

MINISTRY OF INFRASTRUCTURE

Building Broadband Faster in Ontario

A guideline to support accelerated broadband deployment

Version 2.0

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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.

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.

In November 2021, as part of the first version (Version 1.0) of the Building Broadband Faster Act Guideline, a Statement of Intent was included that signaled the province's intention to move ahead with a suite of additional measures. These included new regulatory and legislative measures, that are now in place and serve to make several of the provisions outlined in Guideline 1.0 binding, with appropriate enforcement mechanisms.

These measures are further described below for reference and form the basis of updates to Guideline 2.0. Together, they will help to achieve the government's commitment to 100 percent connectivity by the end of 2025.

Guideline 2.0

This Guideline was developed to reduce barriers, speed up broadband deployment and support the successful implementation of the BBFA. Stakeholders and partner ministries provided input into the development of the Guideline. The current Guideline reflects the latest legislative and regulatory authorities and will be updated if required.

In summary, the Guideline, in alignment with key legislation and regulations:

- Sets out new processes and timelines when internet service providers (ISPs) work with local distribution companies (LDCs), municipalities and other parties to deploy internet fibre through third-party hydro pole attachments and accessing rights-of-way (ROW) to deploy fibre underground.
- Introduces a new information and data gathering platform - the Broadband One Window (BOW). The platform is an electronic system to support timely approvals, permitting, and locate decisions related to 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.

- Describes the role of a new Technical Assistance Team (TAT) that will provide support, informal advice and assistance to municipalities, ISPs and LDCs on the implementation of the Guideline and implementation of designated broadband projects.

Legislation

Under the *Getting Ontario Connected Act, 2022*, which passed in April 2022, changes were made to the BBFA and to the *Ontario Underground Infrastructure Notification System Act, 2012* (One Call Act) that in effect help ensure cooperation among stakeholders, set out clear expectations around timelines and processes and try and limit the kind of things that historically have delayed broadband deployment.

New requirements under the BBFA include:

1. Requirement for municipalities to comply with a specified service standard:
 - Key focus is to direct turn around time for rights of way permits
2. Requirement for the use of the Broadband One Window platform by municipalities:
 - Broadband One Window as the single, digitized platform required for permit application through implementation
3. Requirement for infrastructure data sharing by infrastructure owners:
 - Key focus is to share relevant data on request related to designated broadband projects that will support project implementation
4. Requirement, consistent with the One Call Act, for designated broadband projects to use a dedicated locator model.
 - Key focus is to set out new processes and timelines for completing underground infrastructure locates and reduce delays.

New requirements under the One Call Act:

Amendments were made to address immediate pressure points in the underground infrastructure locate delivery system, enhance governance and oversight of Ontario One Call, and improve Ontario One Call's compliance tools. Most changes came into effect on April 14, 2022. Key amendments apply to and benefit designated broadband projects, including:

1. Mandating the use of a dedicated locator model where a single locator is selected by the Proponent (ie. project owner) and affected members of Ontario One Call to better provide Proponents with control over timing of locates by having a say in who their locator will be.

2. Ensuring locate validity periods are for a minimum of 60 days, reducing the frequency of relocations and providing longer excavation windows for Proponents.

The legislative changes also provide Ontario One Call with authority to issue administrative penalties against non-compliant underground infrastructure owners/operators and excavators in the industry. A separate regulation outlining the details of the administrative penalty regime needs to be developed in order to implement this regime.

Ontario One Call is working closely with the Ministry of Public and Business Service Delivery and industry to implement the new legislative requirements.

Regulations

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

1. Regulations under the BBFA

- A. Ontario Regulation 809/21 - Regulation to designate provincial broadband projects. This regulation defines designated broadband projects as those *“where funding, in full or in part, has been provided through the Ministry of Infrastructure for the purpose of deploying broadband and high-speed internet infrastructure in Ontario.”* The BBFA grants the Minister of Infrastructure the following authorities, with respect to designated broadband projects:
 - i. Issue notices to municipalities that broadband project proponents require municipal service and right of way access to complete necessary work related to such projects.
 - ii. Make orders requiring the municipal service and right of way access necessary to facilitate delivery of a designated project, and the proponent and the municipality shall comply with that order.
 - iii. Issue notices requiring electricity distributors and transmitters to coordinate with broadband project proponents to complete necessary work related to such projects where a distributor or transmitter has not met a regulated requirement. (Note: this authority would come into effect if proposed OEBA regulations are made – see item 2 below).
 - iv. Where a party noted above fails to complete required work, the Minister would be authorized to order the completion of work or authorize the proponent to undertake the work to facilitate delivery of a designated project.
- B. Ontario Regulation 436/22 - Regulation to require local distribution company (LDC) compliance with requirements of a new regulation under the OEBA (Ontario Regulation 410/22, see below). This regulation is needed to appropriately prescribe the OEBA regulation as the source of obligations for LDCs. It allows

notices and orders to be issued by the Minister of Infrastructure under the BBFA for LDCs in compliance with the requirements set out in the OEBA regulation.

- C. Ontario Regulation 782/21 - Regulation to further define the conditions for compensation for errors under the One Call Act locates process prior to amendments under the Getting Ontario Connected Act, 2022. The section of the BBFA (section 21) was replaced and the regulation is now outdated, and will be revoked at a future date.

2. Regulations under the OEBA

- A. Ontario Regulation 842/21 (Electricity Infrastructure - (Part VI.1 of the Act)) (hereinafter defined as as O. Reg. 842/21) - Setting the wireline pole attachment charge methodology and requiring local distribution companies (LDCs) to consult with internet and telecom service providers as part of their long-term capital planning processes. This regulation came into effect on January 1, 2022 in order to reduce costs for ISPs.
- B. Ontario Regulation 410/22 - Electricity Infrastructure - Designated Broadband Projects) (hereinafter defined as as O. Reg. 410/21). Requirements for LDCs to comply with, including but not limited to: providing access to LDC assets, the use of the Broadband One Window platform, performance timeline standards and processes related to pole attachments and make-ready work, including situations when those standards may be *temporarily* suspended, cost allocation, and the role of the Ontario Energy Board in dispute resolution. LDCs and Proponents may contract out of certain provisions of the regulation. This regulation came into effect on April 21, 2022.

The BBFA also provides authority to issue administrative penalties against non-compliance. A separate regulation outlining the details of the administrative penalty regime needs to be developed in order to implement this regime. MOI is currently undertaking a review and analysis to identify options for such a regime.

Part 2 Building Broadband Faster Act Guideline 2.0

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 100 percent of Ontario households 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, Ontario One Call and their respective third parties in coordinating installation and service provision as well as Infrastructure Ontario (IO), the Ontario Ministry of Transportation (MTO), municipalities, Indigenous communities and government partners such as the Electrical Safety Authority (ESA) and the Ontario Energy Board (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:

- Introduces a new 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. As of September 2021, an estimated 700,000 premises, representing about 1.4 million people in Ontario, lack access to basic broadband connectivity, defined by the Canadian Radio-television and Telecommunications Commission (CRTC) as speed levels of 50 Mbps download/10 Mbps upload.

To address this, in March 2021, Ontario announced a commitment of nearly \$4 billion to connect every region to high-speed internet by the end of 2025 as part of the AHSIP. This is the largest single investment in high-speed internet, in any province, by any government in Canadian history.

As part of its plan, Ontario also announced a new innovative competitive process to help connect underserved and unserved communities across the province. This competitive process launched in September 2021 and is being led by Infrastructure Ontario. Combined with existing application-based programs underway, the competitive process, with a reverse auction, will help ensure that every home and business in Ontario has access to high-speed internet by the end of 2025.

In April 2021 the BBFA was enacted and amendments were made to the *Ontario Energy Board Act, 1998* (OEBA).

The purpose of the BBFA is 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 Project 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 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 Infrastructure Ontario

1. **Overall Program Management**, including:
 - i. Establishing the BOW platform, and developing user resources for ISPs, municipalities, LDCs and infrastructure owners
 - ii. Acting as a single point of contact through the Broadband One Window (BOW)
 - iii. Establishing processes, means and methods, to support AHSIP Projects and as may be determined other designated broadband projects' activities from guidance to non-binding mediation consistent with AHSIP policy objectives, legislation, and as otherwise codified in the Legislations, Regulations and Guideline
 - iv. Publishing reports on project funding performance
 - v. Publishing reports on overall AHSIP Projects, and as may be determined other designated broadband project progress
2. **Establishing eligible project areas** as a result of revised AHSIP and as may be determined other designated broadband project needs such as Lot changes through a mapping and modeling exercise
3. **Issuing calls for applications and proposals for financial, technical, human and other resources** and reviewing and screening applications and proposals against eligibility and assessment criteria
4. **Facilitating early mediation of disputes** in an effort to resolve issues before they are escalated to formal dispute resolution bodies
5. **Acting as Contract Administrator** for AHSIP Projects, including:
 - i. Verifying project milestone completion
 - ii. Assessing and reporting on funding recipients' progress, performance, and compliance with funding conditions
 - iii. Supporting compliance associated with funding conditions, if required (e.g., advising MOI on completion of milestones and other applications, including during the Performance Period).

