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STATPEC PROJECT = 133A20169

ABBREVIATIONS

ELECTRICAL DEVICE ABBREVIATIONS
(WHEN USED ADJACENT TO OR WITHIN AN ELECTRICAL DEVICE)

EQUIPMENT RENOVATION
INDICATES EXISTING TO BE DEMOLISHED
X
INDICATES NEW
N

NOTE AND REFERENCE NUMBERS
◇ SYMBOL INDICATES AN ELECTRICAL KEY NOTE. REFER TO CORRESPONDING NUMBER FOR DESCRIPTIONS.

LEGEND

- NEW
- TO BE DEMOLISHED
- EXISTING
- INDICATES ELECTRICAL PANEL ENCLOSURE
- CIRCUIT BREAKER
- FUSE
- 3 PHASE MOTOR
- MAGNETIC MOTOR STARTER
- GENERATOR SET
- TRANSFER SWITCH



revision	date	project
0	ISSUED FOR TENDER	2014
A	ISSUED FOR 99% REVIEW	2014

**AAFC KENTVILLE
FIRE PUMP
REPLACEMENT**

**ELECTRICAL
PLANS AND DETAILS**

designed by	M. GEORGE
date	SEPTEMBER 16, 2014
drawn by	T. HIBBERD
date	SEPTEMBER 16, 2014
approved by	
checked by	
title	Electrical
project number	R.071861.001
drawing no.	E-1

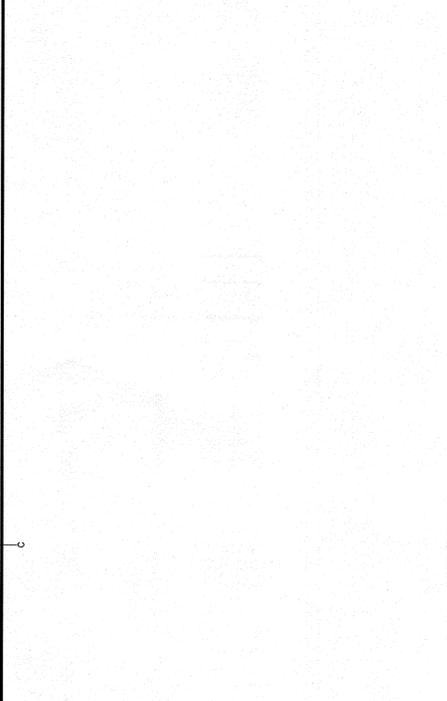
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GENERAL ELECTRICAL NOTES

