Date:	February 15th , 2018
Attention:	**Clement Messere**
RE:	Request for Comments
File No.:	**19T-18V001 (ICI)**
Related Files:	
Applicant:	Peter Cortellucci, Rutherford Land Development Corporation Caldari Land Development Corporation
Location	2901 Rutherford Rd and 0 Caldari Road

COMMENTS:

☐	We have reviewed the Proposal and have no comments or objections to its approval.
☒	We have reviewed the proposal and have no objections to its approval, subject to the following comments (attached below).
☐	We are unable to respond within the allotted time for the following reasons (attached) you can expect our comments by _____.
☐	We have reviewed the proposal and have the following concerns (attached below)
☐	We have reviewed the proposal and our previous comments to the Town/City, dated _____, are still valid.

Alectra Utilities (formerly PowerStream) has received and reviewed the submitted plan proposal. This review, however, does not imply any approval of the project or plan.

The owner, or agent, of this proposed plan is required to contact Alectra and discuss all aspects of the above project. The standard electrical supply to Industrial, Commercial, Institutional and High Rise Condominium projects is via a pad mounted transformer. The proposed transformer shall be located 6m (or more) from windows, doors, vents and any flammable materials on the building site. In the event the 6m clearance cannot be achieved, Alectra will require the installation of a fire/blast wall (6"poured reinforced concrete, 8"solid block, or 12" hollow 85% fill). The transformer must also be located within 3-4.5m of a parking area, driveway or hard surface for access by service vehicles. The access must be from within the customer's property, not from a local roadway or adjacent properties, and must provide adequate access for a line truck. Primary voltage duct bank standards* and the transformer base and grounding standards will be provided to the customer once the primary supply point(s) have been established by Alectra, and the customer's main service size has been established by their Consultant. *(see attachment 4)

All proposed billboards, signs, and other structures associated with the development must maintain minimum clearances to the existing overhead or underground electrical distribution system as specified by the applicable standards, codes and acts referenced.

The transformer precast base cannot be located over parking structures or over an underground parking garage. Where the transformer is to be situated on a graded slope, a notched-out area must be established for the transformer base to be installed, with adequate space to accommodate the grounding requirements and guard post/bollards if required. The primary duct bank cannot be integrated into the poured flooring of the building.

Alectra will require one architectural site plan showing the proposed transformer location, one electrical site plan, and an electrical single-line drawing, both in hard copy (PDF file, P.Eng. approved version) and electronic AutoCAD (latest version), along with the completed and signed Service Application Information Form (SAIF). Additionally, a complete building elevation drawing (including subsurface excavations) is required to ensure the project is not in conflict with any existing overhead or underground components of the electrical distribution system. Alectra also requires a letter from the owner, or the agent, stating that the proposed building-to-existing electrical distribution system clearances have been checked and are in compliance with the current requirements of the applicable standards, acts and codes referenced below.

In the event that the building commences construction, and the clearance between any component of the building structure and the adjacent existing overhead and underground electrical distribution system violates the Occupational Health and Safety Act, the customer will be responsible for 100% of the costs associated with Alectra making the work area safe. All construction work will be required to stop until the safe limits of approach can be established.

In the event the building is completed, and the clearance between the building and the adjacent existing overhead and underground electrical distribution system violates the any of applicable standards, acts or codes referenced, the customer will be responsible for 100% of Alectra's cost for any relocation work.

Once Alectra has received all proposed details and are satisfied with the design, Alectra will provide the customer with an *Offer to Connect* which will specify all the details and the responsibilities of each party. Once the Offer is signed and full payment received by Alectra, Alectra will start the final design and state and/or obtain the required approvals from the Local Municipality.

The information on the SAIF must be as accurate as possible to reduce unnecessary customer costs, and to provide a realistic In-Service Date. The information from the SAIF is also used to allocate/order materials, to assign a Technician to the project, and to place the project in the appropriate queue.

If the customer intends to use the permanent transformer for providing temporary power during construction, the temporary service requirements on the Application Form must be included. Amperage, voltage and the proposed secondary cable sizes, in order to calculate the cost in the *Offer to Connect*, are to be provided.

