projects) was filed under the *Ontario Energy Board Act, 1998*. This letter sets out Ontario Energy Board (OEB) staff's guidance on the cost apportionment in order to support the timely implementation of designated broadband projects by ensuring distributors and project proponents have clarity in regard to cost sharing.

Under section 5(7) of the Regulation, an electricity distributor is required to charge the proponent of a designated broadband project an amount to recover a contribution towards the cost of certain "make-ready" work[1] in accordance with a prescribed formula, unless the distributor and the proponent agree to a different apportionment of the costs. The formula comprises two components: (1) the proponent's share of the cost of replacing existing assets to accommodate the project; and (2) the proponent's share of the cost of any other work carried out by the distributor to accommodate the project, including the relocation or improvement of existing assets or the installation of new assets. Below, OEB staff provides guidance on calculating each component of the formula.

PART 1: REPLACING EXISTING ASSETS

The first part of the cost apportionment formula is the calculation of the proponent's share of the costs related to any distribution assets that need to be replaced to facilitate the project. The Regulation provides that this is calculated as follows:

1. The proponent's share of the cost of replacing existing assets to accommodate the project shall be the lesser of the sum calculated using the following formula and the total cost of the replacement assets:

$$(A + B)$$

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1 "Make-ready" work refers to all the necessary work required to safely accommodate the proponent's attachment of telecommunication infrastructure to a distributor's distribution poles.

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in which,

"A" is the cost of any necessary early retirement of existing distribution assets in respect of the project, calculated at the remaining net book value of those assets, and

"B" is the estimated advancement cost associated with accelerating the replacement of capital assets sooner than otherwise would have been required, as a result of the project, together with any incremental costs necessary to accommodate the project that are over and above a like-for-like replacement.

The first step is to determine the remaining net book value of the capital assets that are retired early to facilitate the project (captured in "A").

The remaining net book value of the replaced asset is the difference between the historical asset cost and the accumulated depreciation of that asset. A distributor is required to use the actual historical asset cost if such information is available. If the historical cost of an asset is not available, a distributor may estimate the historical asset cost and accumulated depreciation of the replaced assets.

For the historical cost of an asset, a distributor may have historically grouped assets of similar nature and depreciated these assets on a pooled basis. For the purpose of estimating the cost of a replaced asset, a distributor may estimate original asset costs, using the cost of a like-for-like asset in today's dollars, and applying historical inflation rates (sourced from Statistics Canada, for example).

Accumulated depreciation may then be derived based on the actual/estimated historical asset cost, as well as the estimated accounting life of the asset when first placed in service.

The second step is the estimated advancement cost (captured by "B").

When assets are being replaced specifically for the purpose of accommodating a designated broadband project, there may be a cost associated with accelerating the deployment of new assets sooner than otherwise would have been necessary. This is an "advancement cost."

The estimated advancement cost is the difference between the cost of the asset today and the estimated future cost of the asset, when it would have normally been replaced in the ordinary course of business, discounted back to today's dollars using the distributor's weighted average cost of capital (WACC).

To calculate the estimated cost of replacing the asset in the ordinary course of business, a distributor should rely on a discounted cash flow approach, which factors in the estimated remaining useful life of the asset, the estimated future cost to replace the asset, and the appropriate discount rate, each of which are further described below:

- **Remaining useful life**

The remaining useful life of an asset does not necessarily equate to its remaining accounting life – it is an estimate based on asset condition that determine a distributor's planned replacement date (absent undertaking this project).

- **Future replacement cost**

Once the remaining useful life of the asset is estimated, the cost of replacing the asset in a future period requires estimating what the future cost of that asset would be. To estimate the future cost of a replacement asset, a distributor may escalate the cost of the asset today by an annual inflation rate, until the year in which the distributor estimates the asset would otherwise have been replaced, based on its remaining useful life.

