



Hamilton

A-24:109 – 64 Main Street East, Hamilton

Recommendation:

Table

Proposed Conditions:

1. The Owner must provide the minimum of six (6) accessible parking spaces along with the minimum visitor parking spaces as per zoning by-law 05-200 (To the satisfaction of the Manager of Transportation Planning).

Proposed Notes:

“Caution: Notwithstanding current surface conditions, the property has been determined to be an area of archaeological potential. Although an archaeological assessment is not required by the City of Hamilton, the proponent is cautioned that during development activities, should deeply buried archaeological materials be found on the property the Ontario Ministry of Citizenship and Multiculturalism (MCM) should be notified immediately (416-212-8886). In the event that human remains are encountered during construction, the proponent should immediately contact both MCM and the Registrar or Deputy Registrar of the Cemeteries Regulation Unit of the Ministry of Government and Consumer Services (416-212-7499).”



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Development Planning:

Background

To facilitate the construction of a 19 storey multiple dwelling containing a total of 272 dwelling units and commercial space.

Staff note this Minor Variance application is to facilitate Site Plan application DA-17-064, which received conditional approval on September 7, 2017. Related Minor Variance application HM/A-17:106 was approved on August 10, 2017.

Analysis

Urban Hamilton Official Plan

The subject lands are identified as “Downtown Urban Growth Centre” in Schedule E – Urban Structure and are designated “Downtown Mixed Use Area” in Schedule E-1 – Urban Land Use Designations of the Urban Hamilton Official Plan. Policies E.2.3.1.6 and E.4.4.4, amongst others, are applicable and permit the proposed multiple dwelling and commercial uses.

Development Planning staff defer to Cultural Heritage staff regarding the proposal’s conformity to the Cultural Heritage policies of the Urban Hamilton Official Plan and Downtown Hamilton Secondary Plan.

Downtown Hamilton Secondary Plan

The subject lands are designated “Downtown Mixed Use” on Land Use Plan Map B.6.1-1 and are identified as “Low Rise 2” on Maximum Building Heights Map B.6.1-2 of the Downtown Hamilton Secondary Plan. Policies, B.6.1.3.1, B.6.1.4.12, B.6.1.4.16, B.6.1.4.32, B.6.1.4.33, B.6.1.4.37 and B.6.1.6.1 amongst others, are applicable and permit the proposed multiple dwelling and commercial uses.

Policy B.6.1.4.16 states:

“6.1.4.16 For lands identified as Low-rise 2 on Map B.6.1.2 – Downtown Hamilton Building Heights, increases in height to a maximum of 12 storeys (mid-rise), may be permitted without an amendment to this Plan, subject to the following:

a) meeting the principles, objectives and policies of this Plan, in particular, Policy B.6.1.4.14 and Policies B.6.1.4.31 through B.6.1.4.39;

b) demonstrating how the proposed building and site design relate to and is compatible with the existing and/or planned context of the area;



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- c) demonstrating how the proposed building and site relate to topography, the Niagara Escarpment, and other buildings in the area;*
- d) demonstrating how any impacts on streetscapes and views of streetscapes, landmark structures or cultural heritage resources from public sidewalks or public spaces will be mitigated;*
- e) demonstrating how the proposed development mitigates impacts to on-site or adjacent cultural heritage resources; and,*
- f) in order to demonstrate the considerations listed above, proponents may be required to submit all of the following studies, in addition to any other studies identified as part of the Formal Consultation required under Section F – Implementation of Volume 1, as part of a development application:*
- i) Shadow Impact Study;*
 - ii) Pedestrian Wind Impact Study;*
 - iii) Visual Impact Assessment;*
 - iv) Transportation Studies, including, but not limited to: 1. Transportation Impact Study; 2. Cycling Route Analysis; 3. Pedestrian Route and Sidewalk Analysis; 4. Neighbourhood Traffic Calming Options Report; 5. Transit Assessment; and, 6. Transportation Demand Management Options Report.*
 - v) Infrastructure and Servicing Study;*
 - vi) Cultural Heritage Impact Assessment;*
 - vii) Urban Design Brief; and,*
 - viii) Planning Justification Report.”*

Policy B.6.1.4.33 states:

“6.1.4.33 Development shall be required to provide transition in scale, within the development site, as a result of any of the following:

- a) the development is of greater intensity and scale than the adjacent existing scale, or where appropriate, the planned built form context;*



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b) the development is adjacent to a cultural heritage resource or a cultural heritage landscape; or,

c) the development is adjacent to existing or planned parks, or open spaces.

Policy B.6.1.4.37 states:

“6.1.4.37 Downtown Hamilton contains a number of primary gathering spaces where civic life occurs. The quality, image, and amenity of these spaces strongly affect how people perceive the Downtown. Notwithstanding Policy B.6.1.4.35 and Policy B.6.1.4.36, development shall not cast any net new shadow between 10:00 a.m. and 4:00 p.m. as measured from March 21st to September 21st on the following parks, squares, plazas and open spaces areas that serve as Downtown’s key civic gathering spaces:

a) Gore Park;

b) Prince’s Square (50 Main Street East);

c) Hamilton City Hall Forecourt (71 Main Street West);

d) Whitehern Museum (41 Jackson Street West); and,

e) Ferguson Station (244, 248 King Street East)”.

Based upon the above, staff request that this application be tabled to provide additional time for staff to discuss the proposal with the Applicant.

Corktown Neighbourhood Plan

The subject lands are identified as “Commercial” on Map 6702 within the Corktown Neighbourhood Plan.

Archaeology

No comment.

Cultural Heritage

No comment.

City of Hamilton Zoning By-law No. 05-200

The subject lands are zoned Downtown Central Business District (D1) Zone in City of Hamilton Zoning By-law No. 05-200. The proposed mixed-use development consisting of a multiple dwelling and commercial space is a permitted use.



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Variations 1 and 2

1. No setbacks shall be permitted to be maintained whereas the Zoning By-law requires a setback of 3.0 metres from a side or rear lot line except any flankage lot line for a building exceeding 22.0 m in height.
2. No setbacks shall be permitted to be maintained whereas the Zoning By-law requires a setback of 9.5 metres from a lot line abutting a laneway and a setback of 12.5 metres from all side and rear lot lines except for a flankage lot line for a building exceeding 44.0 metres in height.

The intent of this provision is to establish a sufficient transition in scale between high or mid-rise buildings and neighbouring low-rise buildings to minimize potential negative impacts, for example shadowing, wind, overlook.

Variance 3

3. A minimum lot area of 1,100 square metres shall be permitted instead of the minimum 1,575 square metre lot area required.

The intent of this provision is to ensure lots are of a sufficient size to support development.

Variance 4

4. A maximum building height of 59.0 metres shall be permitted instead of the maximum 54.0 metre building height permitted.

The intent of this provision is to minimize the impact of tall buildings in terms of shadowing on neighbouring properties and visual impacts on the surrounding area, notably in relation to the height of the Niagara Escarpment and shadowing on primary gathering spaces such as Prince's Square.

Variance 5

5. No visual barrier shall be permitted to be maintained for the loading door accessed from Bowen Street line whereas the Zoning By-law requires that screening from view by a visual barrier is provided when abutting a street.

The intent of these provisions is to prevent an accessory structure or use on a property without a principle use or structure and to ensure that sufficient space is maintained between the lot line and accessory structures for stormwater drainage, maintenance and access purposes.



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Variations 6 and 7

- 6. A minimum of 74 parking spaces shall be permitted instead of the minimum 108 parking spaces required.
- 7. A minimum of 132 long-term bicycle parking spaces shall be permitted instead of the minimum 136 long-term bicycle parking spaces required.

The intent of these provisions is to ensure adequate vehicular and long-term bicycle parking is provided on-site.

Variations 8 to 10 (By-law No. 24-052 [Not Final and Binding])

- 8. A minimum of four accessible parking spaces shall be permitted instead of the minimum six accessible parking spaces required.
- 9. A minimum of 16 short-term bicycle parking spaces shall be permitted instead of the minimum 27 short-term bicycle parking spaces required.
- 10. A minimum of 132 long-term bicycle parking spaces shall be permitted instead of the minimum 190 long-term bicycle parking spaces required.

The intent of these provisions is to ensure adequate accessible vehicular parking is provided on-site and to ensure sufficient bicycle parking spaces, both short and long-term, are provided on-site to encourage active transportation as an alternative to private vehicular transportation within Downtown Hamilton.

Staff are requesting that the application be tabled at this time in order to provide an opportunity for staff to discuss the proposal with the Applicant to determine if the requested variations meet the four tests of a minor variance. Based on the foregoing, **staff recommend tabling.**

Zoning:

Recommendation:	Comments Only
Proposed Conditions:	
Comments:	<ul style="list-style-type: none"> • These variations are necessary to facilitate Site Plan Control Application DA-17-064.



