Electrical Safety Authority

Electrical Distribution Safety

Utility Advisory Council Meeting

Minutes of Meeting
June 26, 2026
9:30am – 3:00pm

Utility Advisory Council Members

LDC/Owner-Operator	
Alectra Utilities	Joseph Chiuco
Festival Hydro	Bryon Hartung
Hydro One - Distribution	Muayad Tarabain
Hydro One - Transmission	Ajay Garg
Hydro Ottawa	Edward Donkersteeg
InnPower Corporation	Salman Amjad
London Hydro	Scott Glazer
Newmarket-Tay Power Distribution Ltd.	Eric Andres
Oshawa Power	Aiyappa Ganapathy
Toronto Hydro	Sushma Narisetty
General Interest	
Bell Canada/Telecom Industry	Zhi Lin
Consumer Advisory Council	Salim Al Khodari
CSA Group	Mark Humphries
Power Workers Union	Jenn Vautour
Regrets	
Elexicon Energy Incorporated	
Enova Power Corporation	
IHSA	

Quorum 2/3 of voting members (11/16)

Other Attendees

Fred Kouhdani (Hydro One), Rick Zang (Toronto Hydro), Sarim Humayun (Toronto Hydro), Sarzil Rahman (USF), Vladimir Carballo (Burlington Hydro), Allison Nicholls, (MPBSDP), Sharmila Uruthiranandasivam (MPBSDP), Amrit Kuner (OEB), Mitsal Tailor (London Hydro), Kishen Pais (Oakville Hydro), Brittany Ashby (EDA)

ESA Attendees

Nansy Hanna, Jason Hrycyshyn, Patrick Falzon, Goran Velickovski, Declan Doyle, Alex Piccini, Alexander Janack, Devin Chaudhary, Malcolm Brown

1 Notice & Quorum

- The meeting has quorum

2 Agenda

- The agenda was approved

3 Minutes of UAC Meeting

The following motion was carried:
Motion: To accept the minutes of the February 24, 2026 meeting
Motioned by: Bryon Hartung
Second: Edward Donkersteeg
Motion carried.

4 Review of Open Action Items

- 2019-03-01: ESA to develop a process for facilitating resolution of conflict between LDCs and a Third Party equipment owner
    - On the agenda
- 2025-02-01: Distributor Survey on Best Practices for Connection/Reconnection of Power
    - On the agenda
- 2025-03-01: ESA will send the draft bulletin - Equipment Supporting or Barriering Distributor-Owned Equipment (New Installations) - to the UAC for review
    - On the agenda
- 2025-03-02: Toronto Hydro will draft a survey with questions relating to Demand Load vs Connected Load
    - On the agenda
- 2026-01-01: Create a bulletin to present the information from the presentation for this item on the DSO Model.
    - In progress
    - Looking to be ready for the October 2026 meeting

5 Group 2 Renewals

- Group 2 renewal letters have been sent out
- Sushma let the UAC know that her role at Toronto Hydro has changed. Sushma will complete her term as Chair.

6 Plan Review Threshold Change - 10-12kW

- The Director's Order is posted on the ESA website (https://esasafe.com/role/oesc/)
- The effective date is July 6th
    - It is a burden reduction so ESA decided to move quickly with implementation
- If an existing facility is increasing its threshold when does it need ESA involvement
    - If an existing DER was derated and they are increasing the output it will require an inspection from ESA and a CA will be required
    - This is really helpful for the LDC as they know a CA is required every time.
    - Will there be a public document that explains this to contractors and customers making this change.
    - The bulletin will be updated in October so we will see if we can post this on the ESA website prior to the bulletin update
    - Can the LDC post this information on their website.
        - ESA will be sending this information to the LDCs in the next few days with FAQs. The LDC should link to the information on the ESA website.

7 Regulation 22/04 Updates

- The proposals submitted to the government were reviewed with the Council
- There were questions and concerns around the Section 4 proposal
    - Would the proposal change the scope of the Regulation?
    - Utilities use Section 4 when interacting with customers that do not have access to the CSA standards and removing parts of Section 4 would make that challenging
    - Should a reference to Section 5 of the Regulation be added to Section 4
- Based on the discussion ESA will review Section 4 changes to determine what subsections should be kept or removed and if there are items that should be added
- Will the voltage values be updated to align with the change to the high voltage definitions in CSA standards?
- If we do look at moving forward with this change the Ont. Government will also be doing a public consultation
- ESA will send out an email with the bullet points to the LDCs to get feedback

8 Guideline - Section 6 - Equipment Approval

- Good Utility Practice is not being utilized by Utilities at this time so the working group suggested removing it from the guideline
    - The note indicates, if there was something LDCs approved in the past under good utility practice, then this would still remain approved as long as the product didn't change
- The Council would like more time to review the updated guideline
- Will bring this in October for endorsement

9 Regulation 22/04 Audit Groupings for the Annual Audit

- Defer this to the October meeting

10 Bulletin: Equipment Supporting or Barriering Distributor-Owned Equipment (New Installations - Inspections) (Action Item 2025-03-01)

- UAC Endorsement
    - Endorsement received

11 Bulletin: Equipment Supporting or Barriering Distributor-Owned Equipment (Existing Installations - Work) (Action Item 2019-03-01)

- Vaults need to be looked at a little more (action)
- ESA will enforce the OESC. If an LDC is asking for more than the requirements of the OESC the ESA can not enforce that
- UAC Endorsement
    - Endorsement received

Action Item 2026-02-01: Equipment Supporting or Barriering Distributor-Owned Equipment – Bulletin revision 2. ESA will look into vaults to add to a future revision of this bulletin.

12 Meter-Mounted Back up Switch

- ESA's concern: Since this product is being used ahead of the service switch, EAS is concerned about backfeed if the contacts fail within the switch
- ESA's direction: ESA will accept the Tesla Backup Switch through the deviation process. Tesla will pursue a code proposal to add backup switch to Rule 6-200 (Service Entrance) and continue to work towards full Canadian certification

13 Survey for Disconnect/Reconnect (Action Item 2025-02-01)

- The Council endorsed the survey being deployed
- ESA will bring the results from the survey back to the UAC

14 ESA Order to Disconnect

- The process was described to the UAC

15 Stakeholder Relations Multi Stakeholder Survey

- Details on the stakeholder survey were shared
- Stakeholder surveys and results can be found on the ESA website (https://esasafe.com/stakeholder-research/)

16 Guideline Working Group - DER

- High level details of the changes to the guideline were shared
- The draft guideline will be distributed to the UAC after the meeting
- ESA will bring to the October 2026 meeting for Council endorsement

17 Implementation Date - C22.3 No.1 & 7 - 2025 Edition

- There were significant changes in the 2025 edition so ESA drafted a bulletin that provides until June 2028 to adopt the standards
- The Council was in favour of the bulletin

18 Meter Base Documentation Changes

- Distributor Flash Notice DFN-03-24-v2 (https://esasafe.com/utilities/bulletins/)
    - All ESA metering related information collected under this Flash Notice
- OESC Bulletin 10-15-* is available on the ESA website (https://esasafe.com/electrical-products/bulletins/)

19 Toronto Hydro Demarcation Point presentation

- Toronto Hydro presented how they handle demarcation points in various scenarios
- ESA asked about Multi-metered connections where LDC has a dedicated compartment for their conductor if that compartment is locked by the LDC
    - The standard doesn't call for it to be locked, but this will be reviewed to determine if a change needs to be made

20 Toronto Hydro will draft a survey with questions relating to Demand Load (Action Item 2025-03-02)

- The updated survey was shared
- The use case for demand load may warrant a change the questions
- USF and ESA to meet and discuss the best avenue for distributing the survey to Utilities

21 3 Phase 3 Wire Update

- Update Provided

22 Incidents

- Recent incidents were shared
- ESA is reaching out to various agricultural organizations to provide powerline safety materials

23 Audit the Auditor

- ESA is looking for council feedback on how this should be done
- The various methods of completing this exercise were discussed
- It was decided that the Guideline should be updated first and training provided to the Auditors before pursing this item

24 Business Modernization

- An update was provided to the UAC on projects happening at ESA
- Some of the activities that ESA is looking into
    - Modernization efforts and aligning with the government priorities
    - Opportunities to support major projects like battery storage and mining
    - Supporting new technology
    - Providing more support to the LEC community
    - Providing more support for the LDC community

Overview – Intent of Proposals

- At the June 2025 Utility Advisory Council (UAC) meeting, ESA consulted members on proposed amendments to O.Reg.22/04 Electrical Distribution Safety (“the Regulation”).
- The intent of these proposed amendments to the Regulation were to:
  1. Promote good governance by updating safety standard references to the latest version of each safety standard;
  2. Align the Regulation with current industry practices and removing any potentially burdensome requirements; and,
  3. Revising any vague or confusing language that could or has caused burden.
- Following last years consultation, ESA submitted a formal proposal to the Government of Ontario that included two (2) additional proposals put forward by UAC members.

Seeking Input & Alignment
Section 4 - Original Proposal vs. Revised Proposal

Original Proposal #1– Inserting "At a minimum"

Safety Standards

4. (1) All distribution systems and the electrical installations and electrical equipment forming part of such systems shall, at a minimum, meet the primary safety standard set out in subsection (2) by meeting the safety standards set out in subsections (3), (4), (5) and (6).

