

ELECTRICAL NOTES AND SPECIFICATIONS

GENERAL

THE CONTRACTOR SHALL REVIEW THE PROJECT DRAWINGS (ALL DISCIPLINES) AND PLANS PRIOR TO ANY CONSTRUCTION, AND SHALL REPORT IN WRITING POTENTIAL CONFLICTS THAT WILL OBSTRUCT OR IMPEDE THE CONSTRUCTION TO THE ENGINEER OF RECORD.

ALL WORKS SHALL BE COMPLETED IN ACCORDANCE WITH THE APPLICABLE CODES AND STANDARDS.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS.

THE CONTRACTOR SHALL COMPLETE ALL WORK IN A NEAT AND TIDY MANNER.

THE CONTRACTOR SHALL MAINTAIN A WELL-KEPT SITE FOR THE DURATION OF CONSTRUCTION.

RECYCLABLES AND WASTE SHALL BE DISPOSED OF LEGALLY OFF-SITE AT THE CONTRACTORS COST.

THESE DRAWINGS ARE NOT INTENDED TO DESCRIBE EVERY DETAIL WHICH MAY BE NECESSARY TO COMPLETE THE INSTALLATION.

ALL CONTRACTOR SUPPLIED MATERIALS AND EQUIPMENT SHALL BE APPROVED FOR THE SPECIFIC USE IN CANADA.

THE ELECTRICAL CONTRACTOR SHALL CORRECT ANY DEFICIENCIES NOTED BY THE OWNER OR ENGINEER OF RECORD AT THE CONTRACTOR'S COST.

IT IS THE CONTRACTOR'S RESPONSIBILITY TO REVIEW THE WORK SITE NOTING ALL EXISTING CONDITIONS THAT MAY AFFECT CONSTRUCTION.

ADJACENT DEVICES IN FIRE SEPARATIONS SHALL NOT BE CLOSER THAN 300MM.

DEVICE MOUNTING HEIGHTS SHALL BE COORDINATED WITH OTHER DISCIPLINES.

FIRE STOP SHALL BE OF A TYPE TO SUIT THE USE AND PURPOSE.

IT IS THE CONTRACTORS RESPONSIBILITY TO COMPLETE ALL CUTTING AND PATCHING AS REQUIRED TO COMPLETE THE ELECTRICAL INSTALLATION.

ROOF SLEEVES SHALL BE COMPLETE WITH ROOF FLASHING AND RAIN SHIELDS.

STRUCTURAL MEMBERS SHALL NOT BE CUT WITHOUT THE CONSENT OF THE STRUCTURAL ENGINEERS ON THE SITE.

FLOOR MOUNTED ELECTRICAL EQUIPMENT (SWITCHGEAR, TRANSFORMERS, ETC) SHALL BE MOUNTED ON HOUSEKEEPING PAD (MINIMUM 4"), SUPPLIED BY THE CONTRACTOR. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE STRUCTURAL DRAWINGS.

AT THE COMPLETION OF THE PROJECT, THE CONTRACTOR SHALL COMPLETE TESTING TO DEMONSTRATE THAT THE ELECTRICAL SYSTEMS FUNCTION AS INTENDED.

THE CONTRACTOR SHALL ENSURE THE ELECTRICAL LOADS ARE BALANCED IN ALL PANELS (ADJUST TO BE WITHIN 15%).

IT IS THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN ALL NECESSARY PERMITS AND INCLUDE ALL INSPECTION FEES IN THE BID PRICE.

ANY CHANGES OR ALTERATIONS REQUIRED BY INSPECTORS SHALL BE RECTIFIED AT THE ELECTRICAL CONTRACTOR'S COST.

EQUIPMENT PROTECTION

THE CONTRACTOR SHALL PROTECT EXISTING EQUIPMENT DURING CONSTRUCTION.

EXISTING EQUIPMENT TO BE REUSED SHALL BE CHECKED BY THE CONTRACTOR FOR PROPER OPERATION.

ALL ELECTRICAL EQUIPMENT SHALL BE DELIVERED TO THE SITE AND SHALL BE PROTECTED ALL AROUND WITH A PLASTIC COVERING. ADDITIONAL ON-SITE PROTECTION MUST BE PROVIDED TO KEEP THE EQUIPMENT PROTECTED FROM THE ELEMENTS AND OTHER TRADES. IF THERE IS ANY SIGN OF RUSTING OR CORROSION OR SIGNIFICANT PHYSICAL ABUSE ON THE EQUIPMENT, THE AFFECTED PARTS SHALL BE REPLACED AT NO COST TO THE OWNER.

THE ELECTRICAL CONTRACTOR SHALL ENSURE ALL EQUIPMENT IS SAFELY STORED PRIOR TO INSTALLATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY THEFT OF EQUIPMENT PRIOR TO INSTALLATION.

SHOP DRAWINGS

THE CONTRACTOR SHALL PROVIDE SHOP DRAWINGS (DATA SHEETS) FOR ALL COMPONENTS TO BE USED IN THE CONSTRUCTION. ONLY EMAIL SUBMITTALS AS PDF DOCUMENTS WILL BE ACCEPTED.

REVIEW OF SHOP DRAWINGS PROVIDED BY THE CONTRACTOR IS NOT INTENDED TO SERVE AS THE FINAL CHECK.

BEFORE SUBMISSION, ALL SHOP DRAWINGS SHALL BE CHECKED FOR ACCURACY AND INCLUSION OF ALL NECESSARY DETAILS.

