GENERAL AREA CIRCUITING - TABLE #1

LIGHTING FIXTURE LOCATION	CCT. #	RECEPTACLE LOCATION	CCT. #
P4 TO P1 - EXIT SIGNS	EX-XX	LOBBY (P4 TO P1)	EX-XX
G/F TO 10/F - EXIT SINGS	EX-XX	STAIR "A" (5/F,2/F,P2)	EX-XX
11/F TO ROOF - EXIT SIGNS	EX-XX	STAIR "B" (MPH,30,27,24,21,18,15) FLOORS	EX-XX
LOBBY (P4 TO P1)	EX-XX	STAIR "B" (12,9,6,3,P1,P4) FLOORS	EX-XX
STAIR "A" (P4 TO G/F)	EX-XX	STAIR "C" (MPH,30,27,24,21) FLOORS	EX-XX
CORRIDOR	EX-XX	STAIR "C" (18,15,12,9,6,3) FLOORS	EX-XX
-	EX-XX	STAIR "D" (P1,P4) FLOORS	EX-XX
-	EX-XX	STAIR "E" (P1) FLOOR	EX-XX
-	EX-XX	CORRIDOR	EX-XX

GENERAL NOTES - PARKING:

1. ELECTRICAL DRAWINGS SHALL BE READ IN CONJUNCTION WITH MECHANICAL, STRUCTURAL, ARCHITECTURAL AND LANDSCAPE DRAWINGS. AND COMPLY WITH ALL APPLICABLE NOTES.
2. CONTRACTOR SHALL RUN CABLES WITHIN CEILING SLAB OR ENCLOSURES TO RETAIN 2 HOUR FIRE PROTECTION RATING FOR ALL LOADS THAT CONNECT TO EMERGENCY POWER.
3. STAIRWAY WALL MOUNTED EMERGENCY LIGHT FIXTURES SHALL BE MOUNTED @ 7' A.F.F.
4. EMERGENCY LIGHT FIXTURES IN LOCKERS, STORAGE, UTILITY AND SERVICE ROOMS SHALL BE CONNECTED TO BOTH NORMAL AND EMERGENCY POWER AS PER DETAIL #28 OF DWG. E-35.
5. FOR STORAGE ROOM VENTILATION SYSTEM, DIV. 16 TO PROVIDE CONDUIT, WIRING AND SWITCH (S) TO START/STOP FAN AND DAMPER. FAN AND 110V ACTUATOR TO BE SUPPLIED AND INSTALLED BY DIV. 15.
6. FOR UTILITY ROOM VENTILATION SYSTEM, DIV. 15 WILL PROVIDE LINE VOLTAGE THERMOSTAT (T) TO DIV. 16. DIV. 16 TO PROVIDE CONDUIT AND WIRING TO START/STOP FAN AND DAMPER VIA THERMOSTAT. FAN AND 110V ACTUATOR TO BE SUPPLIED AND INSTALLED BY DIV. 15.
7. FOR UNIT HEATER, DIV. 15 TO PROVIDE LINE VOLTAGE THERMOSTAT (T), DIV. 16 TO PROVIDE CONDUIT AND WIRING TO START/STOP UNIT HEATER.
8. SANITARY PIPE AS NOTED, ALL STANDPIPE, ALL WET SPRINKLER AND DOMESTIC WATER PIPE RUN IN UNHEATED AREA SHALL BE HEAT TRACED BY DIV. 16.
9. ULTRASONIC CEILING MOUNTED SENSORS SHOULD BE LOCATED AT A MINIMUM OF 6 FEET FROM HVAC SUPPLY/RETURN VENTS.
10. REFER TO DETAIL #6 ON DWG. E-35 FOR OCCUPANCY SENSORS ON LIGHTING CONTROL BLOCK DIAGRAM.
11. CONTRACTOR IS RESPONSIBLE FOR PROPER SENSITIVITY AND TIME DELAY SETTINGS FOR NON-ADAPTIVE PRODUCTS, FOLLOWING THE MANUFACTURER'S RECOMMENDED PLACEMENT, AND FIELD VERIFICATION OF CIRCUITS WITH RESPECT TO POWER PACK FOR OCCUPANCY SENSORS REPLACEMENT. (IF USED)
12. CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFICATION OF REQUIRED NUMBER OF POWER PACKS FOR OCCUPANCY SENSORS. (IF USED).
13. CARBON MONOXIDE CONDUIT SYSTEM TO BE PROVIDED AND INSTALLED BY DIV. 16 THROUGHOUT PARKING LOT, AND SHALL BE MOUNTED ON COLUMNS AT 1200mm A.F.F. REFER TO DETAIL #22 ON DWG. E-35.
14. GARAGE EXHAUST FANS SHALL BE CONTROLLED BY CO SENSOR SYSTEM C/W OVERRIDE ON/OFF SWITCH LOCATED AT THE CACF.
15. REFER TO SPRINKLER DRAWINGS FOR FIRE PROTECTION DEVICE TO BE CONNECTED TO THE FIRE ALARM SYSTEM. THE DEVICE AND EQUIPMENT SHALL FORM AN INTEGRAL PART OF THE ELECTRICAL CONTRACT.
16. PROVIDE CHAIN FOR CEILING MOUNTED LIGHT FIXTURES IN P-1 LEVEL. LIGHTS TO BE INSTALLED AT 3m A.F.F. MAX., 2.1m A.F.F. MIN., OR INSTALL LIGHTS BELOW MECHANICAL PIPE. WHICHEVER HAS LOWER A.F.F.
17. OCCUPANCY SENSORS SHALL COMMUNICATE TO RELAY PANEL THROUGH LVT WIRING CIRCUIT # Z1, Z2, ETC.
18. CONTRACTOR SHALL PROVIDE ALLOWANCE FOR HEAT TRACING TO DRUM DRIPS (6 PER PARKING LEVEL).