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	<ul style="list-style-type: none"> • If a portion of the underground parking lot projects off site and into the proposed road Widening along Main St E., further variance shall be required. • No Electric Vehicle (EV) parking spaces have been visually shown or identified on the submitted plans and further variances may be required. Please note that the zoning By-law 24-052 requires 100% of the resident parking to be provided as EV parking. The site contains a total of 74 parking spaces which appear to be allocated for resident parking only. • A Corridor Development Permit is required from Metrolinx to construct any buildings, structure, road, utility infrastructure, or to conduct any excavation, dewatering or other Prescribed Work pursuant to the Building Transit Faster Act and its Regulation.
Proposed Notes:	

Natural Heritage:

Recommendation:	No comments.
Proposed Conditions:	
Comments:	
Proposed Notes:	

Cultural Heritage:

Recommendation:	Comments and Conditions / Notes
Proposed Conditions:	
Comments:	<p>Archaeology:</p> <p>The subject property meets the criteria used by the City of Hamilton and Ministry of Citizenship and Multiculturalism for determining archaeological potential. These criteria define the property as having archaeological potential. Accordingly, Section 2 (d) of the Planning Act and Section 2.6.2 of the Provincial Policy Statement apply to the subject application.</p> <p>If this variance is granted, the proponent must be advised in writing by the Committee of Adjustment as follows:</p> <p>“Caution: Notwithstanding current surface conditions, the property has been determined to be an area of archaeological potential. Although an archaeological assessment is not required by the City of Hamilton, the proponent is cautioned that during development activities, should deeply</p>



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	<p>buried archaeological materials be found on the property the Ontario Ministry of Citizenship and Multiculturalism (MCM) should be notified immediately (416-212-8886). In the event that human remains are encountered during construction, the proponent should immediately contact both MCM and the Registrar or Deputy Registrar of the Cemeteries Regulation Unit of the Ministry of Government and Consumer Services (416-212-7499).”</p> <p>Cultural Heritage:</p> <p>Staff comments addressed as part of DA-17-064.</p>
Proposed Notes:	

Development Engineering:

Recommendation:	Comments Only
Proposed Conditions:	
Comments:	Development Engineering has no objections to the minor variances as proposed.
Proposed Notes:	

Building Engineering:

Recommendation:	Comments Only
Proposed Conditions:	
Comments:	
Proposed Notes:	<p>A building permit is required for the construction of the proposed 19-storey multiple dwelling containing a total of 272 dwelling units and commercial space.</p> <p>Be advised that Ontario Building Code regulations may require specific setback and construction types.</p>

Transportation Planning:

Recommendation:	Approve with Conditions
Proposed Conditions:	The Owner must provide the minimum of six (6) accessible parking spaces along with the minimum visitor parking spaces as per zoning by-law 05-200.
Comments:	Variance #6: A minimum of 74 parking spaces shall be permitted instead of the minimum 108 parking spaces required. Transportation Planning does not support the proposed reduction in this area.



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	<p>Variance #8: A minimum of four (4) accessible parking spaces shall be permitted instead of the minimum six (6) accessible parking spaces required. Remove 2/3 parking spaces and provide the required 6 accessible parking spaces. Transportation does not accept the proposed reduction as this is counter intuitive to Accessibility for Ontarians with Disabilities Act (AODA) and Transportation Planning Cannot support the reduction.</p> <p>Variance #10: A minimum of 132 long-term bicycle parking shall be permitted instead of the minimum 190 long-term bicycle parking required. Transportation Planning cannot support the reduction in long-term bicycle parking. This site is located downtown, and the appropriate number of long-term bicycle parking should be provided for the proposed development.</p>
Proposed Notes:	

June 17, 2024

City of Hamilton
Planning and Economic Development Department
71 Main St W
Hamilton, Ontario
L8P 4Y5

Attention: Committee of Adjustment

File# A-24-109

Re: 64 Main St E

In response to your correspondence dated June 14, 2024, please be advised that our Engineering Design Department has reviewed the information concerning the above noted Consent Application and our comments are as follows:

- For Residential/Commercial electrical service requirements, the Developer needs to contact our ICI and Layouts Department at 905-798-2634 or 905-798-3370 or visit our web site @ www.alectrautilities.com. To make a service request, [Make a Service Request | Alectra Utilities](#)
- Minimum 4m horizontal clearance from existing O/H line(s) must be maintained at all times as per Alectra Utilities Standard 3-105. Please consult with Alectra Utilities if further clarification is required.
- Relocation, modification, or removal of any existing hydro facilities shall be at the owner's expense. Please contact Alectra Utilities to facilitate this.
- Developers shall be responsible for the cost of civil work associated with duct structures, transformer foundations, and all related distribution equipment.
- Developers to acquire an easement, if required.
- Developers to provide a grade level switching vault room as per Alectra Utilities standard 19-0008 and 37-4010. The Switching Vault Room at grade level shall be accessible by Alectra Line / Operations crew / truck. Access Road shall be paved / gravel with minimum width of 6 meters and 24/7 access, capable of supporting a wheel loading force of 70kN (15,700lbs) per wheel shall be installed by the Developer for vehicle access to the switching vault room. No building overhang is allowed over the vault room, due to operations of maintenance equipment requirements.

- In order for Alectra Utilities to prepare design and procure the materials required to service this site in a timely manner, a minimum of 6 months notification is required. It would be advantageous for the developer if Alectra Utilities were contacted at the stage where the new site plan becomes available. Please note that it takes approximately 36-52 weeks to purchase a transformer.

We would also like to stipulate the following:

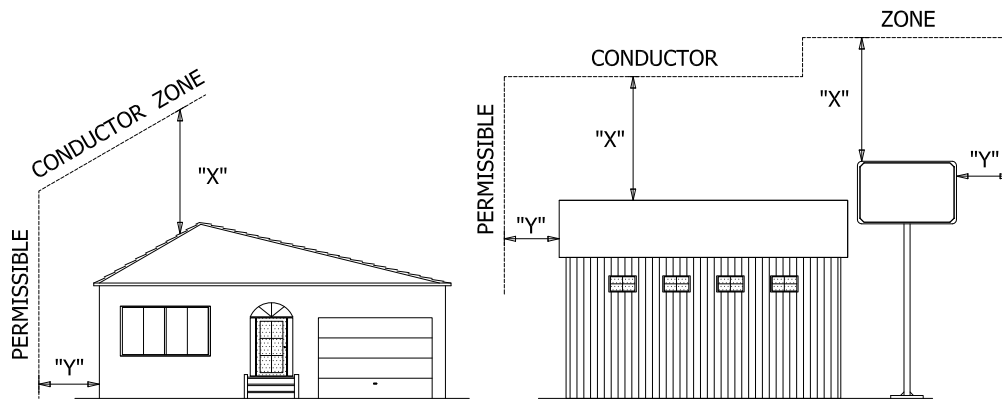
- Do not excavate within two metres of hydro poles and anchors.
- Excavation within one metre of underground hydro plant is not permitted unless approval is granted by an Alectra Utilities representative and is present to provide direct supervision. Cost associated with this task shall be at the owner's expense.
- Alectra Utilities must be contacted if the removal, isolation or relocation of existing plant is required, all cost associated with this work will be at the owners expense.
- CALL BEFORE YOU DIG, arrange for underground hydro cable locate(s) before beginning construction by contacting Ontario One Call @ 1-800-400-2255.
- Clearances from Overhead and Underground existing electrical distribution system on our adjacent to the property must be maintained in accordance to:
 - Ontario Building Code (1997) Section 3.1 (3.1.18.1)
 - Electrical Safety Code Rule 75-312
 - Occupational Health and Safety Act (OH&SA) – Construction Projects (Electrical Hazards)
 - CSA Standard C22.3 No. 1:20, Overhead System
 - CSA Standard C22.3 No. 7:20, Underground Systems

We trust that you will find this information satisfactory and that the information contained within will be provided to the owner of this project. Should you have any questions regarding this response, please contact Charles Howell at 905-798-2517 in our Engineering Design Department.

Sincerely,

Mark Jakubowski

Mark Jakubowski
Supervisor, Design, Customer Capital



- UNDER NO CIRCUMSTANCES SHALL A CONDUCTOR BE PERMITTED TO PENETRATE THE ENVELOPE SHOWN BY THE DOTTED LINE.