RECORD DRAWINGS

IT IS THE CONTRACTOR'S RESPONSIBILITY TO RECORD RED LINES ON THE CONSTRUCTION DRAWINGS AND PLANS. THE CONTRACTOR SHALL CONVERT THE RECORD DRAWINGS TO ELECTRONIC AUTOCAD (LATEST VERSION) DRAWING FORMAT AND PROVIDE A COPY TO THE ENGINEER AND OWNER.

WARRANTEE

THE ELECTRICAL CONTRACTOR SHALL PROVIDE A WRITTEN 1-YEAR GUARANTEE COVERING ALL WORK FROM DEFECTS OF WORKMANSHIP AND MATERIALS FROM THE DATE OF PROJECT SUBSTANTIAL COMPLETION.

ANY REPAIRS WITHIN THE WARRANTY PERIOD, THE ELECTRICAL CONTRACTOR WILL REPAIR AND REPLACE IN A TIMELY MANNER (30 DAYS AFTER NOTICE) WITHOUT COST TO THE OWNER.

EQUIPMENT COORDINATION

THE ELECTRICAL CONTRACTOR SHALL COORDINATE EXACT ELECTRICAL REQUIREMENTS FOR ALL MECHANICAL EQUIPMENT REFERENCING THE MECHANICAL SHOP DRAWINGS AND ACTUAL NAMEPLATE DATA.

EXTRAS AND CREDITS

WHERE EXTRA OR DELETED WORK IS REQUESTED, CONTRACTOR SHALL BE PERMITTED A MARK-UP APPLIED TO BOTH OVERHEAD AND PROFIT AS OUTLINED IN THE CONTRACTUAL AGREEMENT WITH THE CLIENT. WHERE EXTRAS AND CREDITS OCCUR SIMULTANEOUSLY, THE CREDIT SHALL BE DEDUCTED FROM THE EXTRA, PRIOR TO THE APPLICATION OF THESE MARK-UPS. CREDITS FOR DELETED WORK WILL NOT BE SUBJECT TO ANY MARK-UP AS IT IS ASSUMED THAT THE OVERHEAD, LABOUR AND PROFIT ON THESE DELETED MATERIALS WAS INCLUDED AT THE TIME THE WORK WAS BID.

THE CONTRACTOR SHALL NEGOTIATE ANY CHANGES INCLUDING ADDITIONS AND DELETIONS ENSURING CREDITS ARE ISSUED FOR WORK DELETED FROM SCOPE.

ELECTRICAL CIVIL WORKS

THE ELECTRICAL CONTRACTOR SHALL COORDINATE ALL CIVIL WORKS WITH THE GENERAL CONTRACTOR INCLUDING BUT NOT LIMITED TO THE EXCAVATION, BACKFILL, COMPACTION, RESTORATION, ETC.

THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL LOCATES TO ENSURE THAT THE NEW INSTALLATION WILL NOT INTERFERE WITH EXISTING SERVICES.

THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE RESTORATION OF GRASS AREA, SIDEWALKS, ROADWAYS, LANDSCAPED AREAS, ETC. TO THE ORIGINAL CONDITION. GRASS AREAS SHALL BE RE-SODDED, NOT SEEDED.

THE ELECTRICAL CONTRACTOR SHALL COORDINATE INSPECTION OF ALL UNDERGROUND INSTALLATIONS BY THE LOCAL UTILITY AND ELECTRICAL SAFETY AUTHORITY PRIOR TO POURING CONCRETE OR BACKFILLING.

EQUIPMENT IDENTIFICATION GENERAL

PROVIDE ALL NAMEPLATES FOR ELECTRICAL EQUIPMENT (SUCH AS BUT NOT LIMITED TO PANELS, DISCONNECT SWITCHES, TRANSFORMERS, ETC.) NAMEPLATES MUST INDICATE EQUIPMENT NAME AND ELECTRICAL CHARACTERISTICS (AMPACITY, VOLTAGE, PHASES, NUMBER OF CONDUCTORS), I.E.: 'PANEL A', 200A, 120/208V, 3-PHASE 4-WIRE.

NAMEPLATES MUST BE WHITE WITH BLACK LETTERING LAMACOID 1.5MM THICK MINIMUM.

NAMEPLATE ENGRAVING SHALL BE AS FOLLOWS:

- ELECTRICAL EQUIPMENT NAME: 0.5", (13MM) HIGH.
-ELECTRICAL EQUIPMENT CHARACTERISTICS: 0.25", (6MM) HIGH.

PROVIDE TYPED DIRECTORY CARDS IN ALL NEW AND REVISED DISTRIBUTION PANELS. HAND WRITTEN DIRECTORY CARDS ARE NOT ACCEPTABLE.

ALL EMPTY OR SPARE CONDUIT SHALL BE IDENTIFIED WITH BLACK PERMANENT MARKER CLEARLY INDICATING THE SOURCE AND THE DESTINATION.

ALL JUNCTION BOXES SHALL BE IDENTIFIED WITH BLACK PERMANENT MARKER INDICATING THE SOURCE PANEL, CIRCUIT NUMBER AND SYSTEM (I.E., LIGHTING, RECEPTACLES, FIRE ALARM, ETC.).

CONDUIT WIRE & CABLE GENERAL

ALL WIRING MUST TO BE INSTALLED IN CONDUIT UNLESS OTHERWISE NOTED. ARMoured FLEXIBLE CABLE MAY BE USED WHEN NOT VISIBLE (WITHIN WALLS, CEILING SPACES, ETC).