Revised Proposal – Refer to Section 5 Requirements

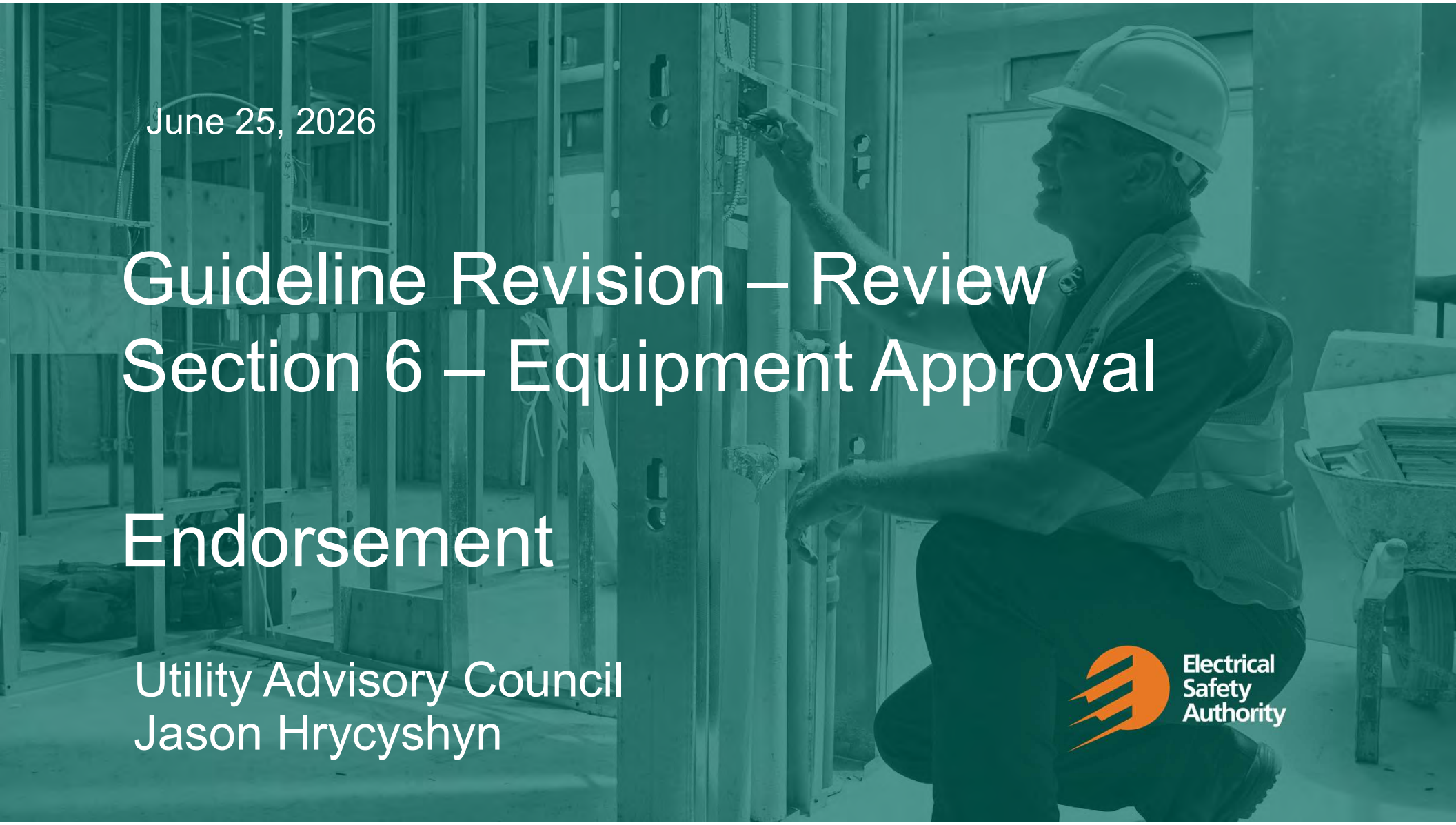
Safety Standards

4. (1) All distribution systems and the electrical installations and electrical equipment forming part of such systems shall meet the safety standard requirements in section 5. ~~set out in subsection (2) by meeting the safety standards set out in subsections (3), (4), (5) and (6).~~

[Delete subsections (3), (4), (5), (6), and (7)]

Questions for UAC

- Would removing ss.4(3)–(6), including ss.4(7), and their reference in ss.4(1) in favour of a direct reference to the safety standard requirements in section 5 improve the Regulations regulatory clarity as compared to inserting "at a minimum" in ss.4(1)?
- Are there any downstream operational or industry impacts associated with removing ss.4(3)–(7), including unintentionally altering existing obligations, creating burden for LDCs, or raising concerns about whether the safety standard requirements in section 5 sufficiently satisfy section 4 requirements?



June 25, 2026

Guideline Revision – Review
Section 6 – Equipment Approval

Endorsement

Utility Advisory Council
Jason Hrycyshyn

Electrical Safety Authority

Guideline Revision – Equipment Approval Section 6

Highlights

- Guideline Working Group completed the work
- ESA received comments prior to this UAC
  - 1 minor change made to 2.7.2, added "Professional Engineer –" prior to the existing title to harmonize with 2.7.3 & 2.7.4
- DRAFT Guidelines & significant revisions provided pre-meeting

- ESA is seeking UAC endorsement of the Guidelines, if achieved ESA will publish the Guidelines.

Guideline Revision – Equipment Approval Section 6

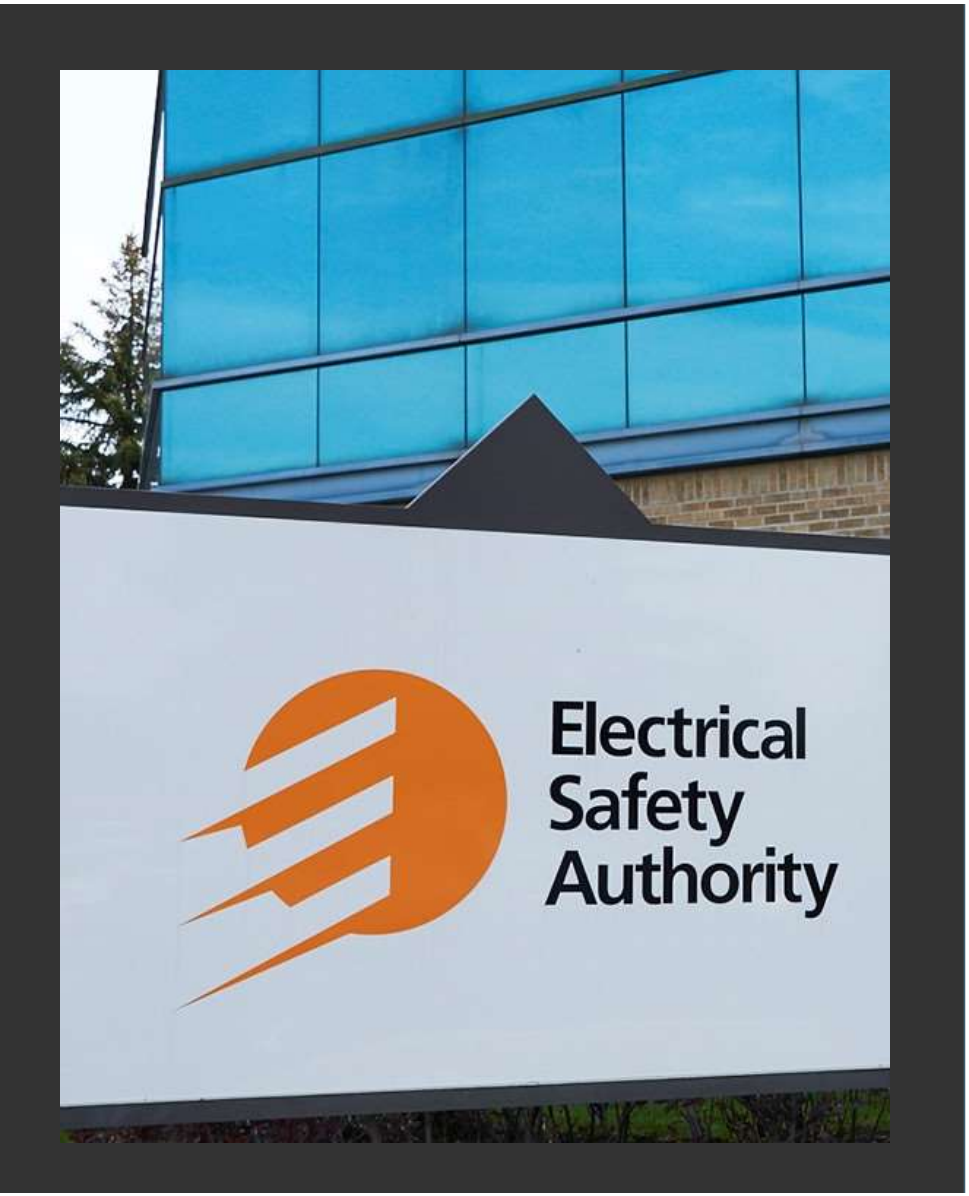
Highlights

- Bulletins were moved into this Guideline
  - Unused vs Used Distribution Equipment (DB-01-19)
  - Equipment Approval — Industry Standards Recognized by ESA (DB-01-21)
- The following Definitions were added, deleted or modified
  - "Good Utility Practice"
  - "Certified Test Report"
  - "Legacy construction"
- Major and Non-Major equipment distinction removed.
  - All distributor developed equipment specifications shall be approved by a professional engineer, removed the option of competent persons for non-major equipment.

Guideline Revision – Equipment Approval Section 6

Highlights

- Guidance related to “Certified Test Reports” was modified.
  - Definition now includes that reports can be produced by an accredited testing laboratory (e.g. ISO/IEC 17025).
- “Good Utility Practice” was removed in some areas.
  - This was meant to address approving equipment when Regulation 22/04 came into effect. Good Utility Practice should not be used to approve new equipment.
  - Guideline includes a note that equipment approved under Good Utility Practice does not require any re-approval.
- Guidance on approving equipment under OESC Rule 2-024 (1) was modified. More information included about Qualifying Tests included.
- “Professional Engineer” approval of equipment included under Rule of the Distributor.



Contact Us

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Electrical Safety Authority

Bulletin: Equipment Supporting or Barriering Distributor-Owned Equipment (New Installations)

Jason Hrycyshyn

Endorsement

June 25, 2026

OESC Inspection - Supports or Barriers of Distributor-Owned Equipment

- **Highlights**

- Draft Bulletin provided in pre-read material.
  - (Action Item 2025-03-01)
- Bulletin provides information regarding OESC Scope and ESA Inspection of customer-installed (CI) equipment that is a support (electrical or mechanical) or a barrier of distributor-owned (DO) equipment.

OESC Inspection - Supports or Barriers of Distributor-Owned Equipment

- **Highlights**

- **OESC Scope Details** – Electrical work and electrical equipment … that are located on the distributor's side of the ownership demarcation point are "not within the scope of the OESC".
  - Electrical work performed on the distributor's side of the demarcation point is subject to Regulation 22/04.

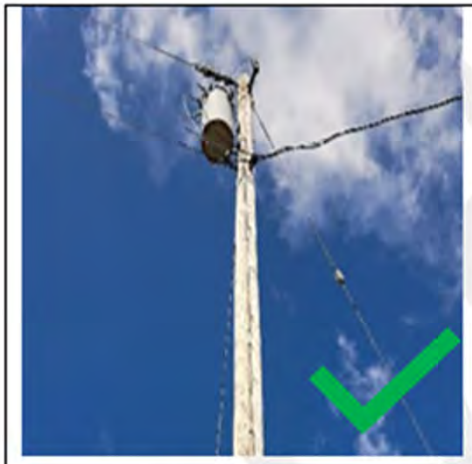
OESC Inspection - Supports or Barriers of Distributor-Owned Equipment

- **Highlights**

- ESA Inspectors generally follow the information provided on the notification filed with ESA, if information is unknown the ESA Inspector would only inspect electrical work and electrical equipment within the OESC's scope, where the following two (2) conditions are met:
  1. The equipment is installed on the customer-side of the ownership demarcation point; **and**
  2. The equipment is above-grade equipment.

OESC Inspection - Supports or Barriers of Distributor-Owned Equipment

New Installations with Typical Ownership Demarcation Points

		
Picture #1 ***CI Pole (Support) & DO Transformer*** ***Within OESC scope***	***Picture #2*** ***CI Duct (Barrier) & DO Conductor*** ***Not within OESC scope***	***Picture #3*** ***CI Foundation & Ground Loop (Support)*** ***& DO Transformer*** ***Not within OESC scope***

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OESC Inspection - Supports or Barriers of Distributor-Owned Equipment

- **Highlights**

- **Recommendation**: If the distributor identifies electrical work or electrical equipment that is not inspected by the ESA Inspector and considers inspection necessary, the distributor should undertake the inspection.

Electrical Safety Authority

Bulletin:
Equipment Supporting or Barriering Distributor-Owned Equipment (Existing Installations - Work)

Jason Hrycyshyn

Endorsement

June 25, 2026

Supports-Barriers and Compliance Enforcement

Highlights

- Draft Bulletin provided in pre-read material.
  - (Action Item 2019-03-01)
- This bulletin provides direction regarding how to comply with the requirements found in Regulation 22/04, when there is a safety concern with customer-installed (CI) equipment that supports or barriers distributor-owned (DO) equipment.

Supports-Barriers and Compliance Enforcement

Highlights

- OESC Scope Details - Electrical work and electrical equipment… that are located on the distributor's side of the ownership demarcation point are "not within the scope of the OESC".
- Electrical work performed on the distributor's side of the demarcation point is subject to Regulation 22/04.

