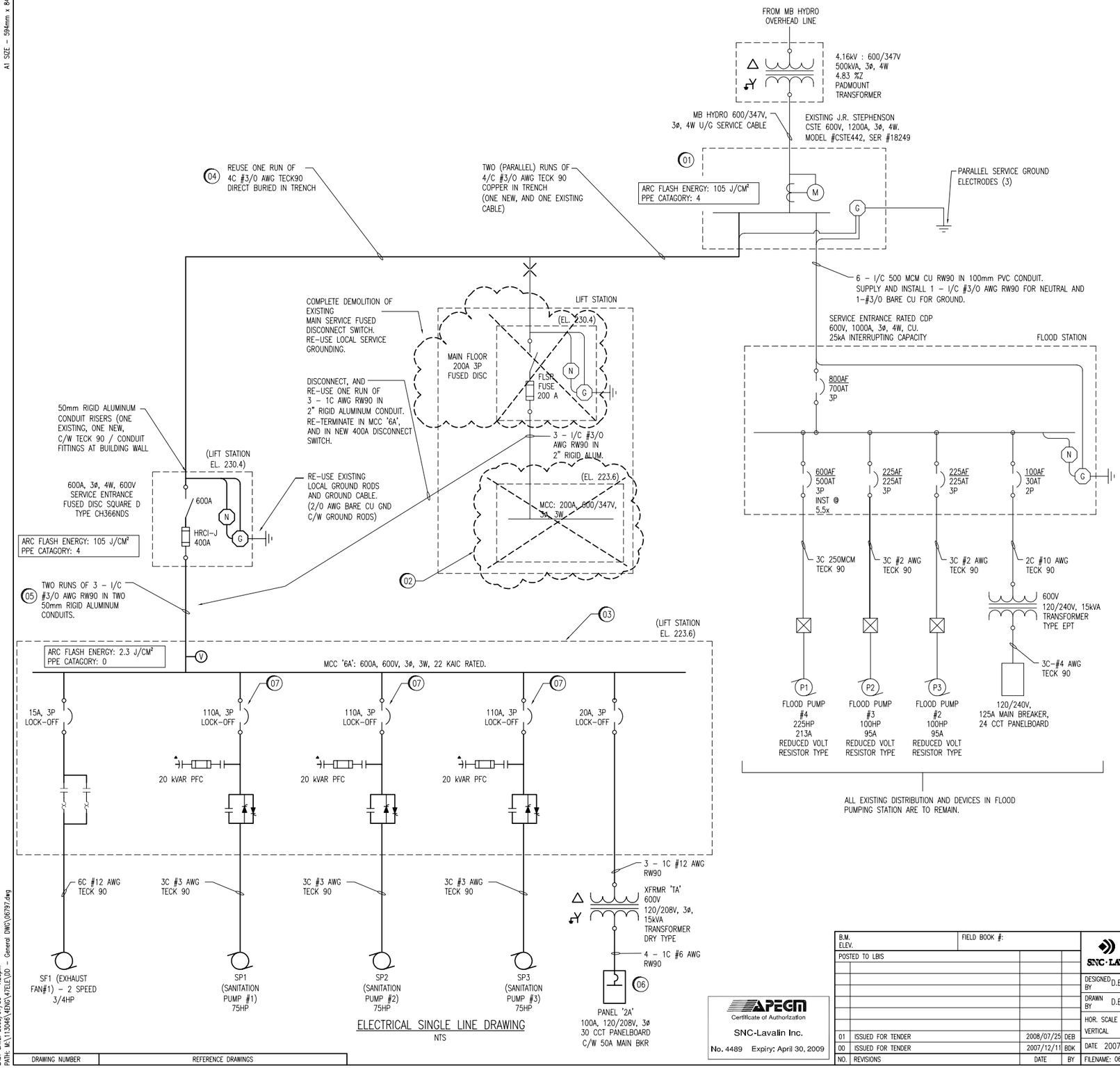
A1 SIZE – 594mm x 841mm



ELECTRICAL SINGLE LINE DRAWING
NTS

GENERAL OVERVIEW OF THE WORK:

