

ELECTRICAL LEGEND	
SYMBOL	DESCRIPTION
LINETYPES	
	NEW WORK
	WORK TO BE DEMOLISHED, OR REMOVED
	EXISTING MATERIAL/EQUIPMENT/SERVICES TO REMAIN
	FUTURE WORK (NOT IN SCOPE)
	EXTENTS OF FIRE ALARM ZONE, WET LOCATION, OR OTHER AREA AS NOTED ON PLANS
ABBREVIATIONS	
E	EXISTING TO REMAIN
R	EXISTING TO BE DEMOLISHED/REMOVED
ER	EXISTING IN RELOCATED POSITION
RR	REMOVE AND RELOCATE
C	CEILING MOUNTED CONNECTION
W	WALL MOUNTED CONNECTION
F	FLOOR MOUNTED CONNECTION
¢	CENTRE LINE
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
O/C	OVER COUNTER
U/C	UNDER CABINET
U/F	UNDER RAISED FLOOR
CCT	CIRCUIT
CTE	CONNECT TO EXISTING
AFCI	ARC FAULT CIRCUIT INTERRUPTER
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GFI	GROUND FAULT INTERRUPTER
IG	ISOLATED GROUND
TL	TWIST LOCK
TR	TAMPER RESISTANT
WG	WIRE GUARD
WP	WEATHER PROOF
XP	EXPLOSION PROOF
R/I	ROUGH-IN ONLY
NIC	NOT IN CONTRACT
SIM.	SIMILAR TO
TYP.	TYPICAL
ABBREVIATIONS - CODES AND STANDARDS	
OBC	ONTARIO BUILDING CODE
OESC	ONTARIO ELECTRICAL SAFETY CODE
OFC	ONTARIO FIRE CODE
ABBREVIATIONS - CEILING TYPES	
ACT	ACOUSTIC CEILING TILE (T-BAR)
EXP	EXPOSED CEILING
OWSJ	OPEN WEB STEEL JOISTS
PCC	PAINTED OR POPCORN CEILING ON EXPOSED CONCRETE
WD	WOOD CEILING
ANNOTATIONS	
CL	CLOSET
WR	WASHROOM
PLUMBING	
PTP	ELECTRONIC TRAP PRIMER
PSC	PLUMBING SENSOR CONTROL (TOUCHLESS FAUCETS) HVAC
	THERMOSTAT OR TEMPERATURE SENSOR
	TIMER CONTROL
BBH	ELECTRIC BASEBOARD HEATER (BBH)
FFH	FORCED FLOW HEATER
ERV	ENERGY RECOVERY VENTILATOR
HRU	HEAT RECOVERY UNIT
MUA	MAKE-UP AIR UNIT
CONDUIT AND BOXES	
	CONDUIT WITH END BUSHING
	CONDUIT UP
	CONDUIT DOWN
	CONDUIT CONTINUES
	JUNCTION BOX
	PULL BOX
	HAND HOLE
CONNECTIONS TO EQUIPMENT	
DW	DISHWASHER
FR	FRIDGE
MW	MICROWAVE
HD	HAND DRYER. ALLOW UP TO 208V-1PH-20A
	1-PHASE DIRECT CONNECTION OUTLET AS NOTED.
	3-PHASE DIRECT CONNECTION OUTLET AS NOTED.
THIS LEGEND IS GENERIC. ALL SYMBOLS LISTED MAY NOT BE APPLICABLE FOR THIS PROJECT. REFER TO FLOOR PLANS TO DETERMINE USED DEVICES AND EQUIPMENT.	

ELECTRICAL LEGEND	
SYMBOL	DESCRIPTION
	SYSTEM FURNITURE WALL FEED FOR POWER AND TELECOMMUNICATIONS UNLESS NOTED OTHERWISE. 'C' ADJACENT TO SYMBOL DENOTES CEILING FEED, 'F' ADJACENT TO SYMBOL DENOTES FLOOR FEED.
W	ADJACENT TO 3-PHASE DIRECT CONNECTION, DENOTES WALL SYSTEM FURNITURE FEED FOR POWER AND COMMUNICATIONS.
	CONNECTION TO SINGLE PHASE MOTOR, HP (KW) AS NOTED. PROVIDE LOCAL DISCONNECT.
	THREE PHASE MOTOR, HP (KW) AS NOTED. PROVIDE LOCAL DISCONNECT.
LIGHTING CONTROLS REFER TO SPECIFICATIONS AND RESPECTIVE SCHEDULES FOR EXACT REQUIREMENTS	
	SWITCH OR OTHER USER INTERFACE DEVICE AS DESCRIBED ON LIGHTING CONTROLS SCHEDULE.
	3-WAY SWITCH
DIM	ADJACENT TO SWITCH, DENOTES DIMMING SWITCH.
K	ADJACENT TO SWITCH, DENOTES KEY SWITCH.
T	ADJACENT TO SWITCH, DENOTES COUNTDOWN TIMER SWITCH
AT	ADJACENT TO SWITCH, DENOTES ASTRONOMICAL TIMER SWITCH
DS	ADJACENT TO SWITCH, DENOTES DOOR SWITCH
PIR	PASSIVE INFRARED SENSOR
DT	DUAL TECHNOLOGY SENSOR
UT	ULTRASONIC SENSOR
OS	SENSOR (TYPE UNKNOWN)
M	ADJACENT TO SWITCH, DENOTES MASTER CONTROL FOR ALL LUMINAIRES IN A ROOM OR SPACE, OR AS NOTED.
	WALL MOUNTED SWITCH/OCCUPANCY SENSOR. PIR DENOTES 'PASSIVE INFRARED', DT DENOTES 'DUAL PASSIVE INFRARED/ULTRASONIC', LINE VOLTAGE TO SUIT CONTROLLED CIRCUIT, OR AS NOTED.
RP	RELAY PANEL
PP	POWER PACK
SC	SCENE CONTROLLER.
	PHOTOCELL SENSOR.
	PHOTOCELL SENSOR. 'PC' DENOTES CLOSED LOOP PHOTOCELL CONTROL. 'PO' DENOTES OPEN LOOP PHOTOCELL CONTROL.
	CEILING MOUNTED OCCUPANCY SENSOR. PIR DENOTES 'PASSIVE INFRARED', UT DENOTES 'ULTRASONIC' (OR MICROPHONIC), DT DENOTES 'DUAL TECHNOLOGY'. 'OS' DENOTES UNKNOWN TECHNOLOGY.
	WALL MOUNTED OCCUPANCY SENSOR.
DISTRIBUTION EQUIPMENT	
	TRANSFORMER, PLAN VIEW
	SURFACE MOUNTED LIGHTING AND RECEPTACLE PANELBOARD
	RECESSED RECEPTACLE AND LIGHTING PANELBOARD
	DISTRIBUTION PANELBOARD
	DISCONNECT SWITCH
	FUSED DISCONNECT SWITCH
	CONTACTOR
	LOOSE STARTER. COORDINATE STARTING CHARACTERISTIC WITH EQUIPMENT REQUIREMENTS.
	COMBINATION STARTER.
VFD	ADJACENT TO STARTER, DENOTES VARIABLE FREQUENCY DRIVE
POWER RECEPTACLES AND BOXES	
	120V U-GROUND DUPLEX RECEPTACLE.
	120V U-GROUND DUPLEX RECEPTACLE MOUNTED ABOVE COUNTER TOP OR AS INSTRUCTED ON SITE.
	120V U-GROUND 20A DUPLEX RECEPTACLE.
	120V U-GROUND DUPLEX RECEPTACLE MOUNTED ABOVE COUNTER TOP OR AS INSTRUCTED ON SITE.
	120V U-GROUND DUPLEX RECEPTACLE - AUTOMATICALLY CONTROLLED (ASHRAE 90.1-2013, 8.4.2).
	120V U-GROUND 20A DUPLEX RECEPTACLE - AUTOMATICALLY CONTROLLED (ASHRAE 90.1-2013, 8.4.2).
	120V U-GROUND DUPLEX RECEPTACLE - HALF OF RECEPTACLE AUTOMATICALLY CONTROLLED (ASHRAE 90.1-2013, 8.4.2).
	MANUALLY CONTROLLED SPLIT RECEPTACLE
	120V U-GROUND QUAD RECEPTACLE.
	INDICATES RECEPTACLE COMPLETE WITH ONE TYPE A AND ONE TYPE C USB CHARGING PORTS.
	14-30R RECEPTACLE FOR LAUNDRY DRYER, OR OTHER RECEPTACLE AS NOTED
	14-50R RECEPTACLE FOR ELECTRONIC RANGE, OR OTHER RECEPTACLE AS NOTED. PROVIDE 40A/2P BREAKER TO SUIT..
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ELECTRICAL LEGEND	
SYMBOL	DESCRIPTION
	SPECIAL RECEPTACLE. VERIFY OUTLET REQUIREMENTS PRIOR TO ROUGH-IN.
	SPECIAL RECEPTACLE. VERIFY OUTLET REQUIREMENTS PRIOR TO ROUGH-IN.
	FLOOR RECEPTACLE OR RECEPTACLE IN FLOOR BOX (POWER ONLY)
	SERVICE POLE. PROVIDE POWER TO JUNCTION BOX IN CEILING SPACE ABOVE. DEVICES ON POLE AS NOTED ON PLANS.
FB1	ADJACENT TO FLOOR RECEPTACLE, DENOTES FLOOR BOX TYPE
*	ADJACENT TO DEVICE, DENOTES DEVICE CONNECTED TO EMERGENCY POWER
LIGHTING FIXTURES SYMBOLS IN ACCORDANCE WITH IES DG-300 AND IES HB-10-11 WHERE NOT DETAILED OTHERWISE HERE. REFER TO LIGHTING FIXTURE SCHEDULE FOR FURTHER DETAILS AND EXACT FIXTURE REQUIREMENTS.	
	LINEAR LUMINAIRE, SURFACE MOUNTED TO CEILING
	LINEAR LUMINAIRE, RECESSED IN CEILING
	LINEAR LUMINAIRE, SUSPENDED; PENDANT, CHAIN, STEM, OR AIRCRAFT CABLE HUNG TO SUIT APPLICATION, OR AS NOTED IN SCHEDULE. "X", WHEN USED DENOTES POWER FEED LOCATION.
	LINEAR LUMINAIRE, WALL MOUNTED
	AS ABOVE, CONNECTED TO EMERGENCY OR NIGHT LIGHTING CIRCUIT AS INDICATED.
	ROUND OR SQUARE DOWNLIGHT, RECESSED
	RECESSED DOWNLIGHTS, CONNECTED TO EMERGENCY OR NIGHT LIGHT CIRCUIT
	ROUND SUSPENDED LUMINAIRE
	WALL SCONCE OR OTHER WALL MOUNTED LUMINAIRES.
EM	CONNECTED TO EMERGENCY NIGHT LIGHT CIRCUIT (24 HOUR)
CE	CONNECTED TO EMERGENCY CIRCUIT. PROVIDE CUL 924 LISTED SHUNT TRIP RELAY OR EQUAL TO PERMIT CONTROL OF LUMINAIRE WITH ZONING BASED ON LOCAL LIGHTING CONTROLS.
NL	LUMINAIRE CONNECTED TO NON-EMERGENCY NIGHT LIGHT CIRCUIT (24 HOUR)
A, B, Z1, Z2, ETC.	DENOTES ZONING/CIRCUITING ASSIGNMENTS FOR LUMINAIRES AND CONTROLS IN THE SAME SPACE.
EMERGENCY LIGHTING REFER TO EMERGENCY LIGHTING FIXTURE SCHEDULE FOR EXACT FIXTURE REQUIREMENTS.	
	CEILING OR WALL MOUNTED ILLUMINATED EXIT SIGN. SHADED AREA INDICATES ILLUMINATED FACE. PROVIDE DIRECTIONAL ARROWS AS INDICATED ON PLANS.
	CEILING OR WALL MOUNTED ILLUMINATED EXIT SIGN. SHADED AREA INDICATES ILLUMINATED FACE. PROVIDE DIRECTIONAL ARROWS AS INDICATED ON PLANS.
SL	DENOTES 'SELF-LUMINOUS' EXIT SIGN
PL	PHOTOLUMINOUS EXIT SIGN
	EMERGENCY LIGHTING BATTERY UNIT, WITH AND WITHOUT HEADS.
	ONE AND TWO HEAD WALL MOUNTED EMERGENCY LIGHTING REMOTE UNITS.
	ONE AND TWO HEAD CEILING MOUNTED EMERGENCY LIGHTING REMOTE UNITS.
	RECESSED EMERGENCY REMOTE HEAD.
EM	DENOTES 'EMERGENCY'
CCT	CORRELATED COLOUR TEMPERATURE
CRI	COLOUR RENDERING INDEX
EXTERIOR LIGHTING	
	ARM MOUNTED LUMINAIRE ON POLE. DIRECTIONAL ARROW, WHERE INDICATED DENOTES PRIMARY LUMEN ORIENTATION.
	POST TOP LUMINAIRE ON POLE. DIRECTIONAL ARROW, WHERE INDICATED DENOTES PRIMARY LUMEN ORIENTATION.
	LIGHTING BOLLARD. DIRECTIONAL ARROW, WHERE INDICATED DENOTES PRIMARY LUMEN ORIENTATION.
	GROUND MOUNTED FLOOD LIGHT
TELECOMMUNICATIONS	
	SYSTEM FURNITURE FEED.
W	ADJACENT TO SYSTEM FURNITURE FEED, DENOTES WALL SYSTEM FURNITURE FEED FOR COMMUNICATIONS.
F	ADJACENT TO SYSTEM FURNITURE FEED, DENOTES FLOOR SYSTEM FURNITURE FEED FOR COMMUNICATIONS.
C	ADJACENT TO SYSTEM FURNITURE FEED, DENOTES CEILING SYSTEM FURNITURE FEED FOR COMMUNICATIONS (SERVICE POLE OR DROP CORD AS NOTED).
CABLE TRAY (LADDER TYPE)	
CABLE TRAY (BASKET TYPE)	
	WALL MOUNTED DATA (D) OR VOICE (V) OUTLET. PROVIDE 1V AND 1D UNLESS NOTED OTHERWISE.
	WALL MOUNTED VOICE (TELEPHONE) OUTLET. PROVIDE 1V UNLESS NOTED OTHERWISE.
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ELECTRICAL LEGEND	
SYMBOL	DESCRIPTION
	WALL MOUNTED DATA OUTLET. PROVIDE 1D UNLESS NOTED OTHERWISE.
	WALL MOUNTED TELEVISION OUTLET.
	VOICE, DATA, OR TV OUTLET AS DESCRIBED ABOVE, MOUNTED ABOVE COUNTER TOP OR AS INSTRUCTED ON SITE.
B	ADJACENT TO COMMUNICATIONS OUTLET, INDICATES BLANK-OFF PLATE.
	HDMI OUTLET.
	AUDIO VIDEO GANGS, AS NOTED.
	WIRELESS ACCESS POINT (WIFI)
	AUDIO VISUAL SYSTEM SPEAKER, CEILING MOUNTED.
	AUDIO VISUAL SYSTEM SPEAKER, WALL MOUNTED.
	PUBLIC ADDRESS SYSTEM SPEAKER, CEILING MOUNTED.
	PUBLIC ADDRESS SYSTEM SPEAKER, WALL MOUNTED.
	PUBLIC ADDRESS SYSTEM HANDSET
	PUBLIC ADDRESS SYSTEM ADMIN CONTROL CONSOLE
	PUBLIC ADDRESS SPEAKER VOLUME CONTROL SWITCH.
	INTERCOM
	INSULATION DISPLACEMENT CONNECTION
	CLOCK
	GPS CLOCK SYSTEM MASTER TRANSMITTER
	GPS CLOCK SYSTEM GPS RECEIVER
	GPS CLOCK SYSTEM SATELLITE TRANSMITTER (RECEIVER)
	GPS CLOCK SYSTEM RECEIVER SWITCH
ACCESS CONTROL AND DOOR HARDWARE	
	CARD READER
	DOOR ALARM SOUNDER
	DOOR CONTACT
	OVERHEAD DOOR CONTACT
	ELECTRIC LATCH RETRACTION
	ELECTRIC STRIKE
	ELECTRIC POWER TRANSFER CABLE
	POWER TRANSFER HINGE
	KEY SWITCH
	ELECTROMAGNETIC LOCK
	MOTORIZED LATCH RETRACTION. PROVIDE 120 V.
	REQUEST TO EXIT SENSOR
	MUSHROOM HEAD PUSH BUTTON FOR 'REQUEST TO EXIT' MAGLOCK RELEASE, OR OTHER PUSH BUTTON, AS INDICATED.
	BARRIER FREE DOOR OPERATOR PUSH BUTTON
	BARRIER FREE DOOR OPERATOR PUSH BUTTON.
	TOUCHLESS 'WAVE SWITCH' FOR DOOR OPERATOR CONTROL.
	DOOR BELL C/W SOUNDER AND STROBE
	DOOR BELL (SOUNDER ONLY)
INTRUSION DETECTION	
	GLASS BREAK (GB)
	MOTION DETECTOR (MD)
	KEYPAD (KP)
	VIDEO SURVEILLANCE
	CCTV CAMERA
C/P	CCTV CAMERA, CEILING OR POLE MOUNTED
	CCTV CAMERA, WALL MOUNTED
	PAN-TILT-ZOOM
DURESS SYSTEM	
	DURESS BUTTON (MOUNTED ON UNDERSIDE OF TABLETOP)
	WALL MOUNTED DURESS BUTTON WITH POLYCARBONATE ANTI-TAMPER COVER
	DURESS SYSTEM STROBE LIGHT
FIRE DETECTION AND ALARM - GENERAL	
CACF	CENTRAL ALARM AND CONTROL FACILITY
FACP	FIRE ALARM CONTROL PANEL
FAAP	FIRE ALARM ANNUNCIATOR PANEL
FAAG	FIRE ALARM ACTIVE ANNUNCIATOR C/W GRAPHIC
FAPG	FIRE ALARM PASSIVE GRAPHIC
DGP	DATA GATHERING PANEL
FAZ	FIRE ALARM ZONE
FSZ	FIRE ALARM SUPERVISORY ZONE
FDSPCP	FIRE DETECTION, SUPPRESSION, AND PRE-ACTION CONTROL PANEL
FDSCP	FIRE DETECTION AND SUPPRESSION CONTROL PANEL
	FIRE ALARM PANEL (FACP, FAAP, FAMP) AS DENOTED ON PLANS
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ELECTRICAL LEGEND	
SYMBOL	DESCRIPTION
FIRE DETECTION - INITIATION DEVICES	
	MANUAL PULL STATION (MPS)
LX	WHERE NOTED ADJACENT TO MANUAL PULL STATIONS, DENOTES PULL STATION C/W POLYCARBONATE (LEXAN) COVER.
WG	WHERE NOTED ADJACENT TO MANUAL PULL STATIONS, DENOTES PULL STATION C/W WIRE GUARD COVER.
A	WHERE NOTED ADJACENT TO MANUAL PULL STATIONS, DENOTES MANUAL PULL STATION C/W AUXILIARY CONTACT.
	PHOTOELECTRIC SMOKE DETECTOR
	SAME AS ABOVE, WALL MOUNTED
SA	WHEN ADJACENT TO PHOTOELECTRIC SMOKE DETECTOR, INDICATES RESIDENTIAL SMOKE ALARM
	RESIDENTIAL SMOKE ALARM. 120 VOLT, COMPLETE WITH STROBE. FOR AREAS AS INDICATED ON PLANS BY 'CO'. PROVIDE INTEGRAL CARBON MONOXIDE DETECTION.
	SAME AS ABOVE, WALL MOUNTED
	DUCT MOUNTED SMOKE DETECTOR
CO	CARBON MONOXIDE DETECTOR
VESDA	VERY EARLY SMOKE DETECTING APPARATUS
BSDT	BEAM SMOKE DETECTOR TRANSMITTER
BSDR	BEAM SMOKE DETECTOR RECEIVER (OR REFLECTOR)
ASD	ASPIRATING SMOKE DETECTOR
	END OF LINE (EOL) DEVICE ON ZONE INITIATION OR SIGNAL CIRCUITS
	HEAT DETECTOR - FIXED TEMPERATURE
	SAME AS ABOVE, WALL MOUNTED
HT	ADJACENT TO HEAT DETECTOR, DENOTES 'HIGH TEMPERATURE'
	HEAT DETECTOR - 94 DEGREES C (200 DEGREES F) FIXED TEMPERATURE
	HEAT DETECTOR - 58 DEGREES C (135 DEGREES F) FIXED TEMPERATURE AND RATE OF RISE
LINEAR HEAT DETECTION CABLE	
	FLOW SWITCH
FIRE DETECTION AND ALARM - SUPERVISORY DEVICES	
	LOW TANK LEVEL
	LOSS OF POWER
	LOW TEMPERATURE
	PRESSURE SWITCH
	SUPERVISED VALVE
	SUPERVISED VALVE
FIRE DETECTION AND ALARM - SIGNALLING DEVICES	
	FIRE ALARM BELL, WALL MOUNTED.
C	ADJACENT TO BELL OR HORN, DENOTES CEILING MOUNTED.
	FIRE ALARM HORN
M	ADJACENT TO FIRE ALARM HORN, DENOTES 'MINI' HORN
	FIRE ALARM HORN/STROBE, WALL MOUNTED.
	FIRE ALARM EVACUATION SPEAKER, CEILING MOUNTED
	FIRE ALARM EVACUATION SPEAKER, COMPLETE WITH STROBE LIGHT, CEILING MOUNTED
	FIRE ALARM EVACUATION SPEAKER, WALL MOUNTED
	FIRE ALARM EVACUATION SPEAKER COMPLETE WITH STROBE LIGHT, WALL MOUNTED
	SILENCE SWITCH
	FIRE ALARM WALL MOUNTED STROBE LIGHT
FIRE DETECTION AND ALARM - VOICE COMMUNICATION DEVICES	
	EMERGENCY TELEPHONE FOR FIREFIGHTER'S USE
FIRE DETECTION AND ALARM - OTHER DEVICES	
	END OF LINE DEVICE
	WIRE GUARD
	"DO NOT ENTER" SIGN
	KEY SWITCH FOR FIREFIGHTER CONTROL OF ELEVATOR RECALL, OR AS NOTED
	ISOLATOR MODULE
	OUTPUT RELAY, FUNCTION AS INDICATED
	CONTROL MODULE
	MONITOR MODULE
	MAGNETIC DOOR HOLDER AND RELEASING DEVICE ("HOLD OPEN")
	FIRE SUPPRESSION RELEASING STATION
	FIRE SUPPRESSION ABORT STATION
SINGLE LINE DIAGRAM	
	AIR CIRCUIT BREAKER
	MOLDED CASE CIRCUIT BREAKER
	DISCONNECT (UNFUSED)
	FUSE
	METERING CABINET
	TRANSFORMER
	BUS DUCT
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ELECTRICAL LEGEND	
SYMBOL	DESCRIPTION
	GENERATOR
	AUTOMATIC TRANSFER SWITCH
	AUTOMATIC TRANSFER SWITCH COMPLETE WITH SINGLE SIDED BYPASS ISOLATION
	AUTOMATIC TRANSFER SWITCH COMPLETE WITH SINGLE SIDED BYPASS ISOLATION
ATS	AUTOMATIC TRANSFER SWITCH
C	CONTACTOR
DP	DISTRIBUTION PANELBOARD
LP	LIGHTING PANELBOARD
MCB	MOBILE CONNECTION BOX
MCC	MOTOR CONTROL CENTRE
MTS	MANUAL TRANSFER SWITCH
RP	RECEPTACLE PANELBOARD
SPD	SURGE PROTECTIVE DEVICE
STS	STATIC TRANSFER SWITCH
SWBD	SWITCHBOARD
TX	TRANSFORMER
UPS	UNINTERRUPTIBLE POWER SUPPLY
DETAIL REFERENCES	
	SHEET KEYNOTE
	REVISION NUMBER
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ELECTRICAL DRAWING LIST	
DRAWING #	DRAWING NAME
E-001	ELECTRICAL LEGEND & DRAWING LIST
E-100	ELECTRICAL SITE PLAN
E-200	LIGHTING NEW WORK - GROUND FLOOR
E-300	POWER AND SYSTEMS NEW WORK - GROUND FLOOR
E-301	POWER AND SYSTEMS NEW WORK - ROOF PLAN
E-700	ELECTRICAL SINGLE LINE DIAGRAM
E-701	FIRE ALARM RISER
E-800	ELECTRICAL DETAILS
E-801	ELECTRICAL DETAILS
E-802	ELECTRICAL DETAILS
E-803	ELECTRICAL DETAILS
E-804	ELECTRICAL DETAILS
E-805	ELECTRICAL DETAILS
E-806	ELECTRICAL DETAILS - TRAINING FACILITY
E-900	ELECTRICAL SCHEDULES
E-901	ELECTRICAL SCHEDULES
GENERAL NOTE: SYMBOLS WITHIN HATCHED AREA ARE ROUGH-IN ONLY. COORDINATE EXACT INSTALLATION LOCATION WITH OWNER. DEVICES TO BE INSTALLED BY OWNER. UNLESS NOTED OTHERWISE, ALL CONDUITS ARE MINIMUM 1 INCH, AND BROUGHT TO THE IT ROOM.	