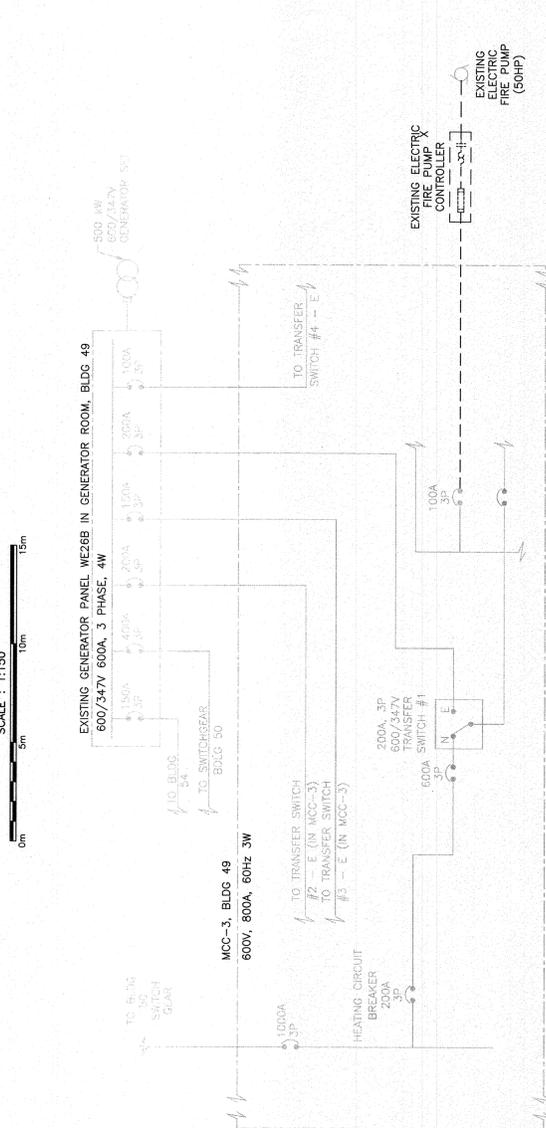
- ALL WORK UNDER THIS SCOPE SHALL COMPLY WITH NATIONAL BUILDING CODE OF CANADA 2010 AND THE CANADIAN ELECTRICAL CODE 2012, 22ND EDITION, AS WELL AS THE LATEST EDITIONS OF EC SAFETY AUTHORITY REGULATIONS, CF FIRE MARSHALL DIRECTIVE (FMD 4003), AND WITH THE STANDARDS AND SPECIFICATIONS OF THE DEPARTMENT OF NATIONAL DEFENCE.
- CONTRACTOR SHALL VERIFY NAMEPLATE RATINGS ON ALL EQUIPMENT IN ELECTRICAL SCOPE AND REPORT ANY DISCREPANCIES TO DEPARTMENTAL REPRESENTATIVES PRIOR TO INSTALLATION. VERIFY CONDUCTOR SIZES AS PER MANUFACTURER'S RECOMMENDATIONS.
- ALL DIMENSIONS WHICH APPEAR ON THE DRAWINGS ARE METRIC, IN MILLIMETERS, UNLESS INDICATED OTHERWISE.
- THIS ELECTRICAL DESIGN PACKAGE IS TO BE READ IN CONJUNCTION WITH ALL OTHER CONTRACT DRAWINGS AND DOCUMENTS. COORDINATION OF WORK IS ESSENTIAL. THE CONTRACTOR SHALL ESTABLISH A DETAILED WORK PLAN WITH THE GENERAL CONTRACTOR AS WELL AS THE COMMUNICATIONS CONTRACTOR. THIS WORK PLAN SHALL MEET THE APPROVAL OF THE DEPARTMENTAL REPRESENTATIVES.
- ALL DIAGRAMS ILLUSTRATE INTENT ONLY. CONTRACTOR TO MAKE ALL NECESSARY ADJUSTMENTS TO SUIT SUPPLIED EQUIPMENT AND ACHIEVE REQUIRED FUNCTIONALITY.
- COORDINATE ELECTRICAL WORK REQUIREMENTS WITH ALL OTHER TRADES ON SITE TO AVOID CONFLICT. REPORT ANY CONFLICT TO DEPARTMENTAL REPRESENTATIVES. ALL ELECTRICAL FEEDS FOR MECHANICAL EQUIPMENT SHALL BE COORDINATED WITH THE MECHANICAL CONTRACTOR. COORDINATE ROUTING AND FINAL INSTALLATION LOCATION(S) ON SITE WITH MECHANICAL TRADES. PROVIDE ALL NECESSARY EQUIPMENT, RACEWAYS, FITTINGS, FASTENERS AND DEVICE BUNDLES TO THE CONTRACTOR. COORDINATE ALL ROUTING OF DATA/COMM CONDUITS WITH COMMUNICATIONS CONTRACTOR.
- COORDINATE FINAL INSTALLATION LOCATION OF ELECTRICAL EQUIPMENT AND DEVICES ON SITE WITH DEPARTMENTAL REPRESENTATIVES AND ALL OTHER ASSOCIATED TRADES.
- ELECTRICAL CONTRACTOR TO OBTAIN AND PAY FOR ALL NECESSARY PERMITS REQUIRED TO PERFORM WORK. COMPLY WITH ALL PERMIT REQUIREMENTS AND CONDITIONS.
- ALL FEEDER RUNS INDICATED ON DRAWINGS ARE DIAGRAMMATIC ONLY. COORDINATE EXACT RACEWAY AND CABLE LOCATIONS ON SITE. COORDINATE WITH COMMUNICATIONS CONTRACTOR.
- ELECTRICAL CONTRACTOR SHALL SEAL ALL PENETRATIONS CREATED BY NEW INSTALLATIONS OR REMAINING FROM REMOVALS OF EXISTING EQUIPMENT. FIRE RATING INTEGRITY IN ALL OTHER AREAS SHALL BE MAINTAINED.
- AVOID SCALING FROM DRAWINGS. WHENEVER POSSIBLE EXACT DIMENSIONS SHALL BE VERIFIED ON SITE.
- ELECTRICAL CONTRACTOR SHALL VERIFY AND CONFIRM CAPACITY OF EXISTING PANELS WHEREVER POSSIBLE. WHERE ADDITIONAL CIRCUIT BREAKERS ARE REQUIRED, NEW CIRCUIT BREAKERS SHALL BE INSTALLED AND ALL PANELS AND PARTS SHALL BE RE-RATED TO NEW CAPACITY AND ADDED TO EXISTING CIRCUIT. CONTRACTOR IS TO VERIFY EXISTING CIRCUIT CAPACITY AND REDISTRIBUTE LOADS WHERE LOAD IS GREATER THAN 80% OF BREAKER RATING. ELECTRICAL CONTRACTOR SHALL TRACE FEEDERS AND VERIFY SOURCE PANEL FEEDING EQUIPMENT WITHIN SCOPE PRIOR TO COMMENCING WORK. UPDATE PANEL DIRECTORY IN A HYPERWRITER FORMAT IF ANY MODIFICATIONS ARE MADE TO PANEL LOADS.