When the customer is ready to proceed, they will need to contact the New Connections Call Centre at (905) 417 - 6900 ext. 25713, or toll free 1-877- 963- 6900 ext. 25713 to obtain a Service Application Information Form (SAIF).

(Note to help expedite the request for final connection please ensure the job specific Ref# for your project is on all communication, drawings and Electrical Safety Authority (ESA) Connection Authorization Forms(CA).

The form is to be completed and returned, with the signed copies to the attention of Barry Stephens. If this proposed development is condominium-related, also contact Alectra Metering Manager, Eddie Augusto at (905) 532 4433 for information about suite metering.

References:

- Ontario Electrical Safety Code, latest edition (Clearance of Conductors from Buildings), attached
- Ontario Health and Safety Act, latest edition (Construction Protection)
- Ontario Building Code, latest edition (Clearance to Buildings)
- PowerStream (Construction Standard 03-1, 03-4), attached
- Canadian Standards Association, latest edition (Basic Clearances)

Service Application Information Form to be completed and returned with the following documentation in order to prepare the Offer to Connect and/or Easements if required:

1. A copy of a current Parcel Register or Abstract of Title to include the property owner's name, address, telephone and fax numbers and pin number.

2. Title documents pertaining to the subject property to include the transfer deed of land, any encumbrances/Certificate of incorporation and any amendments showing the current correct corporate name and address as filed with the appropriate Government Office.

Please ensure that the reference number is included on your Electrical Inspection Certificate.

Regards,

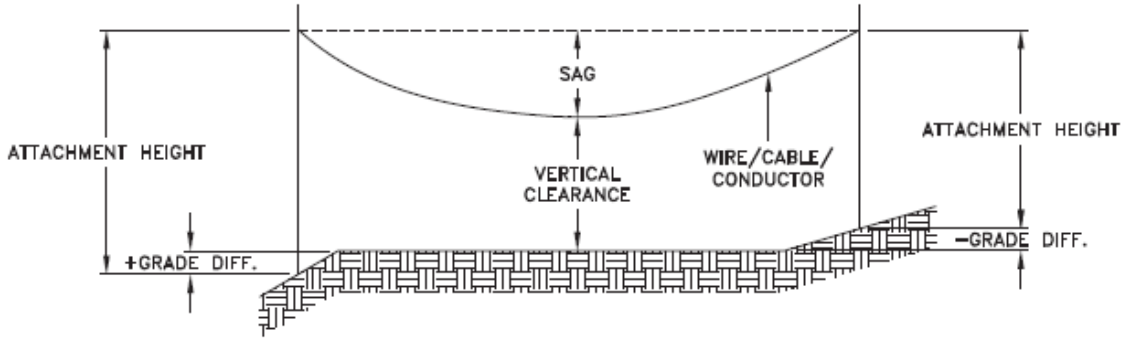
Mr. Stephen Cranley, C.E.T
Supervisor, Distribution Design, ICI
Phone: 1-877-963-6900 ext. 31297
Fax: 905-532-4401
E-mail: stephen.cranley@alectrautilities.com

Service Application Information Form is available by calling 1-877-963-6900 ext. 25713

Power Stream
YOUR CURRENT CONNECTION

Construction Standard 03–1

LOCATION OF WIRES, CABLES OR CONDUCTORS	SYSTEM VOLTAGE			
	SPAN GUYS AND COMMUNICATIONS WIRES	UP TO 600V AND NEUTRAL	4.16/2.4kV TO 27.6/16kV (SEE NOTE 1)	44kV
	MINIMUM VERTICAL CLEARANCES (SEE NOTE 2)			
OVER OR ALONGSIDE ROADS, DRIVEWAYS OR LANDS ACCESSIBLE TO VEHICLES	442cm	442cm	480cm	520cm
OVER GROUND ACCESSIBLE TO PEDESTRIANS AND BICYCLES ONLY	250cm	310cm	340cm	370cm
ABOVE TOP OF RAIL AT RAILWAY CROSSINGS	730cm	730cm	760cm	810cm