- **Discount rate**

As part of the discounted cash flow approach, the distributor should then account for the cost of capital associated with deploying the asset in a current, rather than future, period. To account for this, the distributor should discount (or present value) the estimated future asset cost back to current dollar terms, using the distributor's WACC as the discounting rate.

The third step is to calculate the incremental costs over and above a like-for-like replacement (also captured by "B").

To accommodate a designated broadband project, some existing assets may need to be replaced with assets of a different type (for instance, a larger pole replacing a smaller pole). In such circumstances, the difference between the actual cost of the replacement asset and a like-for-like replacement would be allocated in full to the proponent.

For an illustrative example of how a distributor would allocate to proponents the costs associated with replacing assets to accommodate a project, refer to Example for Part 1 (Replacing Existing Assets).

EXAMPLE FOR PART 1 (REPLACING EXISTING ASSETS)

A project requires a distributor to replace an existing 35ft, 35-year-old pole with a new 45ft pole. The actual cost of the 45ft pole is $10,000.

A = remaining net book value of 35ft pole = historical asset cost - accumulated depreciation of that asset

- If the distributor does not have a record of the actual cost of this pole, it should estimate this cost based on its current installation cost and publicly available historical inflation rates. For example, if the cost to the distributor of a 35ft pole is

$8,000 in 2022, the estimated historical cost of this pole, after accounting for the effects of inflation, would be $ 3,600[2] in 1987.

- If the distributor, based on useful lives assumed for these assets in the past, estimates that the original useful life of this pole was 50 years, the straight-line depreciation rate would be 2% annually (or 1/50 per year). The accumulated depreciation of the pole, as at the beginning of 2022, is therefore estimated to be $2,520.[3]

A = $3,600 - $2,520 = $1,080

B = estimated advancement cost + incremental costs over and above a like-for-like replacement.

- **Advancement Cost**

As mentioned under "A", the useful life of this 35-year pole was originally estimated to be 50 years, leaving it with a remaining accounting life of 15 years. However, as mentioned earlier, the estimate of the remaining useful life is based on an assessment of the asset's current condition. In this case, the pole's condition was recently assessed as giving it a remaining useful life of 20 years, five years more than the originally planned replacement date.

The estimated cost of replacing the pole in 20 years, in the ordinary course of business, requires inflating today's cost of the pole by 20 years. This results in a projected asset cost of $11,888.[4]

Deploying the asset today requires an investment in capital that otherwise would have been deferred to a future period. Accordingly, to appropriately compare the projected cost of the replacement pole in the future with the actual cost of the pole today, the future cost must be discounted back to today, using the distributor's WACC. Assuming a 5% WACC, the future cost of the replacement asset in today's terms is $4,480.[5]

Therefore, **the advancement cost is**:

$8,000 (price of pole today) less $4,480 (future cost of the pole in today's terms) = $3,520[6]

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[2] This number is calculated using the inflation calculator published by Bank of Canada https://www.bankofcanada.ca/rates/related/inflation-calculator/

[3] Note that the half-year rule requires that only one half of a year's depreciation is recorded in the year an asset is originally placed in service. For the purposes of this example, the half-year rule is being ignored.

[4] $8,000*(1.02)^20

[5] $11,888/(1.05)^20

[6] For the purposes of this illustrative example, the impacts of taxes have been excluded. The discounted cash flows associated with income taxes (for example, the present value of a CCA tax shield on new assets placed in service, terminal losses associated with the early retirement of existing assets, etc.), should be incorporated into the calculation of the advancement cost calculation.

- **Incremental costs over and above a like-for-like replacement:**

In addition to the advancement charge, in this example, there is an incremental amount to calculate to account for the difference between the upgraded, more costly, asset (a 45ft pole) and the existing asset (a 35ft pole), which is allocated in full to the proponent: $10,000 pole less $8,000 pole = $2,000

B = $3,520 + $2,000 = $5,520

The Regulation stipulates that the proponent's share is the lesser of A+B and the total cost of the replacement assets. In this case, A+B = $1,080 + $5,520 = $6,600, and the actual cost of the new pole is $10,000, so the cost to be allocated to the proponent is $6,600.