- ELECTRICAL CONTRACTOR TO VERIFY EXISTING SERVICE LOCATIONS IN FIELD PRIOR TO CONSTRUCTION. DISCREPANCIES TO BE REPORTED IMMEDIATELY TO DEPARTMENTAL REPRESENTATIVES.
- NOT ALL EXISTING SERVICES MAY BE SHOWN. THOSE SHOWN MAY NOT BE ACCURATE. CONTRACTOR TO CONFIRM EXISTING SERVICES DURING CONSTRUCTION. TAKE EXTREME PRECAUTION NOT TO DISRUPT ANY EXISTING SERVICES/UTILITIES DURING CONSTRUCTION. WORKING SHALL BE DONE UNDER THE SUPERVISION OF THE CONTRACTOR AS A DIRECT RESULT OF ELECTRICAL WORK UNDER THIS SCOPE, AT CONTRACTOR'S OWN EXPENSE.
- CIRCUITS INDICATED ON DRAWINGS ARE FOR GROUPING PURPOSES ONLY. CONTRACTOR SHALL VERIFY CIRCUIT LOADING AND PANEL CAPACITY ON SITE PRIOR TO INSTALLATION.
- TEST THE FUNCTIONALITY OF EACH SYSTEM TO THE SATISFACTION OF THE DEPARTMENTAL REPRESENTATIVES PRIOR TO THE FINAL ACCEPTANCE OF THE WORK. SPECIFIC TESTS ARE TO BE IDENTIFIED IN ADVANCE.
- ALL EXISTING ELECTRICAL SERVICES TO AREA OUTSIDE OF THIS CONTRACT MUST BE MAINTAINED AS FUNCTIONAL THROUGHOUT ENTIRE CONSTRUCTION PERIOD. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR IDENTIFYING SERVICES WHICH MUST BE MAINTAINED. ONLY OUTAGES APPROVED BY DEPARTMENTAL REPRESENTATIVES WILL BE ALLOWED.
- PROVIDE POWER TO EQUIPMENT AS INDICATED ON TENDER DOCUMENTS. COORDINATE ALL NECESSARY SHUT DOWN TIME FOR INSTALLATION WITH DEPARTMENTAL REPRESENTATIVES. THE SCOPE IS TO BE SEQUENCED TO CAUSE MINIMUM OF DISRUPTION IN THE OPERATION OF THE BUILDING. ALL WORK SHALL BE COMPLETED WITHIN THE TIME FRAME OF THE ADVANCEMENT OF ANY PLANNED SERVICE INTERRUPTION. ALL BUILDING SHUTDOWNS MUST BE SUBMITTED A MINIMUM OF TWO WEEKS IN ADVANCE FOR APPROVAL IN CONSULTATION WITH DEPARTMENTAL REPRESENTATIVES.
- IF ANY CIRCUITS ARE DAMAGED OR INTERRUPTED DURING CONSTRUCTION, THIS CIRCUIT SHALL BE REPAIRED AND RECONNECTED AS REQUIRED TO MAINTAIN EXISTING DEVICES AND EQUIPMENT IN SERVICE.
- THE CONTRACTOR SHALL DISCONNECT, LOCKOUT CIRCUIT AND VERIFY NO VOLTAGE PRESENT PRIOR TO THE DISCONNECT, CONNECT, OR RECONNECT OF ANY WIRE OR CABLE.
- ANY REMOVED EQUIPMENT / DEVICES, EXCLUDING THE EXISTING CONTROLLER, SHALL BECOME, AT THE DISCRETION OF DEPARTMENTAL REPRESENTATIVES, THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM SITE UNLESS INSTRUCTED OTHERWISE.
- THE ELECTRICAL CONTRACTOR SHALL RECORD THE ACTUAL INSTALLATION ON A SET OF CONSTRUCTION DRAWINGS AND RETURN TO THE OWNER UPON COMPLETION OF WORK.
- MAINTAIN SITE IN TIDY CONDITION. FREE FROM ACCUMULATION OF WASTE PRODUCTS AND DEBRIS. UPON OBTAINING SUBSTANTIAL PERFORMANCE OF THE WORK, REMOVE SURPLUS PRODUCTS, TOOLS, MACHINERY AND EQUIPMENT FROM THE SITE. COMPLETION OF CLEANUP IS REQUIRED FOR TOTAL PERFORMANCE OF THE WORK. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REMOVE AND DISPOSE OF ANY WASTE PRODUCTS AS A RESULT OF THIS WORK. DAMAGED OR DISTURBED ITEMS SHALL BE REPLACED IN KIND AND AT NO ADDITIONAL COST TO THE OWNER.