MINIMUM ATTACHMENT HEIGHT = MAXIMUM SAG
+ MINIMUM VERTICAL CLEARANCE (FROM ABOVE TABLE)
± GRADE DIFFERENCE
+ 0.3m (VEHICLE OR RAILWAY LOCATION)
+ SNOW DEPTH (PEDESTRIAN LOCATION, SEE NOTE 3)

CONVERSION TABLE	
METRIC	IMPERIAL (APPROX)
810cm	27'–0"
760cm	25'–4"
730cm	24'–4"
520cm	17'–4"
480cm	16'–0"
442cm	15'–5"
370cm	12'–4"
340cm	11'–4"
310cm	10'–4"
250cm	8'–4"

NOTES:

1. THE MULTIGROUNDED SYSTEM NEUTRAL HAS THE SAME CLEARANCE AS THE 600V SYSTEM.
2. THE VERTICAL CLEARANCES IN THE ABOVE TABLE ARE UNDER MAXIMUM SAG CONDITIONS.
3. REFER TO CSA STANDARD C22.3 No.1, ANNEX D FOR LOCAL SNOW DEPTH VALUES.
4. ALL CLEARANCES ARE IN ACCORDANCE TO CSA STANDARD C22.3.

REFERENCES	
SAGS AND TENSIONS	SECTION 02

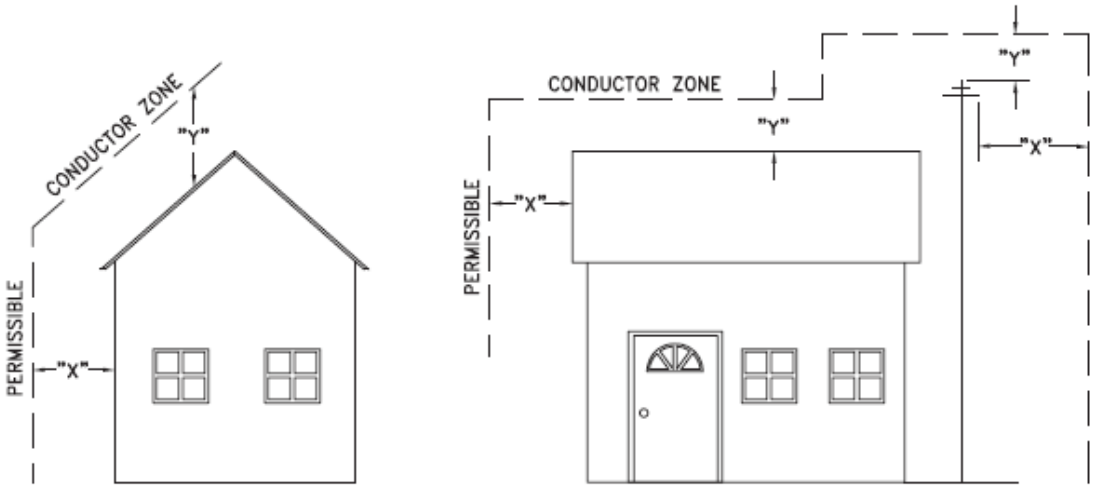
MINIMUM VERTICAL CLEARANCES OF WIRES, CABLES AND CONDUCTORS ABOVE GROUND OR RAILS

Certificate of Approval
This construction Standard meets the safety requirements of Section 4 of Regulation 22/04

Joe Crozier, P.Eng.	2012-JAN-09
Name	Date
P.Eng. Approval By:	Joe Crozier

ORIGINAL ISSUE DATE: 2010–DEC–24 REVISION NO: R1 REVISION DATE: 2012–JAN–09

Construction Standard 03–4



VOLTAGE	MINIMUM HORIZONTAL CLEARNACE UNDER MAXIMUM SWING CONDITIONS DIMENSION "X" (SEE NOTES 1, 3 & 4)	MINIMUM VERTICAL CLEARANCE UNDER MAXIMUM DESIGN SAG CONDITIONS DIMENSION "Y" (SEE NOTES 1, 2, 4 & 5)
0–600V AND NEUTRAL	100cm	250cm
4.16/2.4 TO 44kV	300cm	480cm