# PARKIN

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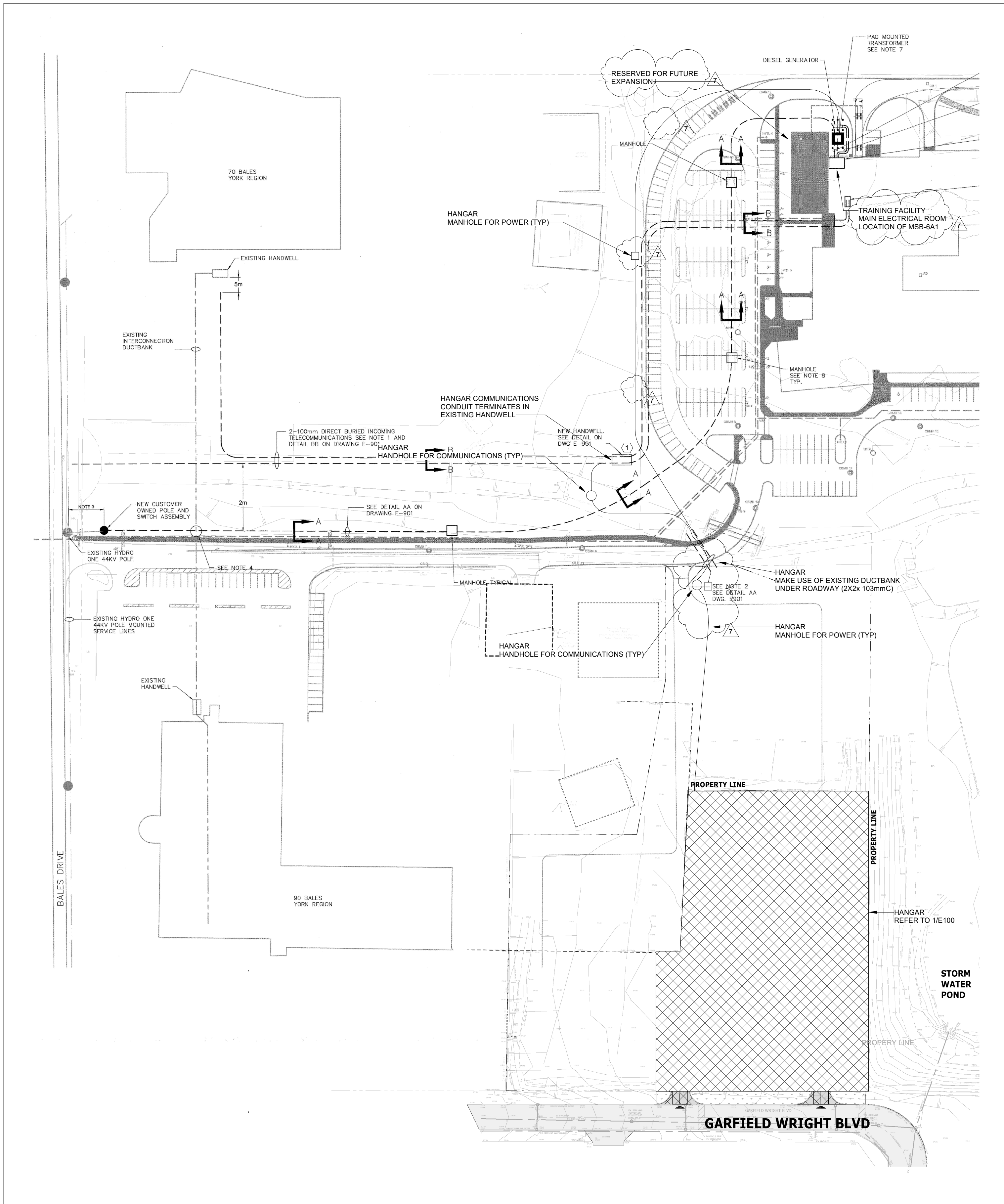


## YORK REGIONAL POLICE HELICOPTER HANGAR

350 GARFIELD WRIGHT  
BOULEVARD  
TOWN OF EAST GWILLIMBURY

Key  
Plan


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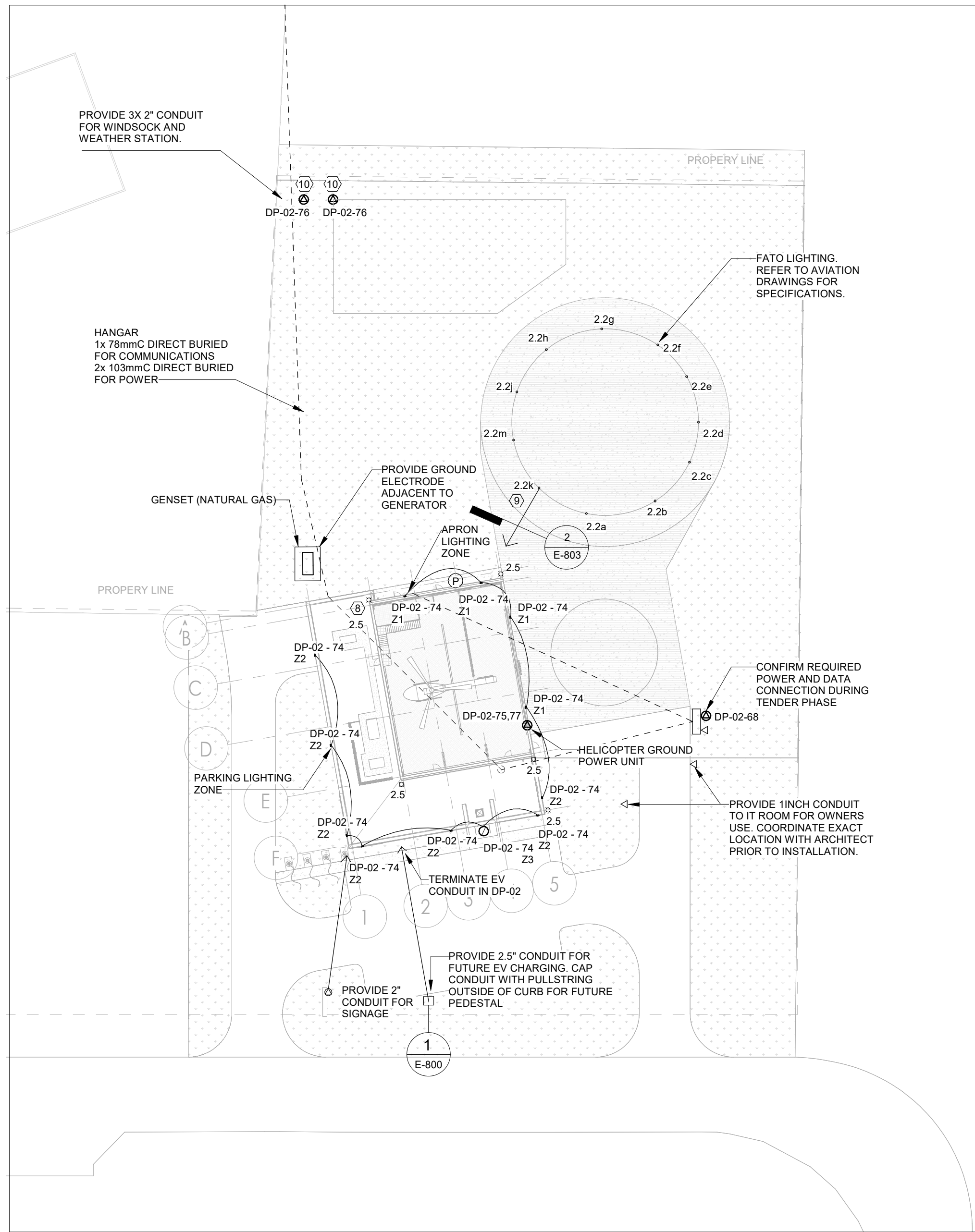
2 OVERALL SITE PLAN  
SCALE: 1 : 1000

### GENERAL NOTES

- WHERE DIMENSIONS ARE PROVIDED IN METRIC AND IN IMPERIAL UNITS, METRIC DIMENSIONS GOVERN.
- EMERGENCY POWER FOR LIGHTING AND FIRE ALARM: MINIMUM 30 MINUTES (2012 OBC 3.2.7.4.(1)(b)(iv) "30 MIN FOR ANY OTHER BUILDING").
- FIRE ALARM INSTALLATION IN ACCORDANCE WITH CANULC-S524-14.
- VERIFY FIRE ALARM SYSTEM IN ACCORDANCE WITH CANULC-S537-13.
- COMMISSION INTERCONNECTED LIFE SAFETY SYSTEMS IN ACCORDANCE WITH CANULC-S1001-11.
- PROVIDE SEISMIC RESTRAINTS IN ACCORDANCE WITH SECTION 26 05 48. THIS IS A POST-DISASTER BUILDING. SEISMIC RESTRAINTS ARE REQUIRED PER 2012 OBC 4.1.8.18.(1) AND ARE NOT EXEMPT PER 2012 OBC 4.1.8.18.(2).
- AVIATION OBSTRUCTION LIGHTS. FED FROM PANEL DP-02-42.
- FATO LIGHTS ARE FED FROM HELIPORT LIGHTING CONTROLLER. PROVIDE 5/C-12AWG+BND.
- COORDINATE FINAL LOCATION OF EQUIPMENT WITH ARCHITECT PRIOR TO INSTALLATION.
- REFER TO AVIATION DRAWINGS FOR DETAILS OF AVIATION RELATED EQUIPMENT TO BE PROVIDED BY ELECTRICAL CONTRACTOR.

### KEYNOTE LEGEND

- TERMINATE NEW COMMUNICATIONS DUCT IN EXISTING COMMUNICATIONS HANDWELL. ENSURE NEW DUCT IS INSTALLED ON OPPOSITE FACES OF HANDWELL TO ALLOW FOR A STRAIGHT PULL (BY OWNER).
- OVERALL SITE PLAN (1:1000 SCALE) HAS BEEN DRAWN ON EXISTING SITE PLANS FROM OTHER PROJECTS. NOTES WRITTEN FOR THIS PROJECT ARE PREFIXED BY THE TERM "HANGAR". OTHER NOTES ARE INFORMATION ONLY.



1 SITE PLAN  
SCALE: 1 : 500

# PARKIN

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## YORK REGIONAL POLICE HELICOPTER HANGAR

350 GARFIELD WRIGHT  
BOULEVARD  
TOWN OF EAST GWILLIMBURY

Key  
Plan

NO.	ISSUED	DATE
7	ISSUED FOR ADDENDUM 8	2024-10-07
6	ISSUED FOR ADDENDUM 6	2024-09-30
5	ISSUED FOR ADDENDUM 3	2024-09-23
4	ISSUED FOR ADDENDUM 1	2024-09-16
3	ISSUED FOR TENDER	2024-09-09
2	ISSUED FOR SITE PLAN APPROVAL	2024-08-16
1	ISSUED FOR BUILDING PERMIT	2024-07-31

### Issues

All measurements are to be checked and verified on site by the contractor before proceeding with work

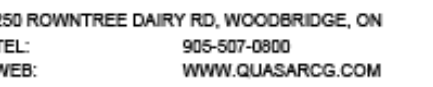
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Drawn by: ZK  
Checked by: AO  
Original Issue Date: 2024-07-31  
Project No: TT-24-005  
Scale: As indicated

Sheet  
Title:  
ELECTRICAL SITE PLAN

Drawing  
No:  
E-100





350 GARFIELD WRIGHT  
BOULEVARD  
TOWN OF EAST GWILLIMBURY

6	ISSUED FOR ADDENDUM 8	2024-10-07
5	ISSUED FOR ADDENDUM 6	2024-09-30
4	ISSUED FOR ADDENDUM 3	2024-09-23
3	ISSUED FOR ADDENDUM 1	2024-09-16
2	ISSUED FOR TENDER	2024-09-09
1	ISSUED FOR BUILDING PERMIT	2024-07-31
NO.	ISSUED	DATE

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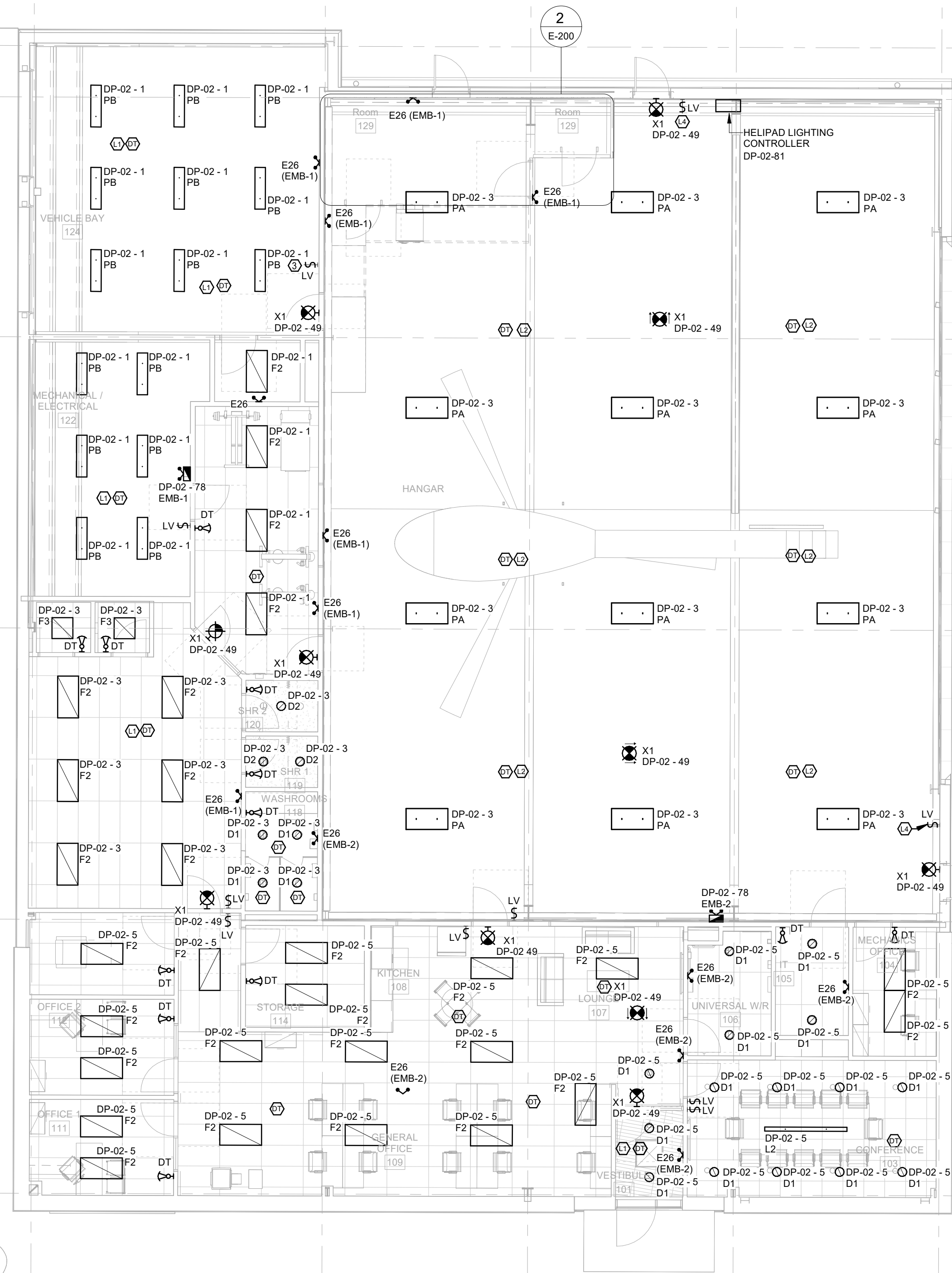
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Checked by: AO  
Original Issue Date: 2024-07-31  
Project No: TT-24-005  
Scale: As indicated

Drawing  
No. **E-200**

GENERAL NOTES:

1. REFER TO POWER AND SIGNALS DRAWINGS FOR SWITCHED RECEPTACLES.

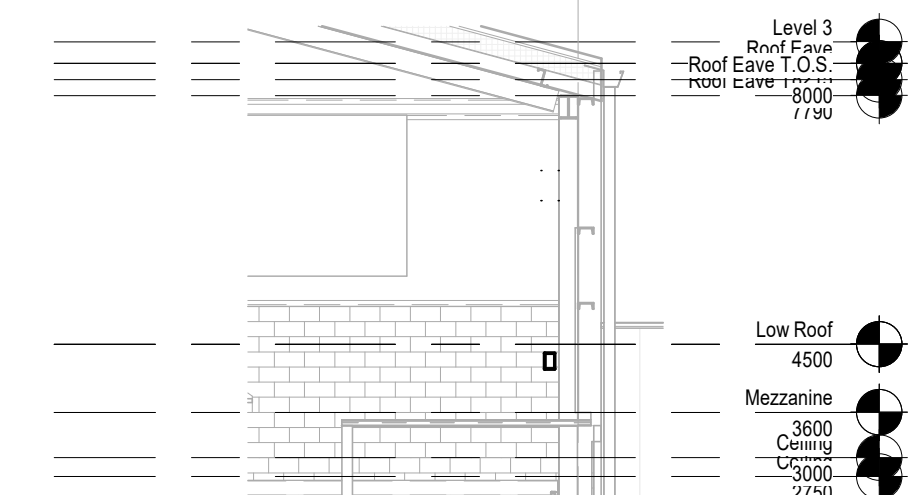
1. REFER TO POWER AND SIGNALS DRAWINGS FOR SWITCHED RECEPTACLES.