SYSTEM VOLTAGE	MINIMUM HORIZONTAL CLEARANCE DIMENSION "Y"	MINIMUM VERTICAL CLEARANCE DIMENSION "X"
0 - 750 V*	2.0 m (SEE NOTE 1)	4.5 m (SEE NOTE 3)
OVER 750 - 50000 V	4.0 m (SEE NOTE 2)	7.0 m (SEE NOTE 4)

* - INCLUDES MULTI-GROUNDED NEUTRALS

NOTES:

- THIS CLEARANCE IS MADE UP OF A 1.0 m MINIMUM APPROACH CLEARANCE PLUS A 1.0 m ALLOWANCE FOR CONDUCTOR SWING. WHERE CONDUCTOR PASS IN FRONT OF A WINDOW OR OTHER OPENING, THIS 2.0 m CLEARANCE SHOULD BE INCREASED TO 2.5 m. WHERE BUILDINGS EXCEED 3 STOREYS OR 15.0 m IN HEIGHT, THE 2.0 m CLEARANCE SHOULD BE INCREASED TO 3.0 m TO ALLOW FOR RAISING OF LADDERS BY THE LOCAL FIRE DEPARTMENT.
- THIS CLEARANCE IS MADE UP OF A 3.0 m MINIMUM APPROACH CLEARANCE PLUS A 1.0 m ALLOWANCE FOR CONDUCTOR SWING.
- THIS DIMENSION PROVIDES 1.0 m MINIMUM APPROACH CLEARANCE FROM A 2.0 m TALL WORKMAN, PLUS A 1.5 m ALLOWANCE FOR CONDUCTOR SAG. (BASED ON AVERAGE SPAN OF 40 m)
- THIS DIMENSION PROVIDES 3.0 m MINIMUM APPROACH CLEARANCE FROM A 2.0 m TALL WORKMAN, PLUS A 2.0 m ALLOWANCE FOR CONDUCTOR SAG. (BASED ON AVERAGE SPAN OF 40 m).
- THE ABOVE CLEARANCES ARE MINIMUM VALUES. EFFORTS SHOULD BE MADE TO INCREASE THESE CLEARANCES ABOVE THOSE SHOWN, WHERE POSSIBLE. TO KEEP WORKMEN AND THEIR EQUIPMENT ON THE BUILDING ETC., AT THE MINIMUM CLEARANCE SHOWN, DIMENSION "X" AND "Y" ARE TO BE INCREASED BY THE REQUIRED WORKING DISTANCE.



DRAWING STATUS	BY	DATE DD/MM/YY
REDRAWN:	JM	12/06/07
CHECKED:	ND	26/04/05
APPROVED:	CR	26/04/05

MINIMUM CONDUCTOR CLEARANCES FROM BUILDINGS, PERMANENT STRUCTURES OR BUILDING APPARATUS
(EXCLUDES SECONDARY SERVICES ATTACHED TO BUILDINGS)

REFERENCE DRAWINGS:

DRAWINGS NOT TO SCALE

DRAWING #
3-105

SHEET#	REVISION#
1	0

No.	Revision	Drawn by	Checked by	Apprd by	Date	Std. No. (3 of 9)	19-0008
-	-	-	-	-	-		

3.6 Drains

Drains are to be installed in the cable pulling pit and shall comply with the Ontario Electrical Safety Code, Building Code, and Plumbing Code. It shall be equipped with a screen, trap and reverse check valve.

3.7 Ducts and Conduits

3.7.1 Concrete encased duct bank installation shall meet the requirements set out in the Standards listed below:

Legacy Brampton Hydro Standard

Standard 37-199, 37-200, 37-201

Legacy Enersource Hydro Mississauga

Standard 10-7, 10-8, 10-106.1 to 10-106.7

Legacy Horizon Utility Corporation Standard

Standard 3U-341, 3U-343, 3U-344, 3U-345, 3U-346, 3U-347, 3U-348

Legacy PowerStream

Standard 17-201

3.7.2 Ducts shall be installed in a manner such that cables could be pulled in or out without disturbance to another vault equipment and vice versa. Dependent upon the installation, there may be one or more levels of ducts beneath the ground and entering the electrical vault room.

3.7.3 Ducts shall not pass under and/or through buildings.

3.7.4 Duct/conduit openings inside the vault shall meet the requirements set out in the Ontario Building Code, be flush-mounted to the wall complete with bell ends, and be foam sealed for all used and spared ducts.

3.8 Cable Pulling and Equipment Lifting Eye(s)

3.8.1 Cable pulling eye(s) shall be installed within the cable pulling pit typically positioned on the opposite side facing duct openings. Reference specification as per CSA Standard C83.48 (latest edition). The pullout strength shall be a minimum of 24.5 kN (5500 lbs). The pulling tension for any cable shall not exceed that value.



Construction Standard Certificate of Approval
The Construction Standard meets the safety requirements
of Section 4 of Regulation 22/04
Shreez Ali 04/2022
Name Date
[Signature] P.Eng., PMP
Signature & Professional Designation

ORIGINAL

Drawn by: Ar.C.
Checked by: S.I.
Approved by: A.I.
Date: Apr-2022

**ELECTRICAL
EQUIPMENT VAULT ROOM
REQUIREMENTS**
(UP TO 27.6/16 kV)

3.8.2 Equipment lifting eye shall be installed within the vault above the doors with minimum pullout strength of 49 kN (11,000 lbs.).

3.9 Cable Trench

The cable trench shall be consisted of concrete encased duct bank and backfill. It shall be planned, located and installed in a manner such that the above-grade pavement and/or landscaping would not compromise its structural stability.

3.10 Cable Pulling Pit

The cable pulling pit is an integral part of electrical equipment vault room and construction shall meet all code requirements. The entire path shall be made free from all obstructions and be provided with smooth finished surfaces and corners. To contain oil spills in case of a leak (applicable for transformer vault only), a 102 mm (4") concrete sills shall be provided on all sides. The design drawings shall include detailed layout where dimensions are shown and thus meet minimum dimension requirements as per below:

3.10.1 Width shall be a minimum 610 mm (24") or beyond as per agreed and approved cable pulling pit layout.

3.10.2 Depth shall be a minimum 610 mm (24") for a typical transformer vault room design as per Standard [19-2201](#) and [19-2203](#), or beyond as per agreed and approved cable pulling pit layout.

3.10.3 Depth shall be a minimum 910 mm (36") for a typical transformer vault room design as per Standard [19-2205](#) and for a typical switching vault as per Standard [37-4010](#), or beyond as per agreed and approved cable pulling pit layout.

3.10.4 The Customer-owned primary cables shall not be routed over the Alectra-owned cables. The cable pulling pit shall be designed in such a manner to take this into consideration.

The Customer shall seek (via Alectra's Designs Technologist handling the project) for Alectra's approval of the layout prior to its construction.

3.11 Covers

The covers shall be provided for the entire area of cable pulling pit and be flush-mounted on the finished floor (as for switching vault) or on top of concrete sills around it (as for transformer vault). This will be made entirely of pultruded fiberglass grating allowing easy removal for access and excellent airflow and access for light throughout cable pulling pit.

Dependent upon the layout of the cable pulling pit, covers may require mid-support (e.g. I-beam). The Customer shall indicate details as part of design drawings submission.

The Customer shall supply and install the pultruded fiberglass grating by utilizing the product specification as indicated below:

Manufacturer:	Fibergrate Composite Structures Inc
Website:	www.fibergrate.ca
Series:	T5020
Panel Depth:	2"
Load Bar Spacing:	2"
Stocked Sizes (Width)	3' or 4' (cut to suit cable pulling pit)
Stocked Sizes (Length)	8', 10', 12', 20' or 24' (cut to suit cable pulling pit)
Load Bars / Ft.	6"
Weight / Sq. Ft.	3.30 lbs
Open Area	50 %
Resin	Isophthalic Polyester
Color	Yellow
Loading (24" span)	5940 psf (maximum recommended load)
Loading (36" span)	2880 psf (maximum recommended load)
Loading (48" span)	1620 psf (maximum recommended load)

The Customer shall follow the manufacturer's instruction for safe handling and installation.

3.12 Primary Cables, Terminations and Associated Materials

The Customer-owned primary cables, terminations and associated materials shall be installed by the Customer in accordance with the Ontario Electrical Safety Code and with the following requirements:

3.12.1 Primary cables shall be 28 kV (100 %), CN-jacketed per CSA Std. C68.5 (latest)



Construction Standard Certificate of Approval
The Construction Standard meets the safety requirements of Section 4 of Regulation 22/04
Shereez Ali 04/2022
Name Date
[Signature] P.Eng., PMP
Signature & Professional Designation

ORIGINAL
Drawn by: Ar.C.
Checked by: S.I.
Approved by: A.I.
Date: Apr-2022

**ELECTRICAL
EQUIPMENT VAULT ROOM
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(UP TO 27.6/16 kV)

- 3.12.2** Primary cables shall be routed via cable pulling pit and up towards the designated switch location from the switchgear. Allow sufficient length of cables for termination and CN-wires connection at ground busbar.
- 3.12.3** Cable termination shall be made of separable insulated connectors per IEEE Std. 386 (latest) with specific interfaces and requirements as follows:
- 3.12.3.1 For 200 A interface (regardless of switchgear rating) use 25 kV load-break bushing insert and elbow as per Alectra Standard [37-4010](#), Detail 5
- 3.12.3.2 For 600 A interface use dead-break elbow assembly matching the switchgear rating as per Alectra Standard [37-4010](#), Detail 4.
- 3.12.3.3 All primary cable terminations, at the advised schedules, shall be accomplished in the presence of Alectra’s Network Operations personnel.
- 3.12.3.4 All cable terminations shall be tagged and identified from the source and load side complete with phase marking matching on the switchgear.
- 3.12.4** Concentric neutral (CN) wires connectors shall be made of 1/2" copper compression, 1-hole NEMA lugs.
- 3.12.5** Associated clamps, connectors and supports shall be consisted of approved products bearing the certification markings recognized by OESC or approved by Alectra.