Electrical Safety Authority

Supports-Barriers and Compliance Enforcement

Picture #1 - Customer-installed **rotting pole** with embedded distributor-owned **transformers** attached, installed on customer-side of the ownership demarcation point.

The pole is within the scope of the OESC and ESA would follow OESC compliance enforcement procedures.



Picture #1
CI Pole & DO Transformer
(Support)
e.g. rotting pole

Supports-Barriers and Compliance Enforcement

Picture #2 - Customer-installed **detached duct (i.e. conduit)** on a meter base with distributor-owned **conductors** inside them (***Picture #2***), installed on the distributor-side of the ownership demarcation point.

The duct is not within the scope of the OESC and ESA would follow Regulation 22/04 compliance enforcement procedures.



Picture #2
CI Duct & DO Conductor (Barrier)
e.g. detached duct

Electrical Safety Authority

Disconnect Orders

Utility Advisory Council

June 25, 2026

Malcolm Brown, General Manager

Operations – Western Region

Typical Disconnect Orders to LDC

Inspector issued Order	Statutory Director (GM) issued Order
For an imminent hazard	Typically, the result of non-compliance with an order by the property owner/occupant
Reviewed by GM or Technical Advisor (Internal robust process) prior to the disconnect order being issued	Opportunity to appeal has been exhausted
Request to LDC is immediate (Inspector is usually on-site)	Reviewed by Senior Inspector/Technical Advisor and GM prior to order being issued
No Advanced Notice Given to property owner	Multiple Notices Given to Owner/Tenant that Disconnect Order is pending
Typically Phoned-in verbal Order to LDC	Emailed Order to LDC with a scheduled date

Typical Disconnect Orders – By Inspector

- Immediate safety threat to persons and or property

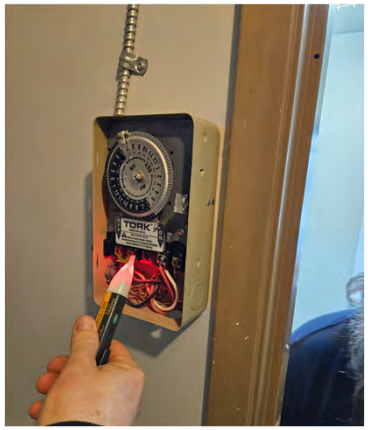




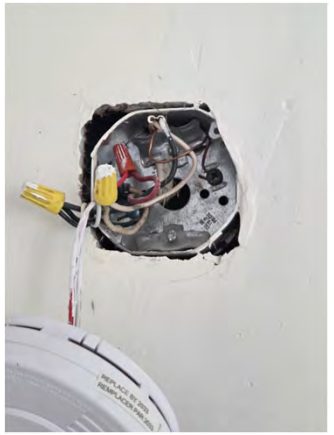


Typical Disconnect Orders by Director

- Order to Disconnect by General Manger (Statutory Director)
  - Expired Notification (Incomplete Installation)
  - Non-Compliance (code Defects, possible latent conditions)







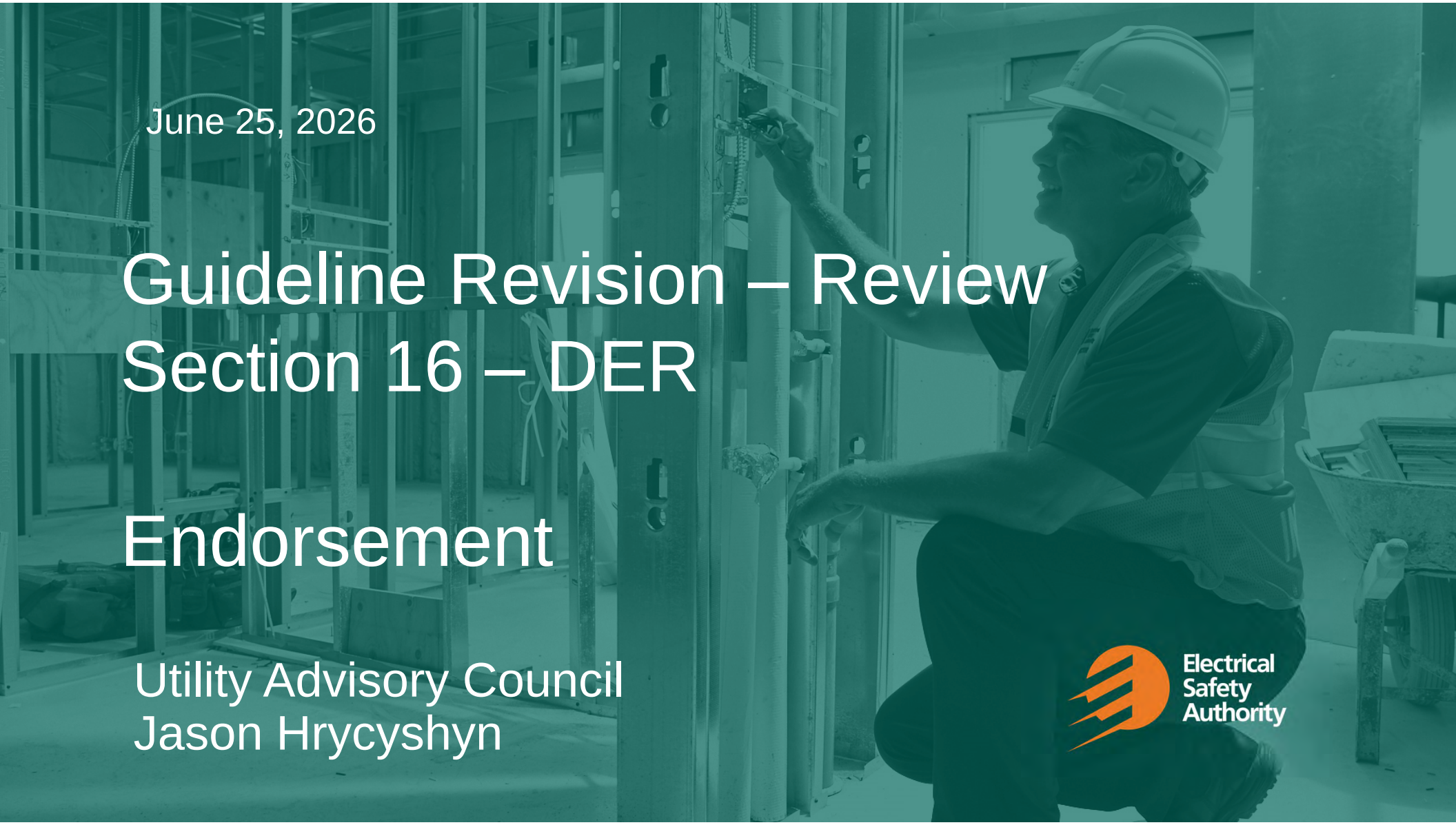
Disconnect Orders to LDC

This Disconnection Order is issued pursuant to s. 113 (11) of the *Electricity Act, 1998* and Rule 2-018 (5) of the Ontario Electrical Safety Code. This Order is **NOT** subject to the Winter Disconnect rules. Re-connection requires authorization of the Electrical Safety Authority pursuant to Rule 2-018 (6).

* After confirmation by the LDC that the power has been disconnected ESA issues a “Do Not Reconnect” reminder email to the LDC

Questions?





June 25, 2026

Guideline Revision – Review Section 16 – DER

Endorsement

Utility Advisory Council
Jason Hrycyshyn

Electrical Safety Authority

Guideline Revision – DER

Highlights

- Guideline Working Group completed the work
- ESA received no additional comments prior to this UAC
- DRAFT Guidelines & significant revisions not provided pre-meeting

- ESA is seeking UAC endorsement of the Guidelines, if achieved ESA will publish the Guidelines.

Guideline Revision – DER

Highlights

- The following Bulletins were moved into this Guideline
  - Mobile Generators - OESC and O.Reg. 22/04 Requirements (DB-12-07)
- The following Definitions were added, deleted or modified
  - “distributor-owned asset”
  - “distributed energy resource or DER”
  - “distributed energy resource system”
  - “distributed energy resource unit”
  - “interconnection system equipment (ISE)”
- Guidance on the types of Distributed Energy Resources that are deemed part of a distribution system under Regulation 22/04 updated – Changes were made to enhance clarity, no intent changes.

Guideline Revision - DER

Highlights

- Guidance on embedded equipment (i.e. ISE) associated with customer-owned DER was added.
  - Interconnection system equipment (ISE) associated with customer-owned DER, would be required to meet the requirements of the Ontario Electrical Safety Code (OESC).
- Application #8 – Title changed from Emergency Power to Temporary DER Power.
  - Bulletin on Mobile Generators - OESC and O.Reg. 22/04 Requirements (DB-12-07) moved under Application #8. Removed the maximum operating hour cap.
- Application #12 (Load Following) – Added guidance regarding ramping support for renewables under Application #12.



Contact Us

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Electrical Safety Authority

Bulletin:
Implementation Date - C22.3 No.1 & 7 - 2025 Edition

Jason Hrycyshyn
Endorsement
June 25, 2026

Implementation Date - C22.3 No.1 & 7 - 2025 Edition

Highlights

- Draft Bulletin not provided in pre-read material.
- Will replace DFN-01-26-v1.pdf created in Feb. 2026.

- For the 2025 editions of the Overhead and Underground System Standards (C22.3 No.1 and No.7), ESA supports recognizing a transition period extending to **June 2028**

Implementation Date - C22.3 No.1 & 7 - 2025 Edition

Highlights

- **Regulation 22/04 – Technical Guideline Excerpt**
- ***3.2 National Standards and Code***

  3.2.1 If distributors are going to build to National Standards or Codes what do they need to follow?

  Section 5 of the Regulation states that the safety standards are deemed to be met when the minimum requirements specified in existing National Standards or Code are adhered to. Distributors are encouraged to use the latest National Standards or Codes. Transitioning to the latest National Standards or Codes varies based on the magnitude of changes. Typically, a period of 1 year from the publication date is considered sufficient for transitioning plans and Standard Designs.

Implementation Date - C22.3 No.1 & 7 - 2025 Edition

Highlights

- Distributors are encouraged to adopt the latest National Standards and Codes, as soon as possible. ESA notes there are significant changes within the 2025 editions that alter engineering practices including standards, specifications, software, etc.
- ESA will continue to engage with industry stakeholders and provide additional guidance, where necessary, to support a safe and effective transition.

Flash Notice:
Meter Base Document Changes

Jason Hrycyshyn
Feedback
June 25, 2026

Advanced Metering Infrastructure 2.0 Meter Changeout Program

Highlights

- Flash Notice updated February 2026
- Distributor Flash Notice DFN-03-24-v2
  - Advanced Metering Infrastructure 2.0 Meter Changeout Program

- Updates ESA information regarding metering
- All ESA metering related information collected under this Flash Notice

Electrical Safety Authority

Advanced Metering Infrastructure 2.0 Meter Changeout Program

Highlights

- OESC Bulletin 10-15-* (Now available for free)
  - ESA's document for grounding and bonding of the meter base on the supply side of service boxes
    - Bulletin informs the OESC requirements of the different grounding and bonding assemblies available within the meter base
    - Sole source of information
    - Currently R9 - The Ontario Ministry of Transportation (MTO) also has R9 on their website.

Advanced Metering Infrastructure 2.0 Meter Changeout Program

Highlights

- Distributor Bulletin DB-03-24 removed
  - Contained grounding and bonding information of the meter base

- Toolbox Talk removed January 2024 removed
  - Contained grounding and bonding information of the meter base

DEMARCATION POINT GUIDE

June 2026

Standards, Quality and Policy



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CIVIL VS. ELECTRICAL DEMARCATION

Civil Demarcation (property line):

Defines the **boundaries of physical infrastructure ownership** (e.g., poles, conduits, ducts, transformer pads, hand wells).