ONLY FOR P-1 (OR FLOOR WITH HV TRANSFORMER), FREEZE FOR OTHER PARKING LEVELS.

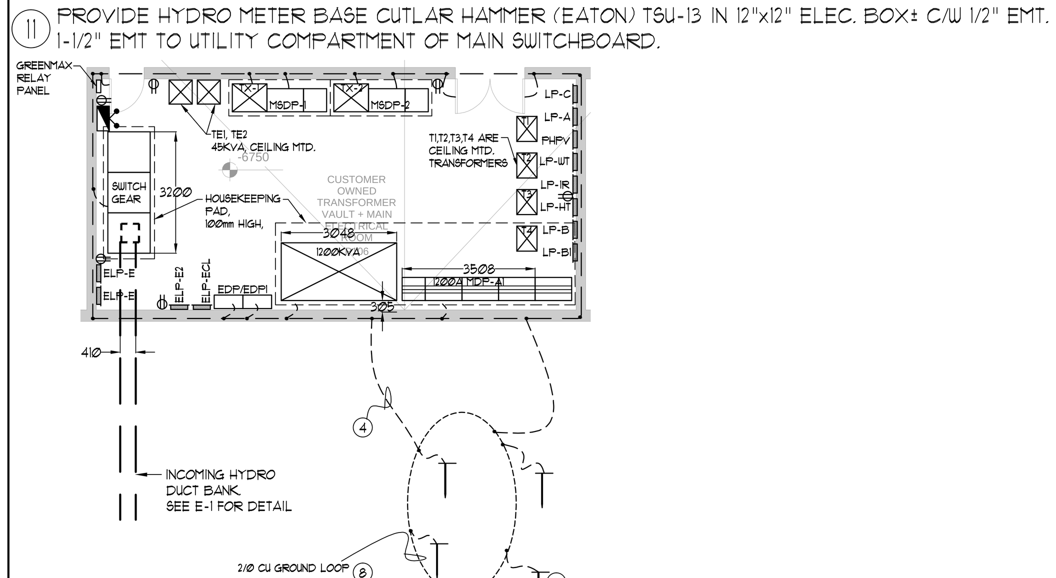
20. THE INDOOR, METAL ENCLOSED HIGH VOLTAGE SWITCHGEAR MUST BE CERTIFIED TO STANDARD CSA C22.2 No 3. RULE 2-024, BULLETIN 36-6-19.
21. THE LOCATION OF THE HIGH VOLTAGE CONDUCTORS ENCASED OR EMBEDDED IN CONCRETE OR MASONRY SHALL BE INDICATED BY PERMANENT MARKERS SET IN THE WALLS, FLOORS OR CEILINGS AT INTERVALS OF NOT MORE THAN 3M. RULE 36-100 (4).
22. CONDUCTORS USED FOR THE CONNECTION TO DRY TYPE TRANSFORMERS SHALL BE PERMITTED TO ENTER A TRANSFORMER THROUGH THE TOP, ONLY WHERE THE TRANSFORMER IS MARKED TO PERMIT SUCH ENTRY. RULE 26-240 (3).
23. THE PRIMARY "HO" CONNECTION OF THE HIGH VOLTAGE TRANSFORMER SHALL BE CONNECTED TO THE UTILITY COMPANY'S SYSTEM NEUTRAL, WHEN REQUIRED BY THE UTILITY COMPANY. RULE 2-034.