ALL EMPTY CONDUIT AND RACEWAY SYSTEMS SHALL BE INSTALLED COMPLETE WITH NYLON PULL STRING WHICH SHALL BE SECURELY FASTENED AT EACH END OF THE CONDUIT.

EXPOSED OR CONCEALED CONDUITS ABOVE CEILINGS SHALL BE RUN IN STRAIGHT LINES PARALLEL TO BUILDING STRUCTURE. DIAGONAL RUNS WILL NOT BE PERMITTED.

IF THE CONDUIT LENGTHS/BENDS EXCEED THAT LISTED BELOW, A PULL BOX SHALL BE INSTALLED.

- NO MORE THAN (3) 90° BENDS IN A CONDUIT RUN ARE ALLOWED.
- 65', 20M MAXIMUM - THREE 90° BENDS.
- 100', 30M MAXIMUM - TWO 90° BENDS.
- 150', 45M MAXIMUM - ONE 90° BEND.
- 200', 60M MAXIMUM - NO BENDS.

DEVICES

DEVICES MUST BE WHITE COLOUR UNLESS NOTED OTHERWISE.

DEVICES FOR GENERAL PURPOSE SHALL BE OF HEAVY DUTY SPECIFICATION GRADE.

TIME CONTROLS EXTERIOR LIGHTING & SIGN CONTROL

THE ELECTRICAL CONTRACTOR MUST PROVIDE AN ELECTRONIC PROGRAMMABLE TIMER WITH THE MINIMUM REQUIREMENTS OF 7 DAY, 2 CIRCUIT, 1 TO 70 ON/OFF OPERATIONS/WEEK, 120V, 30A RATED CONTACTS.

THE ELECTRICAL CONTRACTOR MUST PROGRAM TIME CLOCK FOR INDEPENDENT CONTROL OF TWO EXTERIOR LIGHTING ZONES ON A SEVEN DAY SCHEDULE AS NOTED BY THE OWNER AND ENGINEER. SCHEDULES AND INSTRUCTION SHEETS SHALL BE PROVIDED TO THE OWNER.

ELECTRICAL DEVICE NOTES

INSTALL SWITCHES WITH HANDLE IN THE "UP" POSITION WHEN THE SWITCH IS IN THE "ON" POSITION.

REMOVE PLASTIC PROTECTIVE FILM ON STAINLESS STEEL PLATES ONLY AFTER PAINTING AND OTHER WORK HAS BEEN COMPLETED IN THAT AREA.

DO NOT USE COVER PLATES DESIGNED FOR FLUSH OUTLET BOXES ON SURFACE MOUNTED BOXES.

DO NOT USE OUTLET BOXES DESIGNED FOR RECESSED MOUNTING IN SURFACE MOUNT APPLICATIONS.

ALL DEVICES SHALL HAVE PERMANENT LABELS AFFIXED CLEARLY INDICATING THE SOURCE CIRCUIT NUMBER AND PANEL NAME. TEXT ON THE LABEL SHALL BE 1/4" (6.35MM) IN HEIGHT.

INSTALLATION

MOUNTING HEIGHTS TO CENTER OF DEVICE ABOVE FINISHED FLOOR (AFF), UNLESS NOTED OTHERWISE:

LIGHT SWITCHES: TO BE MOUNTED NOT LESS THAN 35.4" (900MM) AND NOT MORE THAN 43.3" (1100MM) ABOVE FINISHED FLOOR

RECEPTACLES: TO BE MOUNTED 16" (400MM) AFF. WHEN ABOVE A COUNTERTOP, TO BE MOUNTED 4" (100MM) ABOVE A COUNTERTOP. WHEN PROVIDED FOR MECHANICAL EQUIPMENT, COORDINATE WITH FINAL MECHANICAL EQUIPMENT LOCATION

WHERE A CONFLICT OF DEVICE MOUNTING OCCURS, THE ELECTRICAL CONTRACTOR SHALL CONTACT THE ENGINEER FOR CLARIFICATION.

DISTRIBUTION EQUIPMENT GENERAL

ALL DISTRIBUTION EQUIPMENT MUST BE RATED FOR USE WITHIN THE SPACE. ALL ELECTRICAL EQUIPMENT MUST BE COMPLETE WITH DRIP SHIELDS AT A MINIMUM OR OTHERWISE LISTED AS SUITABLE FOR USE IN A SPRINKLERED ENVIRONMENT AS REQUIRED.

PANEL BOARDS

PROVIDE SURFACE OR RECESSED PANELS AS INDICATED ADHERING TO TYPE, VOLTAGE, AMPERE CAPACITY, NUMBER OF POLES, BRANCH CIRCUIT, CAPACITY, ETC. AS SPECIFIED PROVIDE BOLT-ON BREAKERS (SLASH RATED BREAKERS ARE NOT ACCEPTABLE).

ALL ELECTRICAL PANELS MUST HAVE A STEEL DOOR, FLUSH MOUNTED LOCKS AND CONCEALED HINGES.

THE ELECTRICAL CONTRACTOR MUST BALANCE ALL PANELS TO GIVE AS NEAR AS POSSIBLE EQUAL CURRENT ON ALL PHASES UNDER TYPICAL OPERATING CONDITIONS (ADJUST TO BE WITHIN 15%).

DISCONNECT SWITCHES

THE MAIN SERVICE SWITCH MUST MEET THE REQUIREMENTS OF THE LOCAL UTILITY; INCLUDING LOCKABLE, VISIBLE WINDOW TYPE, ETC.