Role of Parties in Designated Broadband Projects

This Guideline is meant to provide direction as well as best practice approaches to all parties engaging in designated broadband projects which are being funded by Ontario. It also reflects 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 are serve in their application as backstops/safeguards in the event that cooperation or negotiation between designated broadband projects does not result in an adherence to Performance Timelines (PTs) and any other aspect of the Guideline.

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* (OHS) 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 (ENERGY) and the Ministry of Public and Business Service Delivery (MPBSD) 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.

If requested by the Proponent to do so, the LDC shall use the BOW. Where the Proponent has confirmed its intention to use the BOW platform for permitting and construction of a designated broadband project, the general steps 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	<ul style="list-style-type: none"> • 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, IO circulates notification of planned/possible route to all known implicated parties (i.e., municipalities, LDCs, Enbridge and other telecoms)
2	Field inspection/survey	<ul style="list-style-type: none"> • 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.

	Activity	Process Details
3	Professional Engineer Approved Design Drawings <ul style="list-style-type: none"> • Structural analysis • Telecom attachment • Any power make-ready 	<ul style="list-style-type: none"> • 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 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 <ul style="list-style-type: none"> • Triage of power make-ready work • Determine requirements needed to accommodate make-ready work 	<ul style="list-style-type: none"> • 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 <ul style="list-style-type: none"> • Authorization application form • Professional Engineer Approved Design Drawings • Full Pole Loading Structural Analysis 	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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

	Activity	Process Details
		<ul style="list-style-type: none"> 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)	<ul style="list-style-type: none"> 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 apply in this instance)	<ul style="list-style-type: none"> Where a Road Occupancy Permit is not required, the Proponent notifies the municipality directly prior to work commencement within the established PT
9	Completion of Make-Ready Work	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> LDC issues authorization via BOW or other agreed upon means.
11	Wireline attachments	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> The LDC conducts any post-build inspection. The LDC may recover actual costs of post-build inspection from the Proponent.
14	Authorization closed	<ul style="list-style-type: none"> LDC invoices Proponent based on actual costs once any outstanding issues discovered in the inspections are resolved

O.Reg. 410/22 establishes the PTs 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 , subject to the distributor's discretion to agree upon and enter into a contract for an alternative timeframe.

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

	Activity ¹	Performance Timeline (Business Days)		
		Up to 29 poles	30-59 poles	60-200 poles ²
1	Determination of possible route ^{3 4}	N/A		
2	Field inspection/survey	5	10	20
3	Professional Engineer approved design drawings <ul style="list-style-type: none"> • Structural analysis • Telecom attachment • Any power make-ready work 	35	40	60
4	Determination of sequencing of make-ready work <ul style="list-style-type: none"> • Triage of power make-ready work • Determine requirements needed to accommodate make-ready works 			
5	Authorization application approval <ul style="list-style-type: none"> • Authorization application Form • Professional Engineer Approved Design Drawings • Full Pole Loading Structural Analysis 	15	20	40
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)			

¹ 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).

² Applications submitted for more than 200 poles in one submission may be subject to negotiation and discussion of timelines to ensure feasibility.

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 ¹	Performance Timeline (Business Days)		
		Up to 29 poles	30-59 poles	60-200 poles ²
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)
8	Advising timing of construction (where ROP is not required)	5	5	5
9	Completion of make-ready work	Simple 25 Complex 40	Simple 30 Complex 60	Simple 35 Complex 80
10	LDC issues authorization	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
14	LDC closes authorization	20	20	20
NOTE:	<p>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 from after receiving 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.</p> <p>For work involving more than 200 poles, O.Reg. 410/22 establishes an overall timeline to complete this work: 215 days plus 2 days for each additional pole.</p>	110	145	215

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 dispute resolution support, including an application to the OEB to resolve the matter.

IO Preliminary Review Checklist

Upon receipt of a new authorization application (generally, though BOW), IO will perform the following cursory review steps:

- Review the authorization application form and confirm that all information has been filled out completely and accurately
- Confirm that the required design drawings are included with the authorization application form and appear to comply with the Drawing Requirements
- Confirm that the required Pole Loading Structural Analysis files are attached

If the above criteria are included and complete in the application package, the authorization will be assigned an application number, which will be communicated to the Proponent and LDC for tracking purposes. It will then be forwarded to the LDC for detailed review.

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 electrical safety codes, 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 also 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.

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 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. The LDC-Proponent contract is 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 AHSIP 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

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	<ul style="list-style-type: none"> • 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")	<ul style="list-style-type: none"> • The Proponent submits preliminary drawings to infrastructure owners via the BOW. • IO 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 IO 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. • IO provides revised mark-up circulation to the Proponent. The Proponent uses mark-ups to resolve any conflicts and finalize drawings.
3	Municipal application submitted to municipality via BOW <ul style="list-style-type: none"> • Drawings showing potential route • Municipal Consent • Road Occupancy Permit if required by municipality 	<ul style="list-style-type: none"> • A complete application includes: <ul style="list-style-type: none"> ○ Drawings showing the potential route ○ Application form for Municipal Consent ○ 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.

	Activity	Process Details
		<ul style="list-style-type: none"> • A municipality may require that an ISP obtain a Road Occupancy Permit. • IO reviews application to ensure all required information has been submitted and forward complete application to municipality for approval.
4	Municipality reviews complete application and issues Municipal Consent (with reasonable conditions) and Road Occupancy Permit where applicable	<ul style="list-style-type: none"> • Municipality reviews and approves application(s). Based on section 10.1 of the BBFA, the municipality has 10 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. • Municipalities that receive these requests through the BOW are required to respond using the BOW unless indicated otherwise by the Minister.
5	Locate request lodged through Ontario One Call (after proponent has provided advance notice of the project to Ontario One Call)	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • The ISP submits to the BOW a Notice of Work Completion and As-Built drawing detailing any amendments from an initial plan.

	Activity	Process Details
	municipality via BOW	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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.

	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 submissions of preliminary drawings ("mark-up circulation") in BOW	20	20
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 lodged through Ontario One Call <ul style="list-style-type: none"> 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 construction⁶	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.	

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.

	Activity	Performance Timeline (Business Days)	
		Up to 30 km of ground	30 km + of ground
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	

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 Minister (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 10 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

Accessing Provincial Highways

This section outlines the Ontario Ministry of Transportation's (MTO) general Public Service Commitment (PSC) of 35 days. A Proponent will require an Encroachment Permit for any installation or works upon, under or within the limits of a Provincial Highway ROW placed by someone other than MTO.

While the MTO permitting process is not done through BOW but rather through MTO's Highway Corridor Management System, Proponents must notify BOW 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.

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 Case Management function in BOW or send an email to TAT@infrastructureontario.ca.

2.4 Resolving Disputes

The Guideline contemplates and recommends that parties will 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 IO for assistance in finding a resolution parties can agree upon.

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

choose to escalate disputes to a formal dispute resolution process. Parties are expected to use such options available to them as a last resort.

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.

Records

- 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.

As-Built

- 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 (ie 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.
- 1) Text labeling the size (diameter) of all existing and new distribution cables shown on the drawing within the Construction Notes block.
- 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 MUST BE 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