NOTES

1. UNDER NO CIRCUMSTANCES SHALL A CONDUCTOR BE PERMITTED TO PENETRATE THE ENVELOPE SHOWN BY THE DOTTED LINE.
2. THE VERTICAL CLEARANCES ARE UNDER CONDITIONS OF MAXIMUM DESIGN SAG.
3. THE HORIZONTAL CLEARANCES ARE UNDER CONDITIONS OF MAXIMUM SWING. WHERE THE CONDUCTOR SWING IS NOT KNOWN A HORIZONTAL CLEARANCE OF 480CM SHALL BE USED.
4. BUILDINGS THAT EXCEED 3 STOREYS OR 15M IN HEIGHT, THE MINIMUM HORIZONTAL CLEARANCE OF THE SECONDARY CONDUCTORS SHOULD BE INCREASED TO 300cm WHERE IT IS NECESSARY TO ALLOW FOR THE RAISING OF LADDERS BY LOCAL FIRE DEPARTMENTS.
5. IN SITUATIONS SUCH AS MULTI–LEVEL GARAGES, WHERE ROOFS ARE NORMALLY USED BY PERSONS AND VEHICLES, THE VERTICAL CLEARANCES OF POWERSTREAM STANDARD 03–1 SHALL APPLY.
6. DISTRIBUTION LINES CONSTRUCTED NEAR BUILDINGS SHALL BE BUILT TO AVOID OVERHANG WHEREVER POSSIBLE. WHERE LINES MUST BE CONSTRUCTED OVER OR ADJACENT TO BUILDINGS THE APPLICABLE HORIZONTAL AND VERTICAL CLEARANCES SHALL BE AT CONDITIONS OF MAXIMUM CONDUCTOR SWING AND MAXIMUM SAG. THE ABOVE CLEARANCES ARE DESIGNED TO PREVENT PERSONS ON OR IN BUILDINGS AS WELL AS EXTERNAL MACHINERY USED IN CONJUCTION WITH A BUILDING TO COME IN CONTACT WITH CONDUCTORS. EFFORTS SHOULD BE MADE TO INCREASE THESE CLEARANCES WHERE POSSIBLE.
7. ALL CLEARANCES ARE IN ACCORDANCE TO CSA C22.3 NO.1–06 (TABLE–9).

CONVERSION TABLE	
METRIC	IMPERIAL (APPROX)
480cm	16'–0"
300cm	10'–0"
250cm	8'–4"
100cm	3'–4"

MINIMUM VERTICAL & HORIZONTAL CLEARANCES OF CONDUCTORS FROM BUILDINGS OR OTHER PERMANENT STRUCTURES (CONDUCTORS NOT ATTACHED TO BUILDINGS)

Certificate of Approval
This construction Standard meets the safety requirements of Section 4 of Regulation 22/04

Debbie Dadwani, P.Eng. — 2010-MAY-05
Name — Date

P.Eng. Approval By: D. Dadwani

ORIGINAL ISSUE DATE: 2010–MAY–05 REVISION NO: REVISION DATE:

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75-706 Primary and secondary lines clearances

(1) The poles that support the phase conductor of a primary line shall be so located and of such height as to afford a clearance of 7 m measured vertically between the conductors under maximum sag conditions and the ground.

(2) Notwithstanding Subrule (1) for high voltage line installations where plans are submitted for examination to the inspection department, the clearances listed in Table 34 are acceptable.

(3) The primary line neutral shall be considered a secondary conductor and shall have the same minimum vertical clearance as specified in Subrule (4).

(4) Conductors of a secondary line shall have a minimum 6.1 m measured vertically between the conductors under maximum sag conditions and the ground.

(5) Notwithstanding Subrule (1) for high and low voltage line installations on public right of ways, for the purpose of roadway lighting systems or traffic control systems, CSA C22.3 No. 1, Overhead systems, or the Ontario Provincial Standards shall be permitted.

75-708 Clearances of conductors from buildings

(1) An overhead primary line conductor shall be kept at least 3 m at maximum conductor swing measured horizontally from a building.