- Toronto Hydro typically owns all **civil assets** up to the **property line** within public road allowance
- Beyond this point, any **civil structures** on private property are **owned by, paid for and maintained by the customer**

Electrical Demarcation:

Defines the **boundaries of electrical ownership and maintenance responsibility** (e.g., cables, terminators, disconnects, switchgear).

- Toronto Hydro owns and maintains all **electrical equipment** up to the **electrical demarcation point**
- Beyond this point, **the customer is responsible** for electrical infrastructure on their side

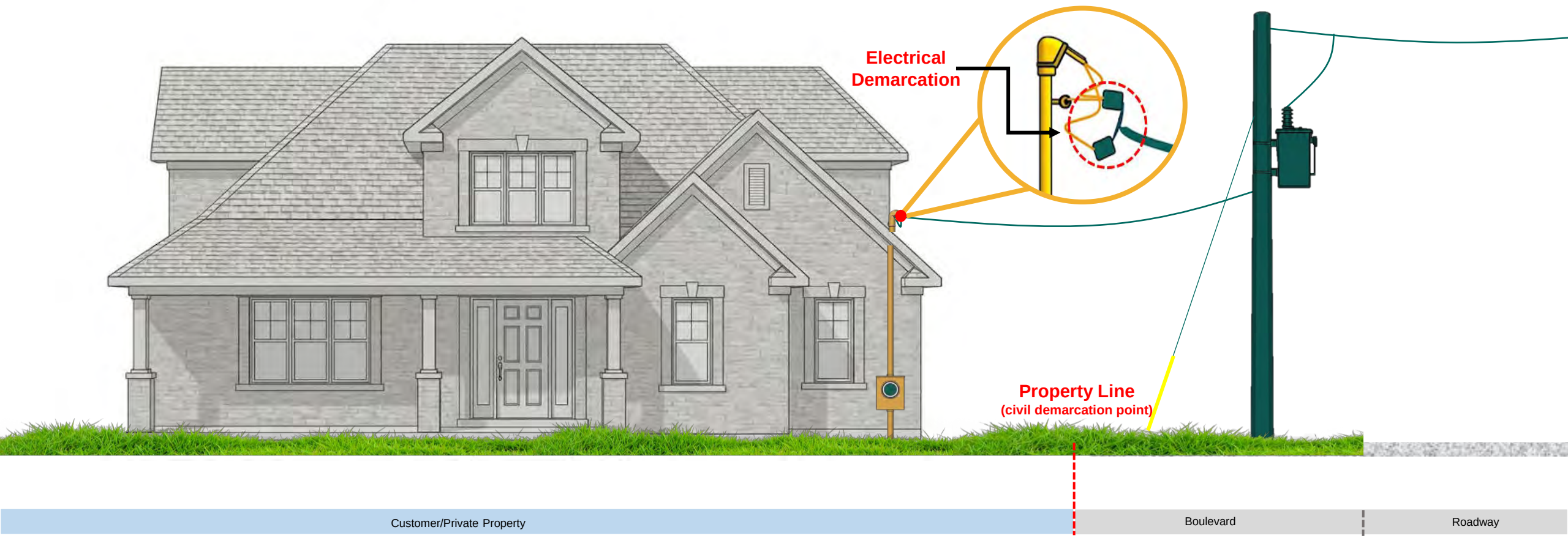
RESIDENTIAL SERVICES

Overhead & Underground Service



RESIDENTIAL SERVICES

OVERHEAD CONNECTION



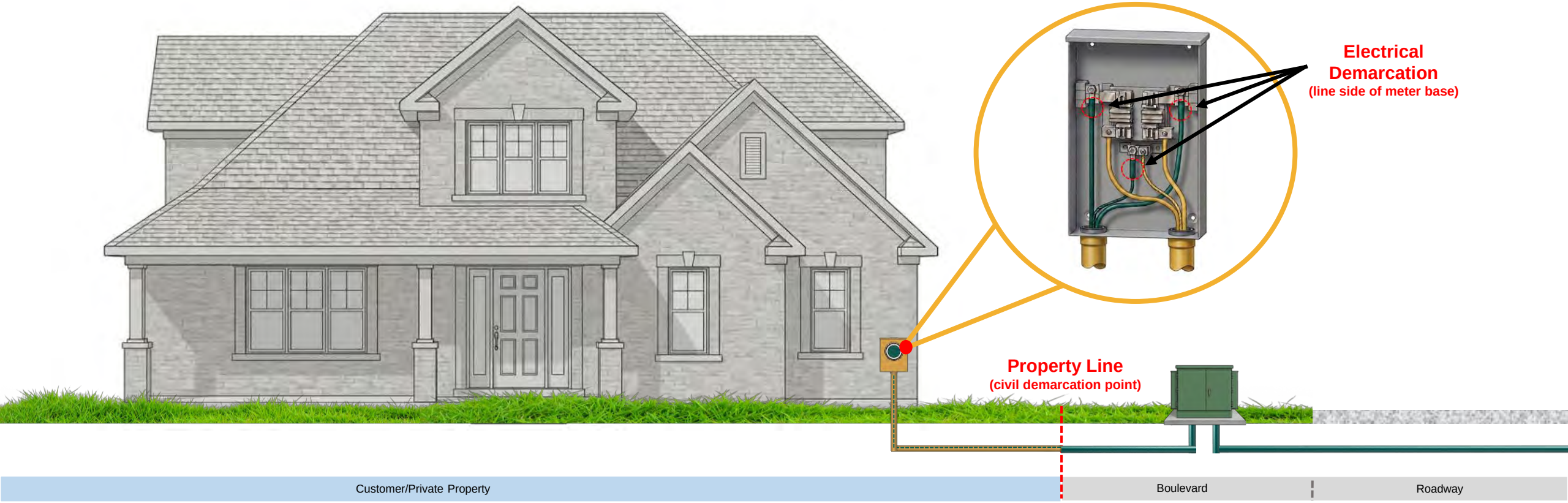
- Demarcation at top of customer's service mast
- Wiring belongs to Toronto Hydro up to the demarcation point

Toronto Hydro Assets
Customer Equipment
Demarcation Boundaries

Diagrams are for illustration purposes only

RESIDENTIAL SERVICES

UNDERGROUND CONNECTION

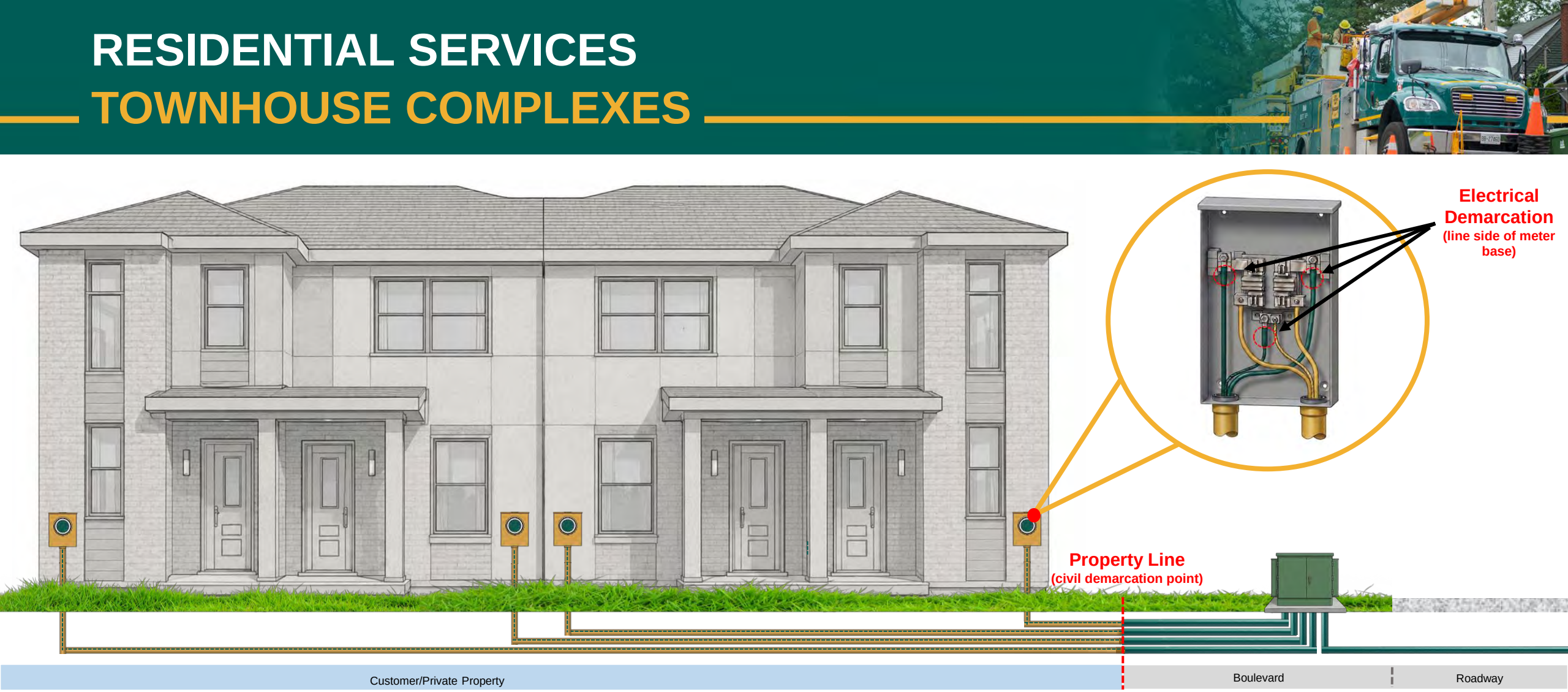


- Demarcation at line side of customer's meter base
- Transformer is **owned and maintained by Toronto Hydro**
- Conduits on customer property are **owned by, paid for and maintained by the customer**
- Wiring belongs to Toronto Hydro up to the demarcation point