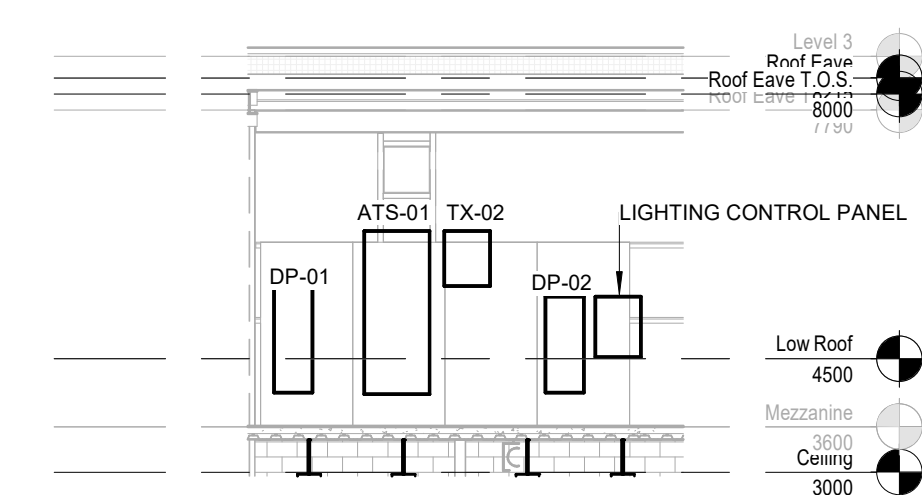
YORK REGIONAL POLICE  
HELICOPTER HANGAR

350 GARFIELD WRIGHT  
BOULEVARD  
TOWN OF EAST GWILLIMBURY

## Key Plan



2 Section 3  
SCALE: 1 : 100



3 Section 5  
SCALE: 1 : 100

6	ISSUED FOR ADDENDUM 8	2024-10-07
5	ISSUED FOR ADDENDUM 6	2024-09-30
4	ISSUED FOR ADDENDUM 3	2024-09-23
3	ISSUED FOR ADDENDUM 1	2024-09-16
2	ISSUED FOR TENDER	2024-09-09
1	ISSUED FOR BUILDING PERMIT	2024-07-31
NO.	ISSUED	DATE

## Issues

All measurements are to be checked and verified on site by the contractor before proceeding with work

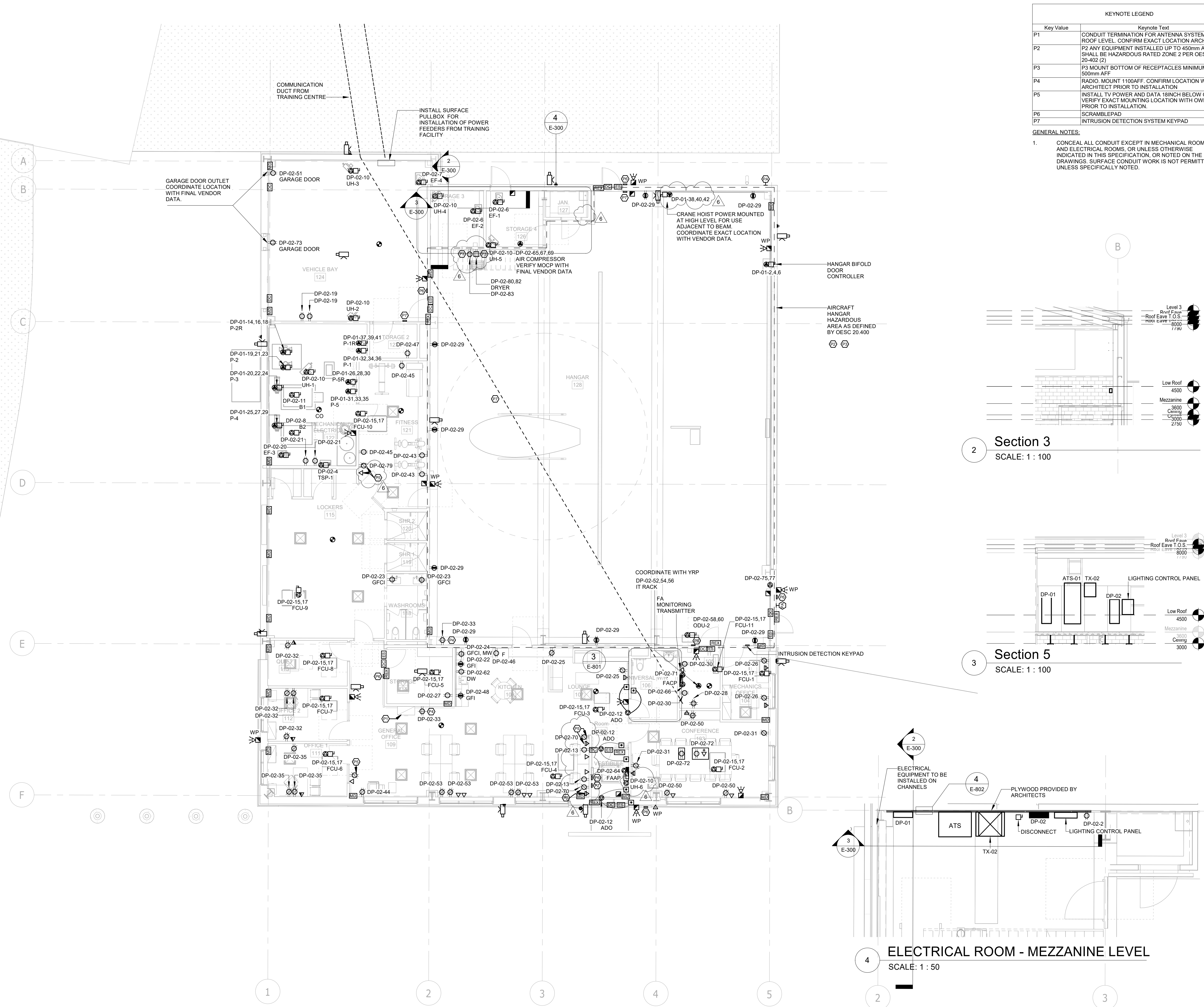
Do not scale drawings

Drawn by: ZK  
Checked by: AO  
Original Issue Date: 2024-07-31  
Project No: TT-24-005  
Scale: As indicated

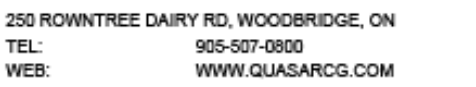
Sheet  
Title:

POWER AND SYSTEMS  
NEW WORK - GROUND  
FLOOR

Drawing  
No.  
**E-300**







350 GARFIELD WRIGHT  
BOULEVARD  
TOWN OF EAST GWILLIMBURY

[illegible]

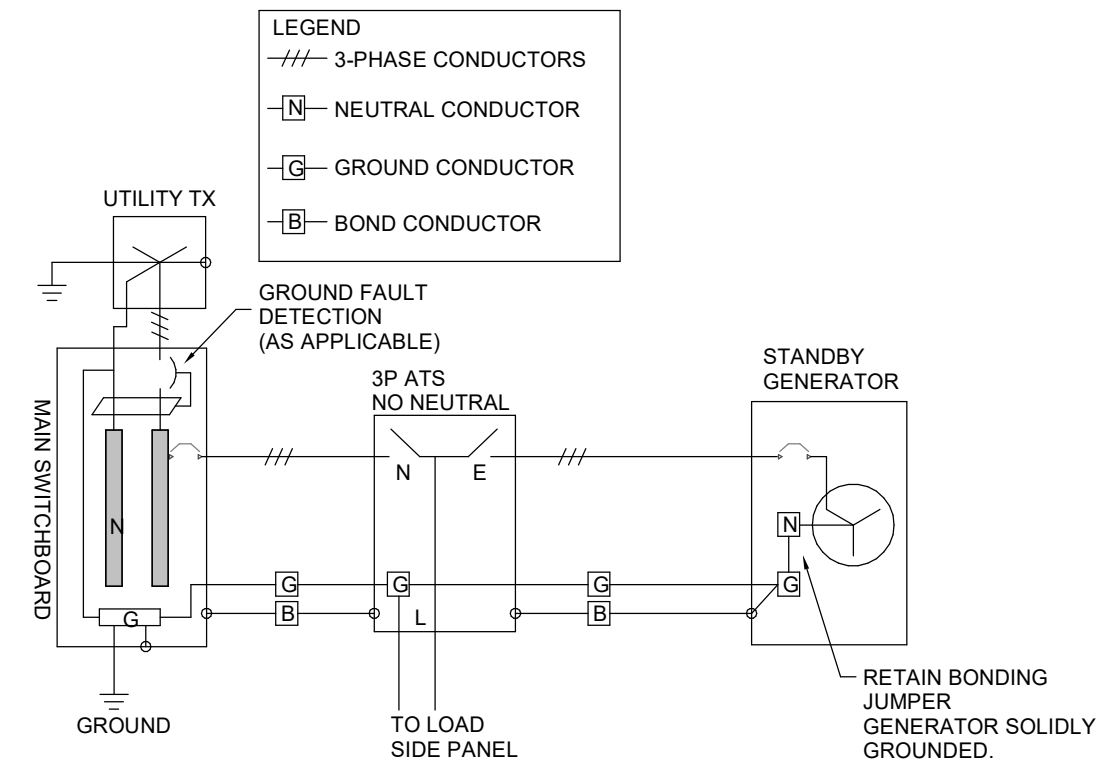
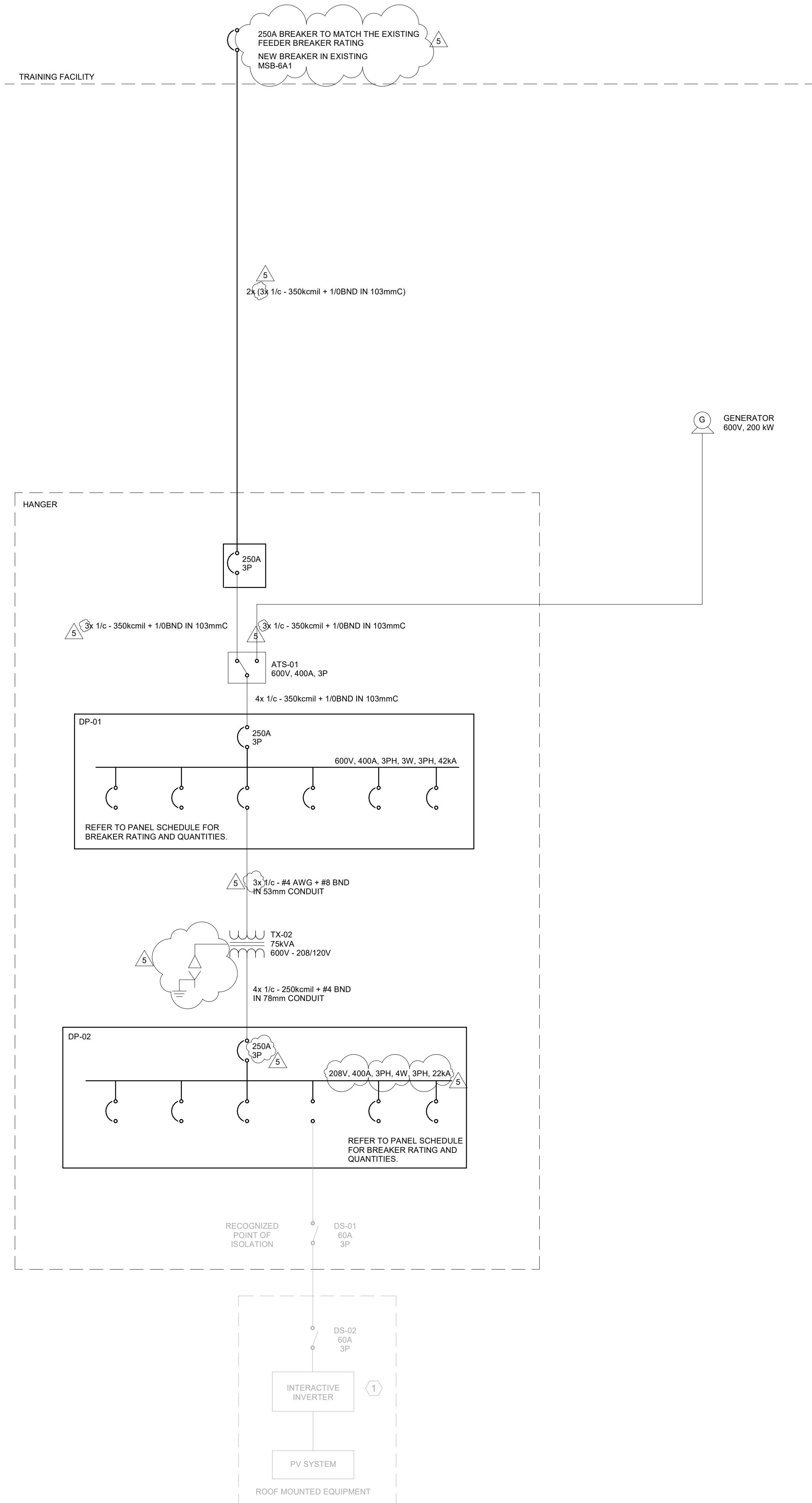
All measurements are to be checked and verified on site by the contractor before proceeding with work

Drawn by: ZK  
Checked by: AO  
Original Issue Date: 2024-07-31  
Project No: TT-24-005  
Scale: 1 : 100

Drawing  
No.  
**E-301**

KEYNOTE LEGEND	
Key Value	Keynote Text
X1	INSTALL 1INCH CONDUIT FOR ANTENNA SYSTEM (CONFIRM CONDUIT SIZE AND LOCATION WITH OWNER PRIOR TO INSTALLATION)
X2	INSTALL CONDUIT FOR FUTURE PV SYSTEM.

GENERAL NOTE:  
ALL ROOF MOUNTED EQUIPMENT TO BE FED DIRECTLY FROM BELOW.  
NO CONDUIT TO BE RUN ALONG ROOF WHERE CAN BE AVOIDED.  
CONFIRM WITH ARCHITECT ALL CONDUIT INSTALLATIONS WHICH WILL  
BE EXPOSED PRIOR TO INSTALLATION.



NOTES:  
1. BOND CONDUCTOR TO BE SIZED IN ACCORDANCE WITH OESC TABLE 16.

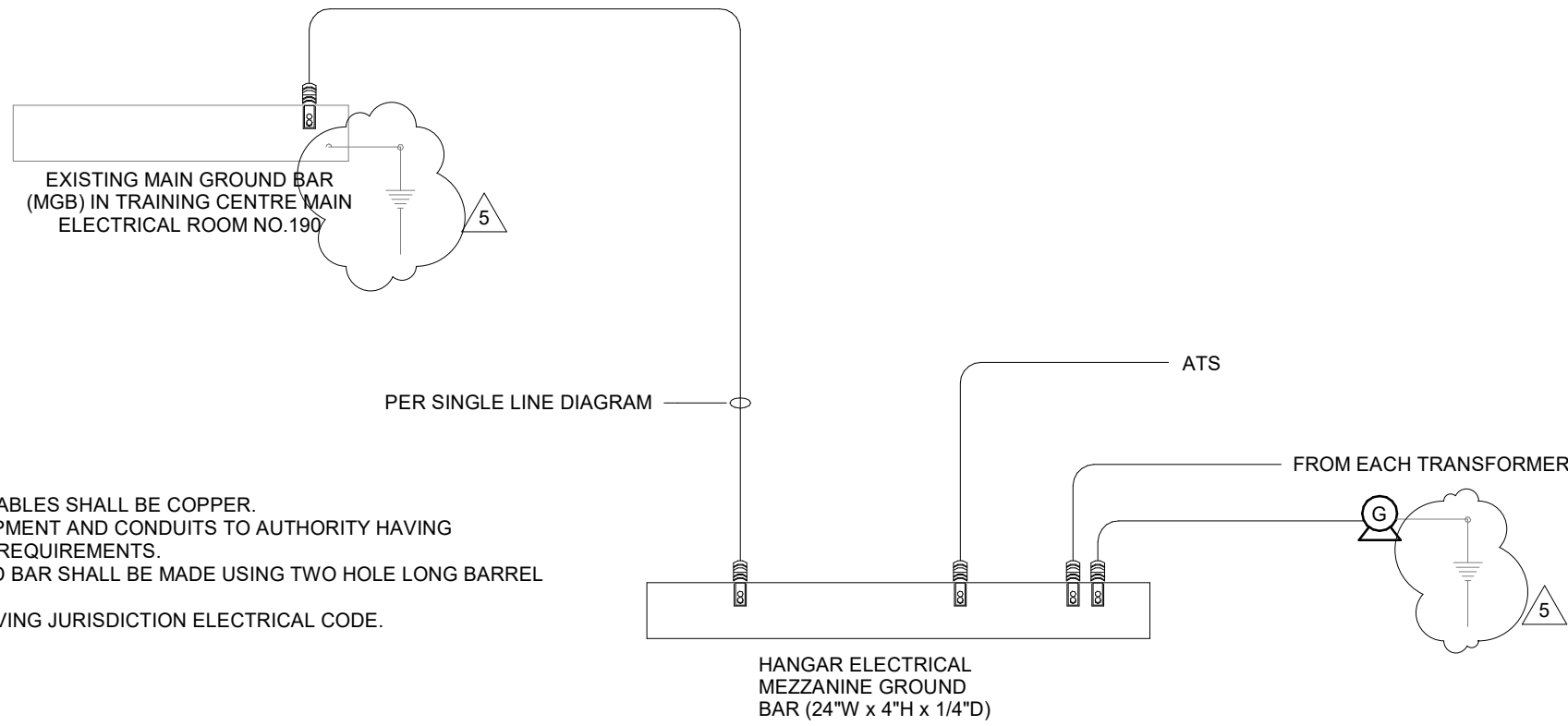
4 TRASNFER SWITCH GROUNDING SCHEMATIC  
SCALE: 1 : 50

CABLE SCHEDULE	
LOAD TAG	CONDUCTOR SIZE
ODU-1	TBD
DO	3x 1/c - #8
P-3	3x 1/c - #8
P-5	3x 1/c - #12
ASHP-1	3x 1/c - #1
P-2	3x 1/c - #8
P-1	3x 1/c - #10
P-2R	3x 1/c - #8
P-1R	3x 1/c - #10
P-4	3x 1/c - #12
P-5R	3x 1/c - #12

NOTES:  
1. 600V CABLE SIZES WHERE NOT SHOWN ON SINGLE LINE DIAGRAM.  
2. CABLE REQUIREMENTS TO BE CONFIRMED WITH EQUIPMENT REQUIREMENTS.

- LEGEND:  
MGB - MAIN GROUND BAR  
GROUNDING RISER NOTES:
- REFER TO SECTION 26 05 26.
  - ALL GROUND BARS AND GROUND CABLES SHALL BE COPPER.
  - PROVIDE ALL GROUNDING TO EQUIPMENT AND CONDUITS TO AUTHORITY HAVING JURISDICTION'S ELECTRICAL CODE REQUIREMENTS.
  - ALL CONNECTIONS TO THE GROUND BAR SHALL BE MADE USING TWO HOLE LONG BARREL COMPRESSION LUGS.
  - WIRE SIZES AS PER AUTHORITY HAVING JURISDICTION ELECTRICAL CODE.

2 Grounding Riser  
SCALE:N.T.S.



YORK REGIONAL POLICE  
HELICOPTER HANGAR

350 GARFIELD WRIGHT  
BOULEVARD  
TOWN OF EAST GWILLIMBURY

Key  
Plan

NO.	ISSUED	DATE
5	ISSUED FOR ADDENDUM 8	2024-10-07
4	ISSUED FOR ADDENDUM 6	2024-09-30
3	ISSUED FOR ADDENDUM 3	2024-09-23
2	ISSUED FOR SITE PLAN APPROVAL	2024-08-16
1	ISSUED FOR BUILDING PERMIT	2024-07-31

Issues

All measurements are to be checked and verified on site by the contractor before proceeding with work

Do not scale drawings

Drawn by: ZK  
Checked by: AO  
Original Issue Date: 2024-07-31  
Project No: TT-24-005

Sheet  
Title:  
ELECTRICAL SINGLE  
LINE DIAGRAM

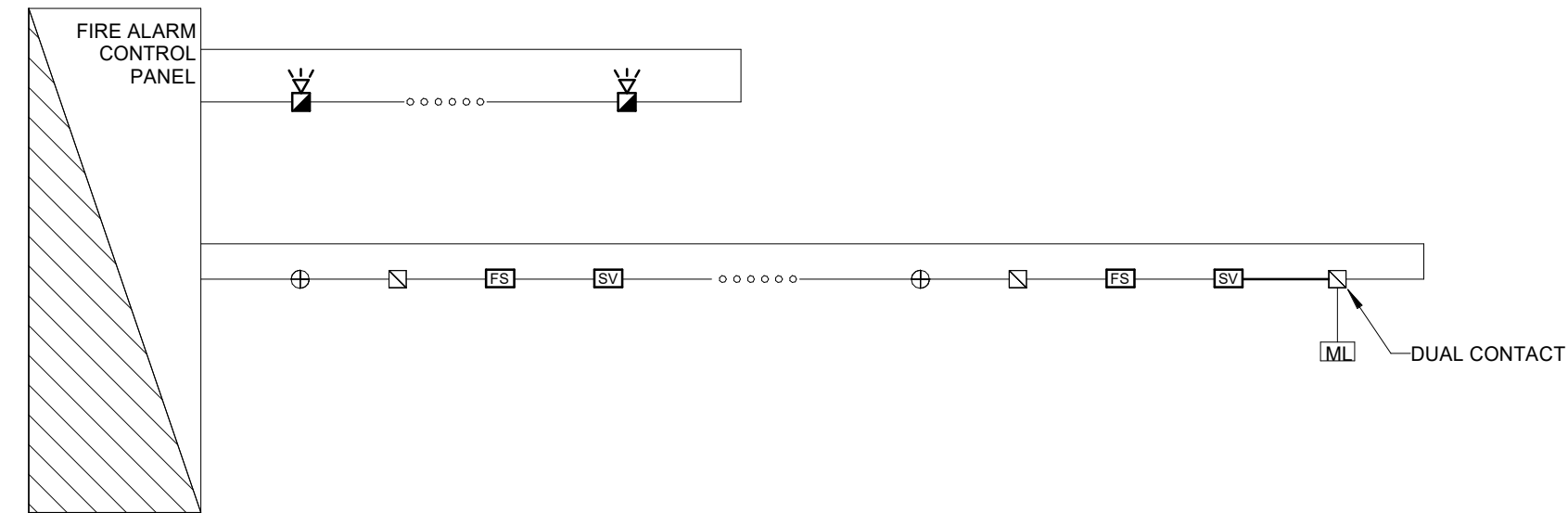
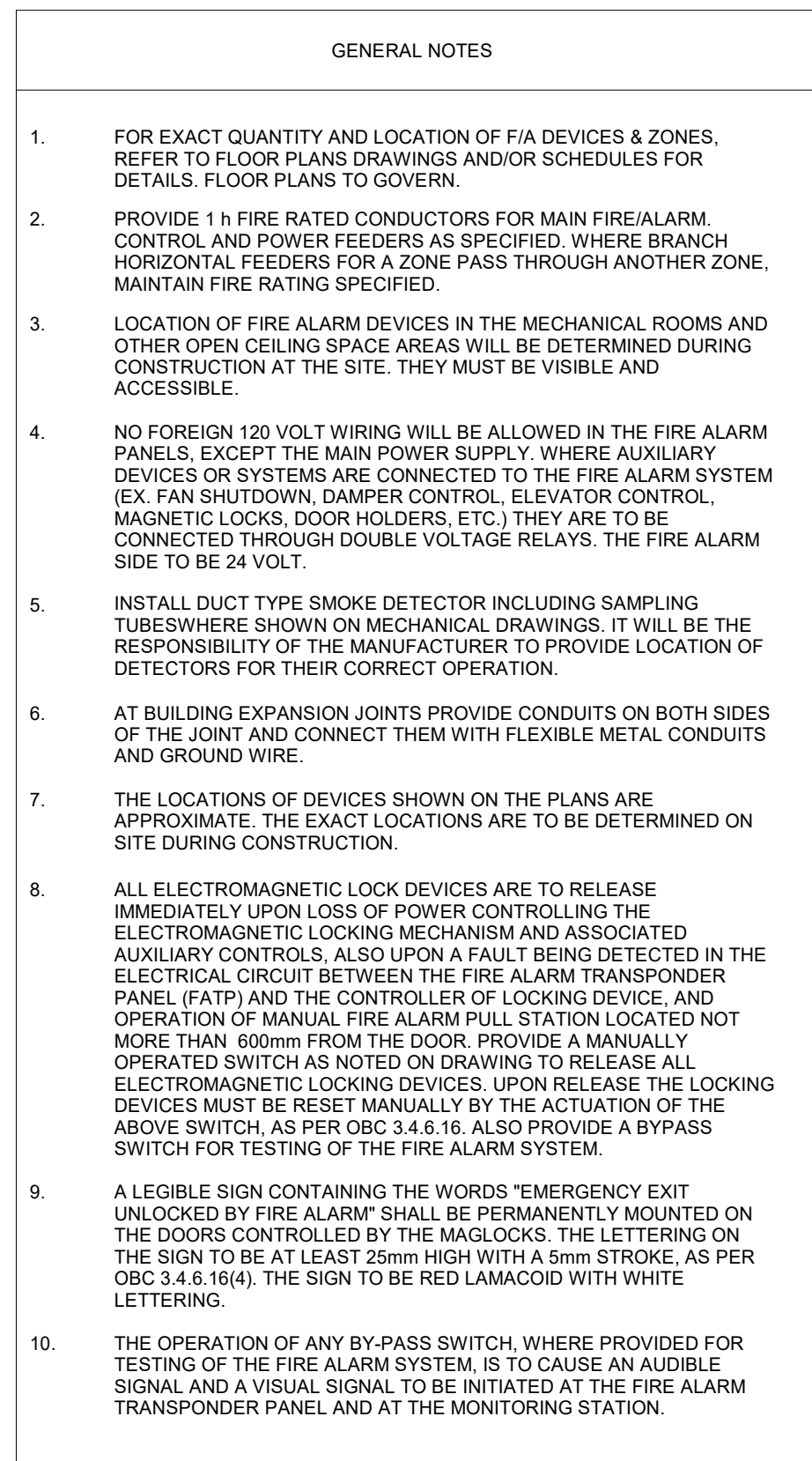
Drawing  
No:  
E-700



# YORK REGIONAL POLICE HELICOPTER HANGAR

350 GARFIELD WRIGHT  
BOULEVARD  
TOWN OF EAST GWILLIMBURY

## Key Plan



FIRE ALARM RISER

SCALE:N.T.S.