ALL DISCONNECTS MUST BE LOCKABLE IN OFF SWITCH POSITION BY ONE LOCK. THE SWITCH MUST BE MECHANICALLY INTERLOCKED WITH SWITCH DOOR, CONTAINING DEFEAT TO PREVENT OPENING WHEN HANDLE IN ON POSITION.

FUSES & BREAKERS

FUSES WITHIN THE MAIN SERVICE SWITCH SHALL BE CLASS J (600A AND UNDER). FUSE RATING SHALL BE AS NOTED OR AS REQUIRED FOR PROPER PROTECTION. FUSES SHALL BE RATED FOR 200KAIC.

FUSES SERVING AS OVER CURRENT PROTECTION ON THE PRIMARY SIDE OF A TRANSFORMER FEEDING A PANEL BOARD SHALL BE RKS (TIME DELAY).

WHEN CIRCUIT BREAKERS ARE USED THEY SHALL BE RATED FOR THE VOLTAGE OF THE SYSTEM TO WHICH THEY ARE CONNECTED

CONTACTORS

CONTACTORS SHALL BE OF THE VOLTAGE, AMPACITY AND NUMBER OF POLES AS INDICATED ON THE DRAWINGS. CONTACTS SHALL HAVE MIXED LOAD RATINGS (LIGHTING AND MOTOR) AND A WITHSTAND RATING OF 100KA. CONTACTS SHALL BE ELECTRICALLY HELD.

TRANSFORMERS

TRANSFORMERS SHALL BE DRY-TYPE, 115 DEG C TEMP RISE, LESS THAN 4.5% REGULATION AT UNITY POWER FACTOR, LESS THAN 5% TOTAL LOSSES AT FULL LOAD, 3.5% MINIMUM IMPEDANCE, ALUMINIUM OR COPPER WOUND. THE TRANSFORMER MUST BE OF THE VOLTAGE AND SIZE AS SHOWN ON THE DRAWINGS. IF THE INSTALLATION LOCATION IS SPRINKLERED, USE NEMA SPRINKLER PROOF, OR NEMA 3R.

TRANSFORMERS SPECIFIED MUST NOT BE REPLACED WITH AN ALTERNATIVE T WOUND OR AUTO TRANSFORMER UNLESS DIRECTLY REVIEWED AND APPROVED BY THE ENGINEER.

CONDUCTORS SHALL NOT BE RUN IN THE TOP OF THE TRANSFORMER CASE DUE TO HIGH AMBIENT TEMPERATURES.

DRY-TYPE TRANSFORMERS SHALL HAVE INTERNAL VIBRATION ABSORBING PADS AND OPTIONAL EXTERNAL MOULDED NEOPRENE AND STEEL VIBRATION ISOLATORS.

WHEN WYE-WOUND STEP-UP/DOWN TRANSFORMERS ARE USED, A WYE WINDING SHALL NOT FACE A WYE SERVICE WINDING.

TRANSFORMERS SHALL HAVE FOUR (4) 2.5% FULL CAPACITY TAPS. CONNECTIONS ON HV AND LV SIDES SHALL BE FLEXIBLE CONDUIT OR EQUIVALENT.

TRANSFORMERS MOUNTED ON COMBUSTIBLE FLOORS OR ABOVE PEDESTRIAN TRAFFIC SHALL BE INSTALLED WITH PROTECTION PLATES, SUCH THAT IN THE EVENT OF A FAILURE THERE IS NO HAZARD OF MOLTEN METAL.

GROUNDING & BONDING

THE ELECTRICAL CONTRACTOR SHALL INCLUDE IN HIS TENDER GROUNDING AND BONDING AS REQUIRED BY ELECTRICAL SAFETY AUTHORITY INSPECTION DEPARTMENT.

LIGHTING GENERAL

SUPPLY AND INSTALL LIGHTING FIXTURES WITH ALL ACCESSORIES AND LAMPS AS SHOWN IN LIGHTING FIXTURE SCHEDULE, AND AS DESCRIBED.

THE ELECTRICAL CONTRACTOR MUST ENDEAVOUR TO PROVIDE A MOUNTING SOLUTION THAT IS VISUALLY APPEALING TO THE OWNER WHEN NOT DIRECTLY SPECIFIED IN THIS DRAWING PACKAGE, AT NO ADDITIONAL COST TO THE OWNER.

THE ELECTRICAL CONTRACTOR SHALL SUBMIT SHOP DRAWINGS CONTAINING THE FOLLOWING INFORMATION:

- FIXTURE MANUFACTURER (INCLUDE ADDRESS AND TELEPHONE NUMBER).
- IMAGE OF THE FIXTURE, FIXTURE MODEL NUMBER, FIXTURE COLOUR.
- MOUNTING DETAILS, PHOTOMETRIC DATA.
- HIGHLIGHT SELECTABLE OPTIONS.

EXITS

ALL NEW EXIT FIXTURES MUST BE INTERNALLY LIT OR A PHOTOLUMINESCENCE TYPE. CONTRACTOR TO CONFORM TYPE WITH CLIENT PRIOR TO PURCHASE.

NEW EXIT SIGNS SHALL BE THE GREEN RUNNING MAN TYPE.

EXIT FIXTURES MUST BE WALL OR CEILING MOUNTED. EXIT FIXTURE LOCATION AND MOUNTING ARRANGEMENTS MUST BE COORDINATED ON-SITE. EACH EXIT FIXTURE MUST BE VISIBLE FROM THE EXIT APPROACH.

