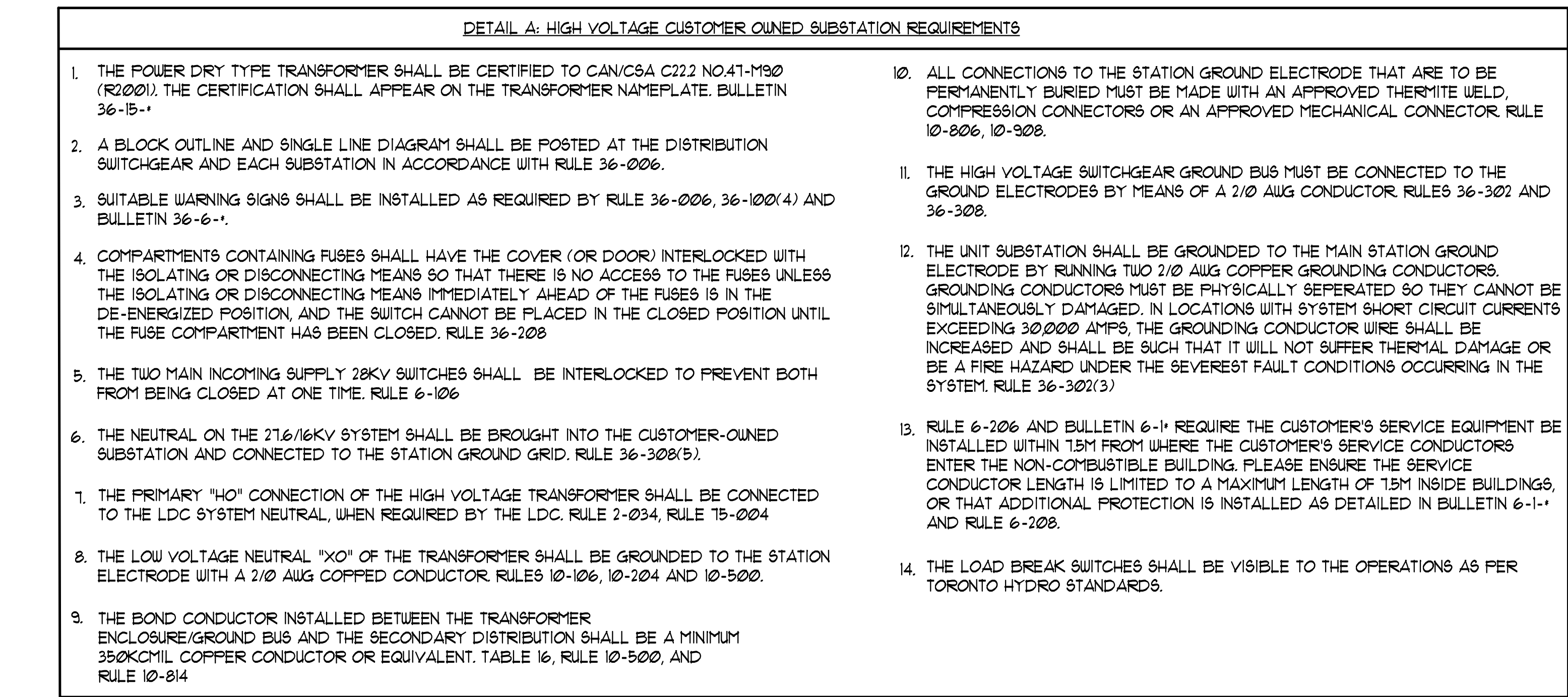


- GENERAL NOTES:**
- ALL 600V 120/208V PANELS AND SWITCHBOARDS SHALL HAVE INTERRUPTING CAPACITY SIZED AS PER RESULTS OF SHORT STUDY.
 - ALL EMERGENCY FEEDERS TO BE ENCASED IN CONCRETE OF SUFFICIENT DEPTH TO PROVIDE FOR 2 HOUR FIRE SEPARATION.
 - BREAKERS (2) TO BE FACTORY INSTALLED & LINESIDE WIRED BY GENERATOR MANUFACTURER.
 - ALL CONDUCTOR SIZES BASED ON RUSCO COPPER, SPECIFIED. ALUMINUM CABLES MAY BE USED (NIAL AC509) FOR FEEDERS WITH AMPACITY LARGER THAN 1000A. THE CONTRACTOR SHALL SIZE EQUIVALENT AL CABLES AS PER THE ELECTRICAL CODE.
 - ALL CLASS 'R' FUSE HOLDERS USED ON CIRCUIT IN EXCESS OF 100A OF AVAILABLE FAULT CURRENT SHALL BE EQUIPPED WITH FUSE REJECTORS TO PREVENT NON CLASS 'R' FUSES FROM BEING INSTALLED. RULE 14-012
 - PROVIDE GROUND WIRE FOR ALL FEEDER CIRCUITS AS REQUIRED BY THE CODE.
 - GROUNDING & BONDING CONDUCTOR SHALL BE SIZED AS PER TABLE 16-4 IT OF THE 2009 ONTARIO ELECTRICAL SAFETY CODE.
 - UNLESS DESIGNATED AS 'NIAL', ALL OTHER CABLES ARE COPPER. ALUMINUM CONDUCTORS CAN ONLY BE USED AS FEEDERS FEEDING WITH OVER 1000A AMPACITY. THEY SHALL NOT BE USED AS FINAL CONNECTION TO EQUIPMENT.
 - CONTRACTOR TO PROVIDE ALTERNATE QUOTE FOR RUSED SWITCHBOARD INSTEAD OF CIRCUIT BREAKER BASED SWITCHBOARDS PROVIDED SPACE IS SUFFICIENT.
 - FEEDERS TO BE SIZED TO ALLOW FOR VOLTAGE DROP ALLOWED PER ESA.