[illegible]

## Issues

All measurements are to be checked and verified on site by the contractor before proceeding with work

Do not scale drawings

Drawn by: ZK  
Checked by: AO  
Original Issue Date: 2024-07-31  
Project No: TT-24-005

Sheet  
Title:

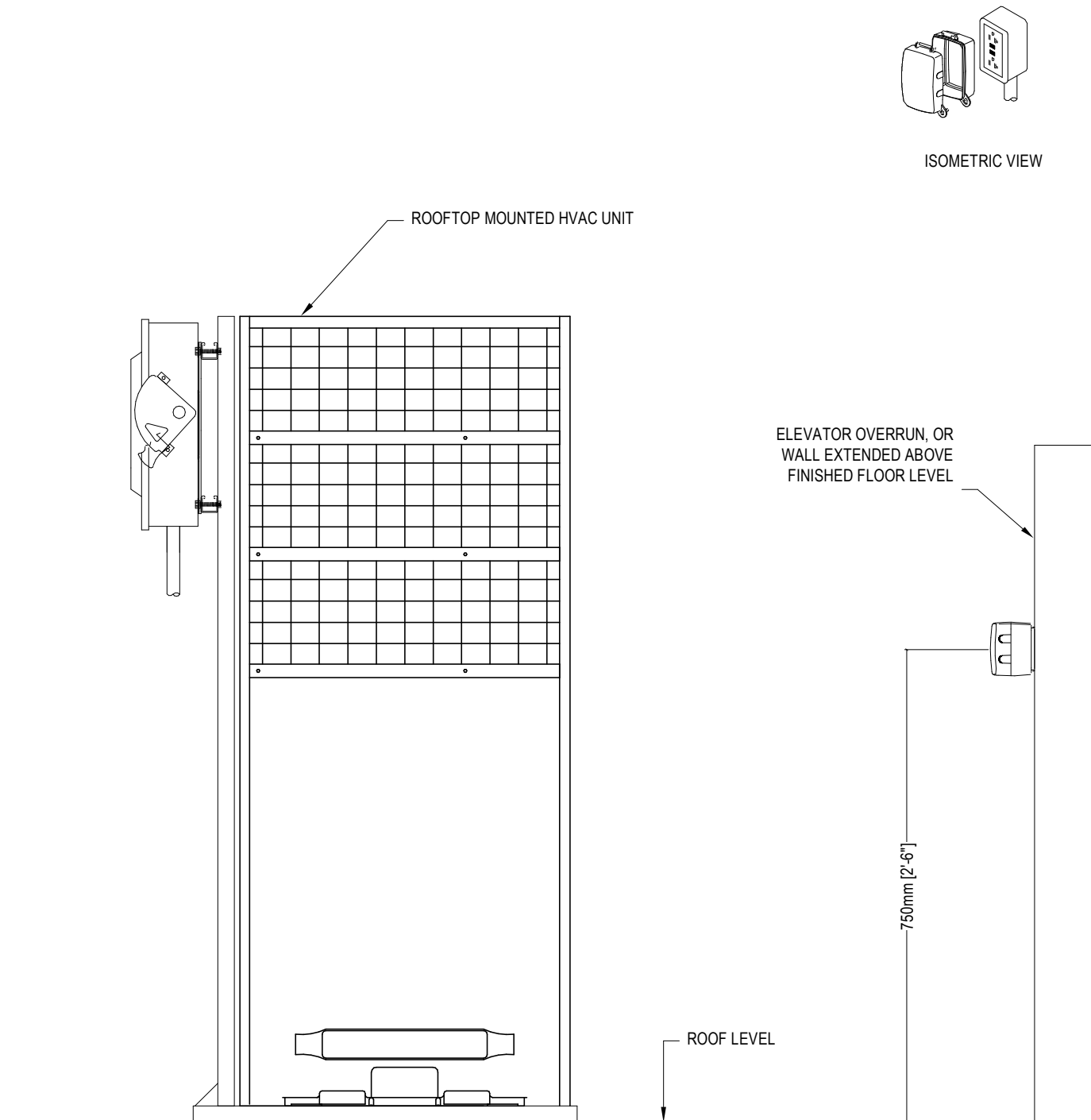
FIRE ALARM RISER

Drawing  
No.  
**E-701**

# YORK REGIONAL POLICE HELICOPTER HANGAR

350 GARFIELD WRIGHT  
BOULEVARD  
TOWN OF EAST GWILLIMBURY

## Key Plan

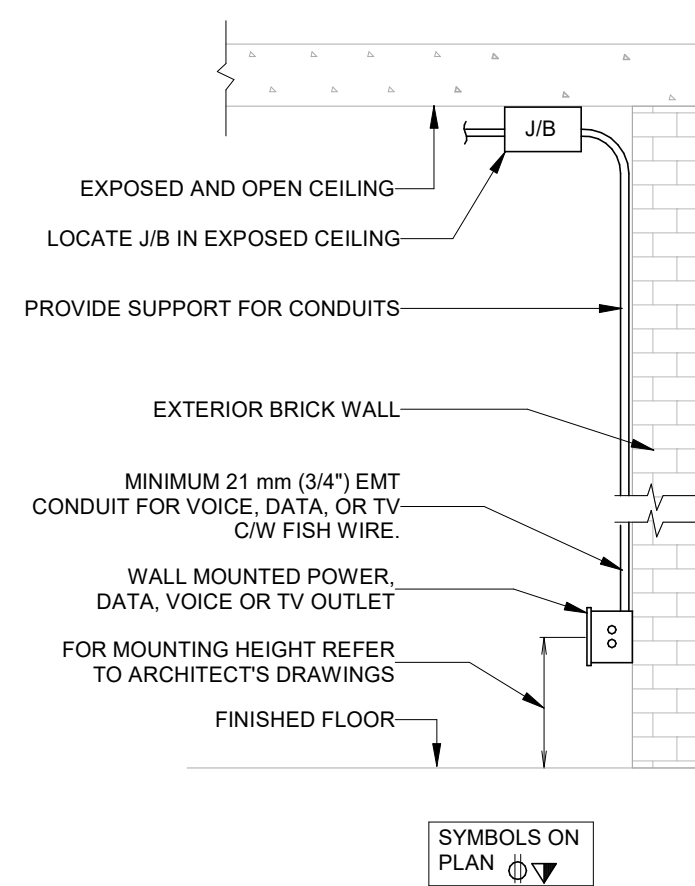


- NOTES:
1. PROVIDE WP GF1 5-20R @ 750 mm (30") ABOVE FINISHED ROOF LEVEL C/W WET LOCATION COVER PLATE, TYPICAL. LOCATE WITHIN 7500 mm (25 FT) OF NEW HVAC EQUIPMENT, AND AT LEAST 1800 mm (6 FEET) AWAY FROM ROOF LINE. COVER PLATE TO BE MARKED "EXTRA DUTY". REFER TO 2021 OESC RULES 2-316, 26-708, 26-710, AND OESC BULLETIN 26-27-\*, OR LATEST EDITION.
  2. LABEL RECEPTACLE WITH PHENOLIC (LAMACOID) NAMEPLATE WITH PANELBOARD ID, CIRCUIT NUMBER, AND PANELBOARD LOCATION.

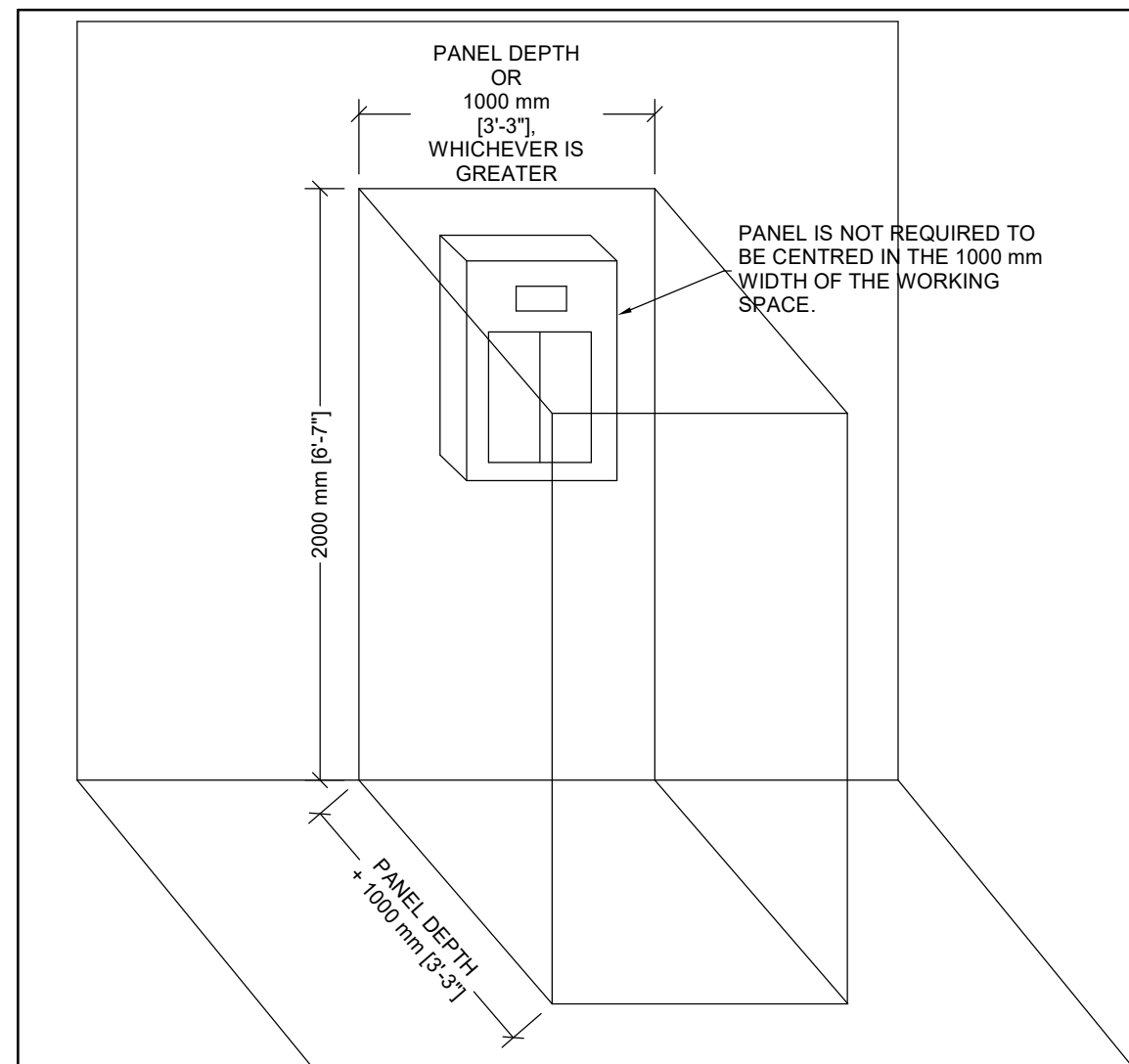
CODE REFERENCES (REFER TO 2021 OESC RULES 2-316, 26-708, AND 26-710, AND OESC BULLETIN 26-27-\*), OR LATEST CODE EDITION:

1. HVAC EQUIPMENT MAINTENANCE RECEPTACLE  
INSTALLED ON ROOF (2021 OESC RULE 2-316).
2. GFCI PROTECTED (2021 OESC 26-710(a)).
3. DEDICATED FOR "HVAC MAINTENANCE" (2021 OESC 26-710(b)).
4. CSA CONFIGURATION 5-20R (2021 OESC 26-710(c)).
5. LOCATED WITHIN 7500 mm OF THE ROOFTOP EQUIPMENT (2021 OESC 26-710(d)).
6. NOT LESS THAN 750 mm (30") ABOVE THE FINISHED ROOF LEVEL (2021 OESC 26-710(e)).
7. PROTECT FROM MECHANICAL DAMAGE (2021 OESC 26-710(f)).
8. LOCATE MINIMUM 1800 mm (6 FEET) AWAY FROM ROOF LINE. REFER TO FALL ARREST LEGISLATION.
9. USE LOCATION COVER PLATE TO BE "WHILE IN USE TYPE," MARKED "EXTRA DUTY" (2021 OESC 26-708(2)).
10. SECURE COVER PLATE TO OUTLET BOX BY FOUR SCREWS OR EQUIVALENT MEANS (2021 OESC 26-708(4)).

3 MAINTENANCE RECEPTACLE ROOF MOUNTED HVAC EQUIPMENT  
SCALE:N.T.S.

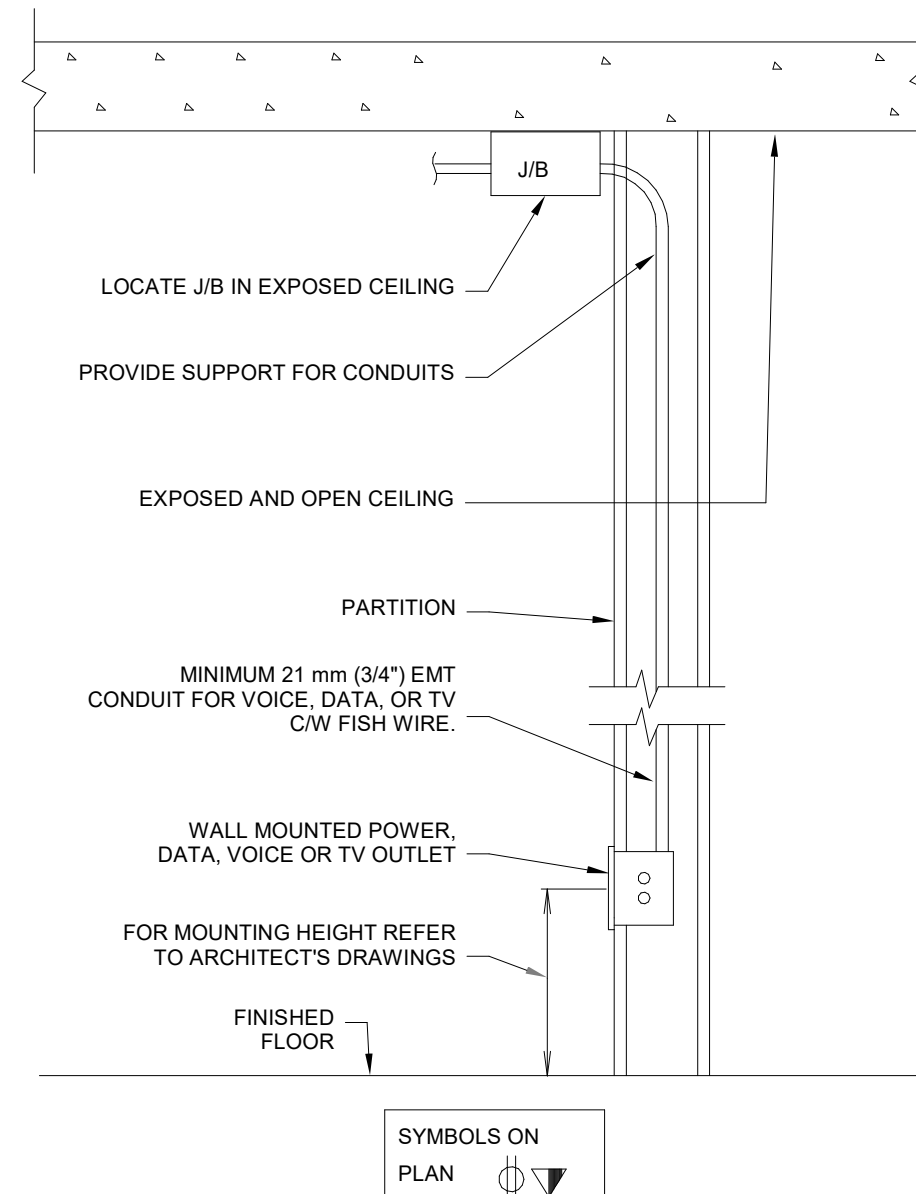


6 WALL MOUNTED OUTLET BOX (SURFACE)  
SCALE:N.T.S.

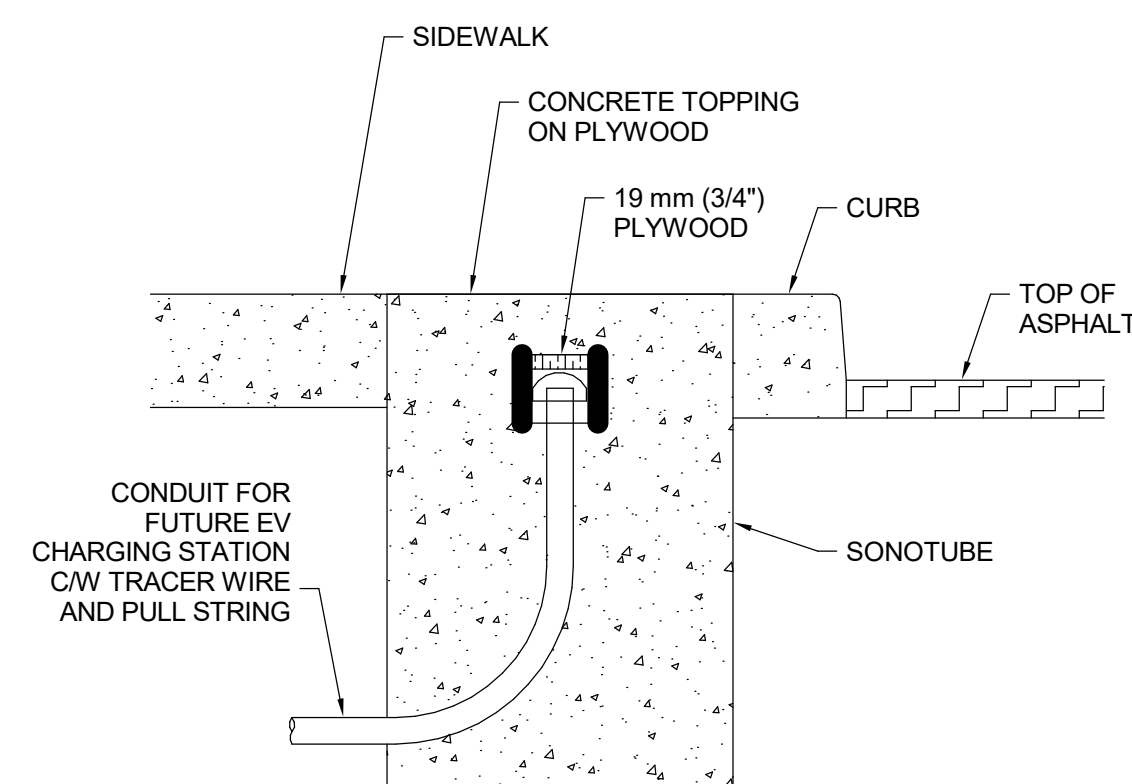


- REFERENCES:
1. 2018 ONTARIO ELECTRICAL SAFETY CODE (OESC), RULE 2-308(1) (OR LATEST EDITION)
  2. OESC BULLETIN 2-9-(LATEST VERSION)

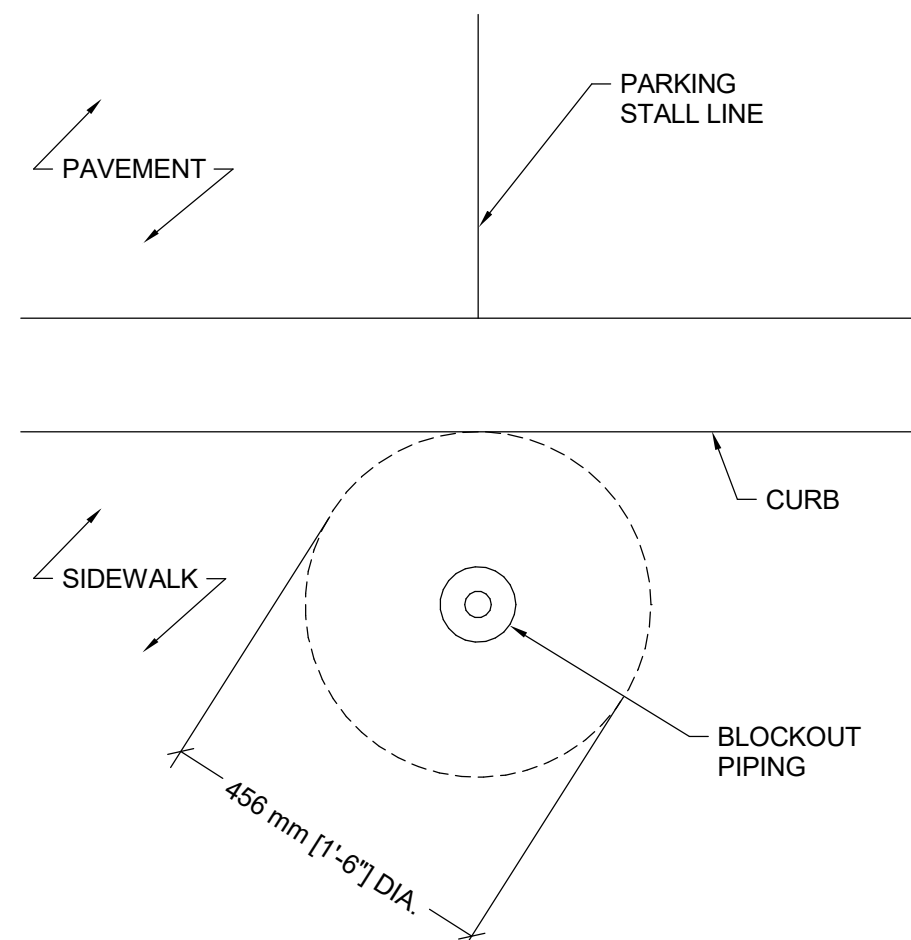
5 CLEAR SPACE AROUND PANELBOARDS  
SCALE: N.T.S.