PART 2: ANY OTHER WORK

The second part of the cost apportionment formula is to determine the costs of any other work that is necessary to accommodate the project. Specifically, the Regulation states: "The proponent's share of the cost of any other work carried out by the licensed distributor to accommodate the project, including the relocation or improvement of existing assets or the installation of new assets, shall be the incremental costs associated with that work."

The incremental costs for this additional work incurred by the distributor are to be allocated in full to the proponent. Incremental costs are those associated with work that has no benefit for electricity customers and would only be undertaken for the purpose of facilitating the designated broadband project. The costs under this section may include those associated with the relocation or improvement of existing assets, the installation of any new assets, or any other additional costs directly attributable to accommodating the project, such as pole reframing, guy/conductor re-tensioning and incremental easement requirements.

The costs that would be incurred by the distributor in the absence of the designated broadband project should not be allocated to the proponent.

Any questions regarding this letter should be sent to IndustryRelations@oeb.ca.

Sincerely,

Brian Hewson
Vice President
Consumer Protection & Industry Performance

Appendix 7: OEB Letter on Fixed-Percentage Cost Sharing for Designated Broadband Projects

Ontario Energy Board | Commission de l'énergie de l'Ontario

Ontario

BY EMAIL AND WEB POSTING

July 28, 2023

Jeffrey Smith
Director, Regulatory Compliance
Hydro One Networks Inc.
483 Bay Street
7th Floor South Tower
Toronto, Ontario M5G 2P5

Re: Fixed-Percentage Cost Sharing for Designated Broadband Projects

This letter is the Ontario Energy Board (OEB) staff's response to Hydro One Network Inc.'s (HONI) letter dated May 25, 2023, which sets out a proposed approach to cost allocation in relation to designated broadband projects. Given HONI's methodology will be used for projects involving multiple parties and may be of interest to the sector OEB staff is posting the letter for stakeholder awareness.

On April 21, 2022, Ontario Regulation 410/22 (Electricity Infrastructure – Designated Broadband Projects) made under the *Ontario Energy Board Act, 1998* came into force. Among other things, the Regulation requires electricity distributors to charge the proponent of a designated broadband project an amount to recover a contribution towards the cost of certain "make-ready[1]" work in accordance with a prescribed formula, unless the distributor and the proponent agree to a different apportionment of the costs.

The formula comprises two components: (1) the proponent's share of the cost of replacing existing assets to accommodate the project; and (2) the proponent's share of the cost of any other work carried out by the distributor to accommodate the project, including the relocation or improvement of existing assets or the installation of new assets.

On February 9, 2023, OEB staff issued a guidance letter on how to calculate the regulatory formula.

[1] "Make-ready" work refers to all the necessary work required to safely accommodate the proponent's attachment of telecommunication infrastructure to a distributor's distribution poles."

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On May 25, 2023, HONI sent a letter to the OEB advising that it intended to implement a fixed-percentage cost sharing methodology in respect of the make-ready costs. Under this methodology, the costs for a designated project would be apportioned based on a fixed percentage applicable to the HONI operations area where the project would be developed.

For instance, in Bracebridge 62% of the costs would be allocated to HONI and 38% to the project proponent (i.e., the Internet Service Provider or ISP). In Dryden, 39% of the costs would be allocated to HONI and 61% to the ISP. The different breakdown for the two operations areas reflects underlying differences in pole demographics and the nature of the make-ready work that would be required. HONI explained in its letter that its proposed approach would avoid having to perform individual calculations for each project, which *"will take thousands of person-hours and will invariably lead to delays and disagreements."* The result, HONI claims, would be total cost savings of upwards of $3.6 million per year and a reduction in execution times of 75%.