1. THE EXISTING ELECTRICAL SERVICE (200A, 600/347V), AND ASSOCIATED 200A MCC, LOCATED IN THE WASTE WATER PUMPING STATION (LIFT STATION) IS TO BE COMPLETELY REMOVED IN ORDER TO ACCOMMODATE A NEW 400A SERVICE AND NEW 600A MCC.
2. THE EXISTING CABLING FROM THE EXISTING CSTE TO THE LIFT STATION MAIN SERVICE FUSED DISCONNECT IS A 4C #3/0 COPPER TECK 90 CABLE. THE INTENT IS TO RUN AN ADDITIONAL, IDENTICAL 4C #3/0 COPPER TECK 90 CABLE, IN THE SAME TRENCH, IN ORDER TO INCREASE THE SERVICE AMPACITY FROM 200A TO 400A.
3. THE EXISTING 200A MCC, ASSOCIATED LIGHTING PANEL, AND SOFT STARTERS, LOCATED IN THE LOWER LEVEL OF THE LIFT STATION ARE TO BE COMPLETELY REMOVED AND RETURNED TO THE OWNER UNDAMAGED. A NEW 600A MCC, CONSISTING OF ONE CONTROL SECTION, ONE NEW TRANSFORMER, NEW LIGHTING PANEL. NEW STARTER AND THREE NEW SOFT STARTERS/CAPACITORS ARE TO BE SUPPLIED AND INSTALLED. EXISTING FIELD CABLING SHALL BE REUSED WHERE POSSIBLE, AND RE–TERMINATED INSIDE THE NEW MCC, AND NEW INTEGRAL PANELBOARD. WHERE EXISTING CABLING DOES NOT REACH, THE CONTRACTOR SHALL SUPPLY AND INSTALL NEW CABLING AS INDICATED.
4. TWO EXISTING 50HP WASTE WATER PUMPS, COMPLETE WITH SOFT STARTERS AND CABLING, ARE TO BE REMOVED, PLACED INTO CRATES, AND TURNED OVER TO THE OWNER UNDAMAGED. THREE NEW 75 HP PUMPS ARE TO BE INSTALLED. REMOVE EXISTING CABLING TO THE 50 HP PUMPS. SUPPLY AND INSTALL NEW CABLING TO THE NEW PUMPS.

GENERAL NOTES:

1. PERFORM ALL WORK IN ACCORDANCE WITH THE LATEST EDITION OF THE CANADIAN ELECTRICAL CODE (CEC) AND THE CITY OF WINNIPEG ELECTRICAL BY–LAWS. OBTAIN AND PAY ALL APPLICABLE CERTIFICATES AND PERMITS. ARRANGE ALL NECESSARY INSPECTIONS AND CORRECT ANY DEFICIENCIES THAT MAY ARISE.
2. AT THE COMPLETION OF THE WORK AND PRIOR TO ENERGIZATION, MEGGAR ALL NEW CIRCUITS TO CONFIRM INSULATION INTEGRITY.
3. SUPPLY AND INSTALL ALL NECESSARY CIRCUIT GROUNDING AND EQUIPMENT BONDING AS PER CEC.
4. ALL CONDUITS USED SHALL BE RIGID ALUMINUM OR SCHEDULE 40 PVC.
5. ALL CONDUCTORS SHALL BE COPPER, RW90 (OR TECK 90 WHERE NOTED) COMPLETE WITH 1000V 90°C XLPE INSULATION. ALL CABLE FITTINGS SHALL BE WATER TIGHT TYPE.
6. RUN CABLES IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS. SUPPLY AND INSTALL PHYSICAL PROTECTION FOR ALL CABLE ENTRY INTO BUILDING.
7. COORDINATE SITE SERVICE SHUTDOWN AND SERVICE WORK WITH THE CITY OF WINNIPEG AND MANITOBA HYDRO. PAY ANY ASSOCIATED FEES.
8. FIRE STOP ALL PENETRATIONS OF FIRE RATED WALLS AND FLOORS.
9. ALL WORK, DEVICES, ITEMS SHOWN ARE NEW AND ARE TO BE SUPPLIED AND INSTALLED BY THE ELECTRICAL CONTRACTOR, UNLESS SPECIFICALLY NOTED OTHERWISE.