4 Wall Mounted Outlet Box Wall Recessed  
SCALE:N.T.S.

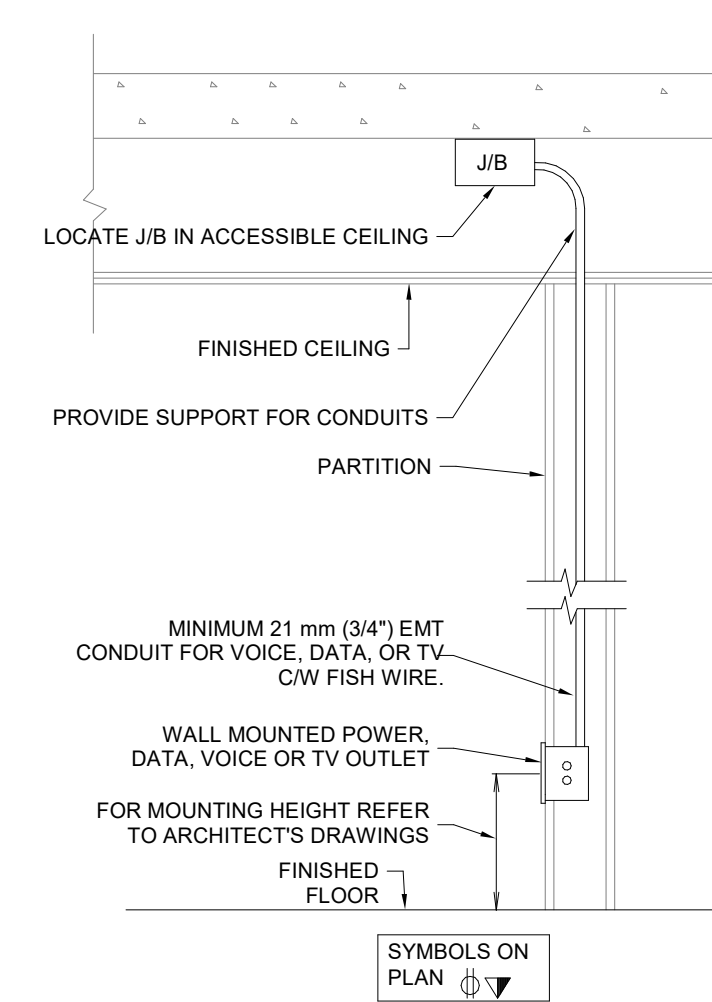


### SECTION VIEW

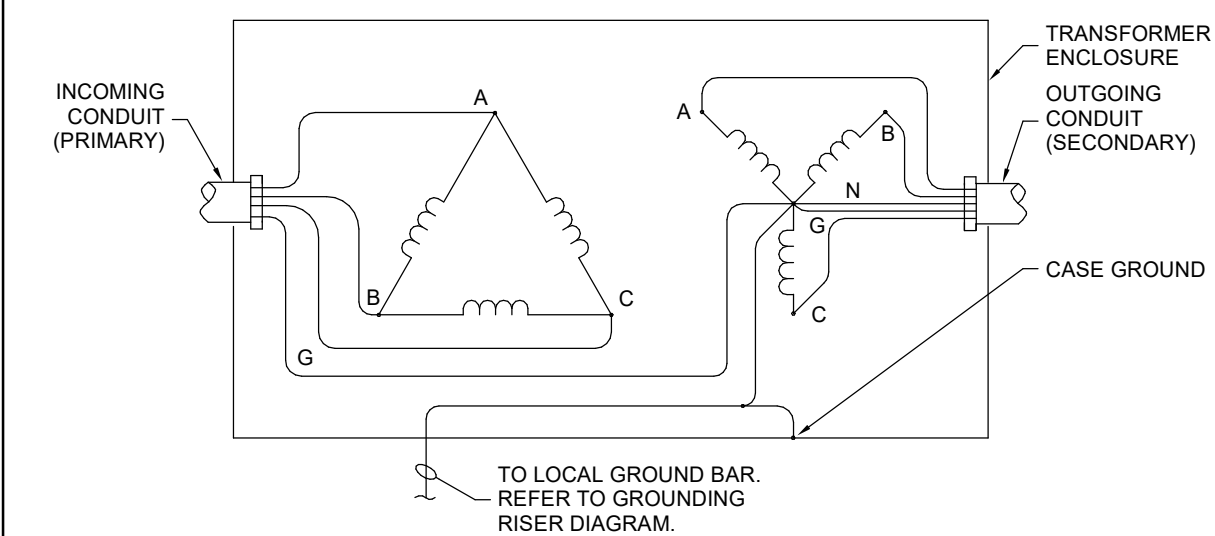


### PLAN VIEW

1 Future EV Charging Station Pedestal Rough-In  
SCALE: 1 : 10

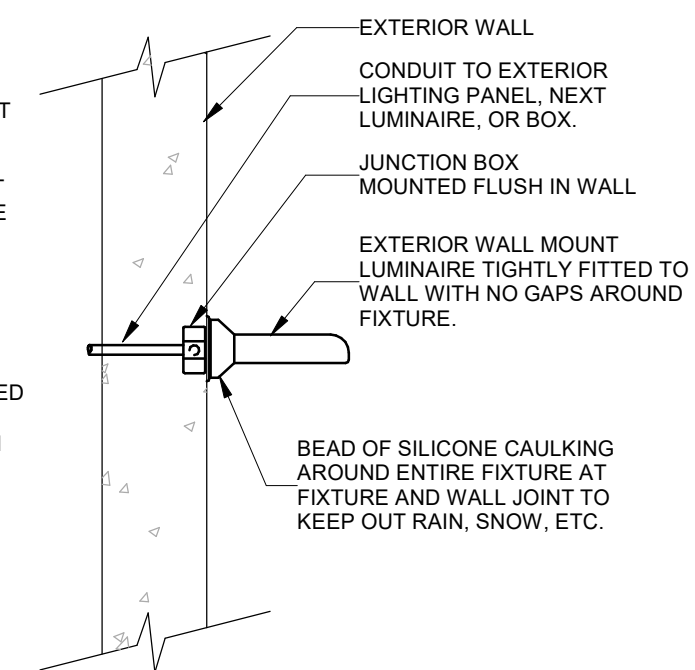


2 Wall Mounted Outlet Box Wall Recessed Ceiling  
SCALE:N.T.S.



8 TRANSFORMER GROUNDING  
SCALE: 1 : 50

- NOTES:**
1. A WEATHERPROOF GASKET SHALL BE INSTALLED BETWEEN THE WALL AND THE FIXTURE. IF A GASKET IS NOT SUPPLIED WITH THE FIXTURE, THE ELECTRICAL CONTRACTOR SHALL SUPPLY ONE AND CUT TO APPROPRIATE SIZE.
  2. THE BEAD OF SILICONE CAULKING SHALL BE PLACED AROUND THE FIXTURE TO PREVENT MOISTURE FROM GETTING BETWEEN THE FIXTURE AND THE WALL.



7 Sealing of Wall Mounted Exterior Luminaires  
SCALE:N.T.S.

[illegible]

## Issues

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Do not scale drawings

Drawn by: ZK  
Checked by: AO  
Original Issue Date: 2024-07-31  
Project No: TT-24-005

Sheet  
Title: ELECTRICAL DETAILS

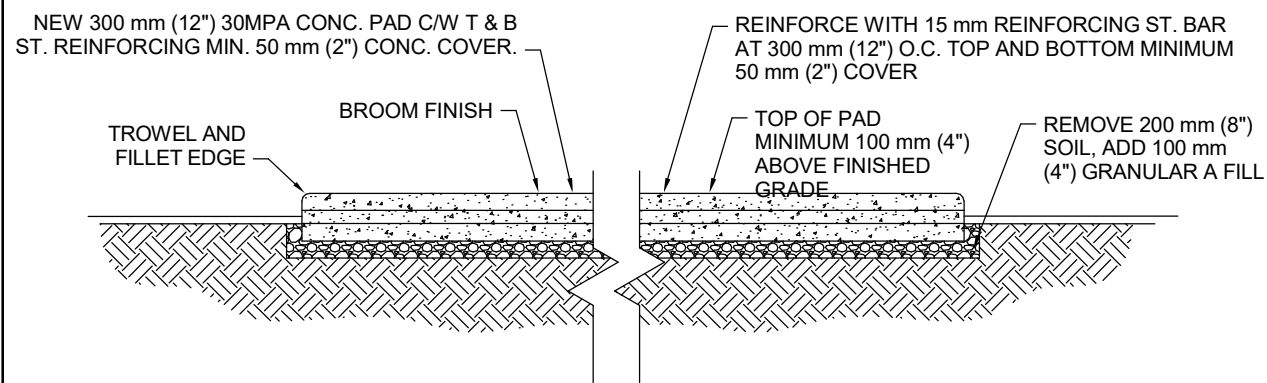
Drawing  
No. **E-800**



# YORK REGIONAL POLICE HELICOPTER HANGAR

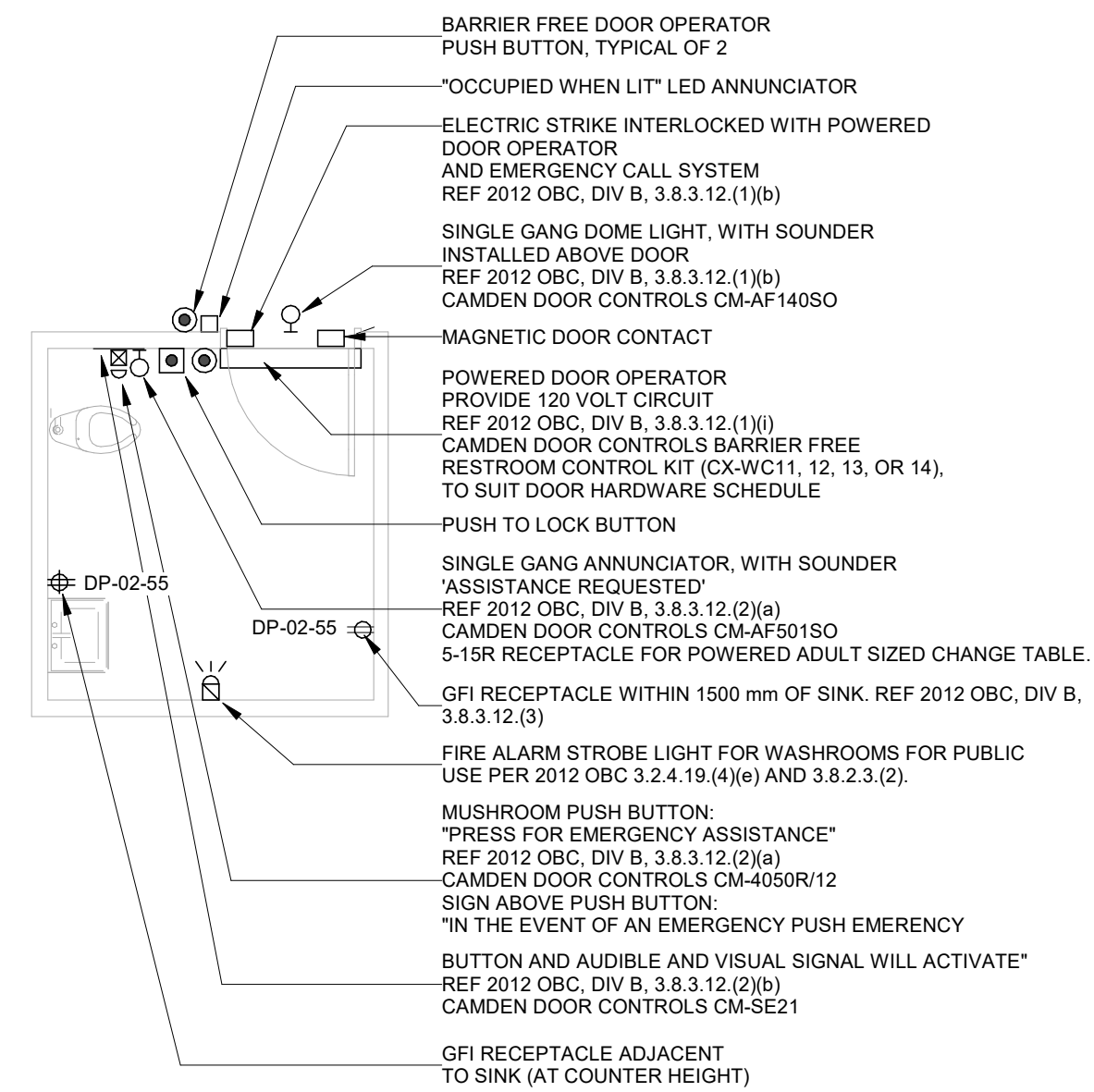
350 GARFIELD WRIGHT  
BOULEVARD  
TOWN OF EAST GWILLIMBURY

## Key Plan



## Cast-In-Place Concrete Generator Pad

SCALE: 1 : 50



UNIVERSAL RESTROOM "EMERGENCY ASSISTANCE" SIGNAL ACTIVATION, ANNUNCIATION AND SUPPORTING SIGNAGE SHALL BE CAMDEN DOOR CONTROLS MODEL CX/WEC10/CX-WEC-11 UNIVERSAL RESTROOM CONTROL KIT.

KIT SHALL INCLUDE:

1. CM-4050R12 SINGLE GAN GUSHROOM PUSH BUTTON, 1/4" THICK BRUSHED ALUMINUM FACELATE AND RED BUTTON, MAINTAINED PUSH/PULL OPERATION WITH "PRESS FOR EMERGENCY ASSISTANCE" PERMANENTLY LASER ETCHED ON THE FACELATE.
2. CM-AF5050 SINGLE GAN LED ANNUNCIATOR WITH SOUNDER, RATED 85 db AT 100 mm, WEATHER AND VANDAL RESISTANT CONSTRUCTION, BRUSHED STAINLESS STEEL FACELATE, WITH "ASSISTANCE REQUIRED" MESSAGE TEXT, THAT IS NOT ILLUMINATED, LESS THE MESSAGE TEXT.
3. CM-AF14050 SINGLE GAN DOME LIGHT WITH PIEZO SOUNDER, RATED 93 db AT 1 METRE, BRUSHED STAINLESS STEEL FACELATE AND 24 V INCANDESCENT BULB, 100 WATT, 120 VOLT, 15" (381 mm) DIA, 15" (381 mm) BY 381 mm (15" BY 15"), FIRE RATED EXPANDED PVC WHITE, WITH 25 mm BLACK TEXTURE, TEXT SHALL BE: "IN THE EVENT OF AN EMERGENCY PUSH EMERGENCY BUTTON AND AUDIBLE AND VISUAL SIGNAL WILL ACTIVATE".
4. INTERCONNECTED TO THE EMERGENCY PUSH BUTTON AND DOOR OPERATOR, PUSH TO LOCK BUTTON, ELECTRIC STRIKE, DOOR CONTACT.

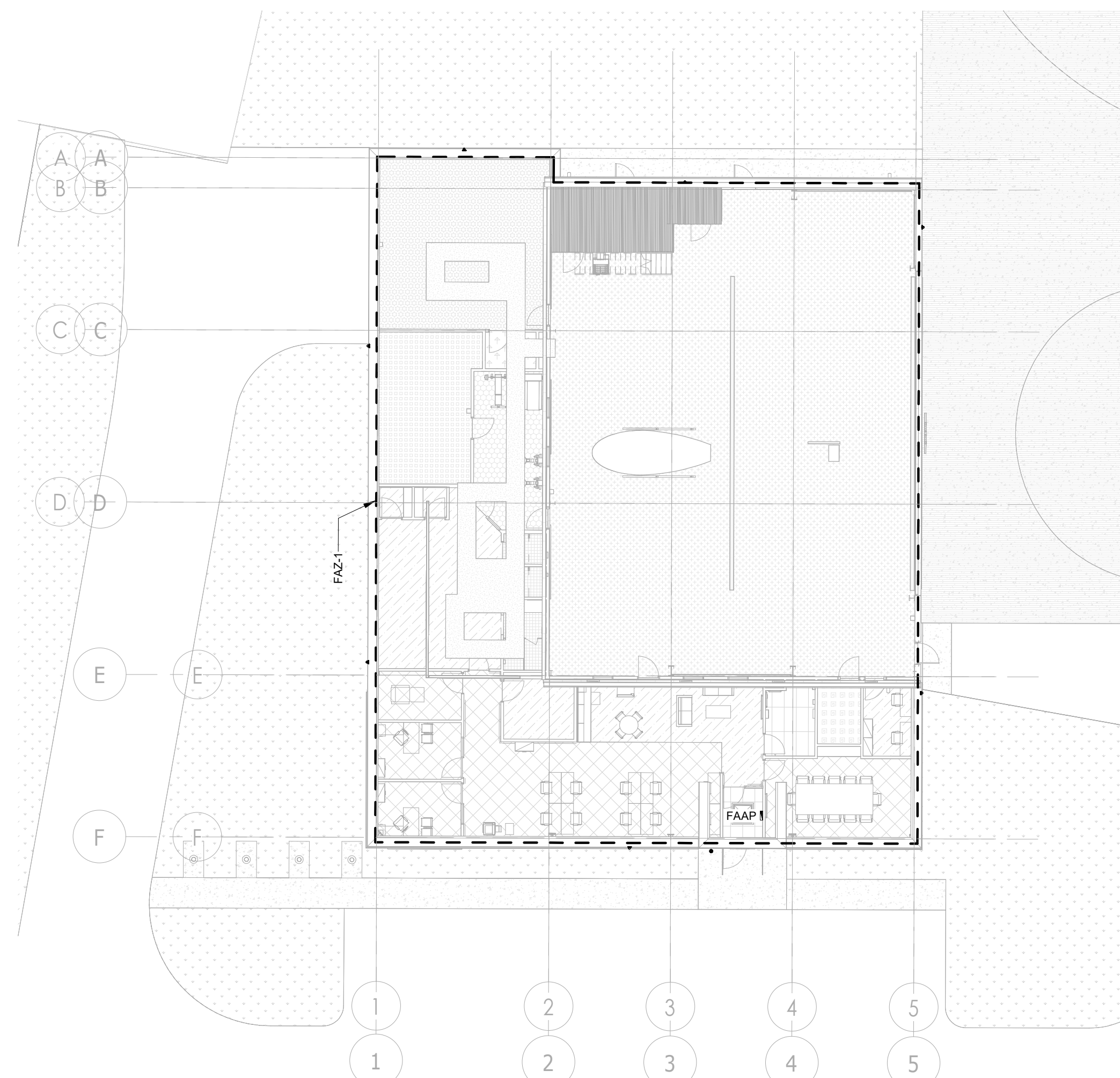
NOTES:

1. CONFIRM EXACT HARDWARE AND ROUGH-IN REQUIREMENTS WITH EMERGENCY CALL SYSTEM VENDOR.
2. CONFIRM EXACT EQUIPMENT LOCATIONS WITH ARCHITECTURAL DRAWINGS PRIOR TO ROUGH-IN.

28 26 23 - UNIVERSAL WASHROOM DOOR OPERATOR AND  
EMERGENCY CALL SYSTEM

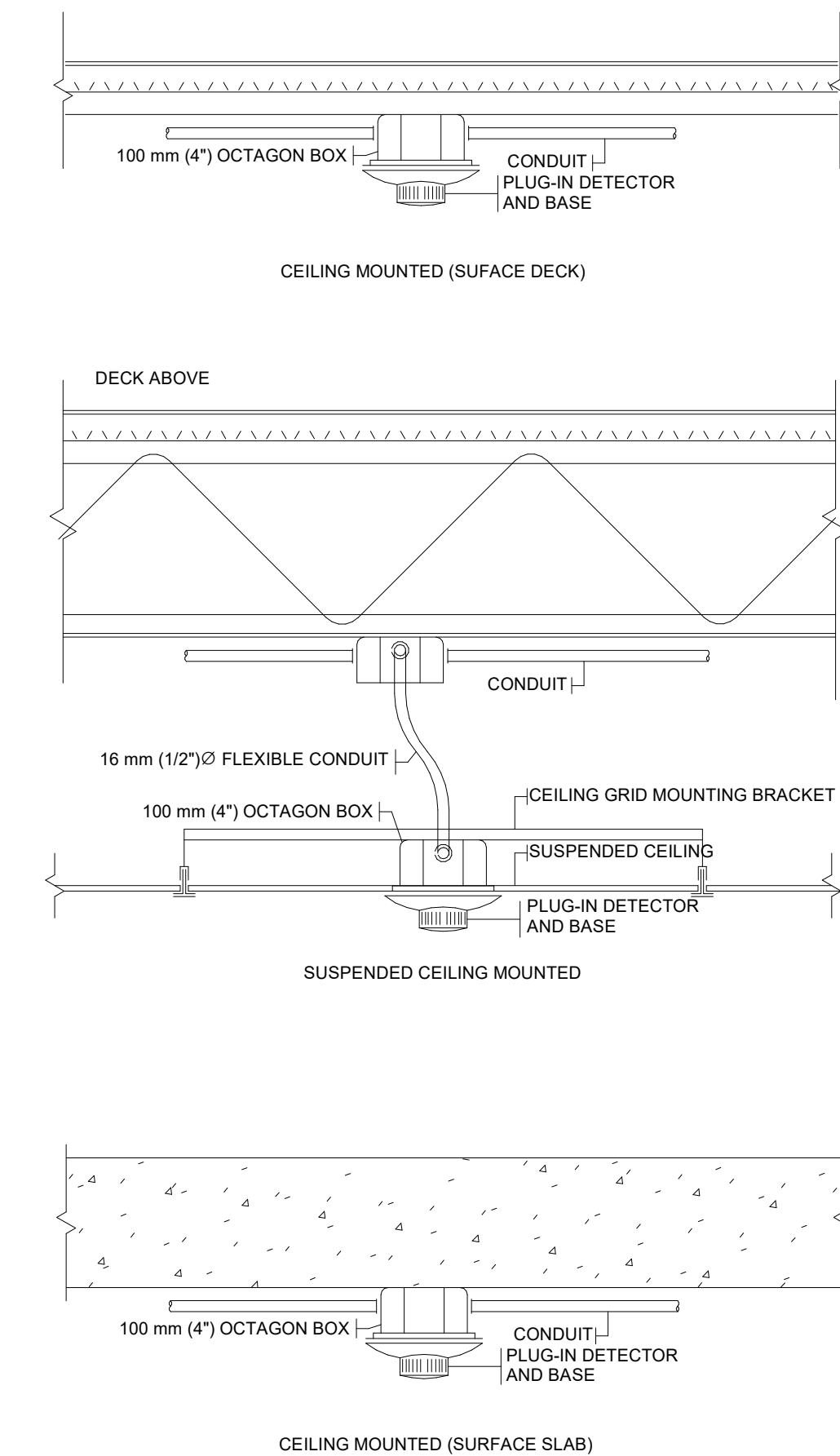
# Universal Washroom Door Operator and Emergency Call System

SCALE:N.T.S.



## FIRE ALARM ZONES

SCALE:N.T.S.



## Typical Smoke Detector Installations

SCALE:N.T.S.