3.13 Ground Wire Loop

The ground wire loop shall be installed by the Customer in accordance with the Ontario Electrical Safety Code and with the following requirements:

- 3.13.1** Four 20 mm (3/4") x 3000 mm (10'-0") copper or copper-clad ground rods.
- 3.13.2** 2/0 AWG stranded copper conductor continuous circumferential ground loop and metallic bonding.
- 3.13.3** Ground wire loop to be fastened 200 mm (8") above the finished floor at approximately 610 mm (24") intervals.
- 3.13.4** All ground connections except for the grounding and bonding of Alectra owned electrical equipment shall be completed by the Customer.
- 3.13.5** For remote grounding installation refer to Standard [41-2040](#).

3.14 Secondary Transition Unit (Bus Stub)

For transformer vault, the Customer shall provide and install a 600 volts wall transition unit between the Customer's electrical room and the transformer vault as detailed in Standard 19-2219. The transition unit (bus stubs) shall be equipped with copper terminals.

3.15 Lighting and Convenience Outlets

Electrical outlets installation shall comply with the Ontario Electrical Safety Code and the following minimum requirements:

3.15.1 Transformer vault room (minimum floor area 9 m x 10 m) shall be provided with a minimum of six (6) lamp outlets operated by one (1) toggle switch located beside the door.

3.15.2 Switching vault room (minimum area 7 m x 7 m) shall be provided with a minimum of four (4) lamp outlets operated by one (1) toggle switch located beside the door.

3.15.3 Wall-mounted lamp outlets are permitted and should be installed approximately 2100 mm (7') above floor. Walls being utilized for electrical equipment should be avoided. Thus, promote safe lamp replacements.

3.15.4 Lamp shall be 100 W long life incandescent or LED equivalent

3.15.5 Receptacle outlets (120 V supply) shall consist of the following:

Type	Quantity	Location
20A Split Receptacle	1 / vault room	Wall (beside the door)
20A Single Receptacle*	1 / control cabinet	Side Wall (centered) next after the switchgear

* - To be connected to the building's emergency power system. Exact location to be determined and supplied by Alectra.

3.16 Communication Installation Requirements

Remote operation of switchgear requires essential civil works and associated materials that the Customer may have to provide. These requirements (unique for each vault room construction) shall be specified by Alectra's Protection and Control department and be prearranged by Alectra's Design Technologist handling the project to the Customer during the early design stage of the project.



Construction Standard Certificate of Approval
 The Construction Standard meets the safety requirements
 of Section 4 of Regulation 22/04
Shereez Ali 04/2022
 Name Date
[Signature] P.Eng., PMP
 Signature & Professional Designation

ORIGINAL
 Drawn by: Ar.C.
 Checked by: S.I.
 Approved by: A.I.
 Date: Apr-2022

**ELECTRICAL
 EQUIPMENT VAULT ROOM
 REQUIREMENTS**
 (UP TO 27.6/16 kV)

No.	Revision	Drawn by	Checked by	Apprd by	Date	Std. No. (8 of 9)	19-0008
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In addition, a standard one (1) spare 100 mm (4”) duct dedicated for communication use only shall be provided as part of concrete encased duct bank construction from the property line to vault room. The spare duct shall be placed above all ducts reserved for primary cables.

3.17 Vault Inspection and Acceptance

Prior to acceptance and energization by Alectra, the electrical equipment vault room construction must meet the following minimum requirements:

- 3.17.1** Inspection and Acceptance by inspectors of Alectra, Building Code and Plumbing Code.
- 3.17.2** Supplied and installed lamp and receptacle outlets conform to Alectra requirements and are inspected by the Electrical Safety Authority.
- 3.17.3** All parts of construction (vault room, cable trench and communication) conform to Alectra requirements.
- 3.17.4** All defects if any are to be corrected.

4. Electrical Equipment and Associated Installation Standards

4.1 For electrical equipment vault room, refer to the following Alectra Standards:

Vault Type	Feeder Type	Associated Equipment	Std #
Transformer	Radial feed - 200 A feeder	3-way junction bar	19-2201
Transformer	Loop feed - 200 A feeder	3-way junction & 3 x 1-ph fault interrupter switch	19-2203
Transformer	Loop feed - 600 A & 200 A feeder	4, 5 or 6-way switchgear	19-2205
Switching	Loop feed - 600 A & 200 A feeder	4, 5 or 6-way switchgear	37-4010

4.2 For associated vault installation, refer to the following Alectra Standards:

Title	Std #
Transformer 1-Phase, Vault-Mount	2-1707
Switchgear 3-Phase, Vault/Wall-Mount	2-1709
3-Phase Distribution Transformer Vault Installation – JDE Complete Kit Selection	19-0030
Typical Electrical Equipment Vault Room (Doors and Ventilation)	19-2215
Wall Transition Unit in Transformer Vault	19-2219
Typical Copper Bus Bar Installation in Transformer Vault	19-2221
Flex Braid Requirements for Service Entrance Size in Transformer Vault	19-2223



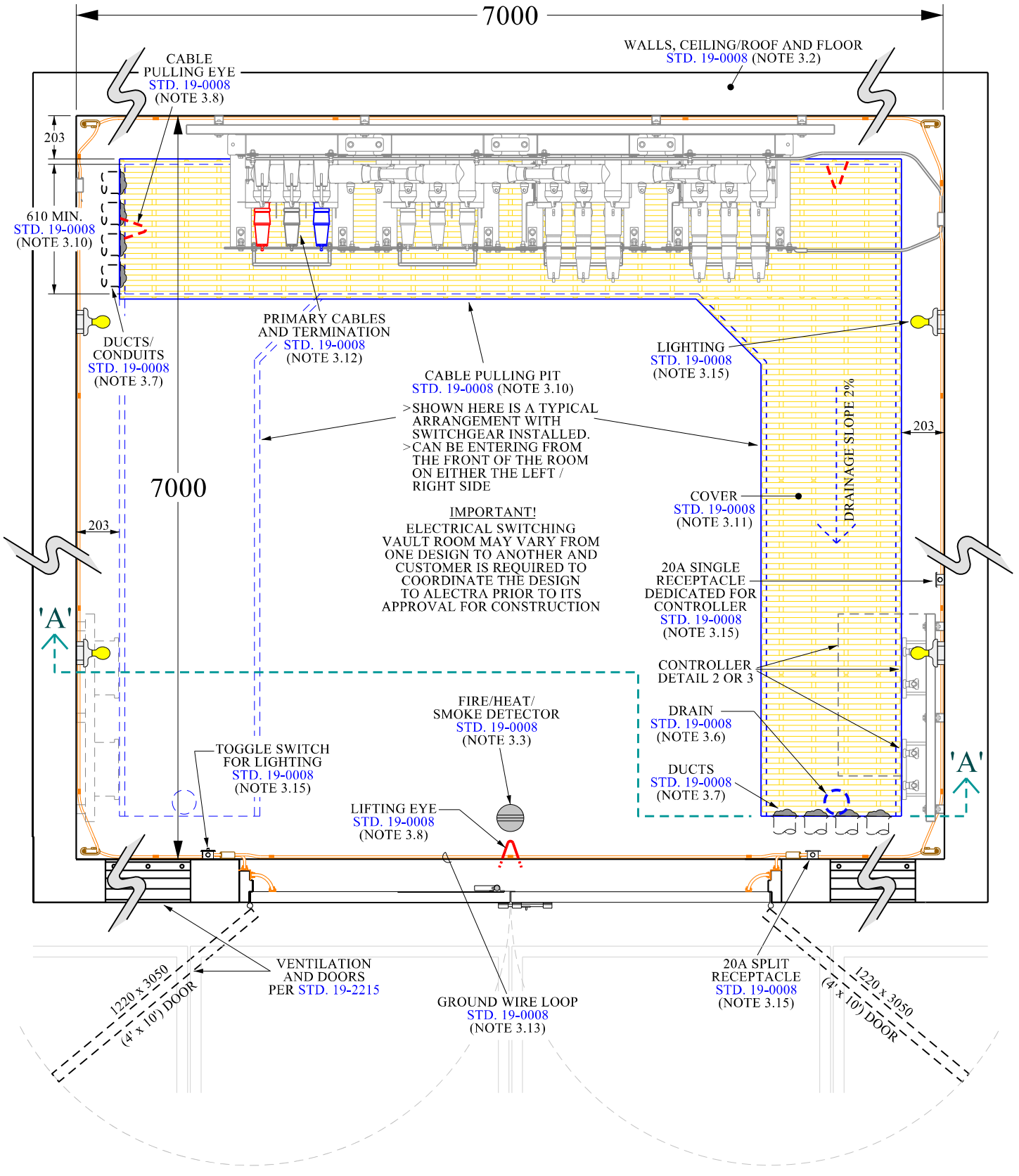
Construction Standard Certificate of Approval
The Construction Standard meets the safety requirements of Section 4 of Regulation 22/04