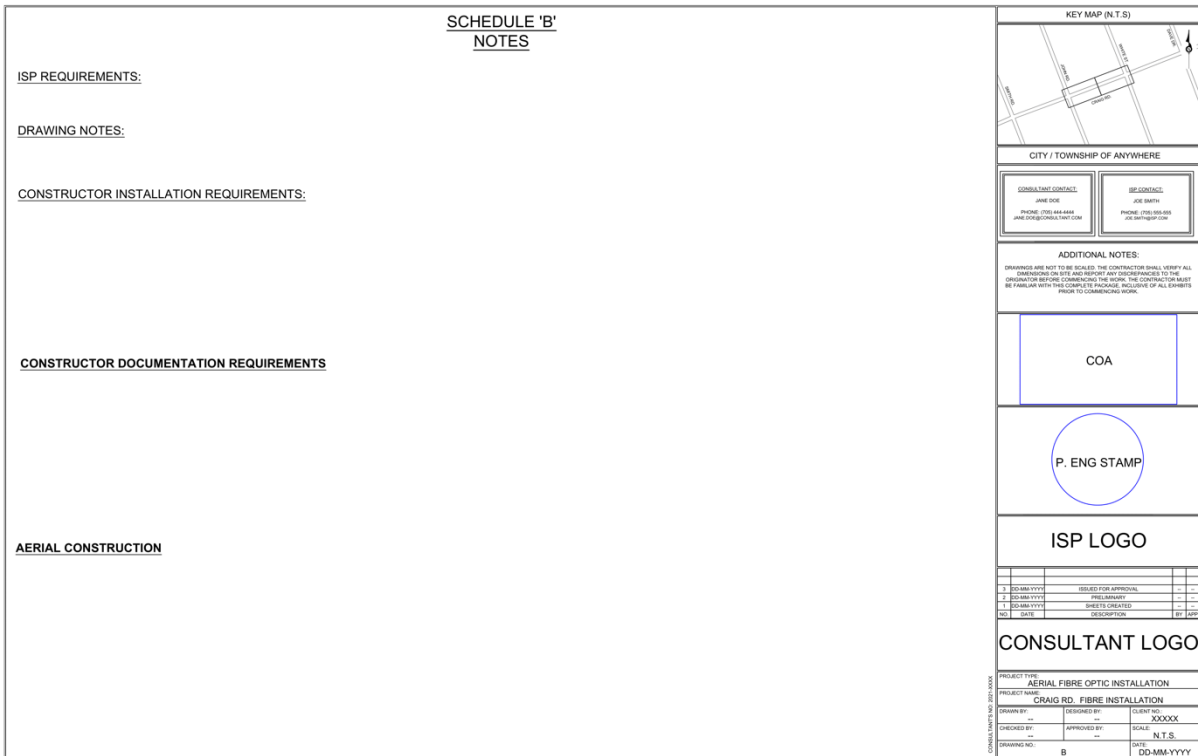
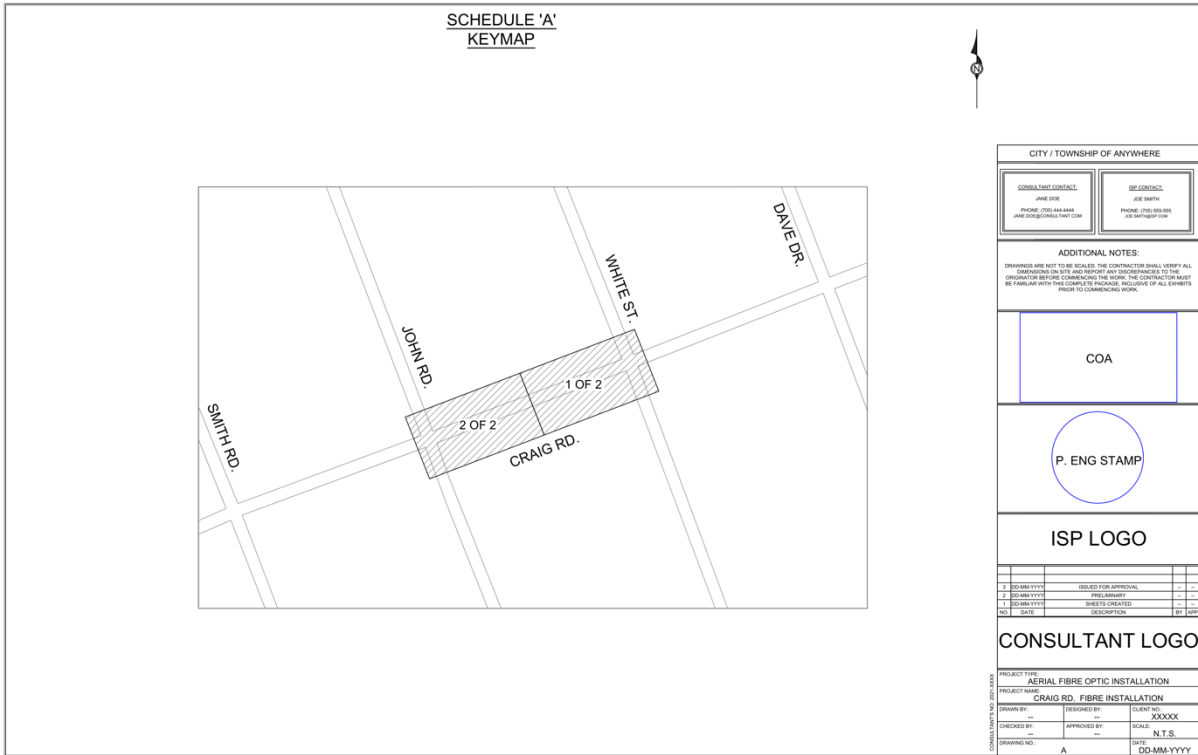
POLES WITH EXISTING ATTACHMENT	0
ADDITIONAL POLES REQUESTED FOR ATTACHMENT	0
PERMIT METERS	
TOTAL	0
ROUTE SUMMARY	
CABLE TYPE	###
STRAND SIZE	###
POLE OWNER DISTRIBUTION	
HYDRO	0
ISP	0
MAKE READY SUMMARY	
HYDRO	0
TOWN/CITY OF ----	0
ISP 1	0
ISP 2	0

CONSULTANT'S LOGO

TODAY'S DATE

CONSULTANT CONTACT
JANE DOE
PHONE: (555) 444-4444
JANE.DOE@CONSULTANT.COM

OFFICE CONTACT
JANE DOE
PHONE: (555) 555-5555
JAN.DOE@OFFICE.COM



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
GUARD RAIL
RAILROAD
CENTERLINE
RIGHT-OF-WAY
CURB
SIDEWALK
DITCH
UNDERGROUND UTILITIES (EXISTING)

HYDRO

TRAFFIC SIGNAL
ISP 1
ISP 2
ISP 3
GAS
WATER
STORM SEWER
SANITARY SEWER
PIPELINE
ABANDONED UTILITY

ENGINEERING SYMBOLS

UNDERGROUND/AERIAL

HANDHOLE
MANHOLE
PEDESTAL
NODE
GROUND ROD
DOWN GUY & ANCHOR
SIDEWALK DOWN GUY & ANCHOR
LOOPBACK (STORAGE SLACK)
SPAN GUY
OPTICAL SPLICE ENCLOSURE
COPPER SPLICE
COIL (STORAGE SLACK)
CABLE RISER (DIP)
CROSSOVER CLAMP

GENERAL

WOODEN POLE
CONCRETE POLE
STEEL POLE
GAS/WATER VALVE
TRAFFIC CONTROL BOX
SIGN
SHRUB
TREE
STORM SEWER MANHOLE
SANITARY SEWER MANHOLE
HYDRO MANHOLE
WATER MANHOLE
FIRE HYDRANT
CATCH BASIN
FOREIGN PEDESTAL
HYDRO VAULT
FOREIGN HANDWELL
HORIZONTAL CONTROL MONUMENT
IRON BAR
STANDARD IRON BAR
WORK OPERATION
METRE READING BOX

CONSTRUCTION NOTES

- 1 OVERLASH 48.8m OF NEW 72 FOC TO EXISTING 12 FOC 2-3 STRAND
- 2 INSTALL NEW ANCHOR
- 3 BOND STRAND AND LEAVE SUFFICIENT LENGTH OF COIL FOR HYDRO CONNECTION TO MDN
- 4 BOND STRAND TO EXISTING VERTICAL GROUND WIRE
- 5 INSTALL NEW RISER
- 6 INSTALL DOWN GUY ON EXISTING ANCHOR
- 7 FOSC NEW
- 8 INSTALL GROUNDING ELECTRODE, CONDUCTOR AND CONNECT TO MESSENGER STRAND
- 9 NEW LOOPBACK (60m SLACK STORE)
- 10 NEW POLE MOUNT LOP
- 11 MAKE READY LOCATION
- 12 REMOVE EXISTING ANCHOR
- 13 REMOVE EXISTING DOWN GUY
- 14 STRAND TO STRAND BOND
- 15 NEW SPAN GUY
- 16 SLACK SPAN
- 17 TREE TRIMMING
- 18 NEW CROSSOVER CLAMP

POLE PROFILE (TYPICAL)

(ENGINEERING) NO.	HP1
POLE NO.	50857
REFERENCE NO.	454
HEIGHT	55'
CLASS/COMPLENCE	2
YEAR OF THE POLE	-
TX NO.	-
HYDRO GROUND (Y/N)	Y
SL GROUND (Y/N)	N

KEY MAP (N.T.S.)

CITY / TOWNSHIP OF ANYWHERE

CONSULTANT CONTACT: JANE DOE, PHONE: (905) 444-4444, JANE.DOE@CONSULTANT.COM

SEP. CONTACT: JANE DOE, PHONE: (905) 444-4444, JANE.DOE@CONSULTANT.COM

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

COA

P. ENG STAMP

ISP LOGO

NO.	DATE	DESCRIPTION	BY
01	20-08-2022	ISSUED FOR APPROVAL	J.D.
02	20-08-2022	PRELIMINARY	J.D.
03	20-08-2022	SHEETS CREATED	J.D.
04	20-08-2022	DESCRIPTION	J.D.