 - QUADLOGIC PANELS (TRANSFORMERS AND MC-3A) TO BE SUPPLIED BY PROVIDENT ENERGY MANAGEMENT, INSTALLED BY DIV 16
 - ALL FUSES INDICATED ARE TIME DELAY TYPE.
 - A BLOCK OUTLINE AND SINGLE LINE DIAGRAM SHALL BE POSTED AT THE DISTRIBUTION SWITCHGEAR AND EACH UNIT SUBSTATION IN ACCORDANCE WITH RULE 36-006.
 - THE FIRE PUMP TRANSFER SWITCH SHALL BE APPROVED FOR FIRE PUMP SERVICE. RULE 31-108(1)(2)
 - THE 1500KVA DRY TRANSFORMER SHALL BE CERTIFIED TO CAN/CSA C222 NO.41-M90 (REGD). THE CERTIFICATION SHALL APPEAR ON THE TRANSFORMER NAMEPLATE. BULLETIN 36-15-4
 - 1C - SINGLE CONDUCTOR CABLES TO RUN WITH 1 CABLE DIA SEPARATION AND SUPPORTED BY INSTRUCT OR TRAY AS PER ESA 3C OR 4C - 3 OR 4-CONDUCTOR CABLES (ACW) WHEN EMBEDDED CONFORM WITH MANUF. REQUIREMENTS. 3" - SINGLE CONDUCTOR CABLES RUN WITHIN ENTIRE CONDUITS.
 - ALL CABLES CONNECTING EQUIPMENT TO EMERGENCY POWER SHALL BE FIRE RATED 2-HR OR ENCLOSED IN AN ULC APPROVED 2-HR FIRE RESISTANT ENCLOSURE.
 - CONTRACTOR SHALL PROVIDE SHORT CIRCUIT STUDY AND RELAY COORDINATION STUDY WITH EQUIPMENT SUPPLIED, TO ENSURE THAT ALL POWER DISTRIBUTION DEVICES CAN WITHSTAND SHORT CIRCUIT CURRENTS AND ARE PROPERLY COORDINATED.
 - GENERAL NEUTRAL SHALL BE FLOATING (NOT CONNECTED TO THE FRAME GROUND) ALL POWER CONTROLS AND COMMUNICATION CONDUCTORS SHALL BE PROTECTED AGAINST FIRE EXPOSURE AS PER O.B.C. RULE 46-100 AND RULE 41-100(3) OESC 2007.