Shereez Ali 04/2022
Name Date
[Signature] P.Eng., PMP
Signature & Professional Designation

ORIGINAL
Drawn by: Ar.C.
Checked by: S.I.
Approved by: A.I.
Date: Apr-2022

**ELECTRICAL
EQUIPMENT VAULT ROOM
REQUIREMENTS**
(UP TO 27.6/16 kV)

No.	Revision	Drawn by	Checked by	Apprvd by	Date
-	-	-	-	-	-



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Shereez Ali 04/2022	Checked by: S.I.
Name Date	Approved by: A.I.
<i>AW</i> P.Eng., PMP	Date: Apr-2022
Signature & Professional Designation	

Title: **WALL-MOUNTED SOLID DIELECTRIC SWITCHGEAR IN A 7.0 m x 7.0 m VAULT ROOM**
4.16/2.4 kV TO 27.6/16 kV

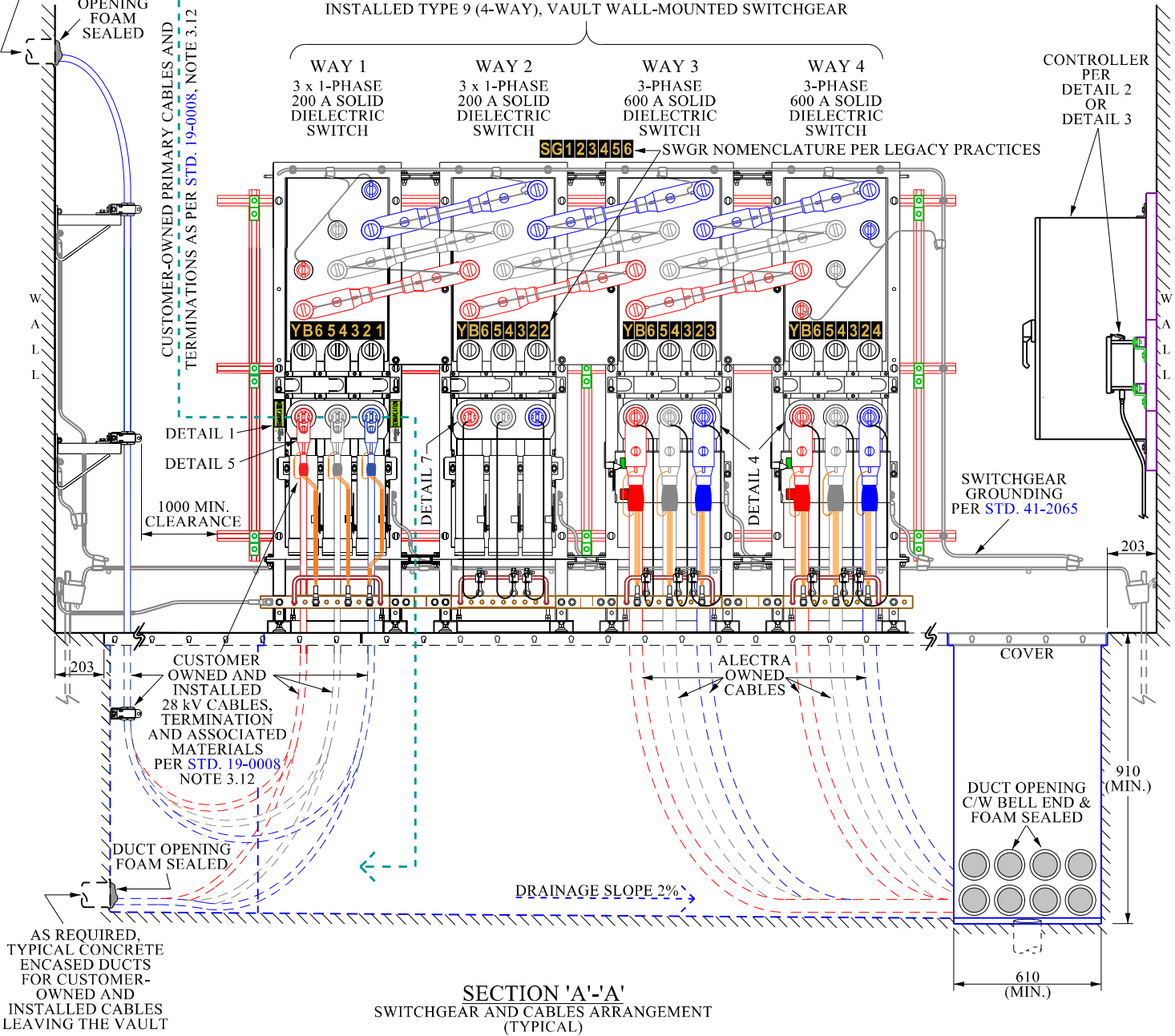
No.	Revision	Drawn by	Checked by	Apprvd by	Date
-	-	-	-	-	-

AS REQUIRED,
TYPICAL CONCRETE
ENCASED CONDUIT
FOR CUSTOMER-
OWNED AND
INSTALLED CABLES
LEAVING THE VAULT

IMPORTANT!

15 kV OR 35 kV SWITCHGEAR (MAX. 6-WAY, **STD. 2-1709**)
MAY DIFFER FROM ONE INSTALLATION TO ANOTHER.
THE SELECTION, ARRANGEMENT AND ORIENTATION OF
SWITCHGEAR REQUIRE ALECTRA'S SYSTEM PLANNING,
PROTECTION & CONTROL AND NETWORK OPERATIONS
APPROVALS PRIOR TO VAULT ROOM CONSTRUCTION

SHOWN HERE IS A TYPICAL ARRANGEMENT OF ALECTRA-OWNED AND
INSTALLED TYPE 9 (4-WAY), VAULT WALL-MOUNTED SWITCHGEAR



SECTION 'A'-'A'
SWITCHGEAR AND CABLES ARRANGEMENT
(TYPICAL)



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**WALL-MOUNTED
SOLID DIELECTRIC SWITCHGEAR
IN A 7.0 m x 7.0 m VAULT ROOM**
4.16/2.4 kV TO 27.6/16 kV

No.	Revision	Drawn by	Checked by	Apprvd by	Date
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DETAIL 1
LABEL (x2) SUPPLIED BY ALECTRA, #992301