CONSULTANT LOGO

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

DRAWN BY	DESIGNED BY	CHECKED BY	SCALE
J.D.	J.D.	J.D.	XXXXXX
CHECKED BY	APPROVED BY	SCALE	N.T.S.
J.D.	J.D.	J.D.	XXXXXX
DRAWING NO.	DATE	DATE	DD-MM-YYYY
C			DD-MM-YYYY

EXHIBIT 'D' AERIAL TYPICALS

DETAIL 'A'

DETAIL 'B'

KEY MAP (N.T.S.)

CITY / TOWNSHIP OF ANYWHERE

CONSULTANT CONTACT: JANE DOE, PHONE: (905) 444-4444, JANE.DOE@CONSULTANT.COM

SEP. CONTACT: JANE DOE, PHONE: (905) 444-4444, JANE.DOE@CONSULTANT.COM

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

COA

P. ENG STAMP

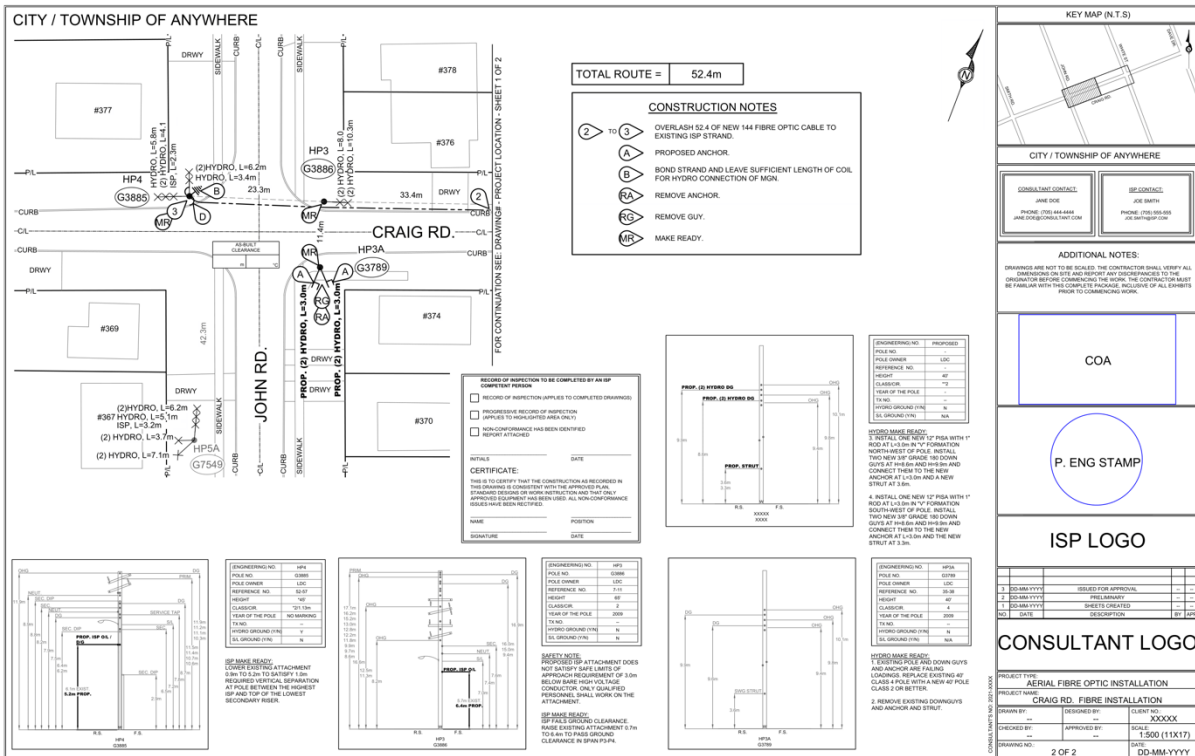
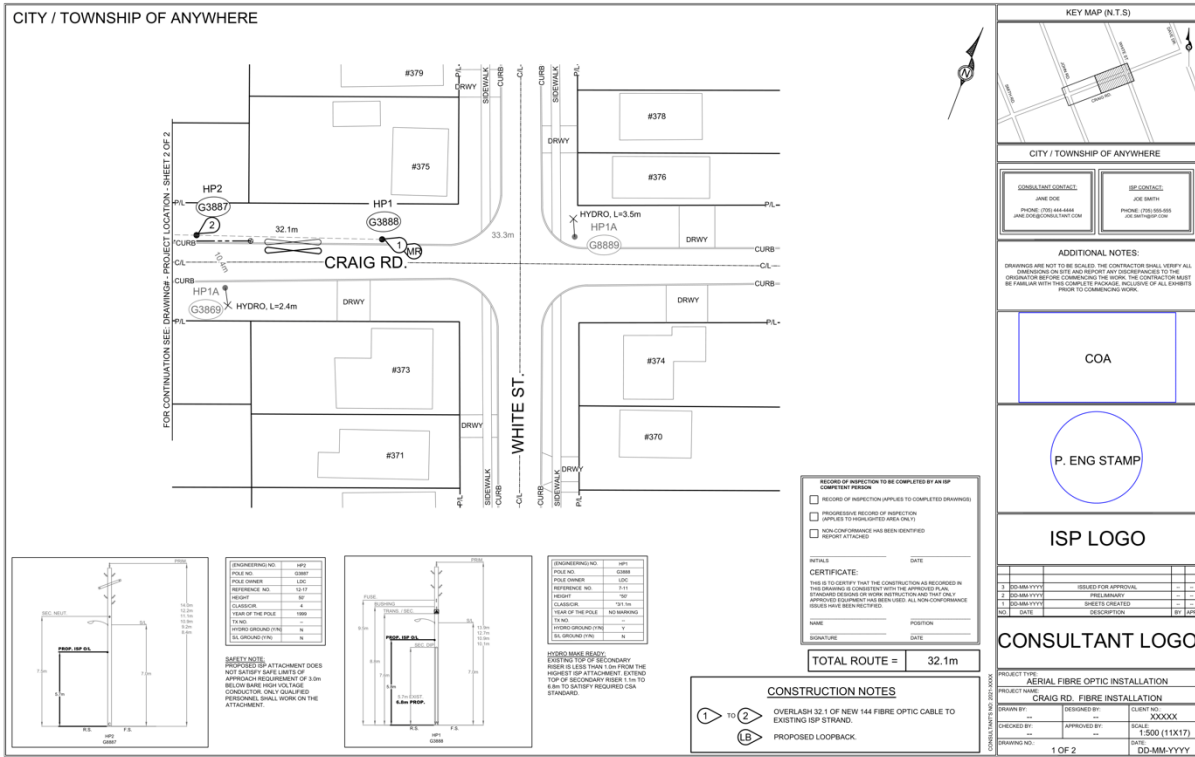
ISP LOGO

NO.	DATE	DESCRIPTION	BY
01	20-08-2022	ISSUED FOR APPROVAL	J.D.
02	20-08-2022	PRELIMINARY	J.D.
03	20-08-2022	SHEETS CREATED	J.D.
04	20-08-2022	DESCRIPTION	J.D.

CONSULTANT LOGO

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

DRAWN BY	DESIGNED BY	CHECKED BY	SCALE
J.D.	J.D.	J.D.	XXXXXX
CHECKED BY	APPROVED BY	SCALE	N.T.S.
J.D.	J.D.	J.D.	XXXXXX
DRAWING NO.	DATE	DATE	DD-MM-YYYY
D			DD-MM-YYYY