WALL MOUNTED EXITS SHALL BE MOUNTED AT 96" (2430MM) ABOVE FINISHED FLOOR OR 12" (300MM) ABOVE DOORS.

EXIT FIXTURES MAY BE CEILING MOUNTED IF THE CEILING HEIGHT DOES NOT EXCEED 144" (3658MM).

EMERGENCY LIGHTING (BATTERY SYSTEM) GENERAL

THE EMERGENCY LIGHTING MUST ACTIVATE UPON LOSS OF POWER TO THE LIGHTING CIRCUIT THAT IS SERVICING THE SPACE WHERE THE EMERGENCY LIGHTING IS PROVIDED. THE BATTERY MUST AUTOMATICALLY RECHARGE AFTER NORMAL POWER IS RESTORED.

THE ELECTRICAL CONTRACTOR MUST SUPPLY AND INSTALL AN EMERGENCY LIGHTING SYSTEM CONSISTING OF 24 VDC BATTERY UNIT(S), LIGHTING HEADS, CONDUIT, WIRING, ETC.,

THE ELECTRICAL CONTRACTOR SHALL TEST THE EMERGENCY LIGHTING SYSTEM AND REPAIR ANY NON-CONFORMING FIXTURES OR DEFICIENCIES TO ENSURE A MINIMUM LIGHTING LEVELS ARE MAINTAINED.

DEDICATED BATTERY UNITS MUST BE WALL MOUNTED AT 84", (2250MM). POWER FEED FOR BATTERY PACKS SHALL BE MOUNTED AT 96", (2450MM) WHERE POSSIBLE. PROVIDE CONNECTION FROM CONSTRUCTION LIGHTING CIRCUIT. UNLESS OTHERWISE NOTED.

WALL MOUNTED REMOTE HEADS SHALL BE MOUNTED AT 96", (2450MM) AFF. ELECTRICAL CONTRACTOR TO SITE VERIFY LOCATIONS ON SITE AS REQUIRED.

THE ELECTRICAL CONTRACTOR SHALL CONFIRM THE WIRE SIZE AND LENGTH LIMIT VOLTAGE DROP TO FIVE PERCENT TO THE MOST REMOTE FIXTURES. ALL WIRING SHALL BE IN DEDICATED CONDUITS.

ELECTRICAL HEATERS

SUPPLY AND INSTALL OF HEATERS AS LISTED, IN COORDINATION WITH THE MECHANICAL TRADE, AT THE RATED SIZE AND VOLTAGE INDICATED ON THE DRAWINGS.

SUPPLY AND INSTALL ALL CONTROLS AND WIRING AS SHOWN, TO PROVIDE A COMPLETE AND OPERATING HEATING SYSTEM.

RUN CONDUIT FOR T-STAT OF UNIT HEATERS AS REQUIRED BY MECHANICAL TRADE.

COMMUNICATION AND DATA CONDUITS

THE ELECTRICAL CONTRACTOR SHALL INSTALL ALL EMPTY CONDUITS AND CONDUIT COMPONENTS TO ALLOW FOR COMMUNICATION CONTRACTOR TO INSTALL DATA AND PHONE CABLES AS SHOWN IN THE DRAWINGS WITHOUT CUTTING AND PATCHING.

ALL CONDUIT FOR THE PURPOSE OF COMMUNICATIONS WITHIN THE CEILING SPACE, ROOM OR CLOSETS MUST STUB INTO THE OPEN SPACE A MINIMUM OF 3" (75MM) WITHOUT A BEND.

Table with 4 columns and 10 rows for project details.

Table with 4 columns: FEB 20/20, 1, ISSUED FOR PERMIT, MS

MARK VOID ALL PRINTS DATED PREVIOUS TO FINAL DATE ABOVE

REVISIONS

CONTRACTOR MUST CHECK AND VERIFY ALL DIMENSIONS AND CONDITIONS IN THE FIELD AND REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO PROCEEDING WITH WORK.

THIS DRAWING IS THE PROPERTY OF THE ENGINEER AND MUST BE RETURNED UPON COMPLETION OF THE WORK. REPRODUCTION OF THIS DRAWING IS FORBIDDEN WITHOUT THE ENGINEER'S WRITTEN CONSENT.

DRAWINGS ARE PREPARED FOR PRINTING ON ARCH D PAPER(24"x36"). DRAWINGS ARE NOT TO BE SCALED.



Hubbert EME Engineering
90 WINGES ROAD, SUITE 201 VAUGHAN, ON L4L 6A9
67 HIGH STREET BARRIE, ON L4N 1W5