ELECTRICAL KEYNOTES

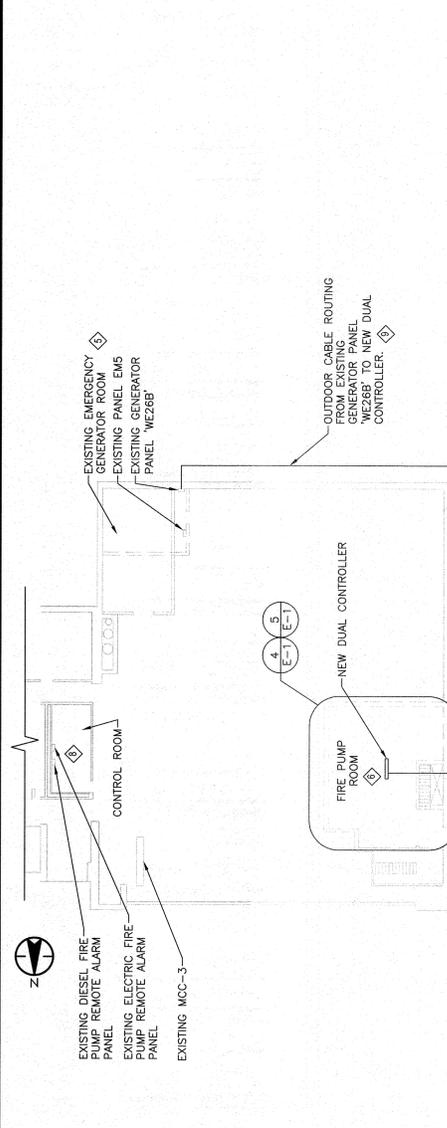
- REMOVE EXISTING DIESEL PUMP CONTROLLER C/W EXISTING FEEDERS BACK TO PANEL EMS AND DIESEL FIRE PUMP REMOTE PANEL. REFER TO DETAIL 1/E-1 ON THIS DRAWING FOR PANEL LOCATIONS.
- DISCONNECT EXISTING ELECTRIC FIRE PUMP AND REMOVE ELECTRIC PUMP CONTROLLER AS INDICATED ON DETAIL 2/E-1 ON THIS DRAWING. REMOVE FEEDERS BACK TO MCC-3 AS INDICATED. REMOVE EQUIPMENT/DEVICES AND RACEWAYS THOSE BECOME REDUNDANT AS A RESULT OF THIS SCOPE OF WORK. KEEP BREAKERS AS SPARE.
- DISCONNECT SIGNALS FROM EXISTING ELECTRIC PUMP CONTROLLER TO ELECTRIC FIRE PUMP REMOTE ALARM PANEL. RE-CONNECT TO NEW CONTROLLER. REFER TO DETAIL 1/E-1 FOR PANEL LOCATIONS. VERIFY ALL SIGNALS ARE CORRECTLY WIRING TO NEW CONTROLLER. MANUFACTURE FOR NUMBER OF SIGNALS REQUIRED.
- PROVIDE POWER TO BOTH EXISTING AND NEW FIRE PUMPS AS INDICATED ON DETAIL 3/E-1. CONNECT AS PER THE DUAL CONTROLLER'S MANUFACTURE RECOMMENDATIONS.
- GENERATOR ROOM IS LOCATED ON LEVEL 2. REFER TO DETAIL 1/E-1 ON THIS DRAWING.
- FIRE PUMP ROOM IS LOCATED IN THE BASEMENT. REFER TO DETAIL 1/E-1 ON THIS DRAWING.
- ANY MODIFICATIONS TO MCC-3 SHALL BE DONE BY MCC MANUFACTURER'S REPRESENTATIVE, SO THAT CSA APPROVAL IS NOT TO BE COMPROMISED.
- REMOVE EXISTING DIESEL FIRE PUMP REMOTE ALARM PANEL C/W FEEDERS AND OTHER DEVICES. IF DEEMED REDUNDANT AS A RESULT OF THIS SCOPE OF WORK.
- FEEDER RUNNINGS FROM EXISTING GENERATOR PANEL, WE268 TO NEW DUAL PUMP CONTROLLER MUST EXIT AND ENTER THE BUILDING AS FOLLOWS:
A. FROM EXTERIOR WALL TO EXTERIOR WALL PORTION: THROUGH WALL PENETRATION THE WALL.
B. FROM EXTERIOR WALL TO UNDERGROUND PORTION: EMBED IN 2" THICK CONCRETE ALONG THE WALL.
C. FROM UNDERGROUND PORTION: BURIED AT A DEPTH OF MINIMUM 600mm.
D. FROM UNDERGROUND TO NEW DUAL CONTROLLER: THROUGH WALL PENETRATION AT FIRE PUMP ROOM LEVEL.
E. TECK90 IS TO BE USED FOR ALL CONNECTIONS, UNLESS INDICATED OTHERWISE.
F. SEAL ALL PENETRATIONS AS PER GENERAL NOTE 10.