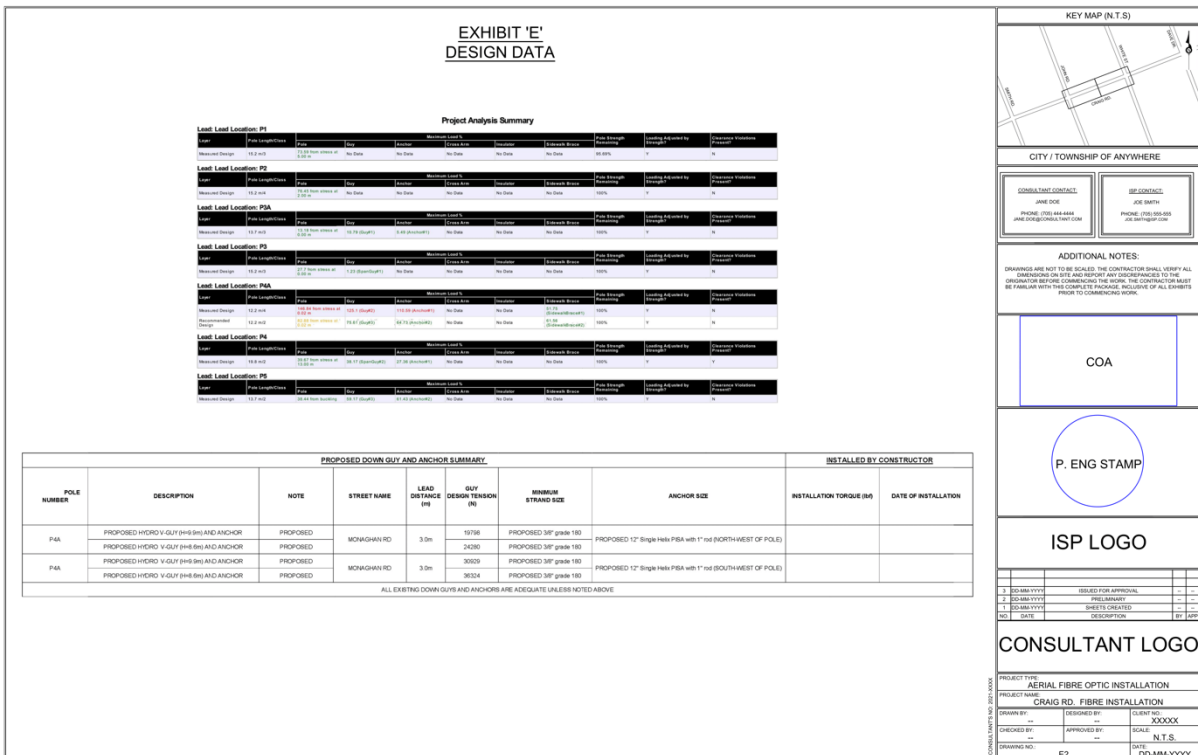
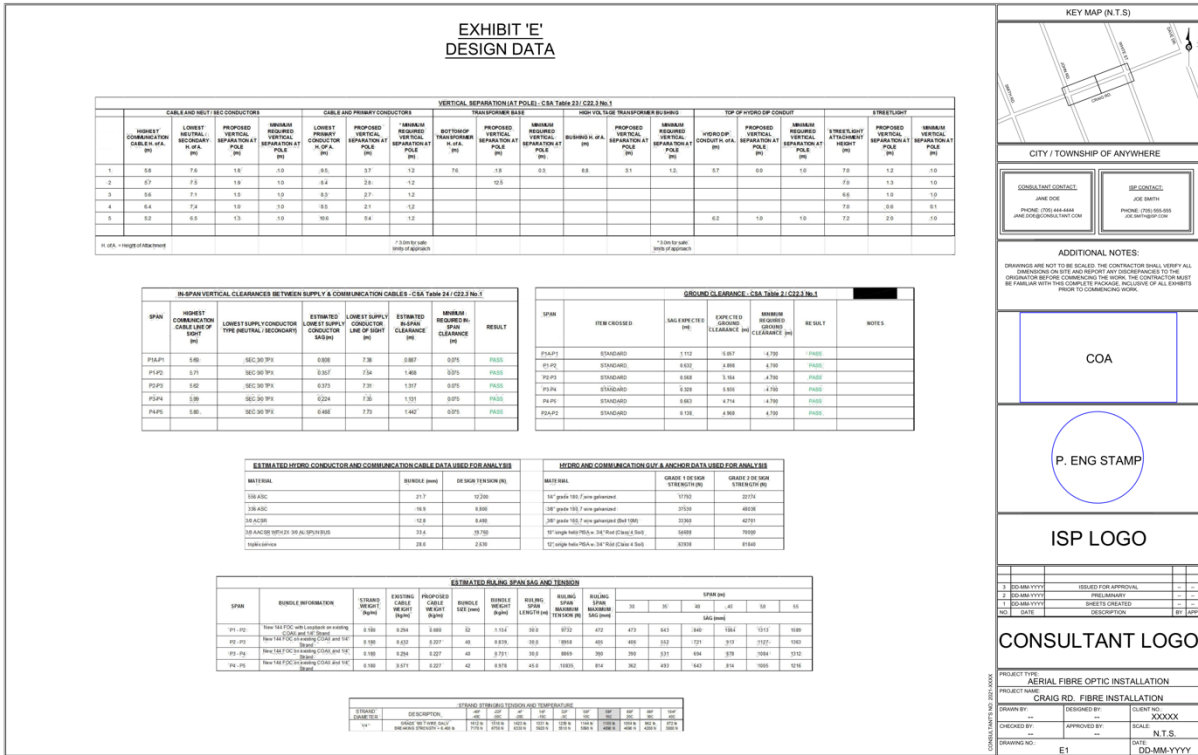


EXHIBIT 'G' BILL OF MATERIALS

DRAWING NO.	CABLE				AERIAL													POLES			MAKE READY																						
	288 FOC	144 FOC	48 FOC	24 FOC	500 DOAK	540 DOAK	625 DOAK	QRTZ COAK	750 DOAK	LOOPBACKS	SPLICE ENCLOSURE	OVERLASH	TREE TRIMMING	STRAND 1/2"	STRAND 3/4"	SIDEWALK ANCHOR PIPE	EXTENSION SIDAAM	LASH WIRE	GROUND WIRE #8 COPPER	GROUND ROD 16mm (5/8" x 2400mm (8')	3/4" OVERHEAD GUY	1/2" OVERHEAD GUY	1" DOWNGUY	3/4" DOWNGUY	SIDEWALK STRUT	ANCHORS 16mm (5/8" ROD	ANCHORS 19mm (3/4" ROD	SPLICE TRAYS	1/2" CLAMP 100mm (4" GAL.	TRANSFER	LOG/GUARD	RISER POLES	# OF POLE ATTACHMENTS	MAKE READY - EXISTING ISP	MAKE READY - ISP	MAKE READY - HYDRD							
1		35m																																									
2		154m																																									
TOT		84.5								1																																	

KEY MAP (N.T.S.)

CITY / TOWNSHIP OF ANYWHERE

CONSULTANT CONTACT

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

ISP CONTACT

JANE SMITH
PHONE: (705) 444-4444
JANE.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 SUPERVISOR BEFORE COMMENCING THE WORK. THE CONTRACTOR SHALL BE FAMILIAR WITH THIS COMPLETE PACKAGE, INCLUDING ALL EXHIBITS PRIOR TO COMMENCING WORK.

COA

ISP LOGO

REV	DATE	DESCRIPTION	BY	APP'D
01	20-01-2022	ISSUES FOR APPROVAL	J.H.	
02	20-01-2022	PRELIMINARY	J.H.	
03	20-01-2022	SHEETS CREATED	J.H.	

CONSULTANT LOGO

PROJECT TYPE:
AERIAL FIBRE OPTIC INSTALLATION

PROJECT NAME:
CRAIG RD. FIBRE INSTALLATION

DESIGNED BY: J.H.	DESIGNED BY: J.H.	CUSTOMER: XXXXXX
DRAWN BY: J.H.	APPROVED BY: J.H.	SCALE: N.T.S.
DRAWING NO: G	DATE: 20-01-2022	BY: J.H.

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 PROVISIONSDesign 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.

Design Considerations - Underground

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.

Construction Considerations - Underground

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 work 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.