(2) Primary line conductors shall not be installed over buildings unless the installation is lawful under Rule 2-030, and work shall not begin until the plans and specifications for the work are approved in accordance with Rule 2-010.

(3) No building, mobile home or structure shall be placed or constructed within at least 3 m at maximum conductor swing measured horizontally from the nearest conductor of an overhead primary line.

(4) Where the conductor swing is not known, a distance of 1.8 m shall be used.

(5) An overhead secondary line conductor shall be kept at least 1 m measured horizontally from any building except where necessary to connect to the electrical wiring of a building.

75-710 Clearances for other structures

(1) Notwithstanding Rule 36-110, conductors of a primary line shall

(a) not be located closer than 12 m measured horizontally from silos to the closest conductors, with the conductor at rest;

(b) not be located over wells from which pump rods may be lifted and come in contact with the conductors;

(c) have sufficient clearance from free-standing poles that support flood or area lighting, flagpoles, antennae, or other similar structures so as to permit the structure to fall in an arc, without touching the conductors at rest;

(d) not be located within 6 m, measured horizontally from wind-mills or similar structures to the closest conductor, with the conductor at rest; and

(e) have a minimum vertical clearance of 3.1 m above fencing at maximum sag.

(2) Conductors of a secondary line shall not be installed closer than 1 m measured horizontally from structures.

(3) The poles and equipment associated with a primary or secondary line shall be located and suitably protected so as to avoid the possibility of damage from contact with vehicles.

75-712 Tree trimming

(1) The owner of a private line shall provide clearance to the line from trees and other forms of woody growth in compliance with a code or standard under a rule or by-law of the supply authority concerning tree trimming.

(2) Where there is no applicable code or standard under a rule or by-law of the supply authority concerning tree trimming, all trees and woody growth adjacent to a line shall be trimmed so that minimum clearance to the nearest conductor horizontally at maximum conductor swing and vertically at a maximum sag shall be

(a) 1 m for secondary lines; and

(b) 4 m for primary lines.

Grounding and bonding

75-800 Grounding of equipment mounted on steel poles

(1) A steel pole shall be permitted to be used as the grounding electrode for equipment mounted on the pole where the steel pole is directly embedded in soil and the portion of the pole in contact with the soil is not coated with any non-metallic coating or covering and such an installation is in accordance with the manufacturer's recommendations.

(2) Where a pole is used as the ground electrode for the transformer, the transformer shall be bonded to the pole and the neutral in accordance with Specification 44 or 45.