VETERAN'S DRIVE TOWNHOMES
440 VETERANS DR BARRIE, ON L4N 9J5

GENERAL ELECTRICAL NOTES

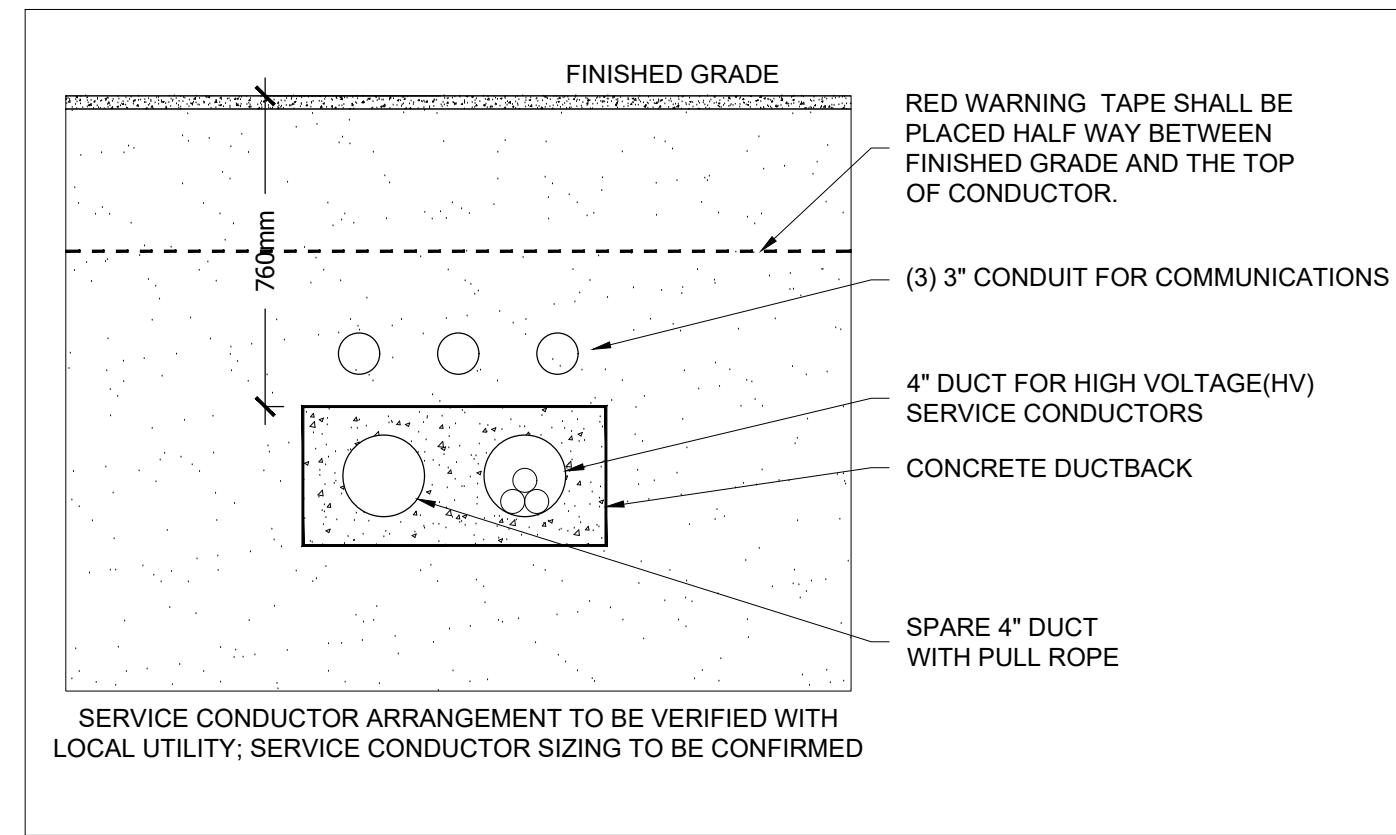
Table with 3 columns: DRAWN BY (MS), CHECKED BY (CL), SCALE (NTS); DATE (DEC/2019), PROJECT NUMBER (9-5786), DRAWING NUMBER (E-001)

LIGHTING SCHEDULE						
FIXTURE	DESCRIPTION	WATTS PER FIXTURE (W)	NUMBER OF FIXTURES	TOTAL WATTS PER FIXTURE(S) (W)	VOLTAGE (V)	INTERIOR/ EXTERIOR
A	EXTERIOR AREA LIGHT - LITHONIA DSX0 LED P1 40K T5W MVOLT	38	2	76	120	EXT