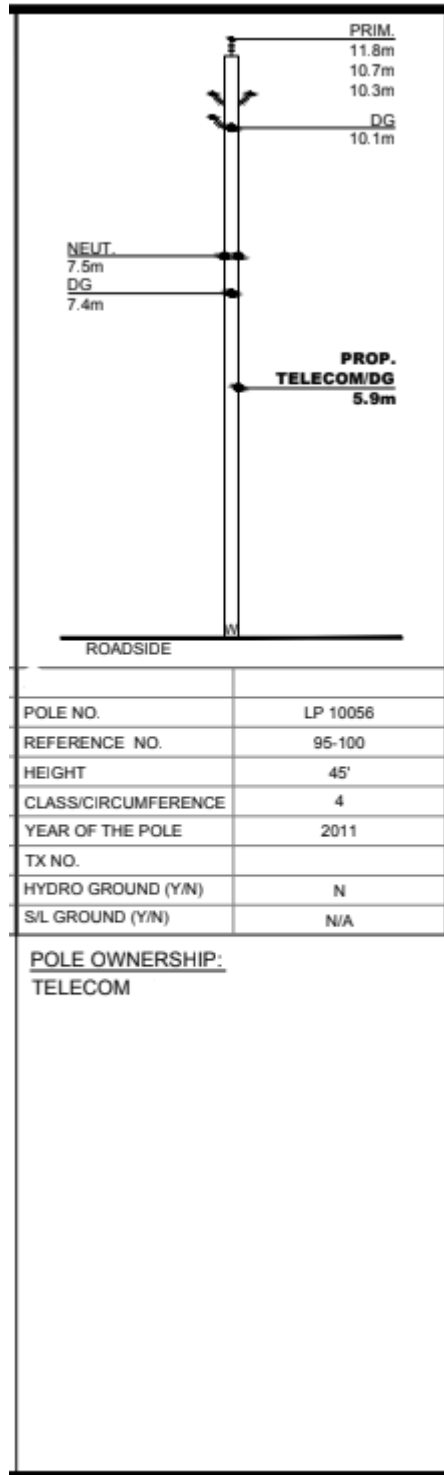


Figure 1: Sample Pole Profile

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

CITY/TOWN OF ANYWHERE			
Company Info		FIBECOM CONTACT JOE SMITH OFFICE TEL: (705) 666-6666 JOE.SMITH@FIBECOM.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, INCLUDING OF ALL EXHIBITS PRIOR TO COMMENCING WORK.			
COA			
<div style="border: 1px solid black; border-radius: 50%; width: 100px; height: 100px; margin: auto; display: flex; align-items: center; justify-content: center;"> P.ENG STAMP </div>			
CUSTOMER LOGO			
3	DATE	ISSUED FOR APPROVAL	XX XX
2	DATE	PRELIMINARY	XX XX
1	DATE	SHEETS CREATED	XX XX
NO.	DATE	DESCRIPTION	BY APP
PROJECT TYPE: AERIAL FIBRE OPTIC INSTALLATION			
PROJECT NAME: ANY RD., CITY/TOWN, ON.			
DRAWN BY:	DESIGNED BY:	CLIENT NO.:	
XX	XX	XXXXXX	
CHECKED BY:	APPROVED BY:	SCALE:	
XX	XX	N.T.S.	
DRAWING NO.:		DATE:	
A		DATE	

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.

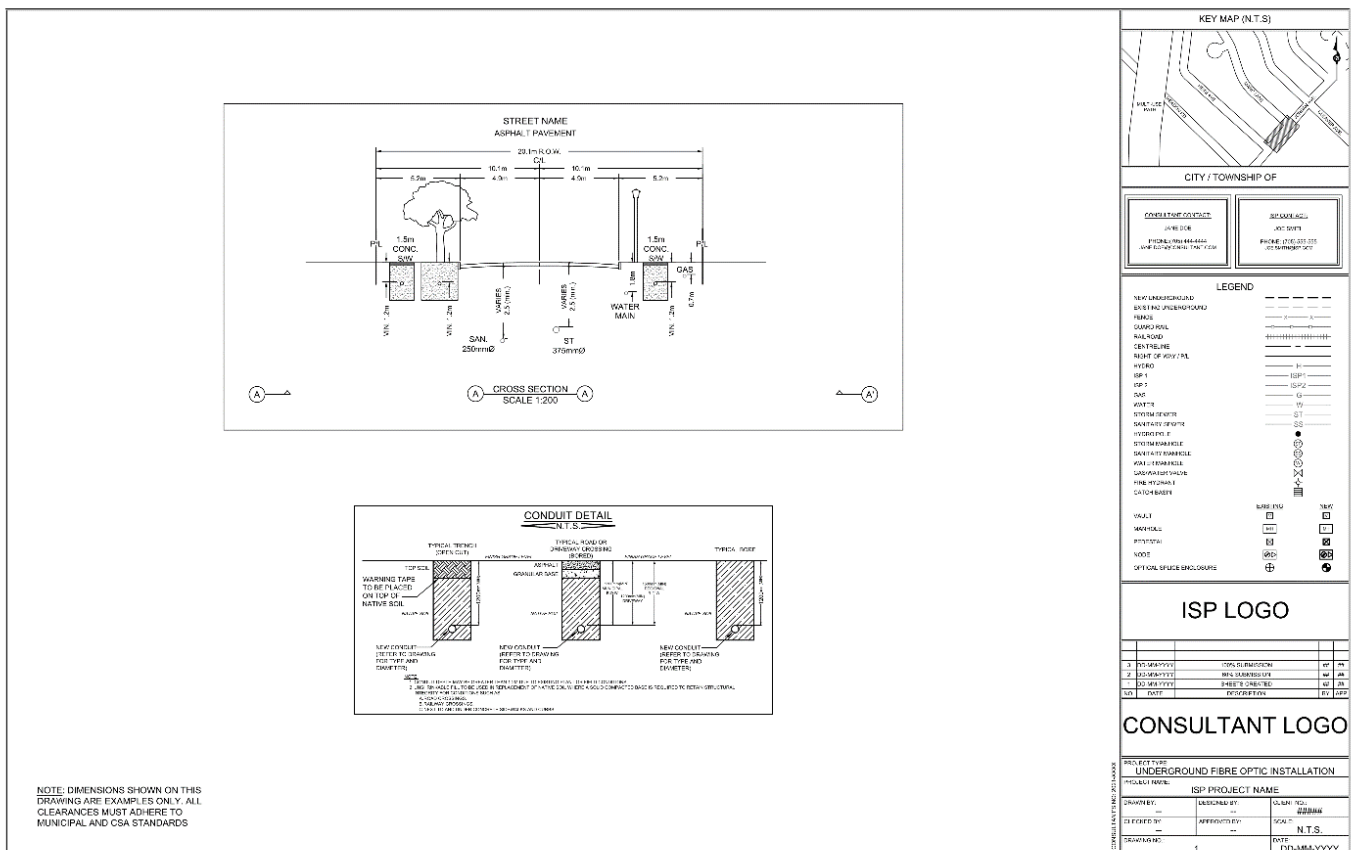
This Guideline, along with the other appropriate standards form the basis for complete submissions. Proponents should confirm if the minimum drawing requirements are outlined within the LDC Occupancy Agreement or within the Municipal Consent agreement.

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 LDC's 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: _____

[INSERT LEGAL NAME OF PROPONENT]

By: _____

Name:

Title:

By: _____

Name:
Title:

I/We have the authority to bind the
corporation.

Name:
Title:

I/We have the authority to bind the
corporation.

Sample Application for Aerial Attachment

PART 1: REQUEST INFORMATION FROM LDCs

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:

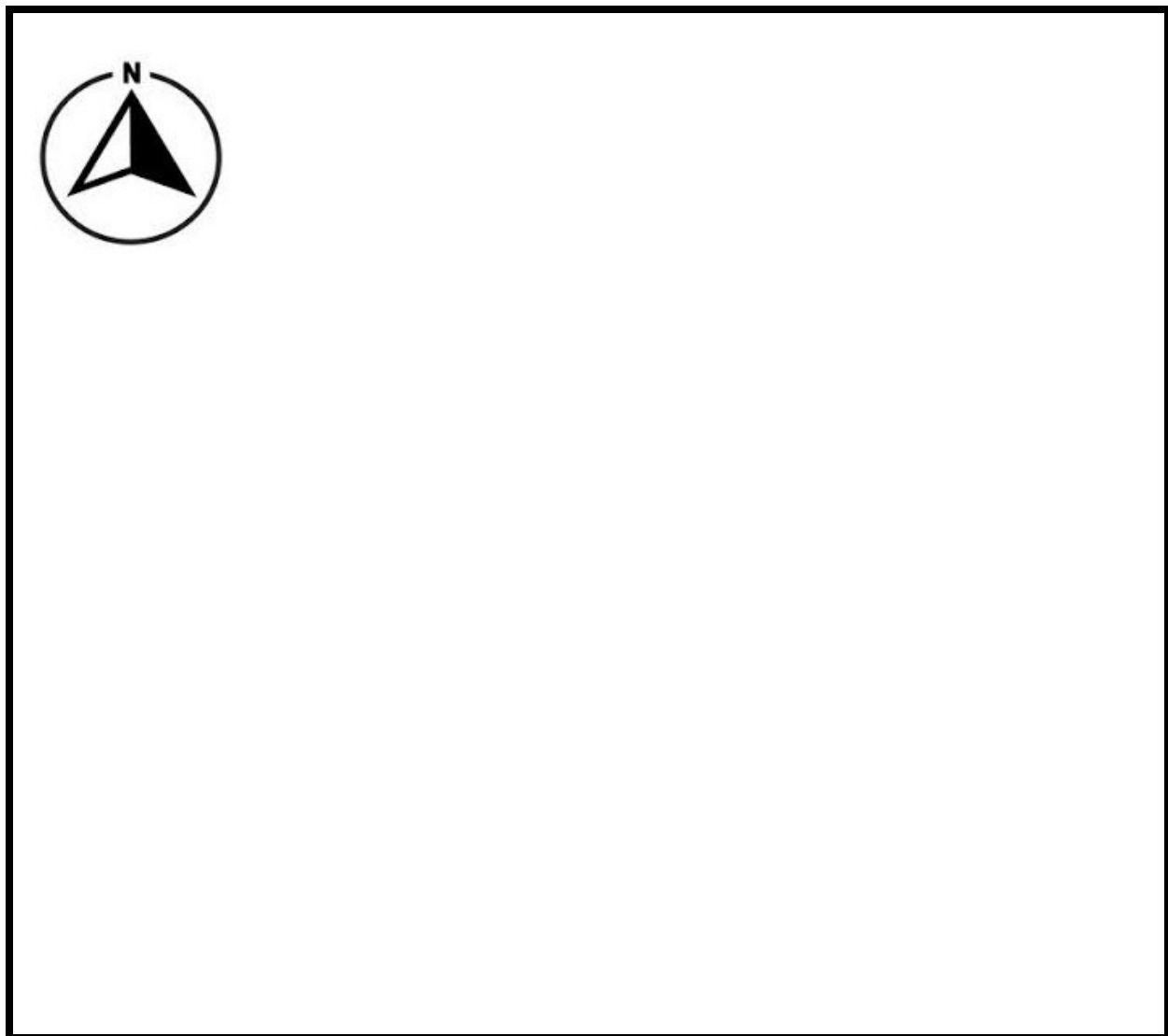
Are there any LDC plans to replace or upgrade the pole within the next 5 years, and if yes, when?