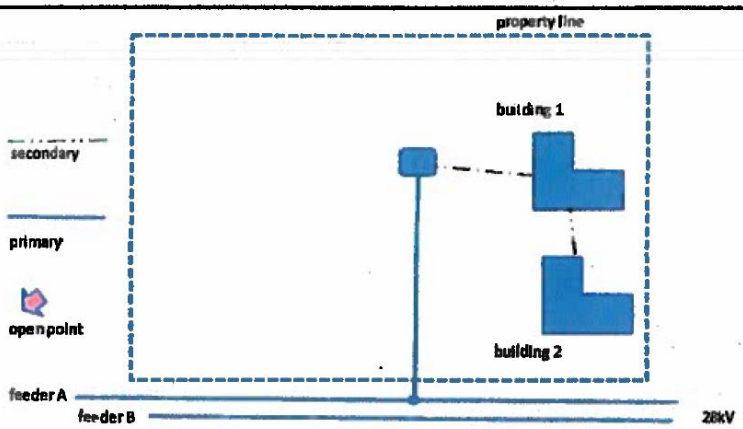

FIGURE 2: 2 BUILDING CONNECTION less than 1,000kVA

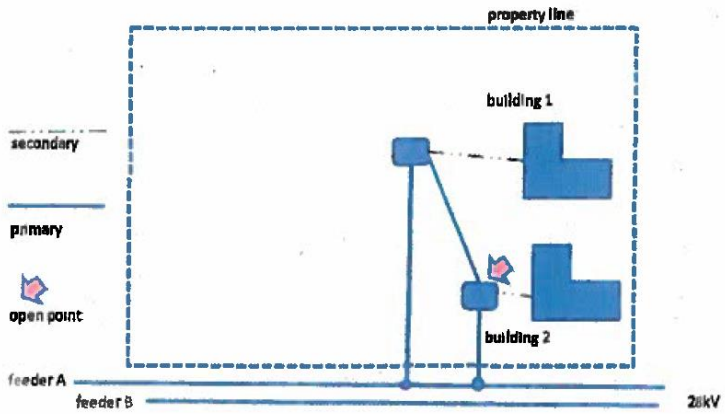

FIGURE 3: 2 BUILDING CONNECTION greater than 1,000kVA

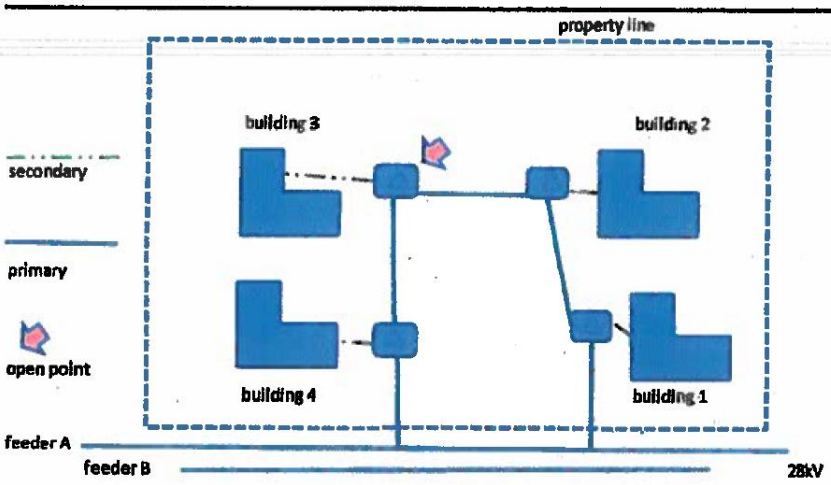

FIGURE 4: MULTI BUILDING CONNECTION greater than 1,000kVA

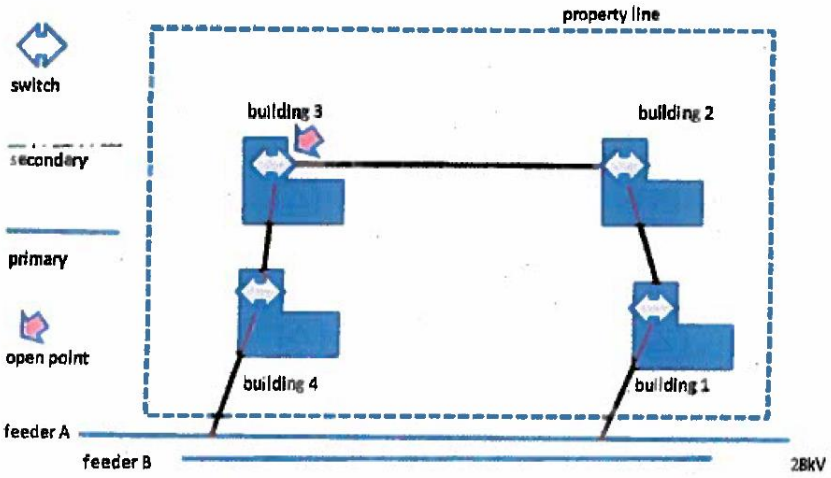

FIGURE 5: DRY TYPE TRANSFORMERS greater than 1,000kVA

(4) Underground consumer's service raceway entry into a building

Subrule 6-300(3) requires that an underground consumer's service raceway enter a building above ground where practicable. If it is not practicable, then the raceway must be suitably drained or installed in such a way that moisture and gas will not enter the building.

The intent of the Subrule is to prevent water leaking into either the building or the electrical service equipment and causing damage.

Questions have arisen as to how we determine "above ground" or "above grade".

Above ground or grade will be interpreted as any part of the building that is more than 150 mm above the finished grade. (See Figure B1)

Figure B1 – Interpretation of "above ground"