- Toronto Hydro Assets
- Customer Equipment
- Demarcation Boundaries

Diagrams are for illustration purposes only

RESIDENTIAL SERVICES
TOWNHOUSE COMPLEXES



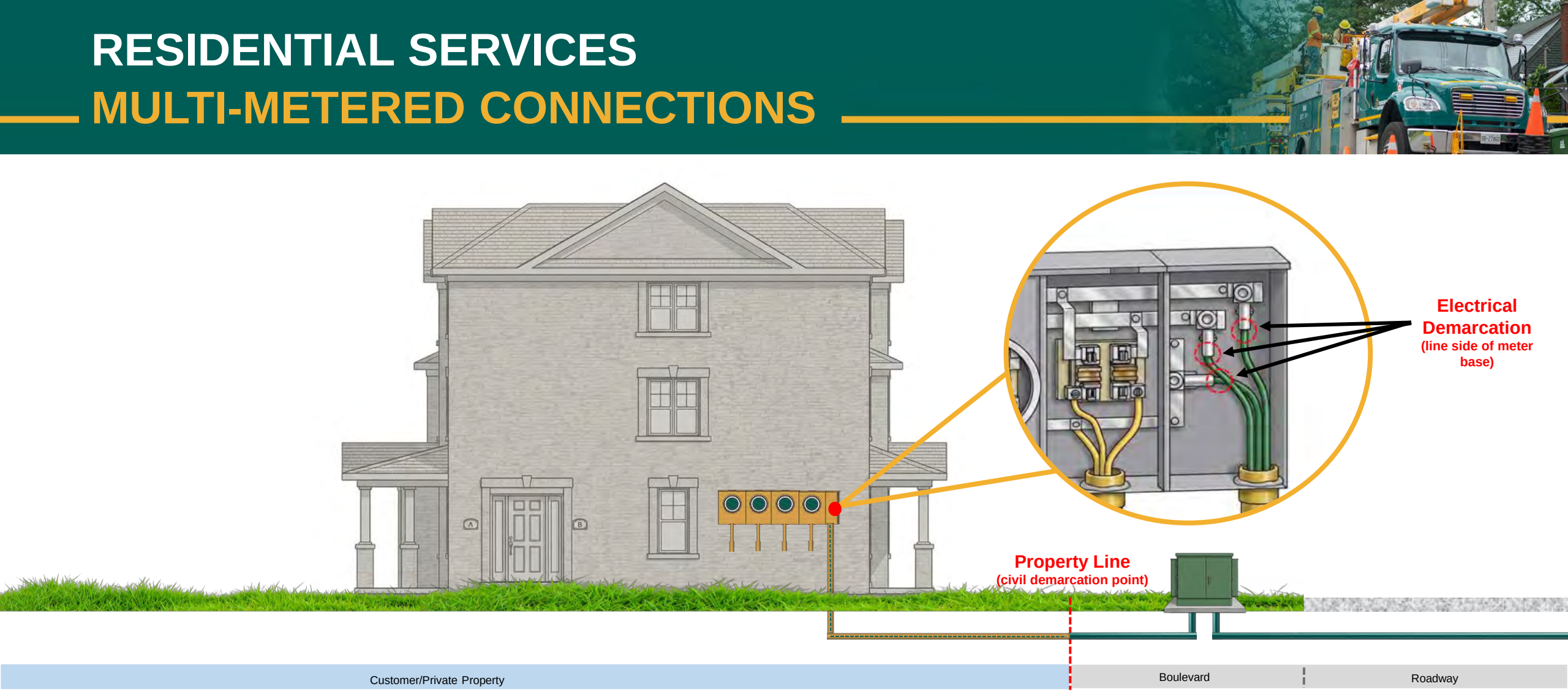
- Demarcation at line side of customer's meter base
- 120/240V secondary lines
- Conduits on customer property are **owned by, paid for and maintained by the customer**
- Toronto Hydro owns secondary cable up to the meter socket

- Toronto Hydro Assets
- Customer Equipment
- Demarcation Boundaries

Diagrams are for illustration purposes only

RESIDENTIAL SERVICES

MULTI-METERED CONNECTIONS



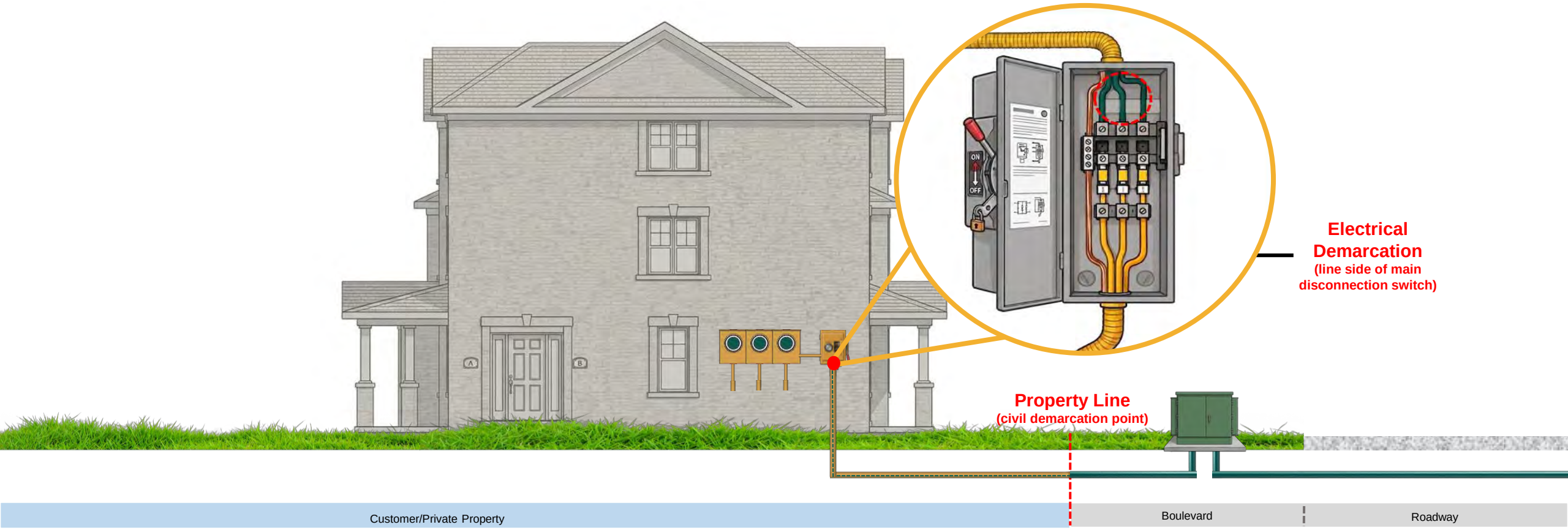
- Demarcation at line side of customer's meter base
- 120/240V secondary lines
- Conduits on customer property are **owned by, paid for and maintained by the customer**
- Toronto Hydro owns secondary cable up to the ganged meter socket

Toronto Hydro Assets
Customer Equipment
Demarcation Boundaries

Diagrams are for illustration purposes only

RESIDENTIAL SERVICES

MULTI-METERED DISCONNECT SETUP



- Demarcation at line side of customer's main disconnect switch
- 120/240V secondary lines
- Conduits on customer property are **owned by, paid for and maintained by the customer**
- Toronto Hydro owns secondary cable up to the main disconnect switch

Toronto Hydro Assets
Customer Equipment
Demarcation Boundaries

Diagrams are for illustration purposes only

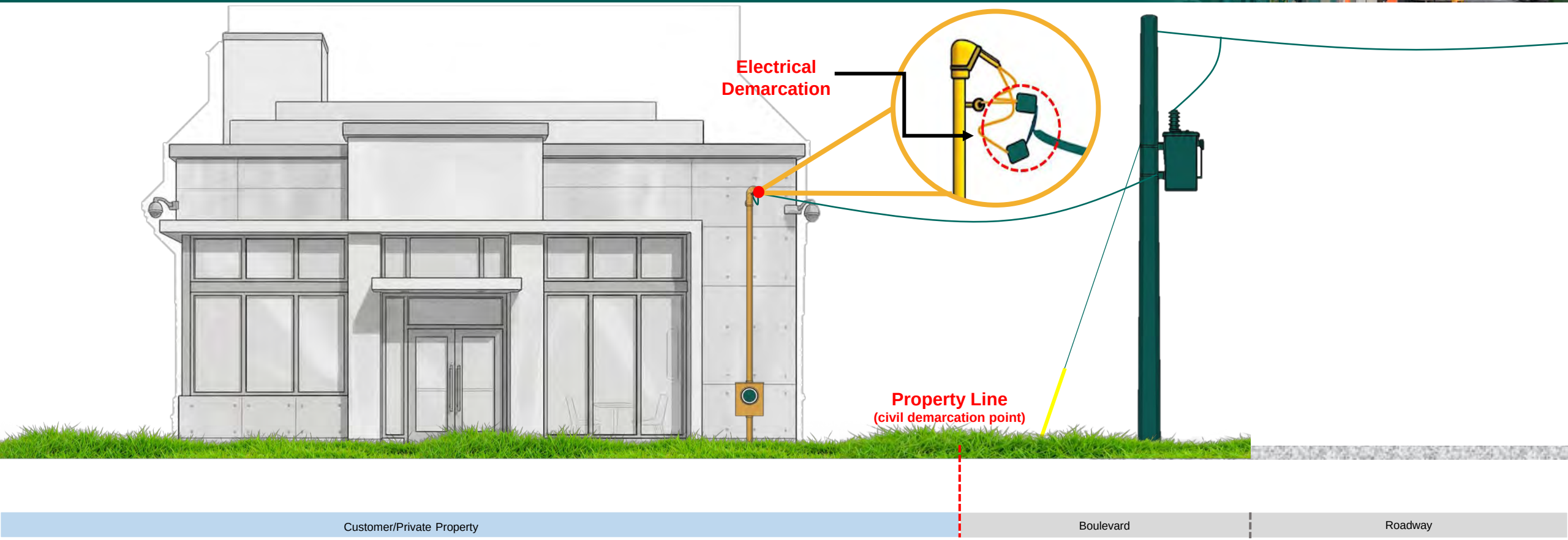
OVERHEAD SERVICE

Pole-Mount Transformers



DEMARCATIONS OF OVERHEAD TRANSFORMERS

PUBLIC ROAD ALLOWANCE



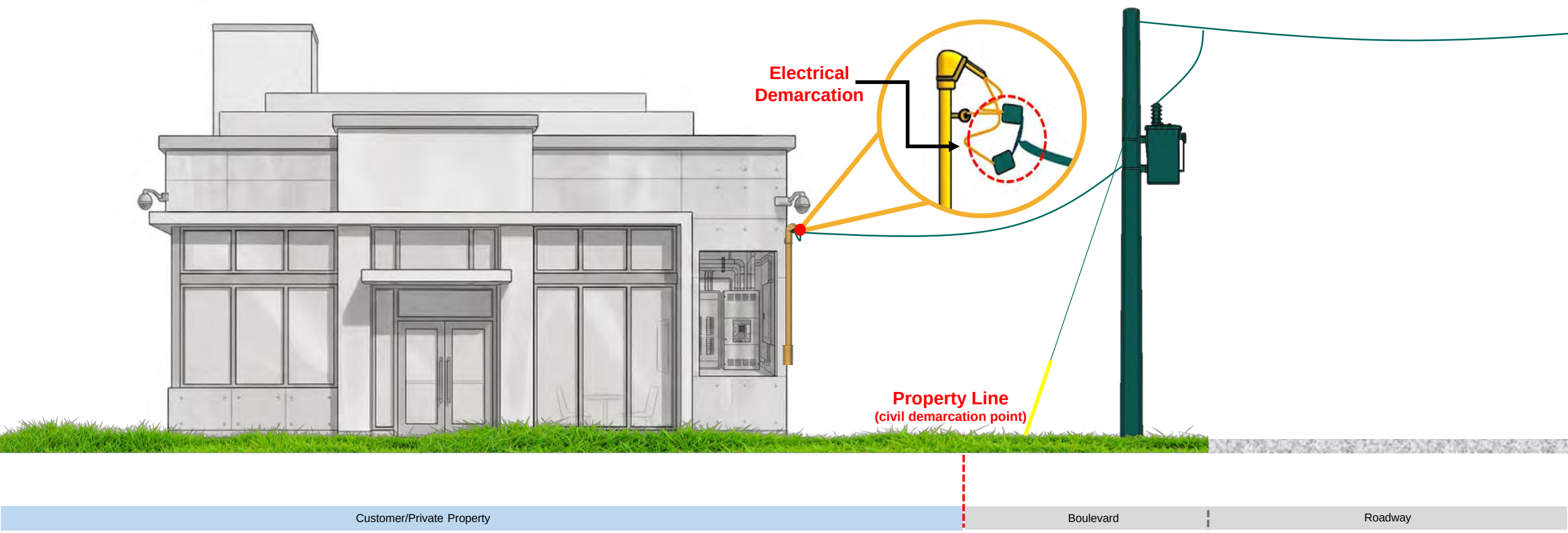
- Demarcation at top of customer's service mast
- Wiring belongs to Toronto Hydro up to the demarcation point