Based on HONI's letter and follow-up discussions, OEB staff is satisfied that, in principle, the proposed fixed-percentage cost sharing represents a reasonable approach for complying with the cost allocation provisions of O. Reg. 410/22, and is not inconsistent with OEB staff's February 9, 2023, guidance letter. However, it is important to note, OEB staff has not conducted a detailed review of the fixed-percentage calculations for each operations area and therefore, expresses no view on whether they are accurate. Moreover, the views of OEB staff are not binding on a panel of Commissioners, including in any proceeding on the proposed disposition of a deferral account required under the Regulation.

Any questions regarding this letter should be sent to IndustryRelations@oeb.ca.

Sincerely,

Brian Hewson
Vice President
Consumer Protection & Industry Performance

CC: All Licensed Electricity Distributors
All Other Interested Parties

Glossary

3G: The term for the 3rd generation wireless telecommunications standards usually with network speeds of less than 1 Mbps

4G: The term for 4th generation wireless telecommunications standards usually with network speeds greater than 1 Mbps

5G: The term for emerging 5th generation wireless telecommunications standards usually associated with network speeds of up to 1 Gpbs or more

Aerial Route: Deployment of broadband infrastructure by means of attachment to above ground support structures such as LDC-owned poles

Anchor: A device that supports and holds in place conductors when they are terminated at a pole or structure

As-built drawings: As-built drawings are prepared based on information gathered during construction or fabrication by someone other than a practitioner or someone under their supervision. Often, the information is provided by the contractor in the form of red-line mark-ups of the design drawings. If a practitioner then proceeds to revise the design documents to incorporate the red-line mark-ups, these documents should be clearly marked as "As-Built Documents" and not sealed

Attacher: An entity that will attach or have attached its cable / fibre to a pole owned / controlled by an LDC. Attachers are ISPs who will have third-party attachments.

Attachment: A single connection of the attacher's equipment to the support structure that has a direct or indirect influence on the performance, appearance, and safety of the support structure or the structure owner's ability to access and maintain it. The attacher may have multiple attachments to a support structure (such as an LDC-owned pole).

Bandwidth: The capability of telecommunications and internet networks to transmit data and signals

Bilateral Aerial Structure: Pole line on both sides of a roadway

Broadband: The term broadband commonly refers to high-speed internet access that is always on and faster than traditional dial-up access. Broadband includes several high-speed transmission technologies, such as fiber, wireless, satellite, digital subscriber line and cable. The CRTC defines universal service objective as having access to actual download speeds of at least 50 Mbps and actual upload speeds of at least 10 Mbps

BBFA: *Building Broadband Faster Act, 2021;* the BBFA creates a suite of new legislative measures that will streamline project set-up and delivery as it pertains to planning and installing essential broadband infrastructure and services

Business Day (or Days): Means a day from Monday to Friday, other than a holiday as defined in section 87 of the *Legislation Act, 2006*

Designated Broadband Project: As prescribed under regulation under the *Building Broadband Faster Act, 2021*, every broadband project where funding, in full or in part, has been provided through the Ministry of Infrastructure for the purposes of deploying broadband and high-speed internet infrastructure in Ontario is a designated broadband project for the purposes of the Act.

Designated Broadband Project Stakeholders: Proponents, distributors, transmitters, municipalities, members of Ontario One Call, any other person with infrastructure within a right-of-way for a Designated Broadband Project and any other person whose cooperation is required to carry out a Designated Broadband Project.

Design Load: The actual, expected load or loads that a device or structure will support in service

Electrical Safety Authority: The Electrical Safety Authority is an administrative authority responsible for enhancing public electrical safety in the province and the day-to-day administration of *Part VIII* (eight) of the Electricity Act and related regulations.