[illegible]

## Issues

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Do not scale drawings

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Checked by: AO  
Original Issue Date: 2024-07-31  
Project No: TT-24-005  
Scale: As indicated

Sheet  
Title:

## ELECTRICAL DETAILS

Drawing  
No.  
**E-801**

# YORK REGIONAL POLICE HELICOPTER HANGAR

350 GARFIELD WRIGHT  
BOULEVARD  
TOWN OF EAST GWILLIMBURY

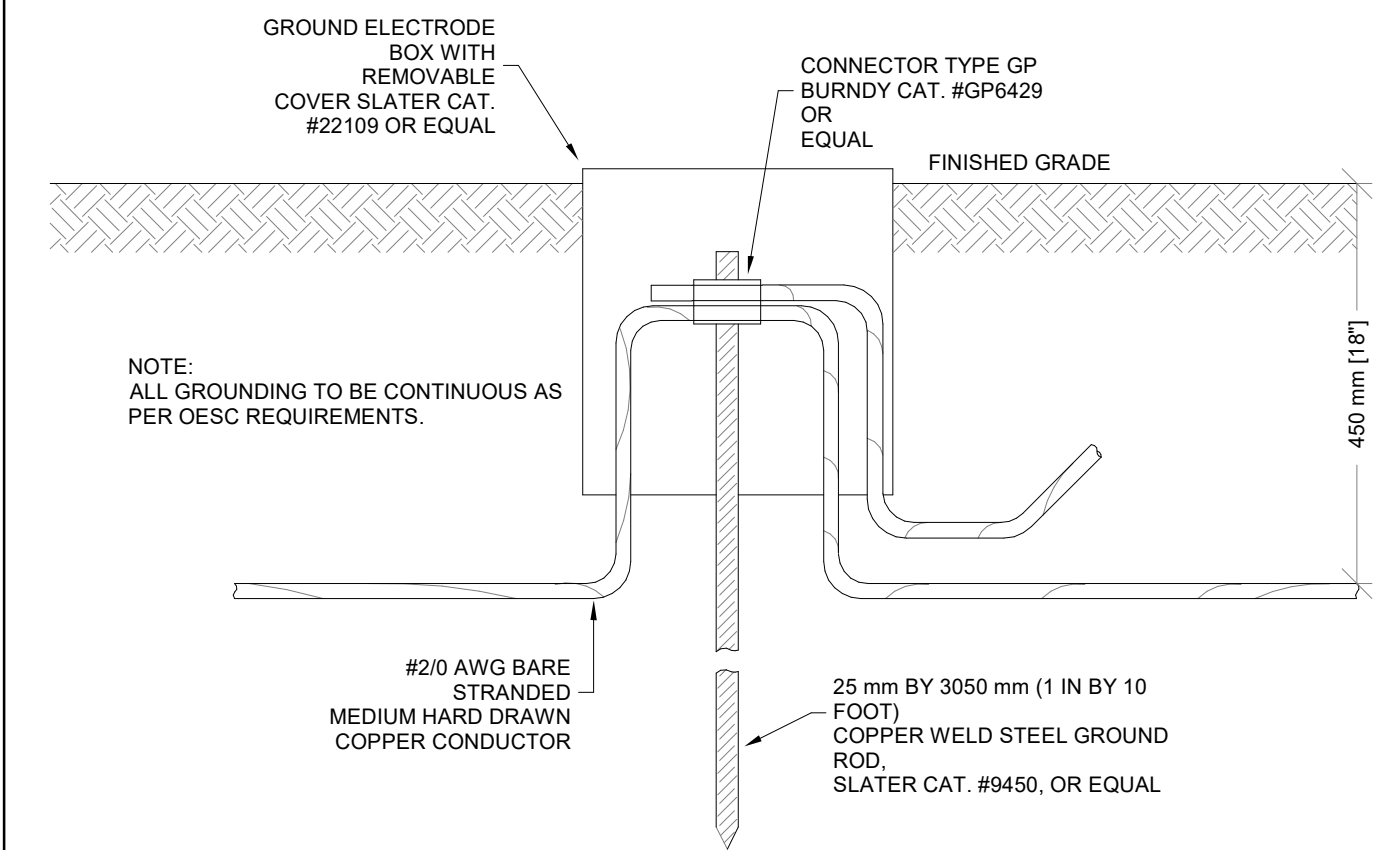
## Key Plan

[illegible]

NOTE: DISTANCES INDICATED IN METRES FROM PANEL TO LOAD FOR SINGLE PHASE

[illegible]

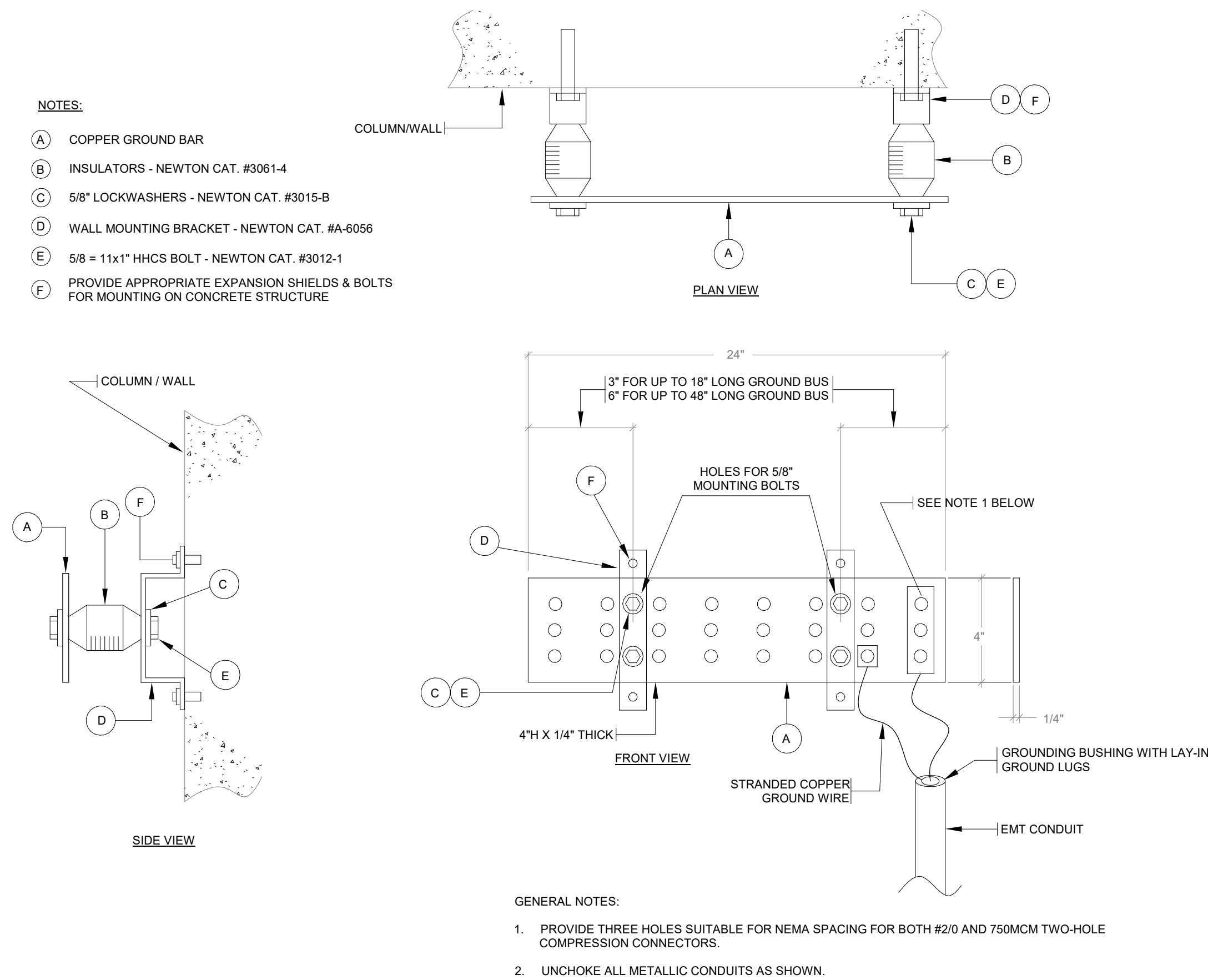
NOTE: DISTANCES INDICATED IN METRES FROM PANEL TO LOAD FOR SINGLE PHASE.



Ground Rod  
SCALE:N.T.S.

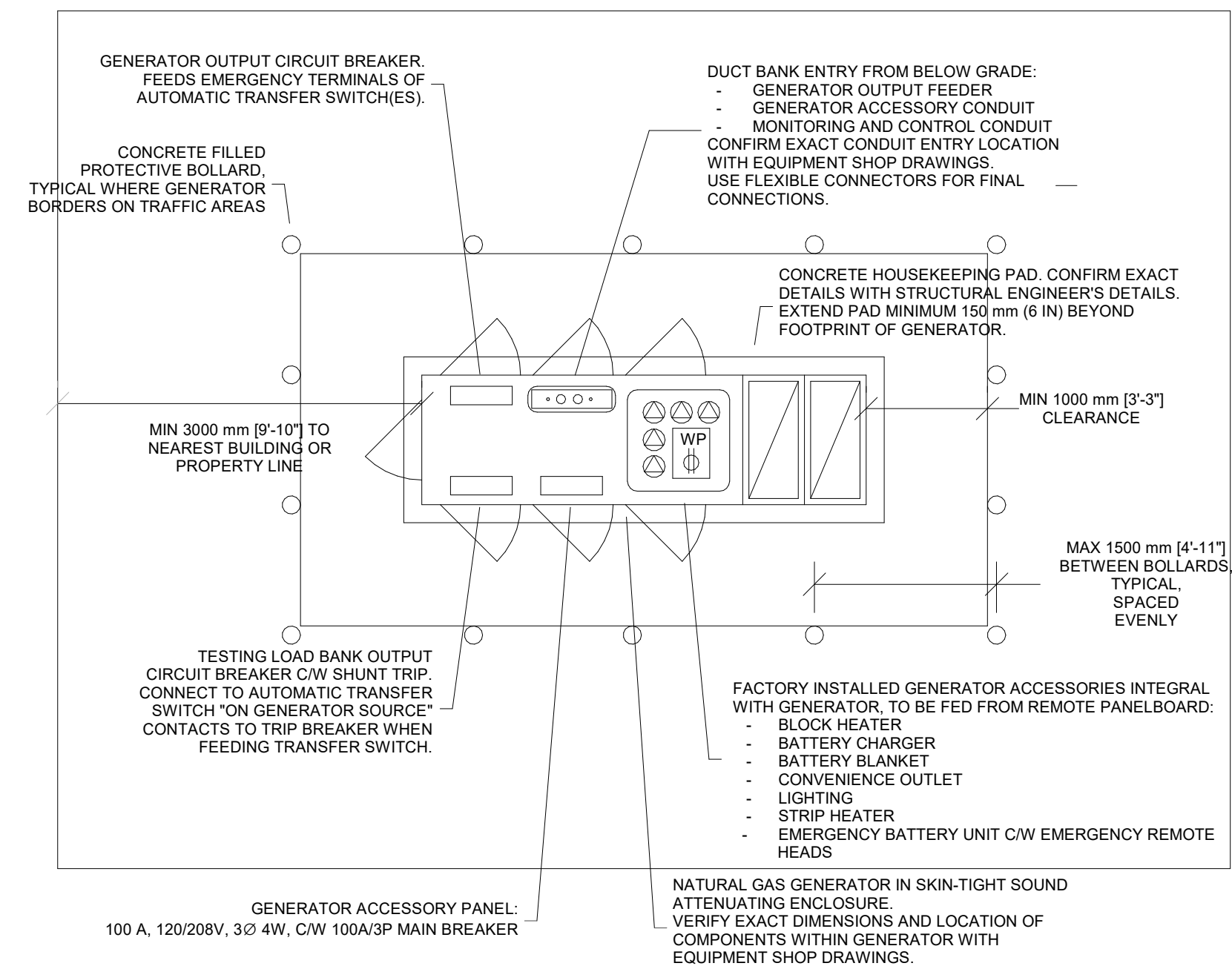
Max Branch Wiring Distance for 120 V System at 2% Voltage Drop  
SCALE:N.T.S.

Max Branch Wiring Distance for 120 V System at 3% Voltage Drop  
SCALE:N.T.S.



### Grounding Bar Detail

SCALE:N.T.S.



# Skintight Gas Generator Plan

SCALE:N.T.S.

[illegible]

## Issues

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Do not scale drawings

Drawn by: Author  
Checked by: Checker  
Original Issue Date: 2024-07-31  
Project No: TT-24-005  
Scale: N.T.S.

Sheet  
Title: ELECTRICAL DETAILS

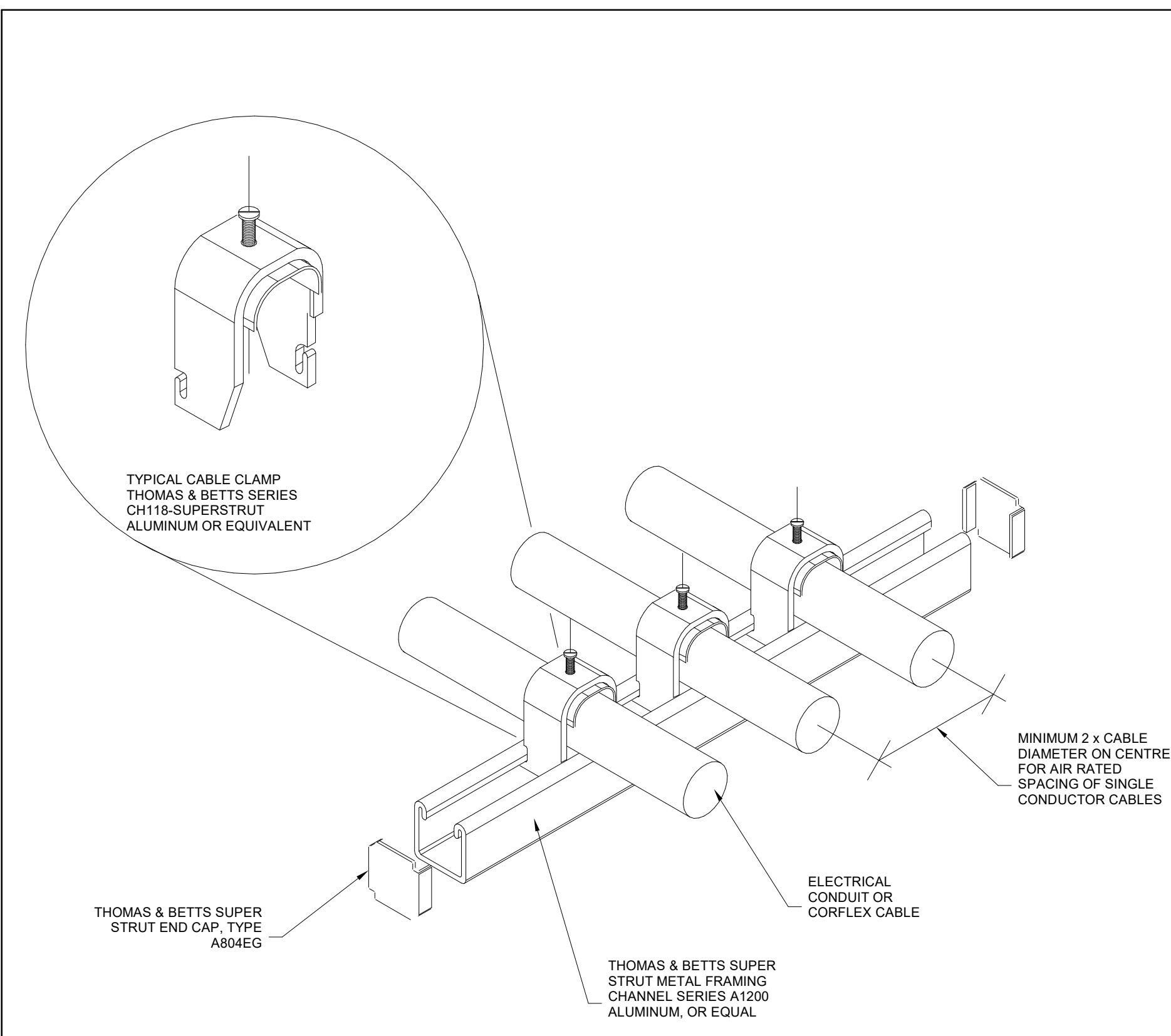
Drawing  
No.  
**E-802**



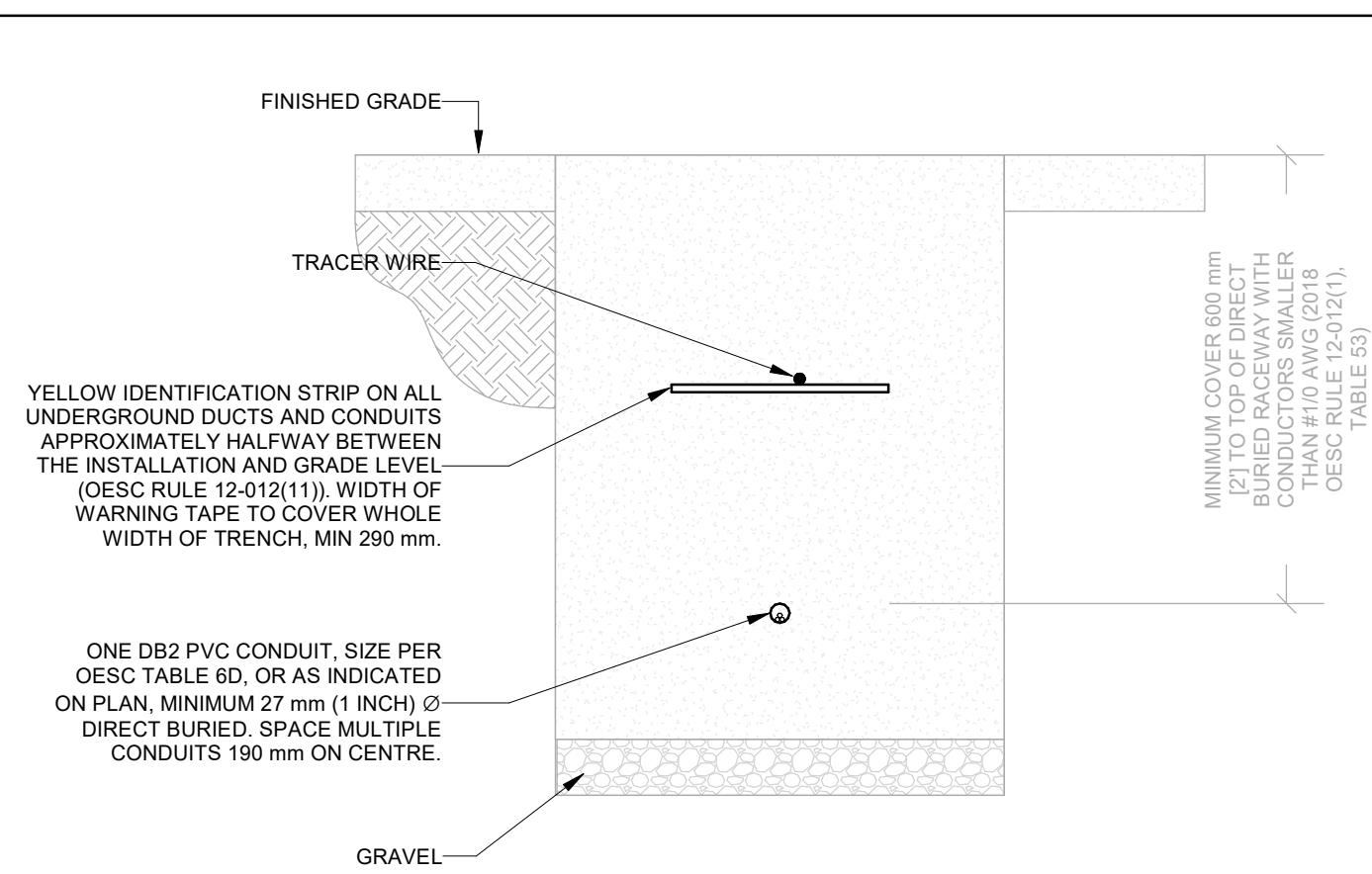
YORK REGIONAL POLICE  
HELICOPTER HANGAR

350 GARFIELD WRIGHT  
BOULEVARD  
TOWN OF EAST GWILLIMBURY

## Key Plan



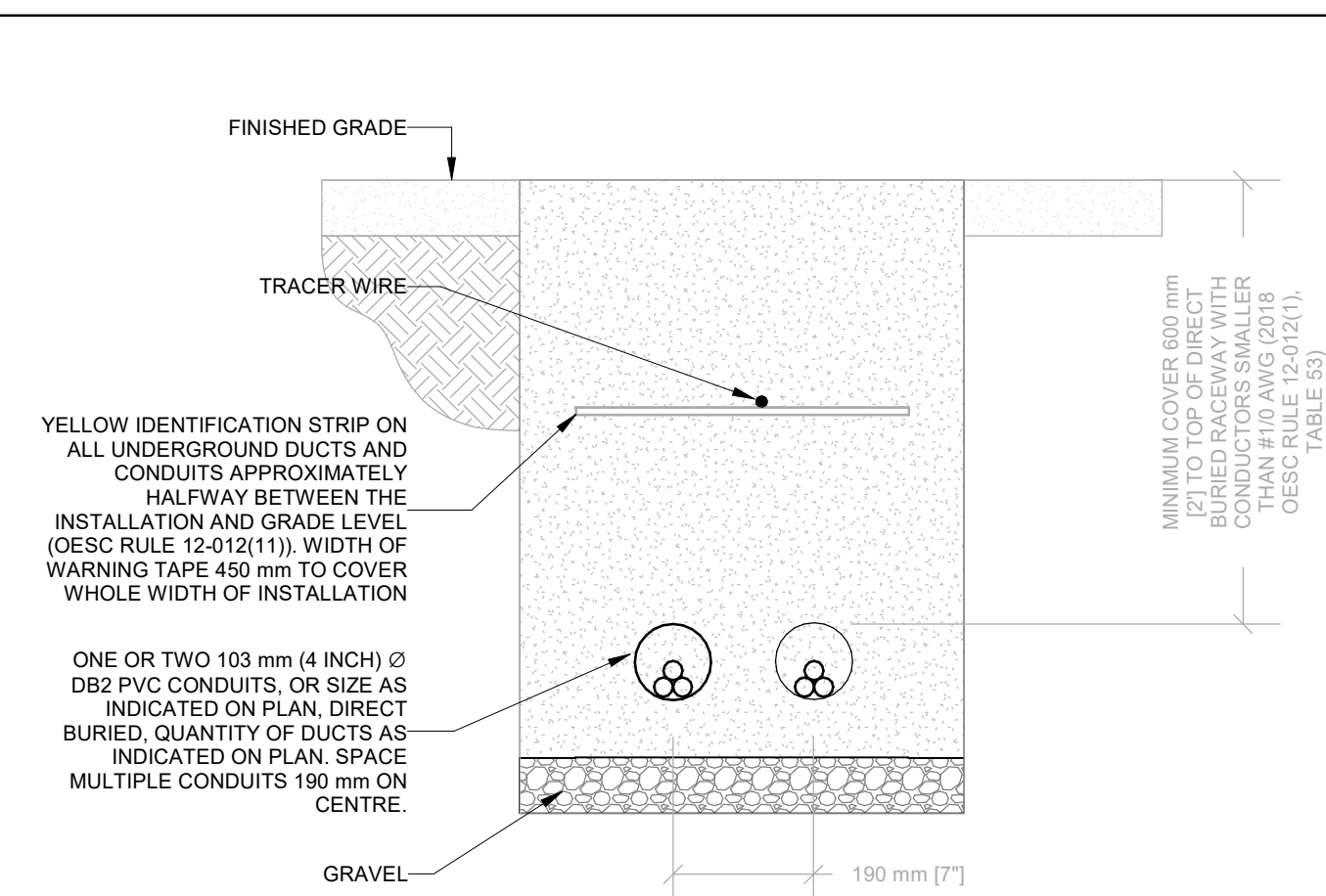
1 Strut Channel Suspension for Conduit and Cable  
SCALE: 1 : 1



### DIRECT BURIED RACEWAY SECTION, 750 V OR LESS

NOTES:

1. METRIC DIMENSIONS GOVERN.
2. DIRECT BURIED RACEWAY DUCTS TO BE IN COMPLIANCE WITH 2018 ONTARIO ELECTRICAL SAFETY CODE (OESC), TABLE 53. MINIMUM COVER DEPTH MAY BE REDUCED BASED ON CRITERIA DESCRIBED IN TABLE 53.
3. DIRECT BURIED RACEWAY DUCTS TO BE INSPECTED PRIOR BACKFILL. COORDINATE WITH AUTHORITY HAVING JURISDICTION (ESA) AND RECEIVE ALL NECESSARY APPROVALS.
4. THIS DETAIL DOES NOT APPLY WHERE CONDUCTOR SIZE IS #10 OR GREATER IN A DIRECT BURIED RACEWAY. PROVIDE AN AMPACITY CALCULATION IN ACCORDANCE WITH IEEE 835.