- Toronto Hydro Assets
- Customer Equipment
- Demarcation Boundaries

Diagrams are for illustration purposes only

DEMARCATIONS OF OVERHEAD TRANSFORMERS

PUBLIC ROAD ALLOWANCE



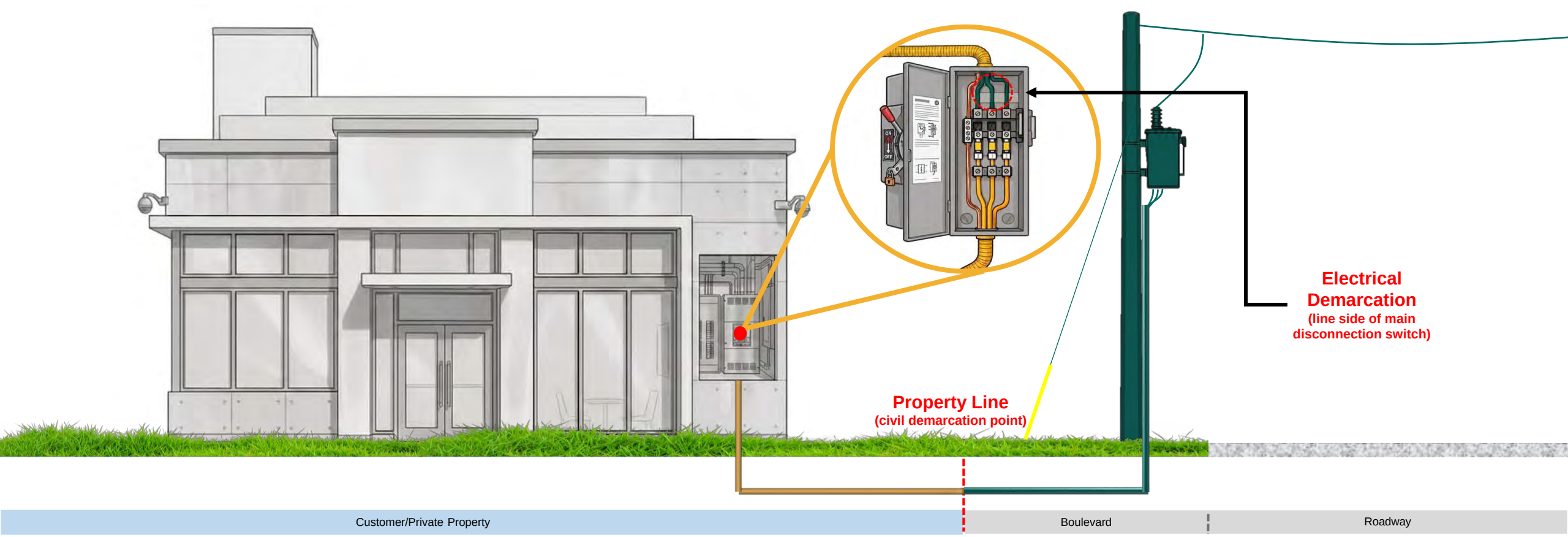
- Demarcation at top of customer's service mast
- Wiring belongs to Toronto Hydro up to the demarcation point
- Toronto Hydro meter located in customer's indoor electrical room

- Toronto Hydro Assets
- Customer Equipment
- Demarcation Boundaries

Diagrams are for illustration purposes only

DEMARCATIONS OF OVERHEAD TRANSFORMERS

PUBLIC ROAD ALLOWANCE



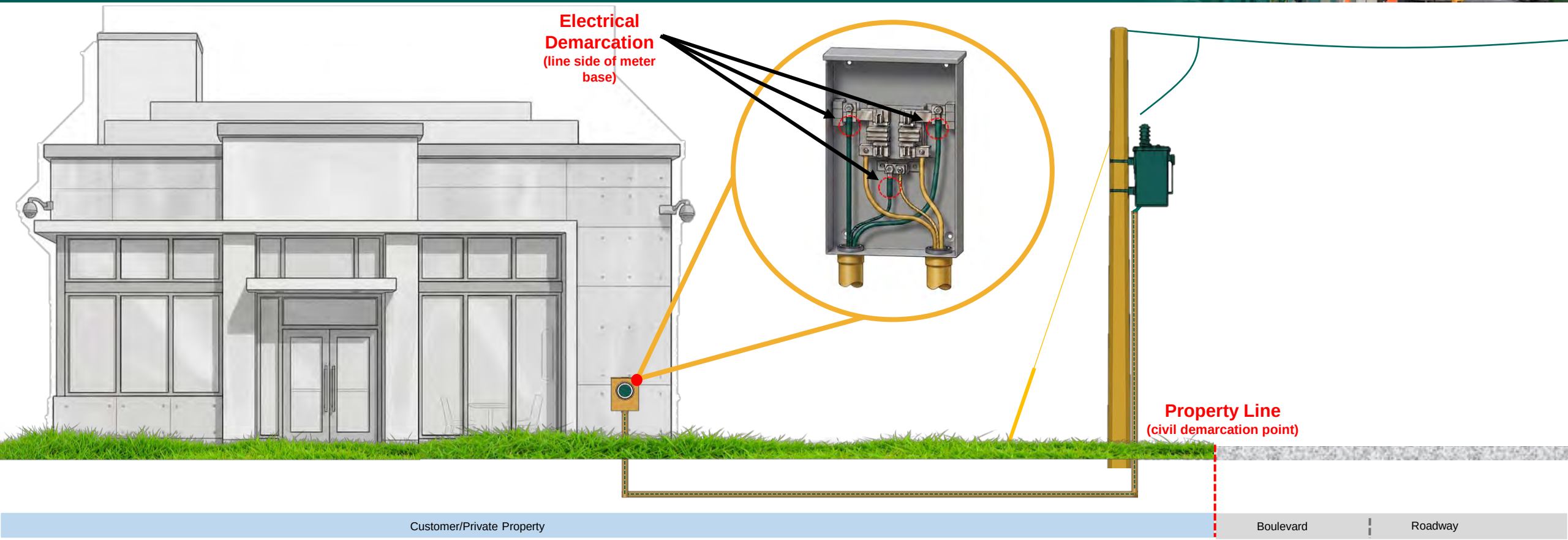
- Demarcation at line side of customer's main disconnect switch
- Conduits on customer property are **owned by, pad for and maintained by the customer**
- Toronto Hydro owns secondary cable up to the main disconnect switch
- Toronto Hydro meter located in customer's indoor electrical room

- Toronto Hydro Assets
- Customer Equipment
- Demarcation Boundaries

Diagrams are for illustration purposes only

DEMARCATIONS OF OVERHEAD TRANSFORMERS

PRIVATE PROPERTY



- Demarcation at line side of customer's meter base; or line side of customer's main disconnect switch
- Pole & conduits on customer's property is **owned by, paid for and maintained by the customer**
- **Note:** This configuration represents an uncommon installation in Toronto Hydro's service territory

- Toronto Hydro Assets
- Customer Equipment
- Demarcation Boundaries

Diagrams are for illustration purposes only

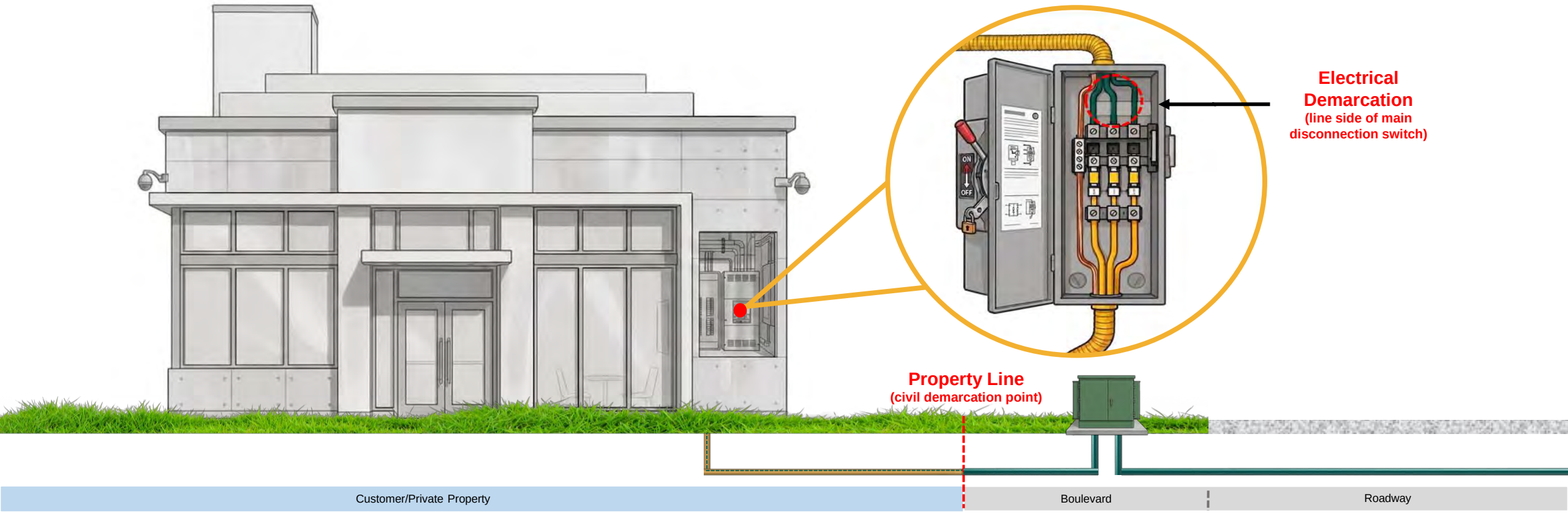
UNDERGROUND SERVICE

Pad-Mount Transformers



DEMARCATIONS FOR PAD-MOUNT TRANSFORMERS

PUBLIC ROAD ALLOWANCE



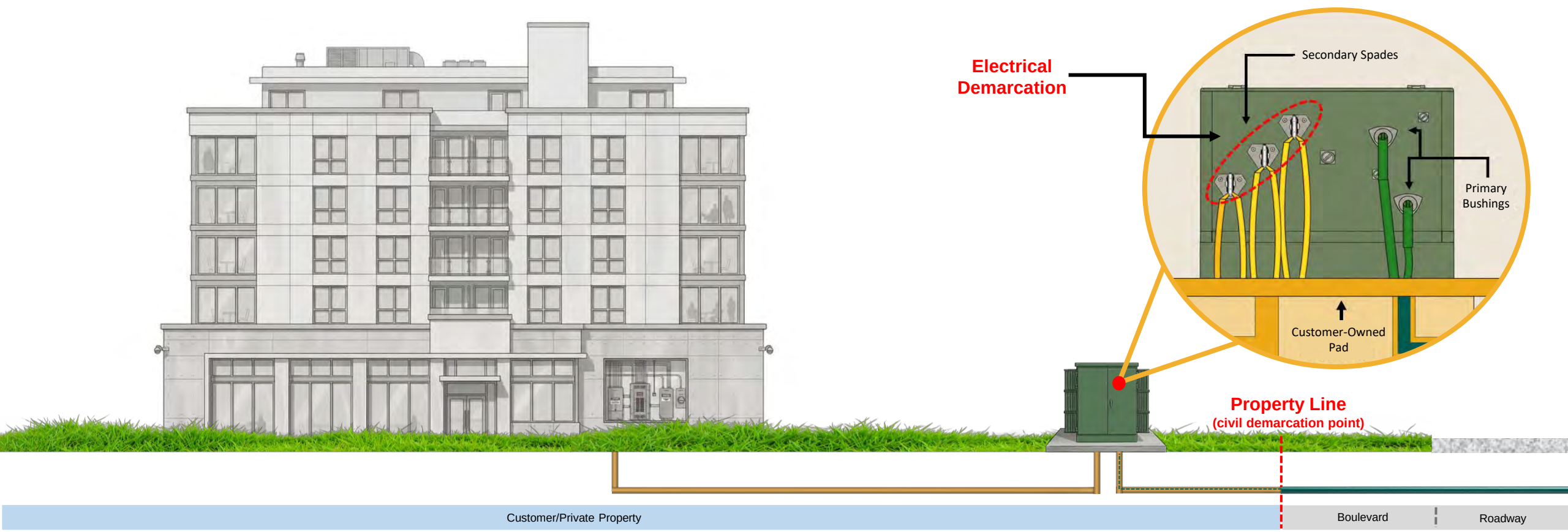
- Demarcation at line side of customer's main disconnect switch
- Transformer is **owned and maintained by Toronto Hydro**
- Conduits on customer property are **owned by, paid for and maintained by the customer**
- Wiring belongs to Toronto Hydro up to the demarcation point