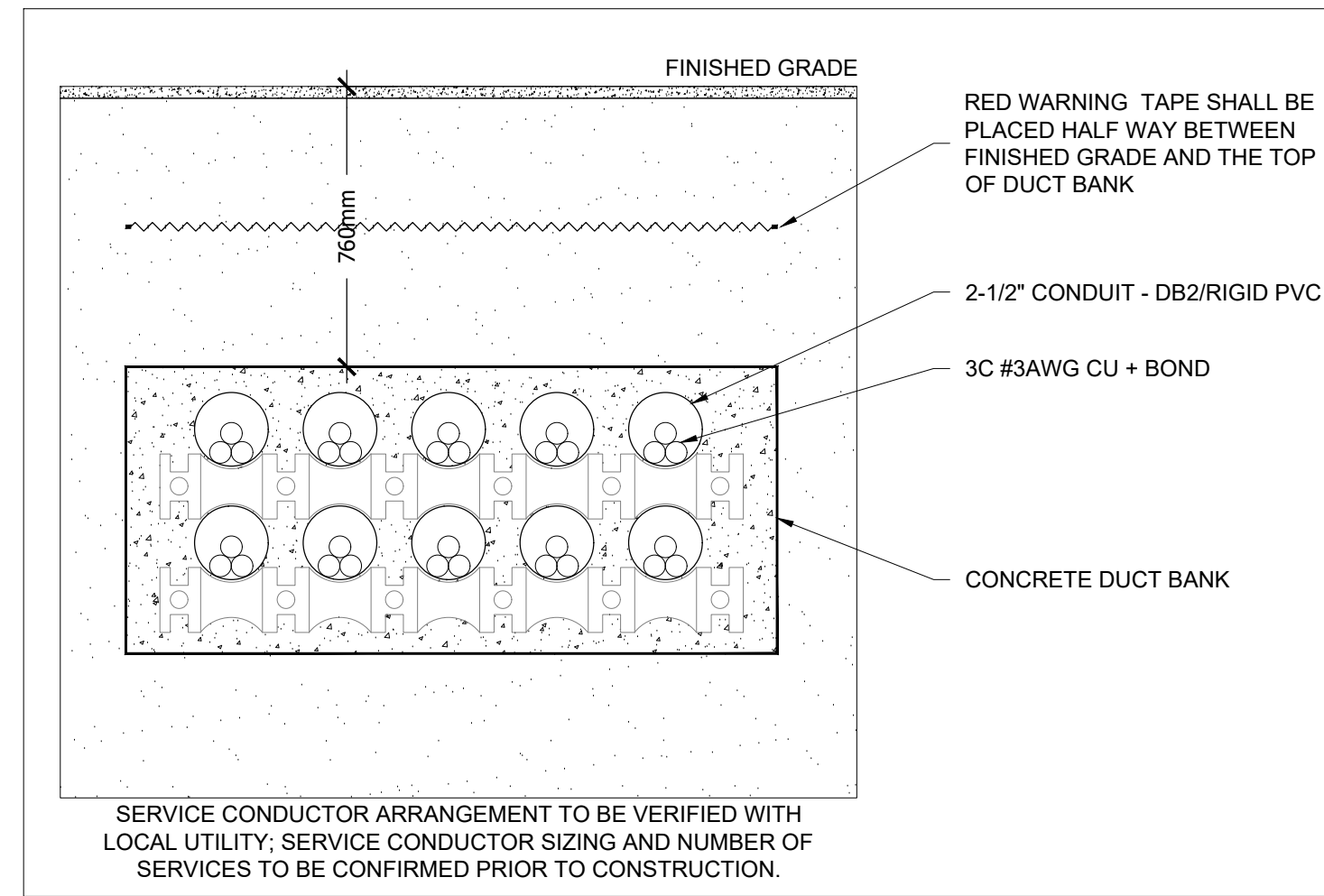
Site Lighting Levels (fc)	
Average	0.3
Maximum	24.1
Minimum	0
Max/Min	24.0:1
Average/Min	0:1

Light Spill (fc)	
Average	0
Maximum	0
Minimum	0
Max/Min	N/A
Average/Min	N/A

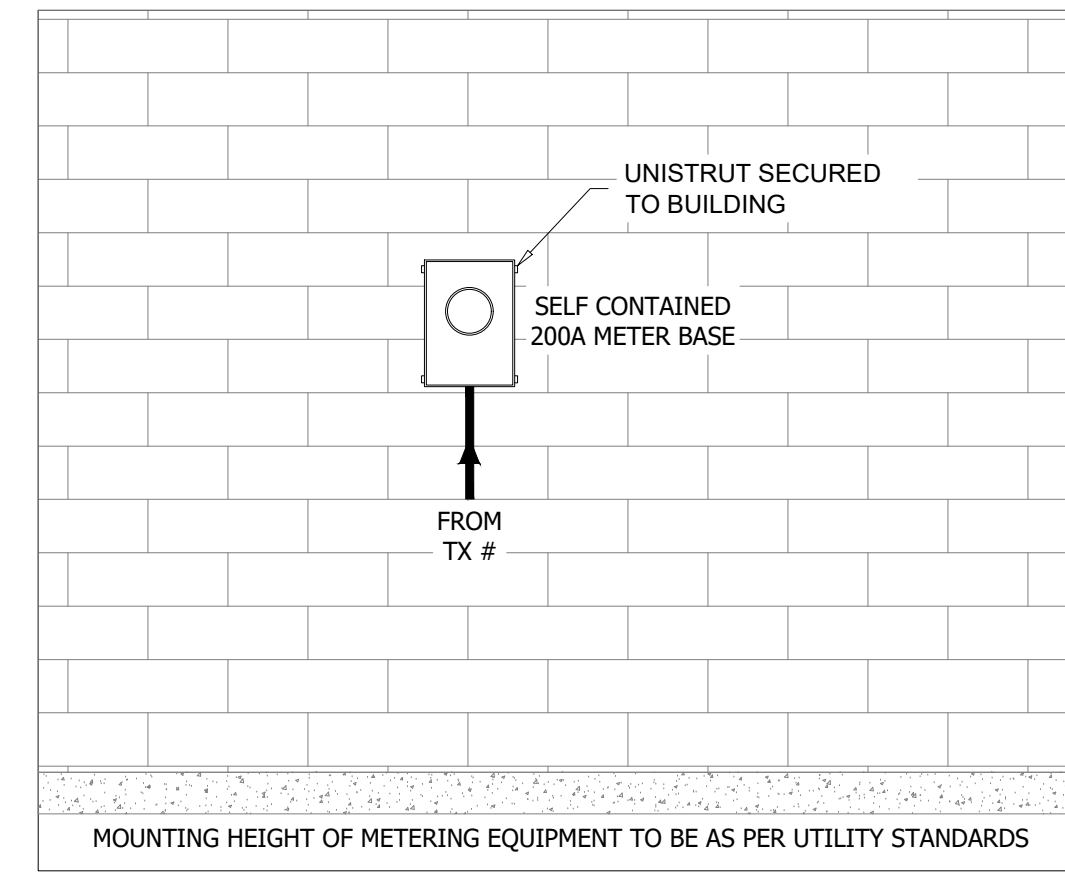
ELECTRICAL SYMBOL LEGEND	
SYMBOL	DESCRIPTION
	15A/120V DUPLEX RECEPTACLE
	120V DUPLEX RECEPTACLE (GFI)
	120V RECEPTACLE (WEATHERPROOF)
	20A/120V DEDICATED RECEPTACLE
	120V QUAD RECEPTACLE
	POWER POINT (REFER TO DRAWINGS)
	DATA OUTLET
	PHONE OUTLET
	DATA/PHONE OUTLET
	PUSH BUTTON
AFF	ABOVE FINISHED FLOOR