KEY NOTES - PARKING:

(1) FOR CIRCUITING, REFER TO TABLE #1.
(2) PROVIDE ALARM SPEAKER, SMOKE DETECTOR AND RECEPTACLE AT EVERY THIRD FLOOR STAIR WELL,STARTING FROM TOP FLOOR, AS PER TO DWG. E-32 FOR FIRE ALARM RISER DIAGRAM.
(3) SANITARY TRAPS ARE TO BE HEAT TRACED BY DIV. 16. CONNECT TO CIRCUIT "XXXX".
(4) SANITARY AND STORM LINE IN PARKING FLOORS ARE TO BE HEAT TRACED WITH SELF REGULATING CABLE BY DIV. 16. CONNECT TO GFI CIRCUIT AS SHOWN.
(5) ACTIVATION OF FIRE ALARM SYSTEM SHALL ACTIVATE THE SUPPLY FANS. WHEN THE DUCT TYPE SMOKE DETECTOR IS ACTIVATED, THE ASSOCIATED SUPPLY FAN SHALL BE TURNED OFF. WHEN THE MOTORIZED DAMPER IS ACTIVATED, THE DOOR SHALL BE RELEASE AND OPENED.
(6) ELECTRICAL CONTRACTOR SHALL PROVIDE A RECEPTACLE C/W 1-½" CONDUIT TO 120/208V PANEL 'EV' WITH METER FOR PHEV (PLUG-IN HYBRID ELECTRIC VEHICLES). XX DEDICATED 1φ, 208V, 20A CIRCUITS.
(7) ALLOCATE 2, 120V, 15A, CCTS FROM PANEL 'X' FOR MECHANICAL CONTROL, CONTRACTOR COORDINATE WITH DIV. 15 FOR EXACT LOCATION. REFER TO PANEL SCHEDULE FOR CCT#(X-XX, X-XX)
(8) F.H.C. IN UNHEATED AREAS ARE TO BE HEAT TRACED BY DIV. 16. CONNECT TO GFI CIRCUIT AS SHOWN.
(9) CONTROL PANEL FOR SANITARY PUMP AND STORM PUMP BY DIV. 15, POWER CONNECTION UP TO CONTROL PANELS SHALL BE INSTALLED BY DIV. 16 CONTRACTOR. THIS CONTRACTOR SHALL SUPPLY UNDER SLAB CONDUITS FOR POWER AND CONTROL WIRING FROM CONTROL PANELS TO SANITARY/SUMP PIT.
(10) INSTALL 3/4"C CONDUIT C/W PULL STRING FROM SANITARY AND STORM PUMP CONTROL PANEL TO CONCIERGE DESK AND CACF FOR HIGH WATER ALARM SYSTEM.