- Toronto Hydro Assets
- Customer Equipment
- Demarcation Boundaries

Diagrams are for illustration purposes only

DEMARCATIONS FOR PAD-MOUNT TRANSFORMERS

PRIVATE PROPERTY



- Demarcation at **secondary spades** of pad-mount transformer
- Conduits on customer property are **owned by, paid for and maintained by the customer**
- Downstream wiring of the electrical demarcation are **customer-owned, customer-paid and customer-maintained**
- Transformer is **owned by Toronto Hydro;** concrete paid is **owned by the customer**

- Toronto Hydro Assets
- Customer Equipment
- Demarcation Boundaries

Diagrams are for illustration purposes only

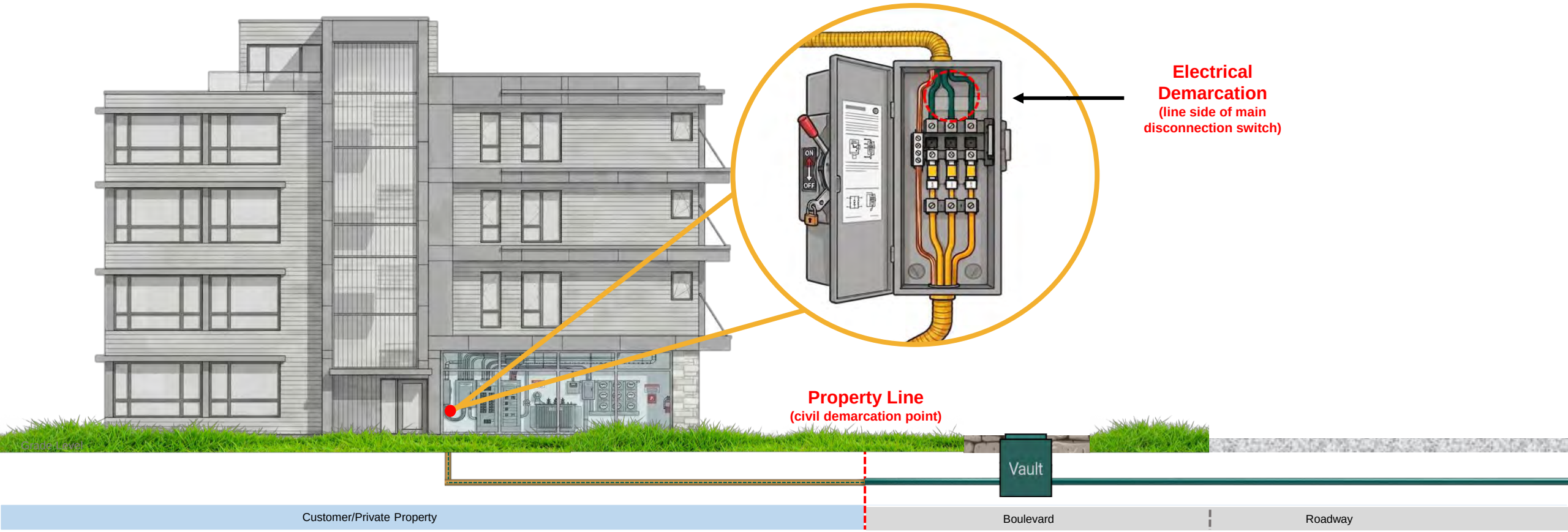
UNDERGROUND SERVICE

Vault Transformers



DEMARCATIONS FOR VAULT TRANSFORMERS

PUBLIC ROAD ALLOWANCE



- Demarcation at line side of customer's main bus; or line side of customer's main disconnect switch
- Conduits on customer property are **owned by, paid for and maintained by the customer**
- Wiring belongs to Toronto Hydro up to demarcation point

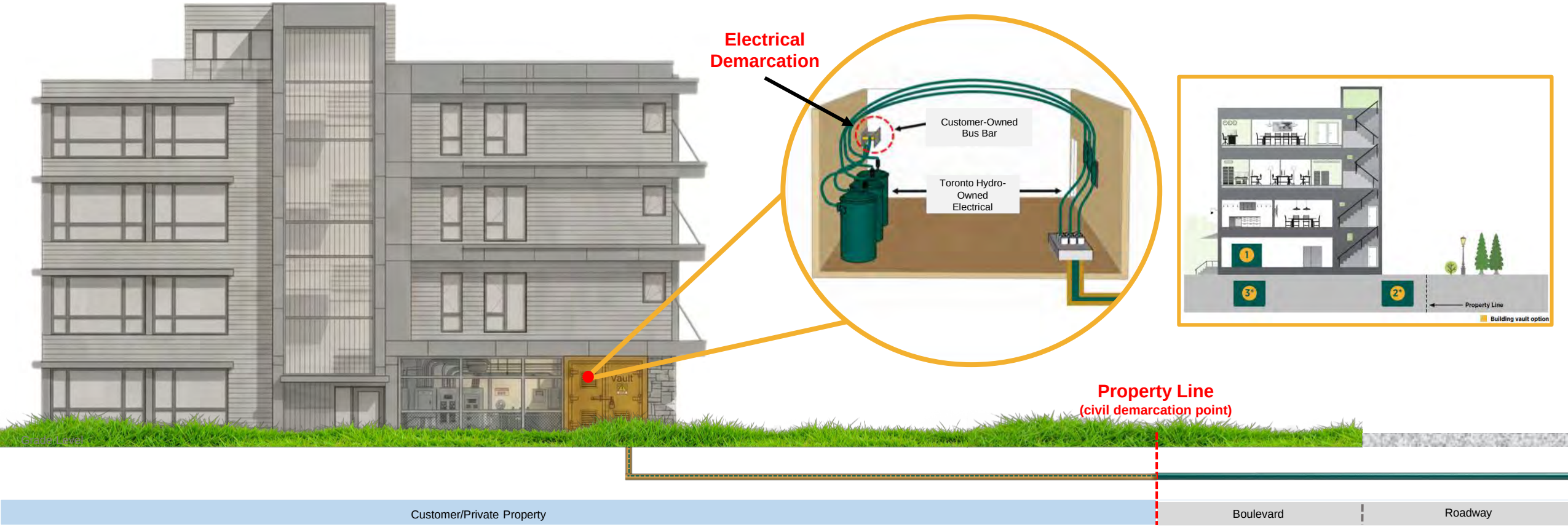
- Toronto Hydro Assets
- Customer Equipment
- Demarcation Boundaries

Diagrams are for illustration purposes only

DEMARCATIONS FOR VAULT TRANSFORMERS

PRIVATE PROPERTY





- Demarcation at line side of customer's main bus; or line side of customer's main disconnect switch
- Conduits on customer property are **owned by, paid for and maintained by the customer**
- Wiring belongs to Toronto Hydro up to demarcation point

- Toronto Hydro Assets
- Customer Equipment
- Demarcation Boundaries

Diagrams are for illustration purposes only

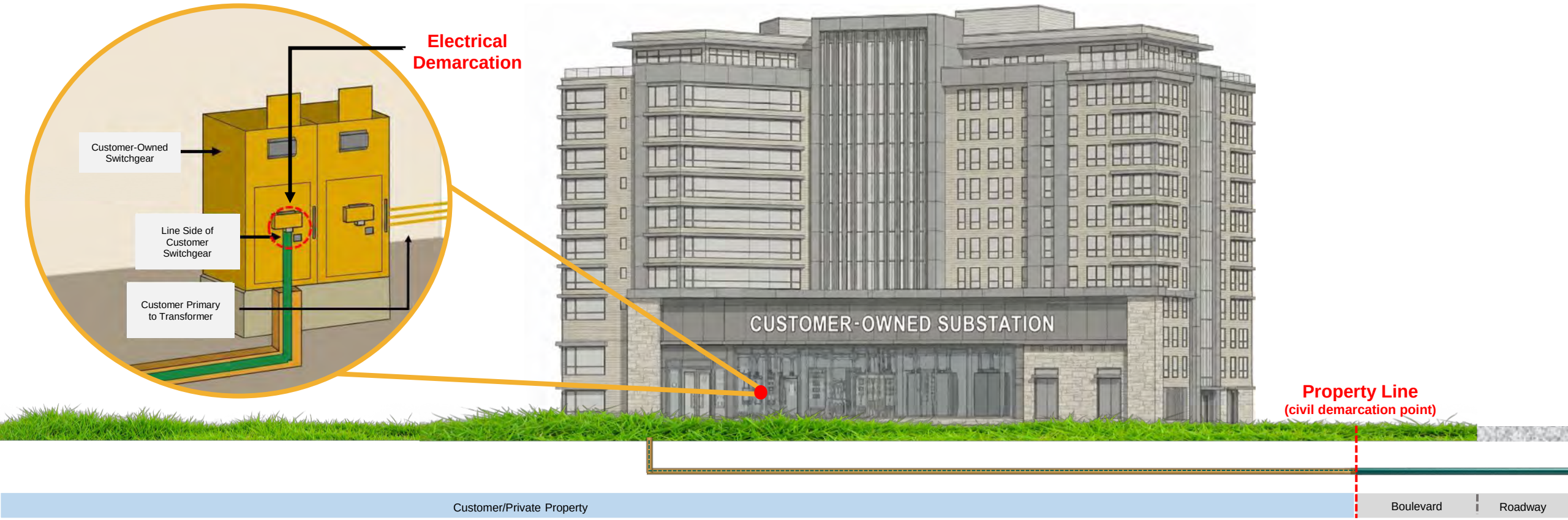
CUSTOMER-OWNED SUBSTATION

Indoor Substation



CUSTOMER-OWNED SUBSTATION
PRIVATE PROPERTY





- Primary terminations at line side of customer's high-voltage switchgear
- Conduits on property are **owned by, paid for and maintained by the customer**
- Wiring belongs to Toronto Hydro up to demarcation point

- Toronto Hydro Assets
- Customer Equipment
- Demarcation Boundaries

Diagrams are for illustration purposes only

TORONTO HYDRO
REFERENCES

Service Connection Demarcation Points



REFERENCES
SERVICE DEMARCATION POINTS



Toronto Hydro's Conditions of Service outline the electrical and civil ownership demarcation points in its appendix, organized by customer class/type.