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? _____

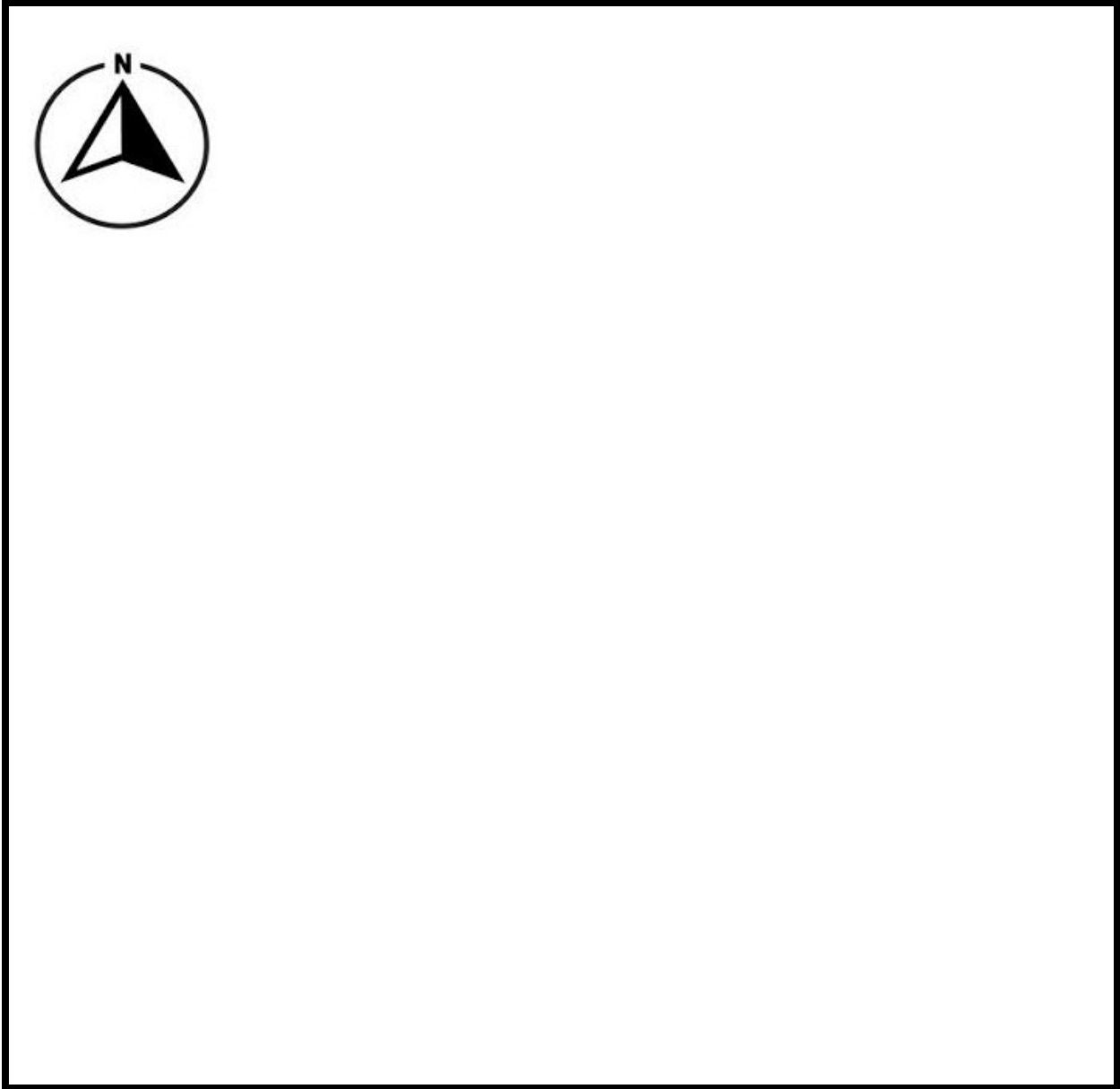
PROJECT LOCATION

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, overlap)	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:

- o the required Application Fee;
- o the Drawings completed in accordance with the requirements stated; and
- o 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? _____

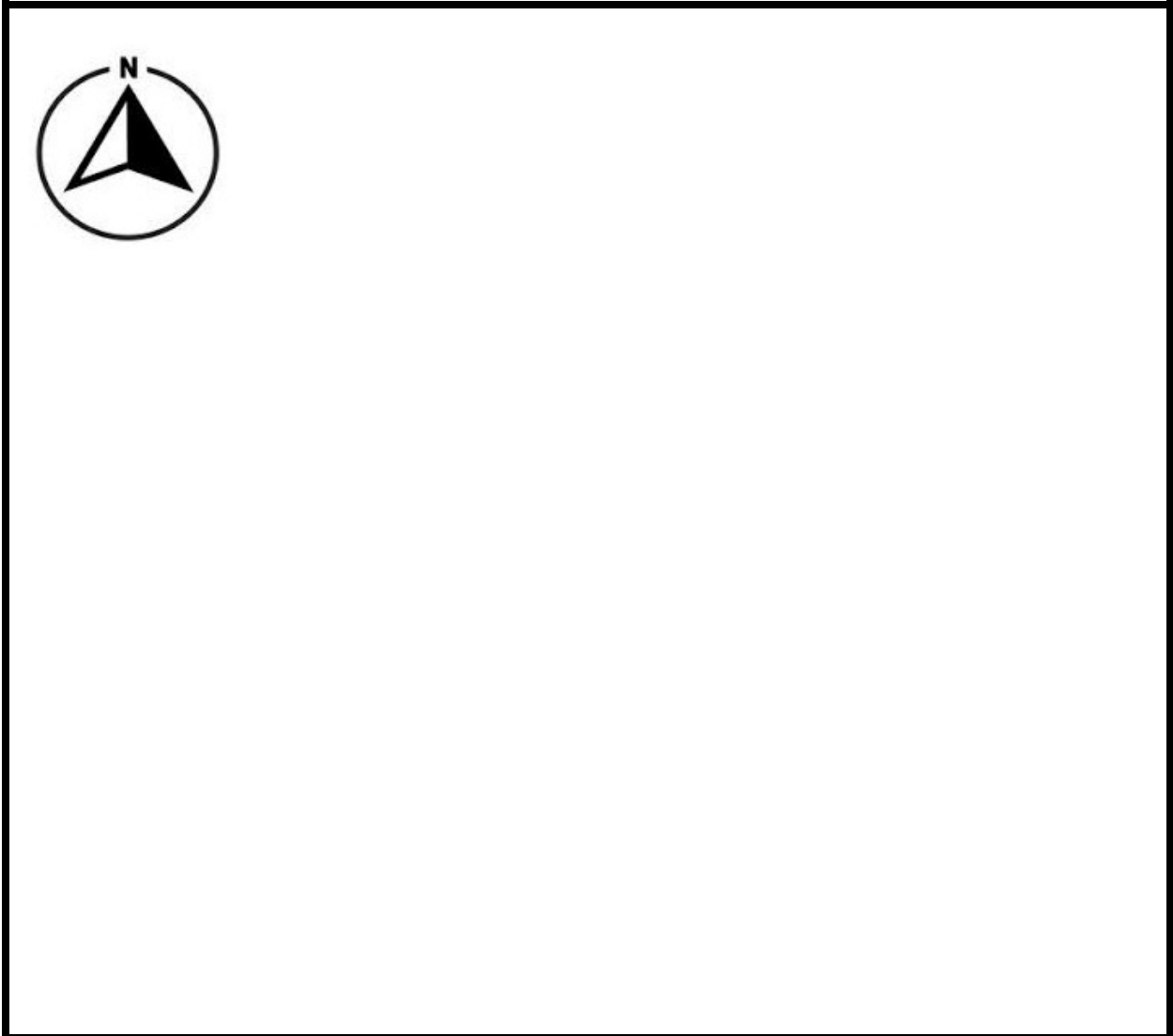
PROJECT LOCATION

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
<p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p>