KEY NOTES (FOR CUSTOMER OWNED SUBSTAION):

(1) GROUND LOOP PER ONT. ELEC. SAFETY CODE SECTION 10.
(2) PROVIDE 3/4" X 10 FT STEEL GROUND RODS BURIED IN EARTH & CONNECT TO GROUND BUS BY 2-2/0 STRANDED COPPER WIRES. MIN. OF GROUND RODS SHALL BE SPACED AT LEAST 3 METERS APART.
(3) ALL DOOR FRAMES, SWITCHGEAR FRAMES & OTHER METAL OBJECTS SHALL BE BONDED TO THE GROUND BUS. METAL FRAME OF BUIDLING TO BE CONNECTED TO GROUND GRID BY MIN. OF 2-2/0 CU. CONDUCTORS.
(4) CONNECT STATION GROUND WITH IN-EARTH GROUND LOOP BY MIN. OF 2 LEADS SEPARATED BY A MINIMUM OF 2 METERS.
(5) WARNING SIGNS TO BE POSTED AS PER ONT. ELEC. SAFETY CODE RULES: 36-006, 36-100(4), 2-100, 14-506(D) BULLETIN 36-12-0, BULLETIN 36-6-17
(6) LOW VOLTAGE NEUTRAL 'XO' OF TRANSFORMER MUST BE GROUNDED TO THE SUBSTATION ELECTRODE WITH 3/0 AWG COPPER AND THE NEUTRAL INSTALLED TO THE SERVICE EQUIPMENT. THE 'XO' SHALL ALSO BE BONDED TO THE TRANSF. ENCLOSURE/GROUND BUS WITH A MIN. 500 MCM COPPER CONDUCTOR.
(7) ALL CONNECTIONS TO THE STATION GROUND ELECTRODE THAT ARE TO BE PERMANENTLY BURIED MUST BE MADE WITH AN APPROVED THERMIT WELD, COMPRESSION CONNECTORS OR AN APPROVED MECHANICAL CONNECTOR.
(8) GROUND LOOP SIZE SHALL BE EQUIVALENT TO THE FOOT PRINT OF THE TRANSFORMER VAULT.
(9) THE ELECTRICAL COONTRACTOR SHALL SUBMIT SHOP DRAWING & ROUTING DETAILS OF HV CABLES INSIDE THE SUBSTATION PRIOR TO INSTALLATION.
(10) THE GROUND GRID CONDUCTORS SHALL BE BARE COPPER BURIED TO A MAXIMUM DEPTH OF 600MM BELOW ROUGH STATION GRADE AND A MINIMUM DEPTH OF 150 MM BELOW THE FINISHED STATION GRADE.
(11) PROVIDE HYDRO METER BASE CUTLAR HAMMER (EATON) TSU-13 IN 12"x12" ELEC. BOX± C/W 1/2" EMT. PROVIDE 1-1/2" EMT TO UTILITY COMPARTMENT OF MAIN SWITCHBOARD.



A/E-2 ELECTRICAL & SWITCH GEAR ROOM PLAN VIEW & GROUNDING DETAILS
SCALE 1:100

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 EXIT SIGN
	SINGLE/DUAL EMERGENCY LAMP REMOTE HEAD
	EMERGENCY BATTERY PACK
FP	OCCUPANCY SENSOR POWER PACKS
$/$/$ $3, $4, $P, $D	SINGLE/TWO/THREE POLE, SINGLE/TWO/THREE THROW TOGGLE SWITCH RESPECTIVELY, ('3','4','P','D' DENOTES 3-WAY,4-WAY,PILOT LIGHT, DIMMER SWITCHED LIGHT RESPECTIVELY)
	MASTER LIGHTING SHUT-OFF SWITCH
	SENSOR WALL SWITCH PIR, SELF POWERED
	OCCUPANCY SENSOR, CEILING MOUNTED