Access our Conditions of Service: **torontohydro.com/conditionsofservice**

Rate/Customer Class	Electrical Ownership Demarcation Point	Civil Ownership Demarcation Point
Class 1 **Residential – Single Service**		
Overhead	Top of customer's service mast	The customer owns all civil infrastructure on private property and is responsible for all construction, installation and maintenance.
Underground (Does not require transformation facilities on private property)	• Line side of customer's meter base; or • Line side of customer's main disconnect switch.	
Class 2 **General Service 0 < 50 kW – Single Service**		
Overhead	Top of customer's service mast	The customer owns all civil infrastructure on private property and is responsible for all construction, installation and maintenance.
Underground (Does not require transformation facilities on private property)	Line side of customer's main disconnect switch	

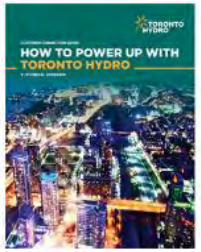
REFERENCES

CUSTOMER CONNECTION GUIDES



General technical overview

Our technical overview guide gives a comprehensive overview of everything you need to know in the early planning and development stages of a project — before you begin the formal connection process.



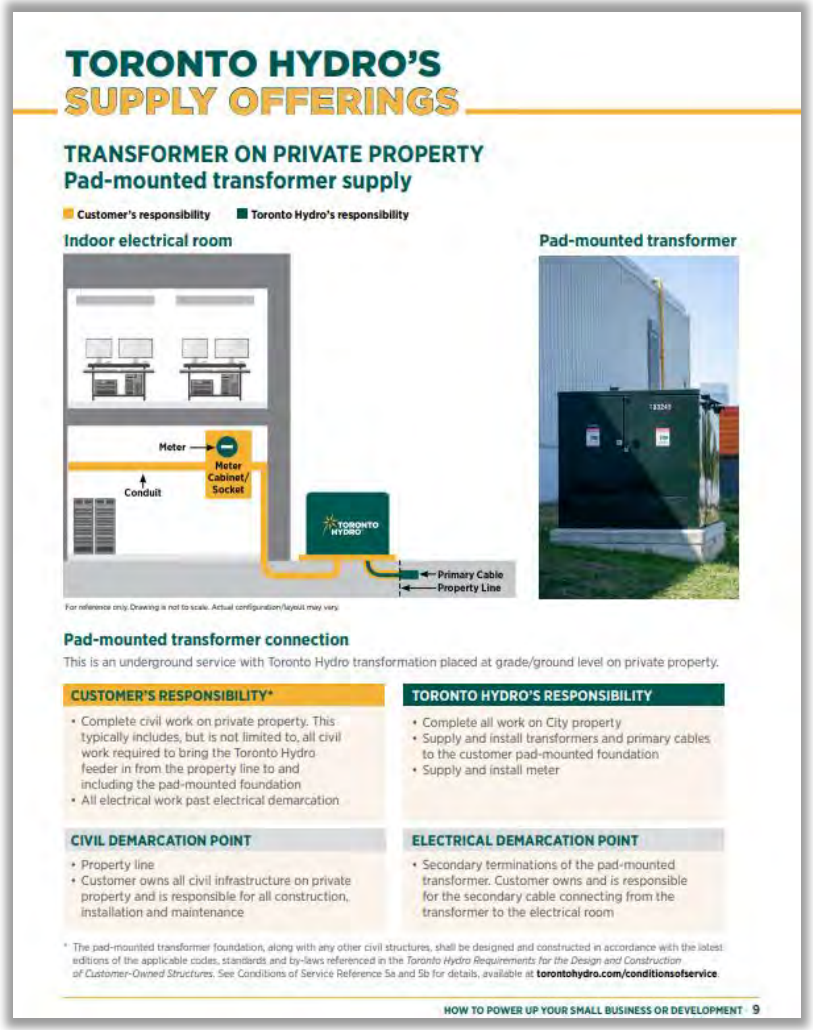
How to Power Up with Toronto Hydro: A Technical Overview (PDF, 3.4 MB): A general overview of the Ontario electricity sector structure and Toronto Hydro's connection procedures

Find the right guide for your connection type

Choose the guide that best matches your needs for step-by-step support.



- **How to Power Up Your Home (PDF, 893 KB)** : Electricity services for single family dwellings, townhomes or semi-detached homes
- **How to Power Up Your Small Business or Development (PDF, 3.3 MB)**: Electricity services for low-rise condominiums, small commercial and industrial/subdivisions
- **How to Power Up Your Medium or Large Development (PDF, 1.4 MB)**: Electricity services for condominiums, office towers or industrial
- **How to Power Up Your Project (PDF, 2.3 MB)**: Electricity services for construction sites, special events or major renovations



TORONTO HYDRO'S
SUPPLY OFFERINGS

TRANSFORMER ON PRIVATE PROPERTY
Pad-mounted transformer supply

Customer's responsibility Toronto Hydro's responsibility

Indoor electrical room

Pad-mounted transformer

Pad-mounted transformer connection

This is an underground service with Toronto Hydro transformation placed at grade/ground level on private property.

CUSTOMER'S RESPONSIBILITY*

- Complete civil work on private property. This typically includes, but is not limited to, all civil work required to bring the Toronto Hydro feeder in from the property line to and including the pad-mounted foundation
- All electrical work past electrical demarcation

TORONTO HYDRO'S RESPONSIBILITY

- Complete all work on City property
- Supply and install transformers and primary cables to the customer pad-mounted foundation
- Supply and install meter

CIVIL DEMARCATION POINT

- Property line
- Customer owns all civil infrastructure on private property and is responsible for all construction, installation and maintenance

ELECTRICAL DEMARCATION POINT

- Secondary terminations of the pad-mounted transformer. Customer owns and is responsible for the secondary cable connecting from the transformer to the electrical room

* The pad-mounted transformer foundation, along with any other civil structures, shall be designed and constructed in accordance with the latest editions of the applicable codes, standards and by-laws referenced in the *Toronto Hydro Requirements for the Design and Construction of Customer-Owned Structures*. See Conditions of Service Reference 5a and 5b for details, available at **torontohydro.com/conditionsofservice**.

HOW TO POWER UP YOUR SMALL BUSINESS OR DEVELOPMENT | 9

Toronto Hydro has customer-friendly guides available to better illustrate the demarcation points and responsibilities.

Access our Customer Connection Guides **here**.



June 25, 2026

3-Phase 3-Wire Solidly-Grounded Wye Customer Services

Update

Utility Advisory Council
Jason Hrycyshyn

Electrical Safety Authority

3-Phase 3-Wire Solidly-Grounded Wye Customer Services

FLASH NOTICE #1	October 2025	February 2026	June 2026
Number of Possible Configuration of Concerns	Number of Possible Configuration of Concerns	Number of Possible Configuration of Concerns	Number of Possible Configuration of Concerns
~15,000	256	153	134
Number of LDCs without a Possible Configuration of Concern	Number of LDCs without a Possible Configuration of Concern	Number of LDCs without a Possible Configuration of Concern	Number of LDCs without a Possible Configuration of Concern
12	50	51	51



Contact Us

Electrical Safety Authority
155 Matheson Blvd. West
Mississauga, ON L5R 3L5
Utility.Regulations@electricalsafety.on.ca

Visit our website: esasafe.com
Visit us on social media:

@homeandsafety

@ElectricalSafetyAuthority

Electrical Safety Authority

Incidents

Patrick Falzon
Information
June 25, 2026

Incidents

- Member of the public received shock and arc flash burns and was airlifted to the hospital
  - 13.8kV contact
- Person appears to be living/ storing personal belongings inside the enclosure housing Distributor owned transformer
  - Block wall providing security for enclosure
  - Enclosure had 4 doors
  - 2 of the 4 padlocks were found defeated

Incidents



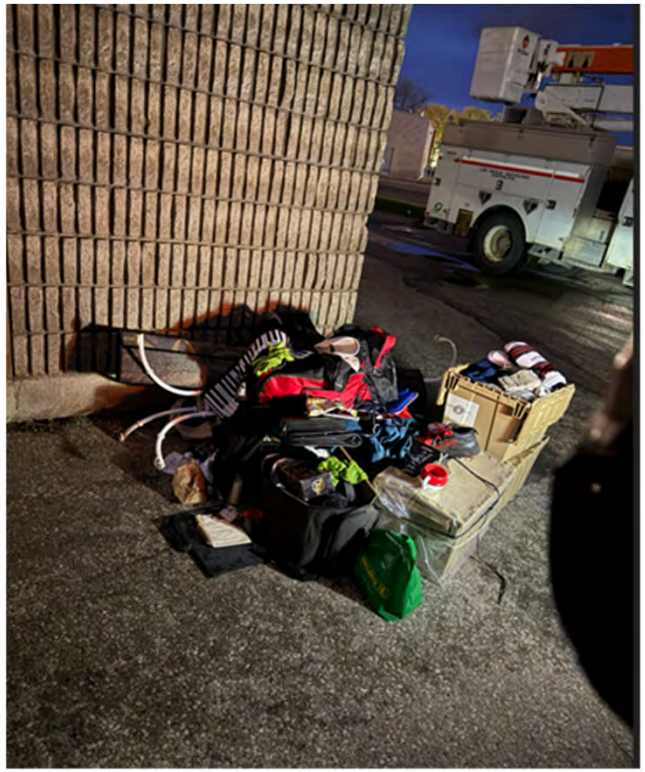


Electrical Safety Authority

Incidents







Electrical Safety Authority

Incidents

- Similar incidents have occurred in the past where individuals accessed restricted areas such as transformer vaults
  - Some resulting in fatalities
- Examples includes:
  - Cutting locks
  - Equipment and doors not being tamper resistant





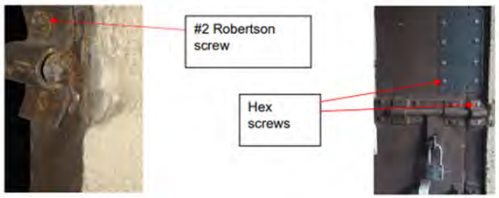
Electrical Safety Authority

Distributor Bulletin

Vault Access

Background

The ESA has received reports of serious injuries or fatalities in respect to members of the public performing illegal acts to obtain copper by accessing transformer vaults housing Electrical Distributor owned equipment, by removing the sliding bolt fasteners with the use of common tools while a lock was in place.



ESA Direction

The following requirements for vault doors in the current CSA 22.3 No.7-**20** Underground Systems states:

9.7 Vault doors, subsurface box covers, and subsurface chamber covers
9.7.1 *Subsurface box and chamber covers shall be designed or restrained so that they will not fall into subsurface chambers and boxes or protrude far enough to contact cables or equipment. Covers shall be over 45 kg (100 lb) or otherwise be tamper-resistant. Vault doors shall be tamper-resistant.*

Tamper-resistant *— the state in which, in any normal operating condition, contact with live parts cannot be made either directly or by means of any conductive material, with or without the use of such common tools as might be accessible to children. It does not imply proof against any deliberate actions of adults and children.*

Although tamper-resistant requirements for vault doors were not considered in CSA 22.3 No.7-**15** Underground Systems as enforced under Ont. Reg. 22/04 Section 5(3),

May 12, 2021 1 of 2 **Bulletin DB-02-21-v1**

Provincial Office: 155A Matheson Blvd. West, Suite 200, Mississauga, Ontario L5R 3L5
Website: https://esasafe.com E-Mail: Utility.Regulations@ElectricalSafety.on.ca

Electrical Safety Authority

Incidents

- Farm equipment chute caught up into the powerlines
- Young worker who was in the truck following the farm equipment exited vehicle and grabbed the farm equipment while standing on the ground
  - Lost hand and foot