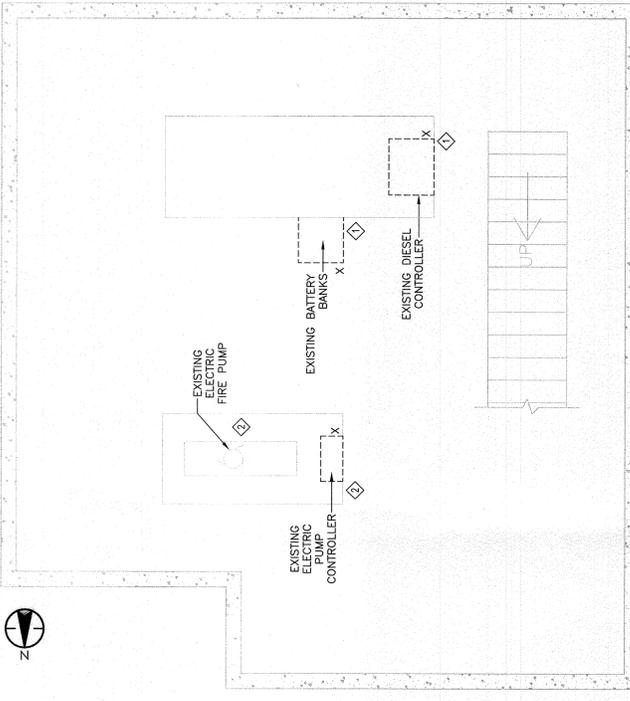
BLDG 49 FLOOR PLAN (1)
SCALE: 1:150



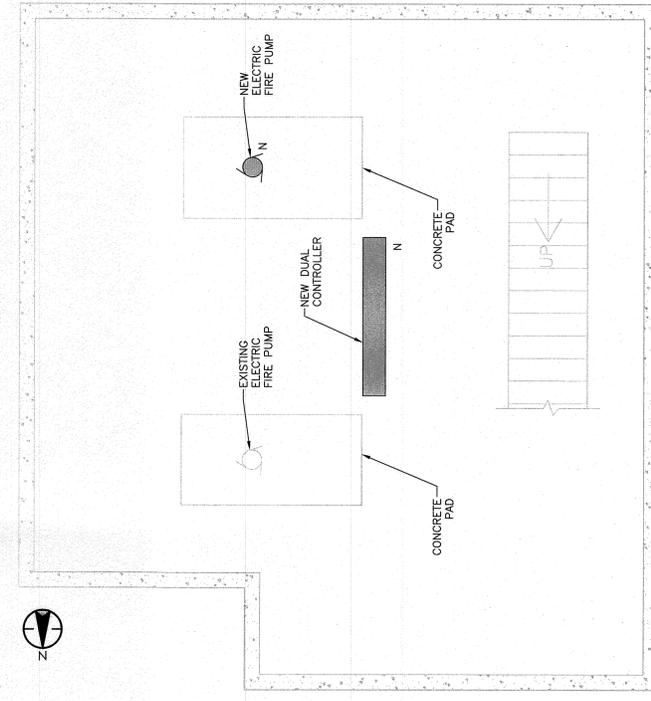
PARTIAL SINGLE LINE: EXISTING (2)
SCALE: 1:40



PARTIAL SINGLE LINE: NEW (3)
SCALE: 1:40



FIRE PUMP ROOM: DEMOLITION PLAN (4)
SCALE: 1:40



FIRE PUMP ROOM: NEW LAYOUT (5)
SCALE: 1:40