3 UNDERGROUND PRIMARY DETAIL
Scale: N.T.S.



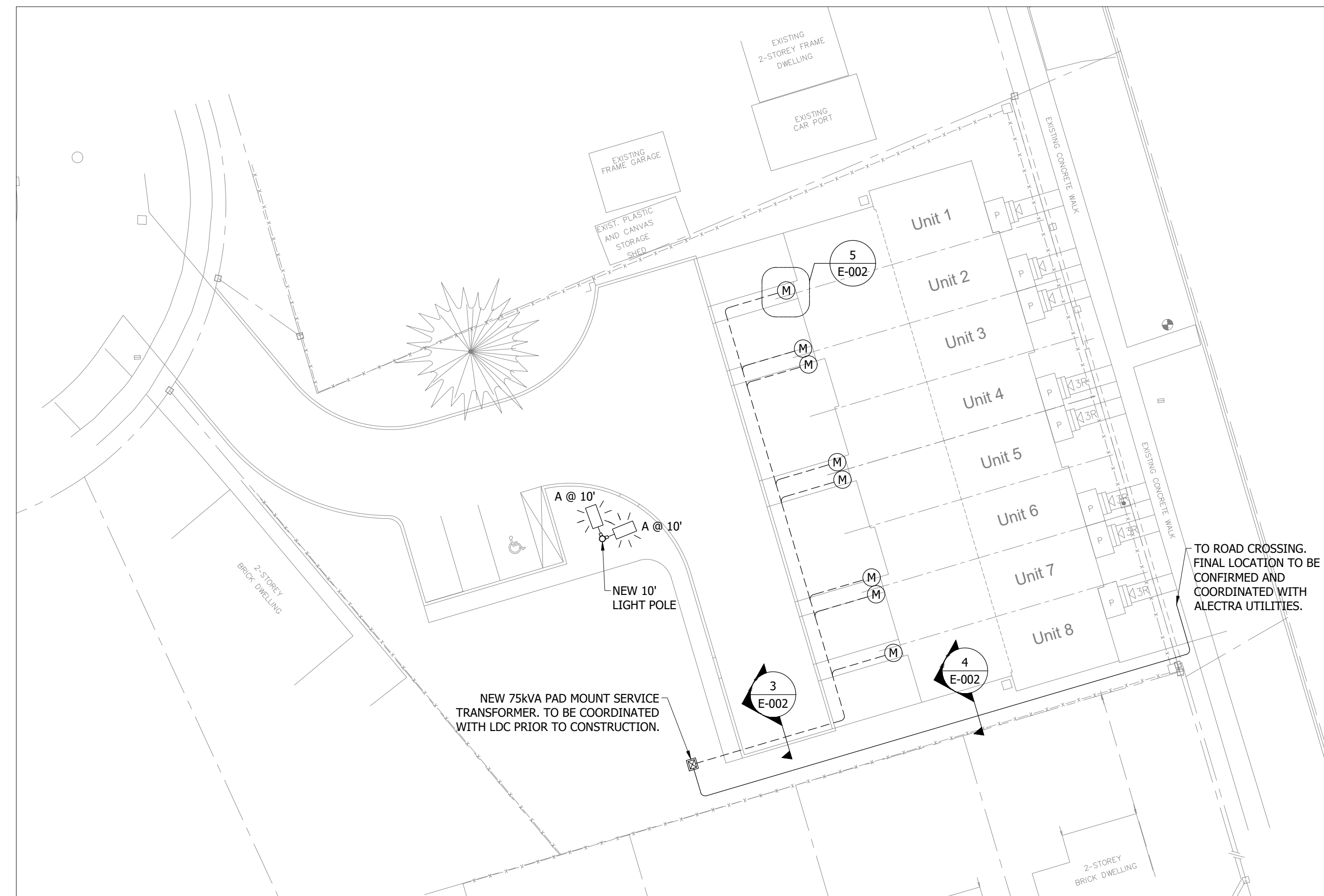
4 UNDERGROUND SECONDARY DETAIL
Scale: N.T.S.



5 METER DETAIL (TYP)
Scale: N.T.S.



1 EXTERIOR PHOTOMETRICS PLAN
Scale: 1:250



2 EXTERIOR SITE PLAN
Scale: 1:250

DATE	NO.	DESCRIPTION	BY
FEB 20/20	1	ISSUED FOR PERMIT	MS

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ELECTRICAL MECHANICAL ENERGY

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PROJECT: VETERAN'S DRIVE TOWNHOMES
440 VETERANS DR
BARRIE, ON L4N 9J5

DRAWING TITLE: EXTERIOR SITE PLAN AND PHOTOMETRIC PLANS

DATE	PROJECT NUMBER	DRAWING NUMBER
DEC/2019	9-5786	E-002