- KEY NOTES:**
- STARTERS AND VFD STARTERS TO BE SUPPLIED BY MECHANICAL CONTRACTOR.
 - INTERLOCK BETWEEN ATS-GENERATOR AND ELEVATORS. ELECTRICAL CONTRACTOR TO PROVIDE NECESSARY WIRING AND DRY CONTACTS AT ATS-GENERATORS. ELEVATOR STOP-START SEQUENCING DUE TO FIRE ALARM ACTIVATION AND/OR POWER OUTAGE SHALL BE BY ELEVATOR VENDOR.
 - ELECTRICAL CONTRACTOR TO PROVIDE 4-CONDUCTOR RS-485 CABLE (EDELIN 984) BELDEN 30814 OR DELCO 4930(7) IN 1" IN. EMT CONDUIT, THE CONDUITS FOR CTS TO BE RIG IN CONDUIT.
 - ALL LOADS DESIGNATED SHALL BE INTERLOCKED WITH THE FIRE PUMP. I.E. WHEN THERE IS A POWER OUTAGE AND THE FIRE PUMP STARTS, ALL THESE LOADS SHALL STOP RUNNING.
 - PROVIDE HYDRO METER BASE OUTLIER HEMT (EATON) 18U-13 IN 2"x2" ELEC. BOX (CAJ) 1/2" EMT. PROVIDE 1/2" EMT TO UTILITY COMPARTMENT OF MAIN SWITCHBOARD.
 - EXTRA 5A, 3P BREAKER FOR METERING.
 - MAIN FEEDERS TO TOWER ELEV. MACH RM. SWITCHBOARDS/EQUIPMENT SHALL BE RUN IN ELECTRICAL SHAFT.
 - THE SWIMMING POOL CONTRACTOR SHALL PROVIDE ALL THE ELECTRICAL EQUIPMENT THAT PERTAINS TO THE SWIMMING POOL. WIRING OF 600V VOLT LOADS TO A 200AMP, 600VOLT, 3 PHASE SPLITTER SUPPLIED AND INSTALLED BY DIV. 16. SIMILARLY, DIV. 16 CONTRACTOR SHALL CONNECT ALL 60V LOADS TO THE PANEL LP-P AND LP-PG, WHETHER THESE LOADS ARE SHOWN ON OUR DRAWINGS OR NOT.
 - CONNECT AUX CONTACT TO CACF MANUAL START/STOP SWITCH FOR FIREFIGHTERS.
 - GENERATOR SILENCER SHALL BE HOSPITAL GRADE PLUS 'HOOKEY FLOCK' AND RECTANGULAR SHAPE. CONTRACTOR TO FABRICATE SILENCER AFTER SITE MEASUREMENT.
 - SIZE PENDING ON EQUIPMENT SHOP DRAWINGS DATA.
 - THE TWO MAIN INCOMING SUPPLY SWITCHES SHALL BE INTERLOCKED TO PREVENT BOTH FROM BEING CLOSED AT ONE TIME.
 - ONLY ONE ELEVATOR WILL BE OPERATIONAL ON EMERGENCY POWER AT A TIME.
 - TORX D25/D26P ELECTRIC CHANNEL ASTRONOMICAL TIME CLOCK C/W SEASONAL, HOLIDAY AND EARTH HOUR OVER-RIDE.
 - 5A, 3P BREAKER FOR TRANSFENDER/CU.
 - DIV. 16 SHALL SUBMIT SINGLE LINE DIAGRAM, SWITCH GEAR AND SWITCH BOARD SHOP DRAWINGS AS WELL AS SUBSTATION ELECTRICAL LAYOUT AND TORONTO HYDRO FOR APPROVAL. PRIOR TO ORDERING FABRICATION OF EQUIPMENTS.
 - ROUGH-IN ONLY THIS IS AT THE OPTION OF TORONTO HYDRO AND PROVIDENT ENERGY MANAGEMENT.
 - SIZE OF BREAKER SHALL NOT BE LESS THAN THE OVERCURRENT PROTECTION THAT IS PROVIDED INTEGRAL WITH THE FIRE PUMP CONTROLLER (OESC-25TH EDITION-2002 SECTION 31-106(15)).
 - ELECTRICAL CONTRACTOR TO CONFIRM WITH EQUIPMENT SHOP DRAWINGS PRIOR TO FINAL INSTALLATION OF WIRING AND CONDUITS TO THE POOL EQUIPMENT.