### DIRECT BURIED RACEWAY SECTION, 750 V OR LESS

NOTES:

1. METRIC DIMENSIONS GOVERN.
2. DIRECT BURIED RACEWAY DUCTS TO BE IN COMPLIANCE WITH 2018 ONTARIO ELECTRICAL SAFETY CODE (OESC), TABLE 53. MINIMUM COVER DEPTH MAY BE REDUCED BASED ON CRITERIA DESCRIBED IN TABLE 53.
3. DIRECT BURIED RACEWAY DUCTS TO BE INSPECTED PRIOR BACKFILL. COORDINATE WITH AUTHORITY HAVING JURISDICTION (ESA) AND RECEIVE ALL NECESSARY APPROVALS.
4. THIS DETAIL DOES NOT APPLY WHERE CONDUCTOR SIZE IS #10 OR GREATER IN A DIRECT BURIED RACEWAY. PROVIDE AN AMPACITY CALCULATION IN ACCORDANCE WITH IEEE 835.

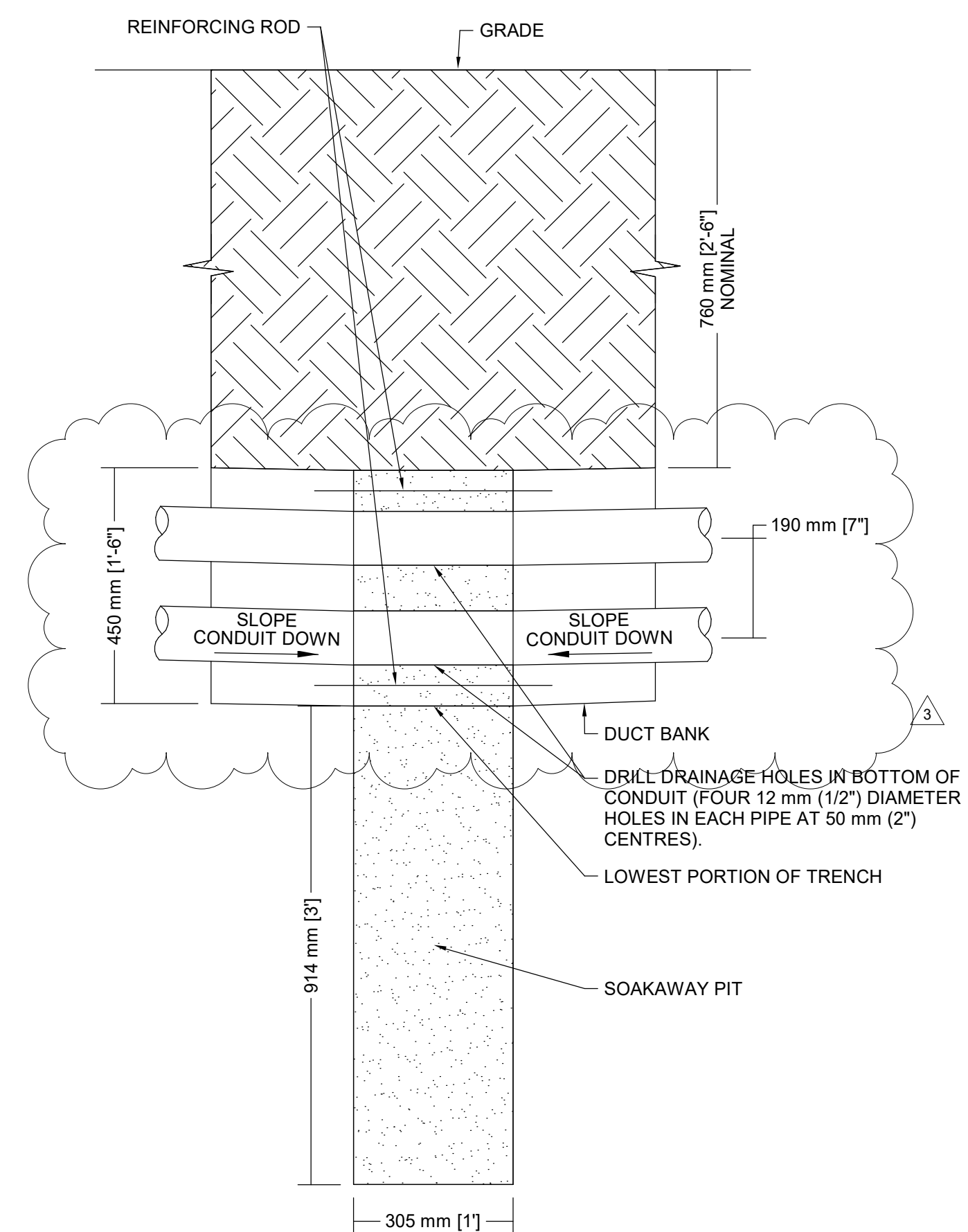
### 3 Direct Buried Ducts

SCALE:N.T.S.

ELECTRICAL ENERGY EFFICIENCY NOTES FOR PERMIT (ONTARIO BUILDING CODE SB-10)			
ITEM	DESCRIPTION	CODE REFERENCE	SPECIFICATION REFERENCE
1A.	FEEDER CONDUCTORS TO BE SIZED FOR MAXIMUM VOLTAGE DROP OF 2% AT DESIGN LOAD.	QBC SB-10 2017, ASHRAE 90-1-2013, 8.4.1.	26 05 19
1B.	BRAK CIRCUIT CONDUCTORS TO BE SIZED FOR MAXIMUM VOLTAGE DROP OF 3% AT DESIGN LOAD.	QBC SB-10 2017, ASHRAE 90-1-2013, 8.4.1.	26 05 19
2.	50% RECEPTACLE CIRCUIITS IN CONFERENCE ROOMS, COPY ROOMS, BREAK ROOMS, CLASSROOMS, AND INDIVIDUAL WORKSTATIONS.	QBC SB-10 2017, ASHRAE 90-1-2013, 8.4.2.	26 09 23
3.	MEASUREMENT DEVICES ROUGHED IN TO MONITOR OR THE ELECTRICAL ENERGY USE FOR EACH OF THE FOLLOWING UNLESS EXEMPT: A. TOTAL ELECTRICAL ENERGY; B. HVAC; C. INTERIOR LIGHTING; D. EXTERIOR LIGHTING, E. RECEPTACLE CIRCUITS.	QBC SB-10 2017, ASHRAE 90-1-2013, 8.4.3.	26 27 13
4.	NEW LOW-VOLTAGE TRANSFORMERS TO MEET THE NOMINAL EFFICIENCIES SHOWN IN ASHRAE 90-1-2013, TABLE 8.4.4. UNLESS EXEMPT	QBC SB-10 2017, ASHRAE 90-1-2013, 8.4.4.	26 22 13
5.	PROVIDE LIGHTING CONTROL FUNCTIONS FOR EACH SPACE IN THE BUILDING PER PER ASHRAE 90-1-2013 TABLE 9.6.1. ASHRAE 90.1 EXEMPTIONS: -NORMALLY OFF EMERGENCY LIGHTING -DWELLING UNITS -LIFE SAFETY OR OTHER ORDINANCE	QBC SB-10 2017, ASHRAE 90-1-2013, 9.4.1.1.	26 09 23
5.1.	SPACES PROVIDED WITH READILY ACCESSIBLE LOCAL CONTROLS.	QBC SB-10 2017, ASHRAE 90-1-2017, 9.4.1.1A.	26 09 23
5.2.	MAXIMUM OCCUPANCY SENSOR TIMEOUT 20 MINUTES.	QBC SB-10 2017, ASHRAE 90-1-2013, 9.4.1.1G, ASHRAE 90-1-2013, 9.4.1.1H.	26 09 23
6.1	PARKING GARAGE LIGHTING TO BE PROVIDED WITH AUTOMATIC CONTROLS PER ASHRAE 90-1-2017 SECTION 9.4.1.2.	QBC SB-10 2017, ASHRAE 90-1-2013, 9.4.1.2.	
6.2	PARKING GARAGE LIGHTING TO AUTOMATICALLY REDUCE LIGHTING POWER BY AT LEAST 30% BASED ON OCCUPANCY.	QBC SB-10 2017, ASHRAE 90-1-2013, 9.4.1.2.	
6.3	PARKING GARAGE DAYLIGHT TRANSITION ZONE TO BE ON A SEPARATE SCHEDULE.	QBC SB-10 2017, ASHRAE 90-1-2013, 9.4.1.2.	
6.4	PARKING GARAGE LUMINAIRES TO BE PROVIDED WITH DAYLIGHT HARVESTING, IF NET OPENING-TO-WALL RATIO IS GREATER THAN 40% UNLESS EXEMPT.	QBC SB-10 2017, ASHRAE 90-1-2013, 9.4.1.2.	
7.	PROVIDE ADDITIONAL CONTROLS FOR SPECIAL APPLICATIONS LISTED ASHRAE 90.1 SECTION 9.4.1.3.	QBC SB-10 2017, ASHRAE 90-1-2013, 9.4.1.3.	26 09 23
8.	INTERIOR LIGHTING POWER COMPLIES WITH ASHRAE 90-1-2013 9.2.2.3 AS MODIFIED BY SB-10.	QBC SB-10 2017, ASHRAE 90-1-2013, 9.2.2.3.	26 51 00
9.1	PROVIDE A PHOTOSENSOR FOR AUTOMATIC SHUTOFF OF EXTERIOR LIGHTS WHEN AVAILABLE DAYLIGHT IS SUFFICIENT.	QBC SB-10 2017, ASHRAE 90-1-2013, 9.4.1.4.	26 09 23
9.2	PROVIDE A SHUTOFF FOR LANDSCAPE AND FACADE LIGHTING BETWEEN THE HOURS OF MIDNIGHT AND 6:00 A.M.	QBC SB-10 2017, ASHRAE 90-1-2013, 9.4.1.4.	26 09 26
9.3	PROVIDE CONTROL TO REDUCE ILLUMINATED SIGNAGE POWER BY AT LEAST 30% BETWEEN MIDNIGHT AND 6:00 A.M.	QBC SB-10 2017, ASHRAE 90-1-2013, 9.4.1.4.	26 09 26
10.	EXTERIOR LIGHTING POWER COMPLIES WITH ASHRAE 90-1-2013 9.4.2. AS MODIFIED BY SB-10.	QBC SB-10 2017, ASHRAE 90-1-2013, 9.4.2.	26 53 00
11.	LIGHTING CONTROLS MANUFACTURERS' REPRESENTATIVE TO PROVIDE FUNCTIONAL TESTING AND REPORT IN ACCORDANCE WITH ASHRAE 90-1-2013.	QBC SB-10, ASHRAE 90-1-2010, 9.4.4.	26 09 23

Electrical SB-10 Notes

SCALE: 1 : 1



### Duct Bank Soakaway Pit

SCALE: 1 : 10

[illegible]

## Issues

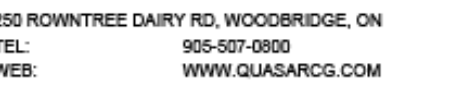
All measurements are to be checked and verified on site by the contractor before proceeding with work

Do not scale drawings

Drawn by: Author  
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Original Issue Date: 2024-07-31  
Project No: TT-24-005  
Scale: As indicated

Sheet  
Title: ELECTRICAL DETAILS

Drawing  
No.  
**E-803**



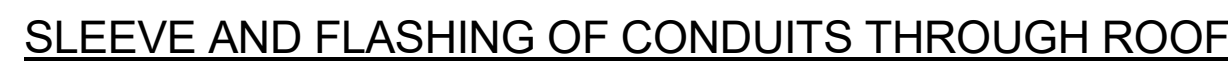
350 GARFIELD WRIGHT  
BOULEVARD  
TOWN OF EAST GWILLIMBURY

[illegible]

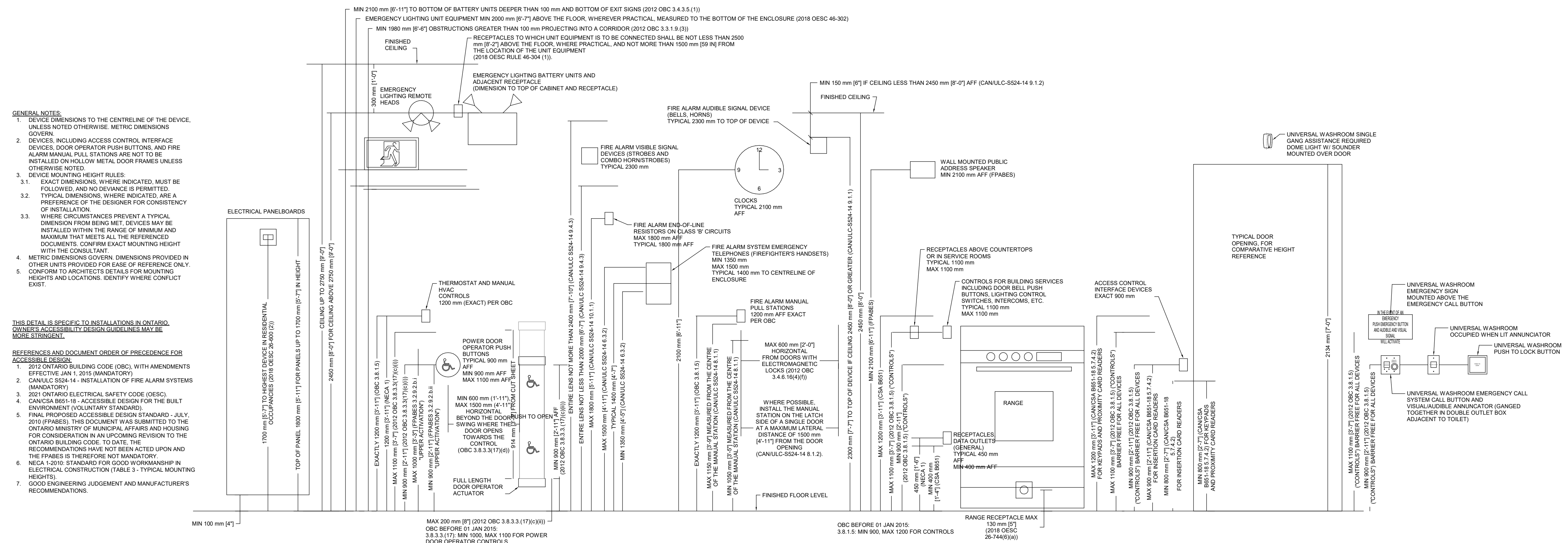
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Project No: TT-24-005  
Scale: As indicated

Drawing  
No.  
**E-804**



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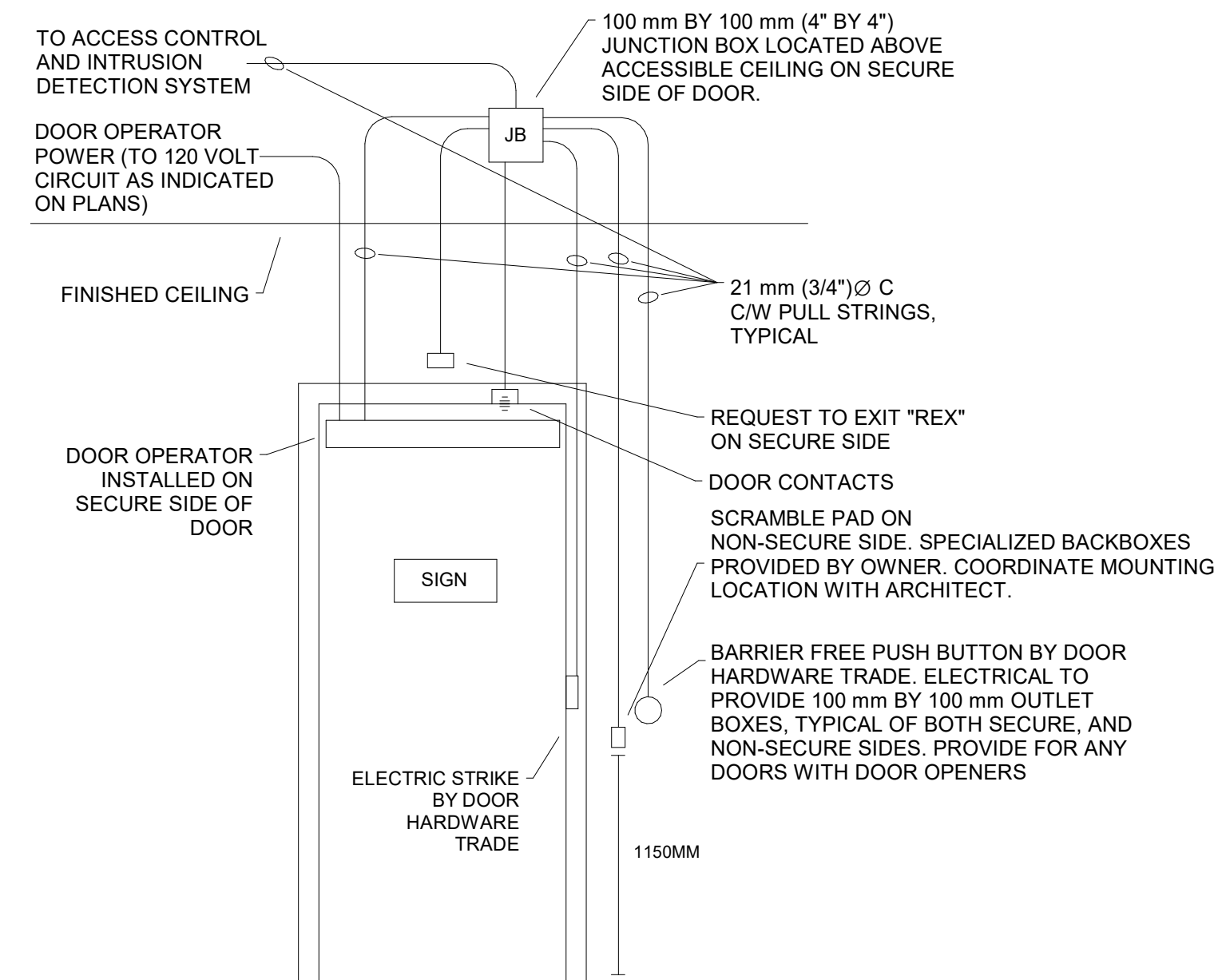
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YORK REGIONAL POLICE  
HELICOPTER HANGAR

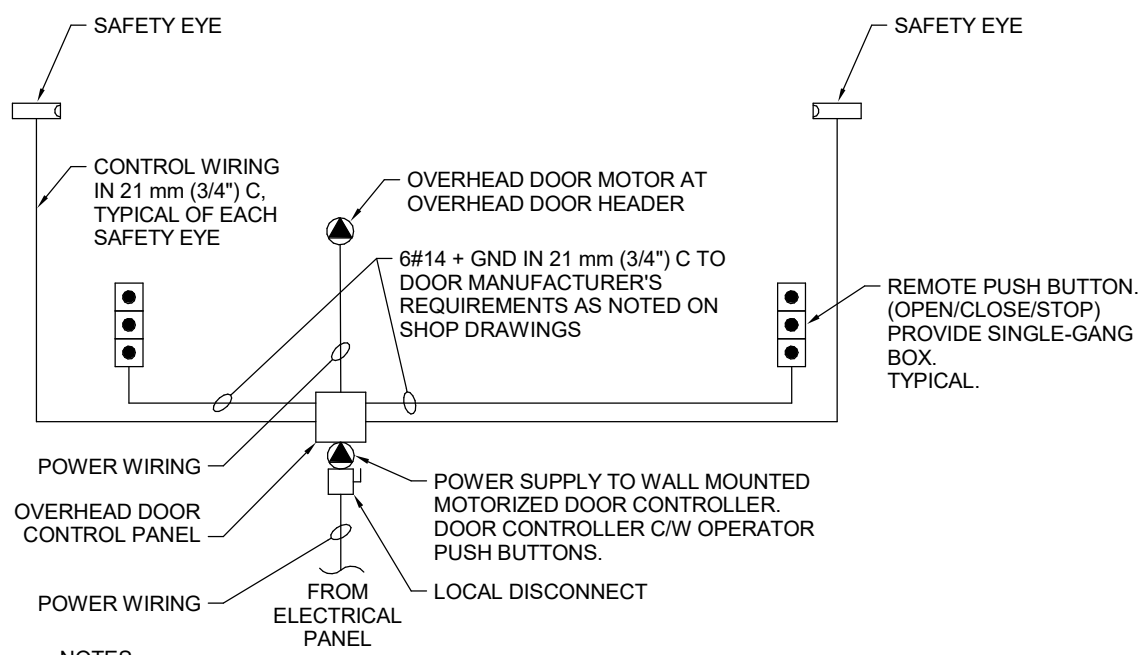
350 GARFIELD WRIGHT  
BOULEVARD  
TOWN OF EAST GWILLIMBURY

## Key Plan



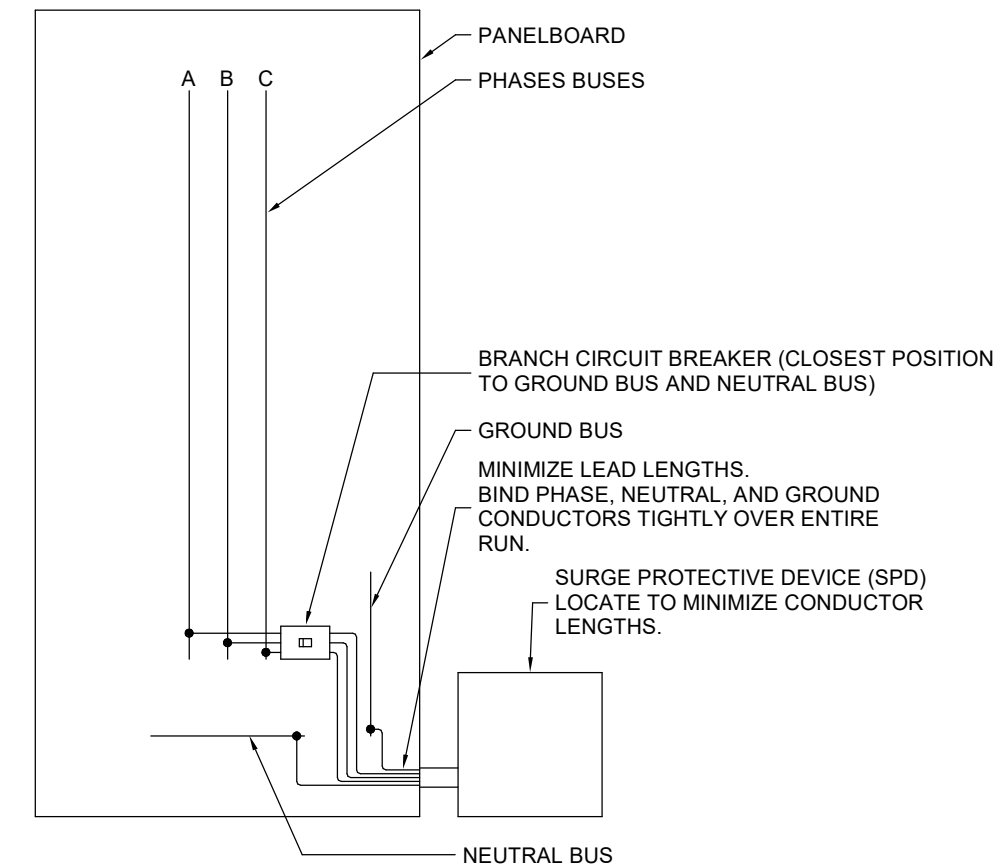
NOTES:

1. REFER TO DETAIL "MOUNTING HEIGHTS FOR ACCESSIBLE DESIGN" FOR EXACT MOUNTING HEIGHTS OF DEVICES AND APPLICABLE CODE REFERENCES.
2. REFER TO DOOR HARDWARE SCHEDULE FOR EXACT SCHEDULE OF DEVICES AT DOOR. COORDINATE EXACT ROUGH-IN DETAILS WITH DOOR HARDWARE TRADE.
3. INTERLOCK OPERATION OF DOOR OPERATOR WITH SCRAMBLE PAD ON THE NON-SECURE SIDE.