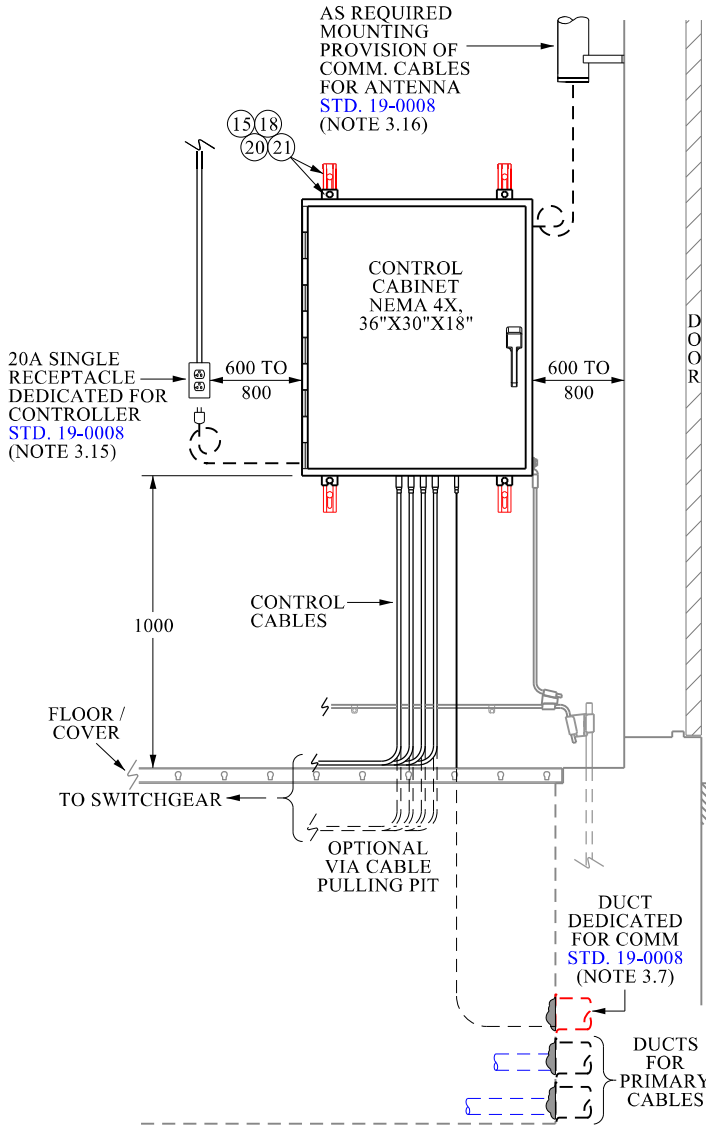


#992301

DEMARCATION POINT

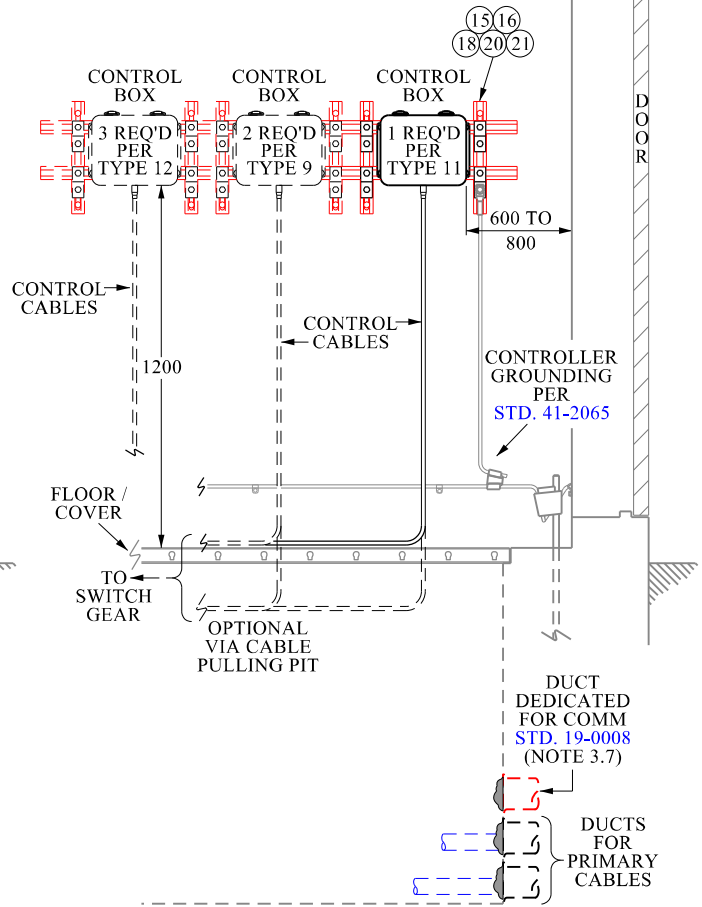
AT THE PRIMARY BUSHING TERMINALS

NOTE: CUSTOMER OWNS THE PRIMARY CABLES AND TERMINATIONS AS PER ALECTRA SPECIFICATIONS AND STANDARDS.



DETAIL 2
CONTROLLER SUPPLIED W/
SCADA-CONTROLLED
SWITCHGEAR

No. OF CONTROL BOX	4-WAY SWITCHGEAR		
	TYPE 9	TYPE 11	TYPE 12
	2	1	3



DETAIL 3
CONTROLLER SUPPLIED W/
MANUALLY-CONTROLLED
SWITCHGEAR

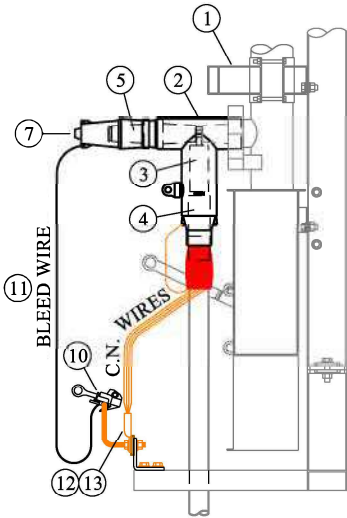


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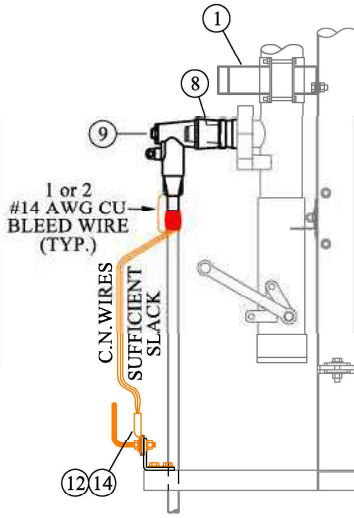
ORIGINAL
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SOLID DIELECTRIC SWITCHGEAR
IN A 7.0 m x 7.0 m VAULT ROOM**
4.16/2.4 kV TO 27.6/16 kV

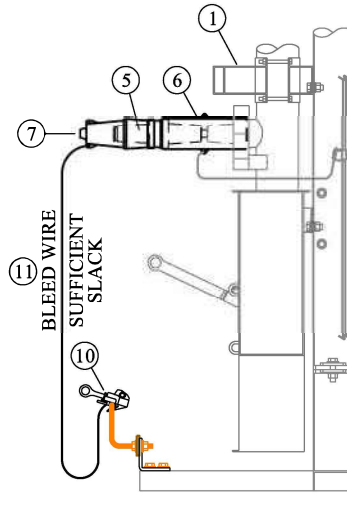
No.	Revision	Drawn by	Checked by	Apprvd by	Date
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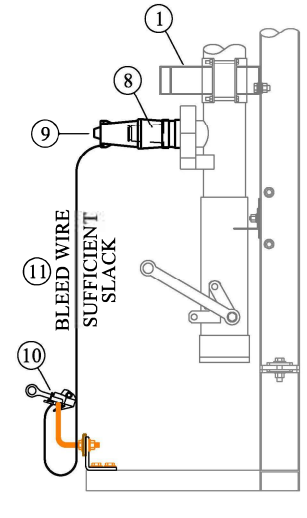
DETAIL 4
600 A CABLE TERM
(1000 kCMIL AL, 28 kV CABLE)



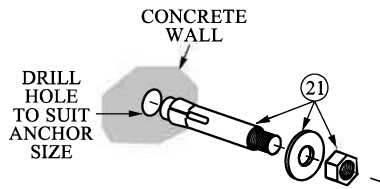
DETAIL 5
200 A CABLE TERM
(1/0 AWG AL, 28 kV CABLE)



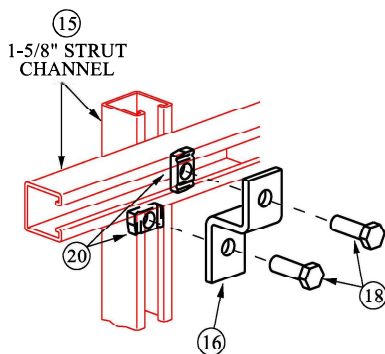
DETAIL 6
600 A BUSHING TERM
(UNUSED)



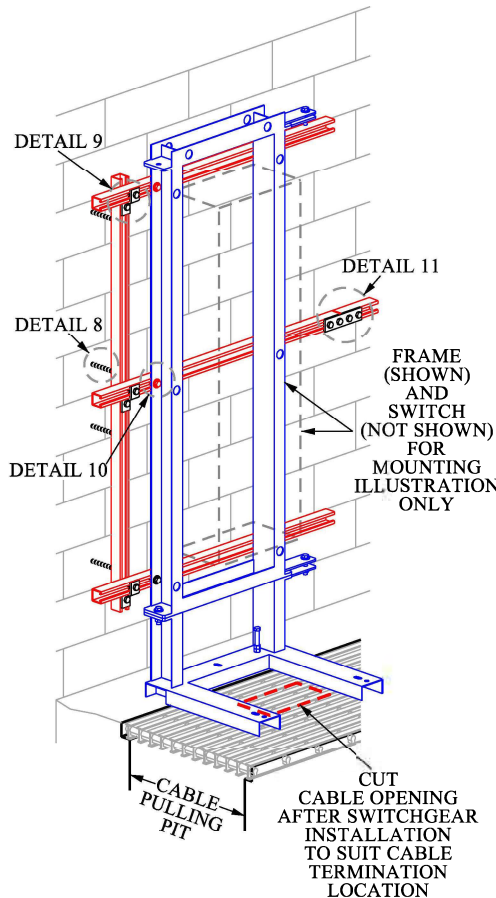
DETAIL 7
200 A BUSHING TERM
(UNUSED)



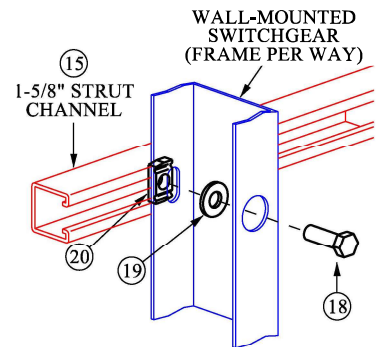
DETAIL 8
ANCHORING (TYP.)