Electronic Scoring Reverse Auction (ESRA): The ESRA is an auction structure that allows the Province to assign scores to ISPs based on price and other well-defined non-price attributes in their proposals. This structure offers the Province the flexibility to highlight specific policy objectives based on the weights used for various attributes.

Encroachment Permit: Required by MTO to perform work within a highway corridor

Fiber (also referred to as Fiber Strand): A flexible hair-thin glass or plastic strand that is capable of transmitting large amounts of data at high transfer rates as pulses or waves of light

Fixed Wireless Broadband Access: The use of wireless devices/systems in connecting two fixed locations, such as offices or homes. The connections occur through the air, rather than through fiber, resulting in a less expensive alternative to a fiber connection.

Fixed Wireline Attachment: A "Fixed Wireline Attachment", for the AHSIP program, is a high-speed physical attachment of facilities (fibre optic cable(s) and fibre-optic splice closures) capable of delivering internet access services at prescribed minimum speeds. These facilities are attached to a pole owned by others and must be installed and maintained in compliance with regulations, standards and owner's safety practices such that all parties have access to their facilities and no worker or public safety issues exist.

Ground: An electrical term meaning to connect to the earth

Ground Fault: An undesired current path between ground and an electrical potential

Guys/Anchors: Support structures to balance loading on bisect and dead-end poles

Improving Connectivity for Ontario program (ICON): The ICON program is part of Up to Speed: Ontario's Broadband and Cellular Action Plan, which outlines the strategy to expand access to broadband and cellular connectivity in identified areas of need

Internet Service Provider (ISP): An entity that provides internet connections and services to individuals and organizations. Typically, ISPs also provide additional services such as email accounts and webhosting. Note the terms ISPs, TSP and WISP refers to the same service providers and can be used interchangeably.

Local Distribution Company (LDC): A local electricity distribution company is a power distribution company that is responsible for distributing power from transmission lines to people's homes and businesses in an exclusive distribution area and is licensed by the OEB. Also referred to as distributors or transmitters.

Lots: For the purposes of ESRA, the Province is segmented into 49 areas, referred as 'auction lots' (or

lots). This segmentation is done based on census divisions.

LTE (Long Term Evolution): A 4G wireless broadband technology that provides speeds up to 100 Mbps download and 30 Mbps upload

Make Ready Costs: Costs associated with preparing a LDC pole to receive a new fiber attachment

Mark-up Circulation: Circulation of preliminary drawings to all parties (e.g., municipalities, LDCs, Utilities and other ISPs) that may have infrastructure in the ROW so that they may review and mark any conflicts between the proposed running line and their buried assets.

Materially Insignificant: Any new attachment deemed to immaterially impact structure as outlined in ESA's materially insignificant work – distributor bulletin (: https://esasafe.com/assets/files/esasafe/pdf/Utilities/Bulletins/DB-07-15-v2.pdf)

Minister: Refers to the Minister of Infrastructure or such other members of the Executive Council to whom responsibility for the administration of the BBFA is assigned or transferred under the *Executive Council Act*

Municipal Access Agreement: A Municipal Access Agreement (MAA) is a legal agreement that provides companies the ability to construct, maintain, relocate and operate their equipment within right-of-ways that are under the jurisdiction of a municipality. It states the roles, responsibilities and requirements for both the signatory and the municipality and deals primarily with issues such as municipal consent, hazardous substances and materials, road occupancy permits, rights-of-way, costs to be carried by municipalities, third party and sub-contractor agreements, service level agreements, maintenance and repair responsibilities as well as equipment use and invoicing.

Municipal Consent (MC): is provided by a municipality for a utility company to occupy a specific location within the Municipal rights-of-way. Utility locations and separations have been established for various road cross-sections to avoid conflicts in the planning of projects by various utilities occupying the rights-of-way and to minimize the impact of proposed work on any adjacent infrastructure. MCs are only issued to utility companies, commissions, agencies and private Applicants who have the authority to construct, operate and maintain their infrastructure within the right-of-way as established through legislation or terms of a Municipal Access Agreement (MAA) where they apply and are approved. An MC gives a company permission to install or move facilities and is required when a road needs to be excavated.