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 MAA CONTENTS

Use of ROWs
Permits to Conduct Work
Manner of Work
Remedial Work
Permits to Conduct Work
Relocation of Plant
Permits to Conduct Work
Term and Termination
Insurance
Liability and Indemnification
Environmental Liability
Force Majeure
Dispute Resolution
Notices
General

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

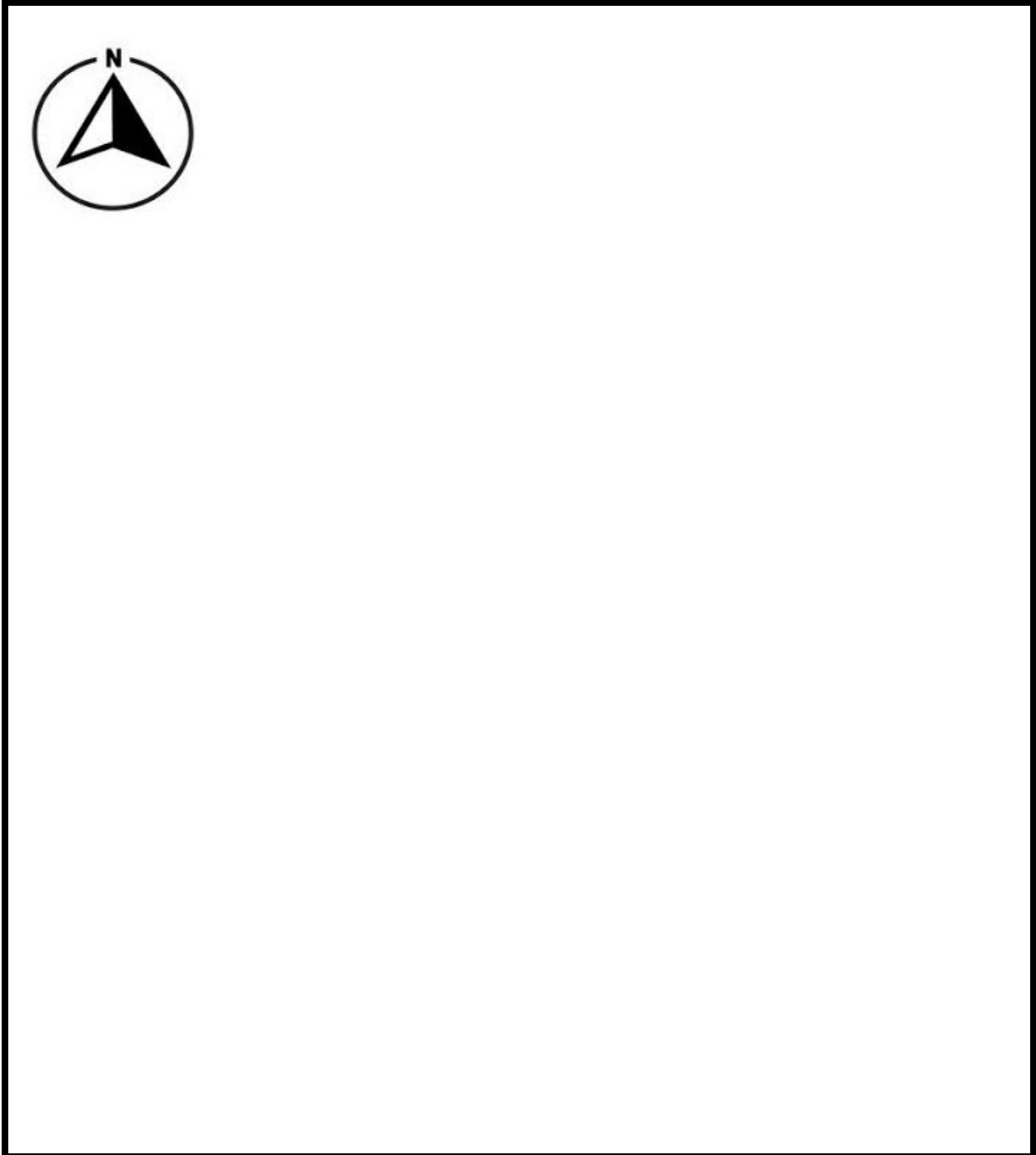
AFFECTED ASSETS

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: <ul style="list-style-type: none"> • 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 <i>Telecom raised on Sept 22, 2021</i>

<p>Non-Compliance Correction Inspection</p> <p>Name: _____</p> <p>Title: _____</p> <p>Signature: _____</p> <p>Date: _____</p> <p>Drawing Number: _____</p>

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: .

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 exercise 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](#) (Bulletin DB-05-12-v1 In-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.

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.

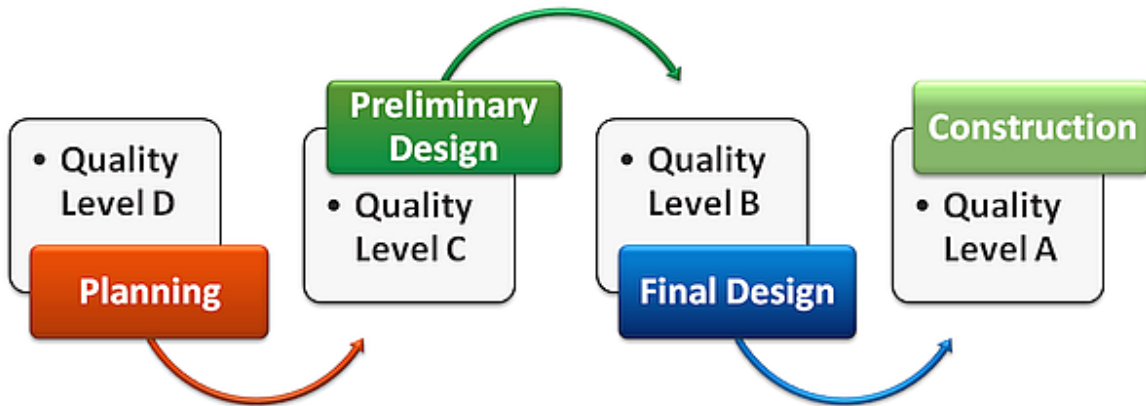


Figure 3: Four SUE Levels

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 its 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:

- 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.

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.

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. 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 locate 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 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 Model⁷:

- 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 certified 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.

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.
- 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

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

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. . The Ontario One Call Member may specify a locate validity period that is longer. Despite these requirements, if the markings on the ground that were provided are no longer visible, the validity period would be deemed to have expired and would need to be redone.

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 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.

Appendix 5: Supplemental Ministry of Transportation Requirements

The following supplemental information has been provided by the Ministry of Transportation to assist proponents (or any ISP or utility for that matter) 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 information provided below is in addition to applicable drawing requirements identified elsewhere in Appendix 1 and is not inclusive of all MTO requirements. MTO may request additional requirements as needed.

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

- When applying for permits, applicants should add the following note in the Project Reference section: THIS APPLICATION IS FOR A DESIGNATED BROADBAND PROJECT.
- 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 not generally permitted within the right-of-way limits of a Class I or II controlled-access highway (e.g. freeway), except in exceptional cases.
- Installations should be placed as close to the provincial highway right-of-way limit as possible, and as a minimum beyond the roadside ditch.
- If crossings of the highway are unavoidable, they will need to be 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.
- Proponents should submit a pre-consultation request to MTO as early as possible before planning or starting work. A pre-consultation request can be submitted through MTO's [Highway Corridor Management System \(HCMS\)](#) prior to any planning or start of work.. Early pre-consultation and ongoing communication from the proponent will help facilitate exchange of information, provide an understanding of requirements and find opportunities to proactively address any potential issues. .
- MTO's general Public Service Commitments are based on the time it takes MTO to review a submission and are impacted by the sufficiency, accuracy, timeliness and quality of the information provided by proponents as part of their submission. The PSC review time stops each time MTO cannot continue its review process due to lack of sufficient, accurate, timely and quality information. The PSC review restarts once the required information is provided. Proponents are encouraged to follow the requirements outlined in this appendix so the review process can be as efficient and timely as possible.

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

- Each MTO Encroachment 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. This should include, but not be limited to, geotechnical/foundation investigation reports, plans, profiles and cross sections indicating the location, depth, and type of crossing for the pipe etc.
- 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 clearing, vegetation management, 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, etc.)
 - Party/Parties doing the work
 - Site access requirements and plan, 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
- Work shall be in adherence to applicable sections in Chapter 3 of the MTO's Highway Corridor Management Manual, April 2022. A copy of the manual can be accessed from the Resources section of the MTO Highway Corridor Management website.

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 Gbps 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

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.

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: 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 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 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.