DETAIL 9
1-5/8" STRUT
CHANNEL
ASSEMBLY



DETAIL 10
SWITCHGEAR'S
WALL-MOUNTING
(6 REQUIRED PER WAY)



DETAIL 11
1-5/8" STRUT
CHANNEL
EXTENSION



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Shreez Ali 04/2022
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ORIGINAL

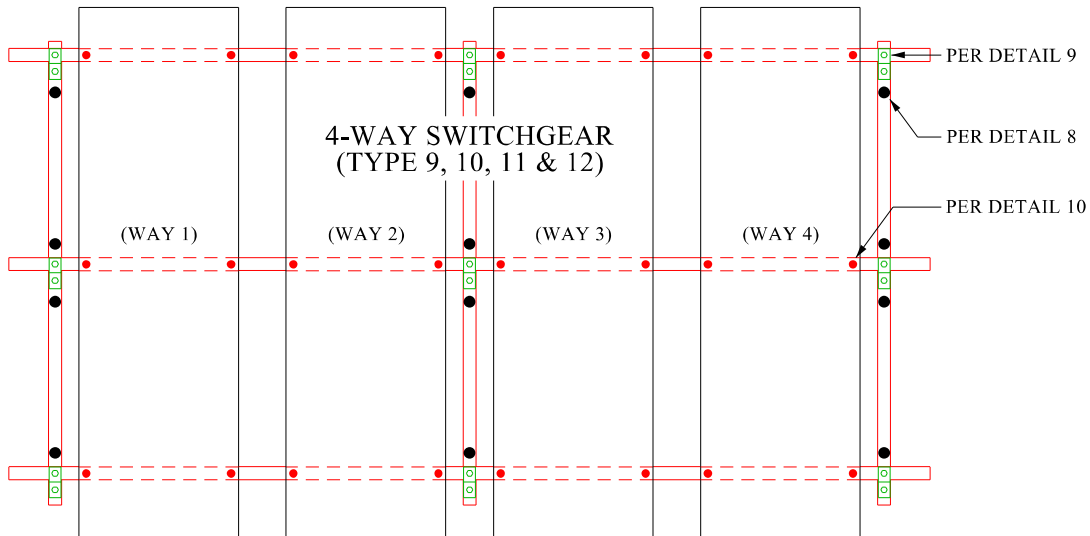
Drawn by: Ar.C.
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Title:

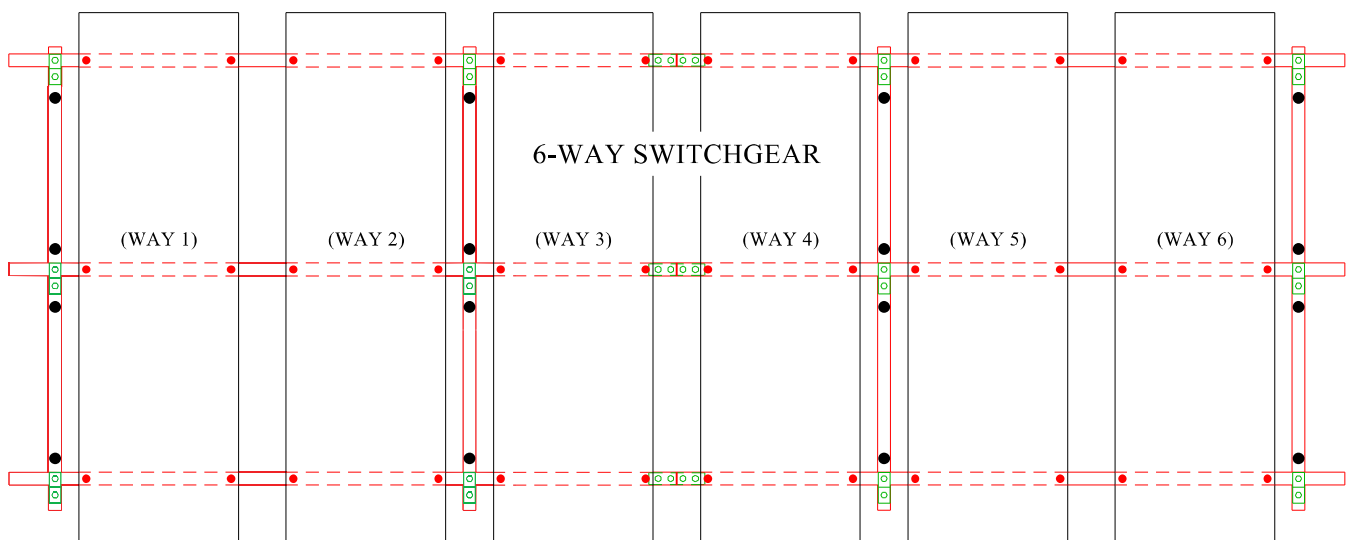
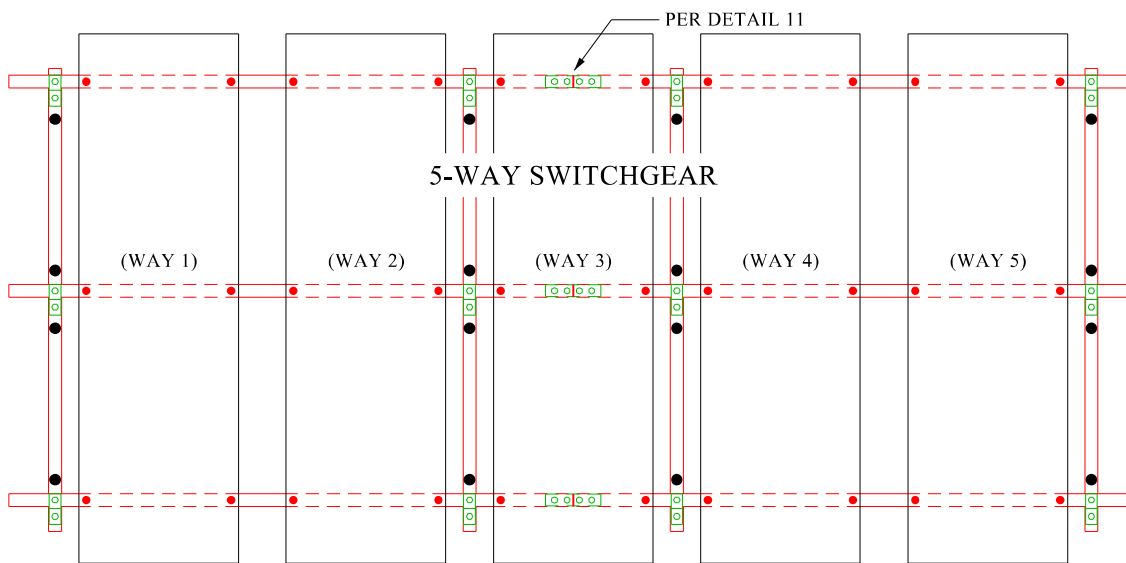
**WALL-MOUNTED
SOLID DIELECTRIC SWITCHGEAR
IN A 7.0 m x 7.0 m VAULT ROOM**

4.16/2.4 kV TO 27.6/16 kV

No.	Revision	Drawn by	Checked by	Apprvd by	Date
-	-	-	-	-	-



DETAIL 12
SWITCHGEAR
WALL MOUNTING



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Date: Apr-2022

Title:

**WALL-MOUNTED
SOLID DIELECTRIC SWITCHGEAR
IN A 7.0 m x 7.0 m VAULT ROOM**
4.16/2.4 kV TO 27.6/16 kV

No.	Revision	Drawn by	Checked by	Apprvd by	Date
-	-	-	-	-	-

BILL OF MATERIALS (SWITCHGEAR)