Network Infrastructure: The hardware and software components of a network that provide network connectivity and allow the network to function

One Touch: One-touch make-ready policies try to avoid delay and redundancy by having all make-ready work (such as rearranging several existing attachments) performed at the same time by a single crew.

Ontario Energy Board (OEB): The OEB is Ontario's independent regulator of the electricity and natural gas sectors. Its activities include making rules to protect consumers, setting rates, and licensing all participants in the electricity sector including the Independent Electricity System Operator (IESO), generators, transmitters, distributors, wholesalers and electricity retailers, as well as natural gas marketers who sell to low volume customers.

Ontario One Call: Ontario One Call is an administrative authority responsible for coordinating requests from excavators, for the location of underground infrastructure (e.g., buried gas pipelines).

Overlashing: Overlashing is the practice of attaching an additional fibre optic cable over an existing aerially deployed fibre optic cable attached to a LDC pole

Performance Timelines (PTs): standard timelines allotted to Designated Broadband Project Stakeholders, particularly LDCs, municipalities and members of Ontario One Call that must be adhered to.

Pole Stumping: refers to cutting an existing pole, leaving only an atttacher's equipment on the pole. A new pole is installed near the stump pole with the agreement that the attacher will transfer the equipment to the new pole within a timeframe as outlined in ESA's In-Span Structures and Overhead Unsupported Conductors Bulletin.

Power Make-Ready Work: The work undertaken on any part of the distributor's distribution system that is required for the purpose of facilitating a new attachment request.

Positive Deviation: The process of removing an existing cable and replacing with cable of lesser weight or smaller diameter, thereby positively impacting the load characteristics

Professional Engineer: a person who holds a licence or temporary licence under the Professional Engineers Act (Ontario Regulation 22/04)

Proponent: An ISP that entered into the Project Agreement with the Government of Ontario to carry out a provincially funded project in a Service Area.

Rights-of-Way (ROW): ROW are legal rights to pass through property owned by another. ROW are frequently used to secure access to land for digging trenches, deploying fiber, constructing towers and deploying equipment on existing towers and LDC poles.

Road Occupancy Permit (ROP): A Road Occupancy Permit is required by some municipalities when working within the municipal right-of-way. Activities that require a road occupancy permit include temporary lane closures or construction related road closures, mobile crane work, temporary scaffolding or hoarding, crossing the boulevard for temporary construction site access, disposal bins located in the roadway or public laneway, storage of materials and equipment located in the roadway or public laneway, workers on the road or the blockage of sidewalks. Some municipalities may not require this permit and need only to be notified.**Service Area:** The entire area within which a service provider either offers or intends to offer broadband service

Southwestern Integrated Fibre Technology (SWIFT) Project: A non-profit municipally led broadband expansion project created to improve internet connectivity in underserved communities and rural areas across Southwestern Ontario.

Strand: Braided steel wire that supports Bell cable (copper or fibre) 10M (larger) or 6M (smaller)

Subsurface Utility Engineering (SUE): Subsurface Utility Engineering (SUE) is an engineering discipline that involves the investigation of buried utilities and identifies the conflicts they may pose to a project design in order to mitigate associated risks.

Telecommunications Service Providers (Telecom): A entity that has traditionally provided telecommunication services. However, for the purposes of this Guideline, Telecom is used synonymously and interchangeably with ISP.

Utility Infrastructure means poles, wires, cables including fibre-optic cables, conduits, towers, transformers, pipes, pipelines or any other works, structures or appliances placed over, on or under land or water by a utility company.

Utility Company means a municipal corporation or commission or a company or individual operating or using communications services, water services or sewage services, or transmitting, distributing or supplying any substance or form of energy for light, heat or power.