ELECTRICAL LEGEND

LIGHTING

- FLUORESCENT LIGHT FIXTURE TYPE AS INDICATED
- NIGHT LIGHT OR LIGHT CONNECTED TO EMERGENCY POWER
- CEILING MOUNTED WALL MOUNTED LIGHT FIXTURE, INSCRIBED LETTER DENOTES TYPE
- POLE MOUNTED LIGHT FIXTURE, INSCRIBED LETTER DENOTES TYPE
- CAPPED CEILING LIGHT OUTLET
- TRACK LIGHT
- STRIP LIGHT
- UNDER CABINET FLUORESCENT LIGHT FIXTURE
- CEILING MOUNTED WALL MOUNTED EXT. SIGN
- SINGLEGLAZ. EMERGENCY LAMP REPOSE HEAD
- EMERGENCY BATTERY PACK
- OCCUPANCY SENSOR POWER PACKS
- SINGLE/THREE POLE SINGLE/THREE THROUGH SWITCH RESPECTIVELY
- 13"X19"X1" DIMENSION 3-WAY-4-WAY FLUO. LIGHT, OTHER SWITCHED LIGHT RESPECTIVELY
- MASTER LIGHTING SHUT-OFF SWITCH
- SENSOR WALL SWITCH FOR SELF POWERED OCCUPANCY SENSOR CEILING MOUNTED

POWER

- REGULAR DUPLEX RECEPTACLE
- FLOOR MOUNTED DEVICES
- 9-PORT 1-SLOT DUPLEX RECEPTACLE
- SINGLE RECEPTACLE TYPE AND CONFIGURATION AS SPECIFIED FOR DRIVER
- CONNECTION FOR OVERCOUNTER ABOVE COUNTER DEVICE
- CEILING MOUNTED DEVICES
- DISCONNECT SWITCH NON-FUSED
- DISCONNECT SWITCH FUSED
- COMBINATION STARTER
- FRACTIONAL MOTOR/AN DIRECT CONNECTION
- DIRECT CONNECTION SINGLE PHASE
- DIRECT CONNECTION THREE PHASE
- THERMOSTAT
- DOOR SENSOR
- HEAT TRACE
- ELECTRICAL HEATER
- ELECTRICAL PANEL / SECURITY PANEL

TELECOMMUNICATION

- TV/CABLE OUTLET
- TELEPHONE OUTLET
- TELEPHONE/CABLE (MULTI-PORT OUTLET) DATA OUTLET
- DATA/TELEPHONE OUTLET
- N-SITE TELECOMM. BOX (CAJ) RECEPTACLE
- UP/LI LOCATION
- VIDEO INTERCOM
- RADIO RECEIVER

SECURITY

- INTERCOM / INTERPHONE
- INTERCOM WITH CAMERA
- PANIC BUTTON / PANIC INTERCOM STATION
- CARD READER
- AUTOMATIC RELEASE CARD ACCESS/RADIO RECEIVER
- ELECTRIC STRIKE
- TRAILOOK
- DOOR CONTACT / WINDOW CONTACT
- GLASS BREAK DETECTOR
- AUTOMATIC DOOR OPERATOR
- MOTION DETECTOR
- VIDEO INTERCOM
- SECURITY CAMERA

LIFE SAFETY

- FIRE ALARM SMOKE DETECTOR
- SPOKE ALARM
- FIRE ALARM DUCT TYPE SPOKE DETECTOR
- FIRE ALARM HEAT DETECTOR
- FIXED TEMP. 68° DISCRETE HEAT DETECTOR
- POSTURE PROOF HEAT DETECTOR
- CO ALARM
- COMBINATION SPOKE & CO ALARM
- CO SENSOR / NO SENSOR
- FIRE ALARM MANUAL PULL STATION
- FIREFIGHTER'S HANDSET
- FIRE ALARM SPEAKER/STROBE WALL MTD.
- FIRE ALARM SPEAKER WALL MTD.
- FIRE ALARM SPEAKER/STROBE CEILING MTD.
- FIRE ALARM SPEAKER CEILING MTD.
- FIRE ALARM ANNUNCIATOR PANEL
- FIRE ALARM CONTROL PANEL

REVISIONS

NO.	DATE	DESCRIPTION	BY

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SINGLE LINE DIAGRAM

PROJECT TITLE: **ALEXANDRA PARK**
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DATE	PROJECT NUMBER	SCALE
FEB 13	1313	E-30