No.	ITEM/STD. #	DESCRIPTION	QUANTITY (PER SWITCHGEAR)					
			TYPE 9*	TYPE 10*	TYPE 11*	TYPE 12*	5-WAY	6-WAY
1	STD. 2-1709	SWITCHGEAR, SD, WALL-MOUNTED	1	1	1	1	1	1
2	STD. 2-3366	ELBOW, 600 A	SELECTION AND QUANTITY OF CUSTOMER-OWNED AND INSTALLED CABLE TERMINATION MAY VARY. REFER TO STD. 37-0030 FOR SELECTION AND QUANTITY OF ALECTRA-OWNED AND INSTALLED CABLE TERMINATION.					
3		LUG, COMPRESSION, AL						
4		ADAPTER, CABLE						
5		PLUG, REDUCING TAP						
6		BUSHING EXTENDER 600 A						
7		CAP, INSULATING, 200 A						
8	STD. 2-3368	INSERT, BUSHING, 200 A						
9	ELBOW, 200 A							
10	STD. 41-3010	CLAMP, HOTLINE,CU/AL						
11	DETAIL 3	BLEED WIRE,#14CU,40KV DC						
12	STD. 2-1011	FASTENER ASSEMBLY, 1/2"						
13	330308	CONN LUG CU 250 MCM CU 2HOLE						
14	330739	CONN LUG CU #2AWG COMP 1HOLE						
<i>Not Shown</i>	990159	STICKER-KEEP OUT-VAULT DOOR	1					
	990353	LABEL, 'NOTICE DNB DOORWAY'	1					
	990243	PADLOCK SOLID BRASS BODY	1					
	992301	LABEL DEMARCATION PT SWGR	2					

BILL OF MATERIALS (SWITCHGEAR WALL MOUNTING, PER DETAIL 12)

No.	ITEM/STD. #	DESCRIPTION	QUANTITY / SWITCHGEAR		
			4-WAY*	5-WAY	6-WAY
15**	110328	CHANNEL,1-5/8"x10',SLOTTED	6	7	7
16	110326	FITTING-Z,3HOLE,1-5/8 CHAN	9	12	12
17	110881	PLATE EXT,4HOLE,1-5/8 CHAN	-	3	3
18	110325	SCREW,HEX,1/2X1.5,1-5/8CHAN	48	72	84
19	990381	WASHER SIL BRZE SPLIT 1/2	24	30	36
20	110324	NUT,SPRING,1/2",1-5/8CHAN	48	72	84
21	990220	ANCHOR, SLEEVE, 1/2"X4"	12	16	16

* - 4-WAY SWITCHGEAR IS EITHER TYPE 9, TYPE 10, TYPE 11 OR TYPE 12

** - TO BE CUT TO SUIT SWITCHGEAR AND CONTROLLER WALL FRAMING INSTALLATION

BILL OF MATERIALS (CONTROLLER WALL MOUNTING, PER DETAIL 2 & 3)

No.	ITEM/STD. #	DESCRIPTION	QUANTITY / SWITCHGEAR			
			DETAIL 2 SCADA CONTROLLER	DETAIL 3 MANUAL CONTROLLER		
				TYPE 9	TYPE 11	TYPE 12
15**	110328	CHANNEL,1-5/8"x10',SLOTTED	1	1	1	2
16	110326	FITTING-Z,3HOLE,1-5/8 CHAN	-	8	4	12
18	110325	SCREW,HEX,1/2X1.5,1-5/8CHAN	4	16	8	24
19	990381	WASHER SIL BRZE SPLIT 1/2	4	-	-	-
20	110324	NUT,SPRING,1/2",1-5/8CHAN	4	16	8	24
21	990220	ANCHOR, SLEEVE, 1/2"X4"	4	8	4	12

TYPE OF WALL-MOUNTED SWITCHGEAR (PER [STD. 2-1709](#))

TYPE OF SWITCH	No. OF SWITCHES (PER SWITCHGEAR TYPE)						
	TYPE 9*	TYPE 10*	TYPE 11*	TYPE 12*	5-WAY	5-WAY	6-WAY
600 A, 3-PHASE	2	4	3	1	2	3	3
200 A, 3 x 1-PHASE	2	-	1	3	3	2	3

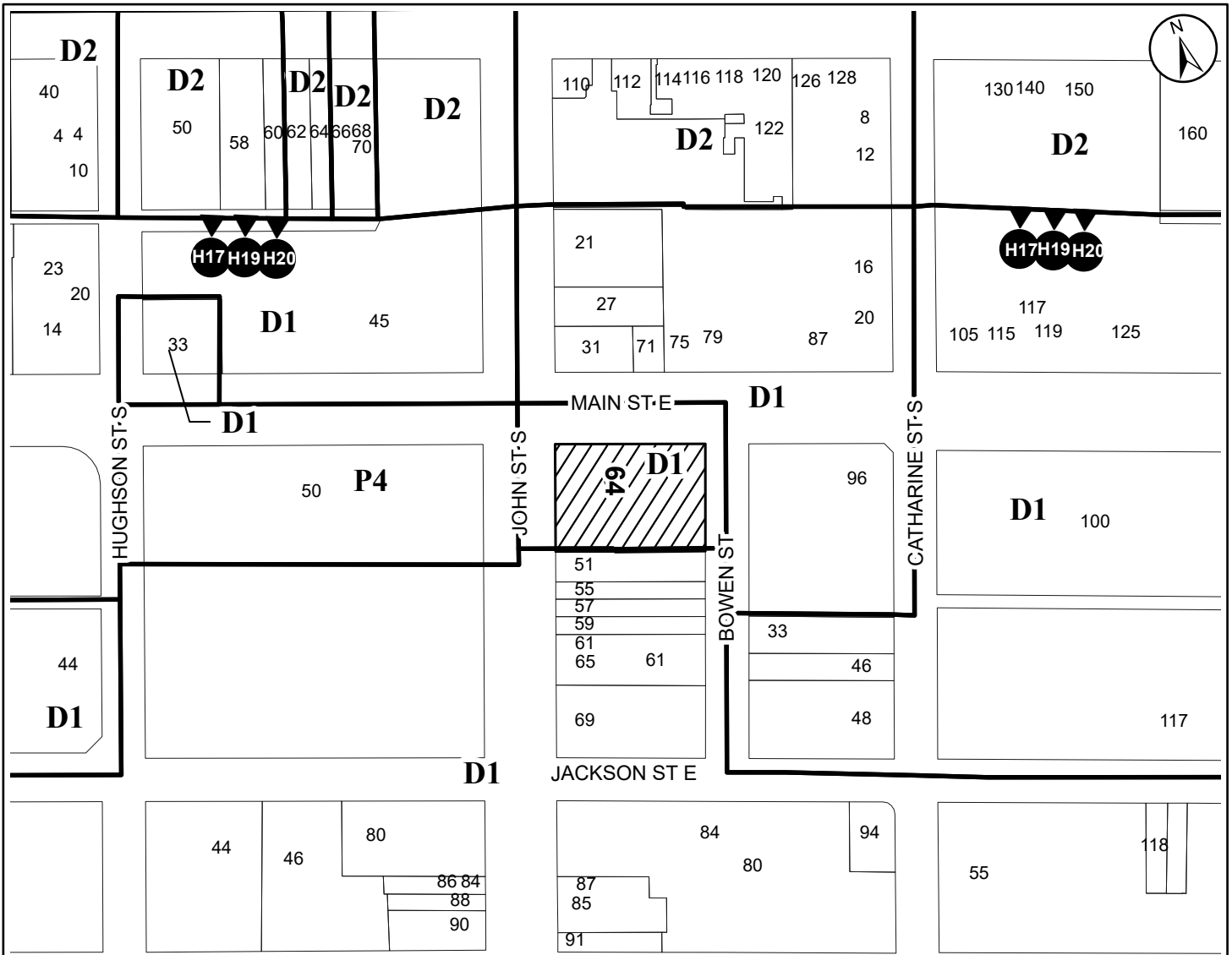
COMPLETE KITS:
REFER TO [STD. 37-0030](#)



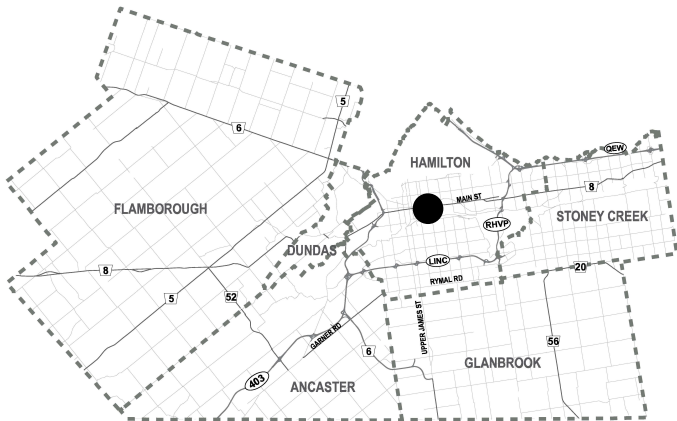
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4.16/2.4 kV TO 27.6/16 kV



● Site Location



City of Hamilton

Committee of Adjustments

Subject Property



64 Main Street East, Hamilton
(Ward 2)

File Name/Number:

A-24:109

Date:

June 12, 2024

Technician:

AL

Scale:

N.T.S.

Appendix "A"



Hamilton

Planning and Economic Development Department