POWER

	REGULAR DUPLEX RECEPTACLE
	DUPLEX RECEPTACLE, GROUND FAULT INTERRUPT
	5-20R T-SLOT DUPLEX RECEPTACLE
	SINGLE RECEPTACLE, TYPE AND CONFIGURATION AS SPECIFIED FOR DRYER
	CONNECTION FOR OVEN/COOKTOP
	ABOVE COUNTER DEVICE
	CEILING MOUNTED DEVICES
	FLOOR MOUNTED DEVICES
	DISCONNECT SWITCH, NON-FUSED
	DISCONNECT SWITCH, FUSED
	COMBINATION STARTER
	FRACTIONAL MOTOR/FAN DIRECT CONNECTION
	DIRECT CONNECTION, SINGLE PHASE
	DIRECT CONNECTION, THREE PHASE
T	THERMOSTAT
DS	DRYER SENSOR
	HEAT TRACE
	ELECTRICAL HEATER
EP / SP	ELECTRICAL PANEL / SECURITY PANEL

TELECOMMUNICATION

	TV/CABLE OUTLET
	TELEPHONE OUTLET
MP	TELEPHONE/TV CABLE (MULTI-PORT OUTLET)
	DATA OUTLET
	DATA/TELEPHONE OUTLET
CB	IN SUITE TELECOMM. BOX C/W RECEPTACLE
WFI	WIFI LOCATION
MS / VC	MUSIC SPEAKER / VOLUME CONTROL
RR	RADIO RECEIVER

SECURITY

IC / ENT	INTERCOM / ENTERPHONE
ICV	INTERCOM WITH CAMERA
PB / PAR	PANIC BUTTON / PANIC INTERCOM STATION
CR	CARD READER
ARCA / RR	AUTOMATIC RELEASE CARD ACCESS/RADIO RECEIVER
ES	ELECTRIC STRIKE
ML	MAGLOCK
DC / WC	DOOR CONTACT / WINDOW CONTACT
DO	AUTOMATIC DOOR OPERATOR
MD	MOTION DETECTOR
	PUSH BUTTON
	SECURITY CAMERA

LIFE SAFETY

	FIRE ALARM SMOKE DETECTOR
A	SMOKE ALARM
D	FIRE ALARM DUCT TYPE SMOKE DETECTOR
	FIRE ALARM HEAT DETECTOR
H	FIXED TEMP. 88 °C DEGREE HEAT DETECTOR
M	MOISTURE PROOF HEAT DETECTOR
	CO ALARM
A	COMBINATION SMOKE & CO ALARM
CO / NO	CO SENSOR / NO SENSOR
	FIRE ALARM MANUAL PULL STATION
H	FIREFIGHTER'S HANDSET
S	FIRE ALARM STROBE/HORN, WALL MTD.
	FIRE ALARM MINI-HORN, WALL MTD.
S	FIRE ALARM SPEAKER/STROBE CEILING MTD.
	FIRE ALARM SPEAKER, CEILING MTD.
FAAP	FIRE ALARM ANNUNCIATOR PANEL
FACP	FIRE ALARM CONTROL PANEL

DATE	NO.	DESCRIPTION	BY
05/30/14	1	ISSUED FOR PERMIT	S.T.

MARK VOID ALL PRINTS DATED PREVIOUS TO FINAL DATE ABOVE

REVISIONS

CONTRACTOR MUST CHECK AND VERIFY ALL DIMENSIONS AND CONDITIONS ON THE JOB AND REPORT DISCREPANCIES TO THE ENGINEERS BEFORE PROCEEDING WITH THE WORK. THIS DRAWING IS THE PROPERTY OF THE ENGINEERS AND MUST BE RETURNED UPON COMPLETION OF THE WORK.

DRAWINGS ARE NOT TO BE SCALED

NOVA TREND ENGINEERING GROUP LTD

LICENSED PROFESSIONAL ENGINEER 05/30/14 S.Y.-P. TAM PROVINCE OF ONTARIO

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DRAWING TITLE: P-2 FLOOR PLAN ELECTRICAL LAYOUT

PROJECT TITLE: ALEXANDRA PARK
XXX
TORONTO ONTARIO

DRAWN BY:	CHECKED BY:	SCALE:
S.O.	S.T.	1:100
DATE:	PROJECT NUMBER:	DRAWING NUMBER:
FEB, 13	1313	E-2 OF

Drawing name: \\CADSERVER\Current Dwg\13\1313 - Alexandra Park\DIV16\1313E- 2 (P-2 ELEC).dwg Plotted: May 29, 2014 - 5:08pm