NOTES:

1. THIS SCHEMATIC IS NOT INTENDED FOR EXACT FIELD INSTALLATION OR WIRING. SCHEMATIC SHOWS DESIGN INTENT OF SYSTEM WIRING WILL VARY BETWEEN MANUFACTURERS.
2. DOOR MANUFACTURER TO PROVIDE SHOP DRAWINGS SHOWING ALL WIRING REQUIRED PRIOR TO ORDERING OF EQUIPMENT.



## Wiring Diagram for Overhead Doors

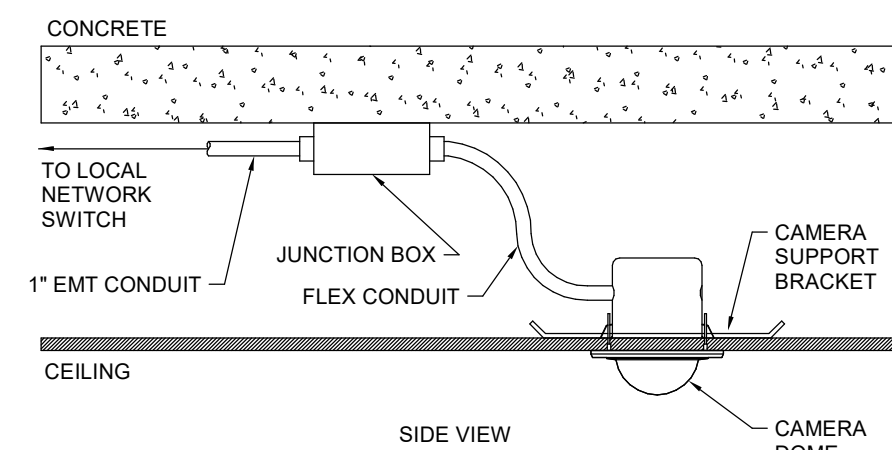
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## EXTERNALLY MOUNTED SURGE PROTECTION

SCALE: 1 : 50

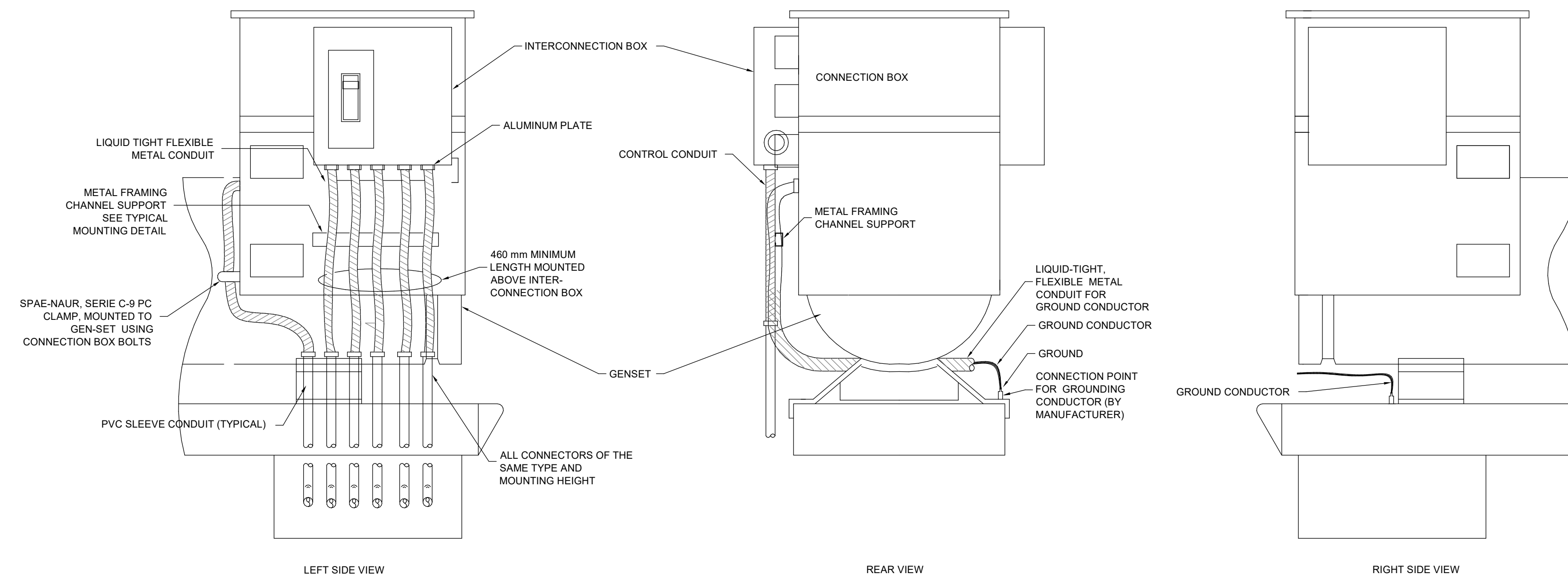
## Access Control Rough-In

SCALE: 1 : 1



## CEILING MOUNTED CAMERA

SCALE: 1 : 50



## ENGINE GENERATOR BOTTOM FEED

SCALE:N.T.S.

## Issues

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Do not scale drawings

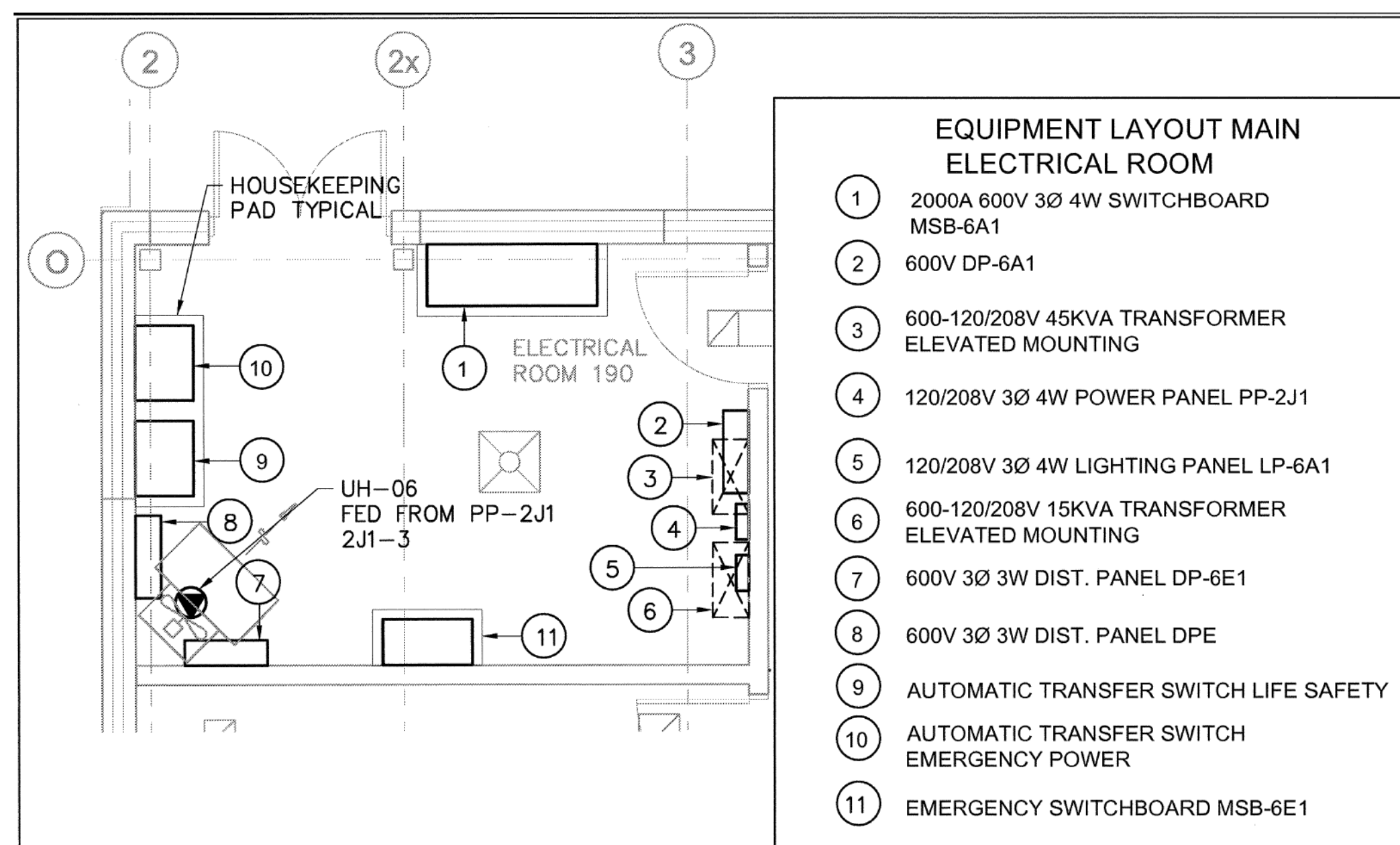
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Project No: TT-24-005  
Scale: As indicated

Sheet  
Title:

## ELECTRICAL DETAILS

Drawing  
No.  
**E-805**



[illegible]





EMERGENCY LIGHTING DEVICE SCHEDULE			
Type	Description	Manufacturer	VOLTAGE
E26	WATER-PROOF COMPACT REMOTE UNIT WITH DOUBLE HEAD LAMPS: MR16 LED LAMP, 12V, 6W, 540 LUMEN, 25 DEGREE BEAM ANGLE, FACTORY WHITE FINISH	STANPRO "M SERIES"; CAT# M1-1VV6 LA WH OR APPROVED EQUAL (BEGHELLI, EMERGI-LITE, LUXNET, AIMLITE).	120 V
EMB-1	LIGHTING BATTERY UNIT C/W AUTO TEST, TWO REMOTE HEADS	12V EMERGENCY LIGHTING BATTERY UNIT C/W AUTO TEST, FACTORY WHITE FINISH, UNIVERSAL 120/347VAC INPUT, AND SIX-ZONE DELTA VOLTAGE SENSING RELAY OPTION TWO LAMPS: MR16 LED LAMP, 12V, 6W, 540 LUMEN, 25 DEGREE BEAM ANGLE -LUMACELL RG12S-(360)-2 -LD10-AT-VSR STANPRO SLC SERIES -EMERGLITE ESL SERIES	120 V
EMB-2	LIGHTING BATTERY UNIT C/W AUTO TEST, TWO REMOTE HEADS	SAME AS EMB-1	120 V
X1	SELF-POWERED SLIM EDGE-LIT LED ILLUMINATED PICTOGRAM EXIT SIGN - SINGLE FACE C/W WHITE FINISH RECESSED HOUSING AND AUTOMATIC TEST SELF-DIAGNOSTIC	STANPRO "RMITE SERIES"; CAT# RMITE-1-UM-WH-IBAT OR APPROVED EQUAL (BEGHELLI, EMERGI-LITE, LUXNET, AIMLITE).	120 V
Grand total: 27			

EMERGENCY LIGHTING WIRING MAX VOLTAGE DROP															
LOAD (WATTS) WIRE SIZE		LENGTH OF WIRE RUN (FEET)													
		13	18	25	30	35	50	60	75	100	150	200	250	300	400
6 VOLT	12	41	30	21	18	15	11	9	8	6	4	-	-	-	-
	10	65	47	32	28	24	17	14	11	9	6	-	-	-	-
	8	110	75	54	45	39	27	22	18	14	9	7	-	-	-
12 VOLT	12	165	110	85	71	61	42	35	29	21	10	8	-	-	-
	10	260	190	136	112	97	68	52	45	34	14	17	14	11	-
	8	415	300	215	180	154	108	90	72	54	36	27	21	18	-
24 VOLT	12	660	440	340	284	244	168	140	116	84	56	40	32	26	21
	10	1040	760	544	448	388	272	208	180	136	92	68	52	44	34
	8	1668	1200	860	720	616	432	360	288	216	144	108	84	72	54

APRON LIGHTING CONTROL ZONE FUNCTIONAL REQUIREMENTS:

1. TURN ON/OFF BASED ON PHOTOCELL
2. HELP/ OVERRIDE OFF:
  - A. OFF WHEN HELP/ OVERRIDE CONTROLLER (HLC) AUXILIARY DRY-CONTACT (MAX RATING 240VAC, 8A) CLOSSES (CORRESPONDS TO FATO LIGHTING TURNING ON, BY HLC)
  - B. AFTER HLC DEFINED TIME LIMIT, DRY-CONTACT WILL OPEN. APRON LIGHTING TO RESUME NORMAL FUNCTION CONTROLLED BY PHOTOCELL
3. MANUAL OVERRIDE ON:
  - A. APRON LIGHTING CAN BE MANUALLY TURNED ON TO OVERRIDE THE HLC CONTACT AND RESUME OPERATION BASED ON PHOTOCELL

KEYNOTE LEGEND	
Keynote Value	Keynote Text
1.	FLOOR PLANS TAKE PRECEDENCE. COUNT IS PROVIDED FOR INFORMATION ONLY AND DOES NOT DICTATE THE DESIGN REQUIREMENTS.
2.	TO BE DEFINED BY OWNER DURING CONSTRUCTION.



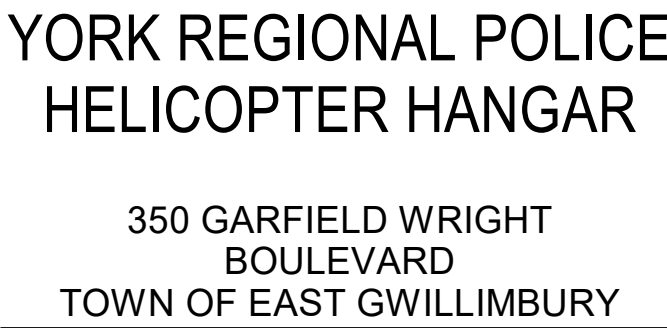
Branch Panel: DP-01															
Location: Room 129					Volts: 347/600V					A.I.C. Rating: 42 kA					
Supply From:					Phases: 3					Mains Type:					
Mounting: SURFACE					Wires: 4					Mains Rating: 400 A					
Enclosure: NEMA 3R										MCB Rating: 100 A					
Notes:															
CKT	Circuit Description	QTY	Trip	Poles	A		B		C		Poles	Trip	QTY	Circuit Description	CKT
1	SURGE PROTECTION DEVICE	--	60 A	3	0 VA	7967 VA	0 VA	7967 VA			3	30 A	1	HANGAR BIFOLD DOOR CONTROLLER	2
3									0 VA	7967 VA					4
5									0 VA	7967 VA					6
7	RESERVED SPACE FOR FUTURE PV INVERTER SYSTEM	--	0 A	3	0 VA	167 VA					3	125 A	1	AIR SOURCE HEAT PUMP	8
9							0 VA	167 VA							10
11									0 VA	167 VA					12
13	RESERVED SPACE FOR FUTURE EV CHARGING	--	0 A	3	0 VA	433 VA					3	20 A	1	P2-R	14
15							0 VA	433 VA							16
17									0 VA	433 VA					18
19	P2	1	20 A	3	433 VA	433 VA					3	20 A	1	P3	20
21							433 VA	433 VA	433 VA	433 VA					22
23					433 VA	433 VA									24
25	P-4	1	20 A	3			433 VA	433 VA	433 VA	433 VA	3	20 A	1	P-5R	26
27					433 VA	433 VA									28
29							433 VA	433 VA	433 VA	433 VA					30
31	P-5	1	20 A	3	433 VA	433 VA	433 VA	433 VA			3	20 A	1	P-1	32
33							433 VA	433 VA	433 VA	433 VA					34
35					433 VA	167 VA	433 VA	167 VA	433 VA	167 VA					36
37	P-1R	1	20 A	3			433 VA	167 VA			3	20 A	1	CRANE HOIST POWER	38
39									433 VA	167 VA					40
41															

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
Other	35300 VA	100.00%	35300 VA	
				<b>Total Conn. Load:</b> 35300 VA
				<b>Total Est. Demand:</b> 35300 VA
				<b>Total Conn.:</b> 34 A
				<b>Total Est. Demand:</b> 34 A

Branch Panel: DP-02															
Location: Room 129					Volts: 120/208 Wye					A.I.C. Rating:					
Supply From:					Phases: 3					Mains Type:					
Mounting: SURFACE					Wires: 4					Mains Rating: 400 A					
Enclosure: NEMA 3R										MCB Rating: 400 A					
Notes:															
CKT	Circuit Description	QTY	Trip	Pole s	A		B		C		Pole s	Trip	QTY	Circuit Description	CKT
1	LIGHTING	24	15 A	1	2132...	180 VA					1	15 A	1	R: ELECTRICAL ROOM	2
3	LIGHTING	27	15 A	1			2323...	700 VA			1	15 A	1	TSP-1	4
5	LIGHTING	35	15 A	1					846 VA	1600...	1	15 A	3	EF-1, EF-2	6
7	EF-4	1	15 A	1	1200...	1300...					1	20 A	1	B2	8
9	EF-3	1	15 A	1			900 VA	1296...			1	15 A	6	UH-1 TO UH-6	10
11	B1	1	20 A	1					1300...	1500...	1	15 A	3	AUTOMATIC DOOR OPERATORS...	12
13	R: GENERAL OFFICE	2	15 A	1	360 VA	0 VA									14
15	FCU-1 TO FCU-11	11	15 A	2			1500...	0 VA			3	100 A	--	GENERATOR ENCLOSURE PANEL	16
17	R: VEHICLE BAY	2	15 A	1	360 VA	1200...			1500...	0 VA			1	15 A	18
19	R: MECHANICAL ROOM	2	15 A	1			360 VA	180 VA			1	20 A	1	EF-4	20
21	R: WASHROOM	2	15 A	1					360 VA	180 VA	1	20 A	1	RECEPTACLE	22
23	R: LOUNGE AND TV	2	15 A	1	360 VA	360 VA					1	15 A	2	RECEPTACLE	24
25	R: QUARTERMASTER	1	15 A	1			180 VA	360 VA			1	15 A	1	R: MECHANICS OFFICE	26
27	R: HANGAR	8	20 A	1					1440...	360 VA	1	15 A	1	R: IT ROOM	28
29	R: CONFERENCE ROOM	2	15 A	1	360 VA	720 VA					1	15 A	2	R: IT ROOM	30
31	R: RADIO	2	15 A	1			360 VA	167 VA			1	15 A	4	R: OFFICE 2	32
33	R: OFFICE 1	3	15 A	1					540 VA	167 VA	3	50 A	1	RTU-1	34
35	RTU-2	1	40 A	3	167 VA	167 VA									36
37							167 VA	360 VA			1	20 A	2	R: MAINTENANCE	38
39									167 VA	500 VA	1	15 A	1	AVIATION LIGHTING	40
41	R: FITNESS	2	15 A	1	360 VA	180 VA					1	15 A	1	R: PRINTER	42
43	R: FITNESS	2	15 A	1			360 VA	180 VA			1	15 A	1	R: FRIDGE	44
45	R: RPAS	1	20 A	1					180 VA	180 VA	1	20 A	1	R: KITCHEN COUNTER	46
47	EXIT SIGNS	11	20 A	1	285 VA	540 VA					1	15 A	3	R: CONFERENCE ROOM	48
49	R: GARAGE DOOR	1	15 A	1			180 VA	167 VA							50
51	R: GENERAL OFFICE	4	15 A	1					720 VA	167 VA	3	30 A	1	IT RACK	52
53	R: UNIVERSAL WASHROOM	--	15 A	1	500 VA	167 VA									54
55							167 VA	100							

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
Other	21556 VA	100.00%	21556 VA	
Spare	500 VA	100.00%	500 VA	<b>Total Conn. Load:</b> 44283 VA
EMERGENCY BATTERY PACK	100 VA	100.00%	100 VA	<b>Total Est. Demand:</b> 44283 VA
Lighting - Dwelling Unit	2044 VA	100.00%	2044 VA	<b>Total Conn.:</b> 123 A
Receptacle	16152 VA	100.00%	16152 VA	<b>Total Est. Demand:</b> 123 A

Parkin Architects Limited  
1 VALLEYBROOK DRIVE, TORONTO, CANADA, M3B 2S7 416-467-8000

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4	ISSUED FOR ADDENDUM 8	2024-10-07
3	ISSUED FOR ADDENDUM 6	2024-09-30
2	ISSUED FOR ADDENDUM 3	2024-09-23
1	ISSUED FOR TENDER	2024-09-09
NO.	ISSUED	DATE

## Issues

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Scale:

Sheet  
Title:

## ELECTRICAL SCHEDULES

Drawing  
No. **E-901**