SPECIFIC NOTES:

01 EXISTING WALL MOUNTED 1200A CSTE. SUPPLY AND INSTALL NEW PVC CONDUIT SLEEVE FROM THE WALL MOUNTED CSTE DOWN FOR THE NEW TECK 90 CABLE. MATCH EXITING SLEEVE SIZE FOR EXISTING CABLE TO LIFT STATION. TERMINATE NEW CABLE ON EXISTING CSTE LUGS (PHASE A, B, C). SUPPLY AND INSTALL NEW NEUTRAL LUGS AND MODIFICATION FOR NEUTRAL CONDUCTOR AS REQUIRED. SUPPLY AND INSTALL NEW SERVICE ENTRANCE RATED 600 AMP DISCONNECT COMPLETE WITH FUSES AND ASSOCIATED MATERIALS.

02 CARRY OUT COMPLETE DEMOLITION OF EXISTING MCC. THERE IS AN EXISTING PANELBOARD, (12 CCT) INTEGRAL TO THE EXISTING MCC, WHICH FEED EXISTING MISCELLANEOUS BUILDING LOADS. TRANSFER ALL LOADS AND CONTROLS TO THE NEW ELECTRICAL PANEL AND THE NEW MCC '6A'. REUSE EXISTING CABLING WHERE POSSIBLE, OTHERWISE SUPPLY AND INSTALL NEW CABLES. COMPLETE DEMOLITION OF THE EXISTING SANITATION PUMPS (2), ASSOCIATED CABLING, AND SOFT STARTS (50HP). DEMOLISHED OLD PUMPS AND MOTORS TO BE REMOVED, PLACED INTO CRATES AND TURNED OVER TO THE OWNER.

03 SUPPLY AND INSTALL NEW CONCRETE HOUSEKEEPING PAD TO ACCOMMODATE THE NEW MCC. PROVIDE MODIFICATIONS TO THE EXISTING GUARD RAIL TO ACCOMMODATE THE LARGER MCC AS REQUIRED. THE EXISTING MCC HAS TWO SECTIONS, AND THE NEW MCC HAS 3 SECTIONS.

04 WATER WASH EXCAVATE (HYDRO VAC) THE EXISTING DIRECT BURIED SERVICE CABLE, 4C #3/0 CU TECK 90 FROM THE EXISTING 1200A, 600/347V CSTE TO THE LIFT STATION SERVICE ENTRANCE. CABLES ARE BURIED APPROXIMATELY 760mm BELOW GRADE. EXPAND SIZE OF TRENCH. SUPPLY AND INSTALL ONE NEW (PARALLEL) 4C #3/0 AWG TECK 90 COPPER CABLE, IDENTICAL IN LENGTH AND CABLE TYPE (SHIELDED / NON–SHIELDED, INSULATION LEVEL, ETC.) ALONG THE SAME PATH, FROM THE CSTE, TO THE NEW SERVICE ENTRANCE DISCONNECT. SUPPLY AND INSTALL NEW, PARALLEL 50mm ALUMINUM CONDUIT UP THE SIDE OF THE BUILDING TO MATCH THE EXISTING CONDUIT UP THE SIDE OF THE LIFT STATION EXTERIOR WALL. REFER TO TRENCH DETAIL 'B', DWG 06798 FOR MORE INFORMATION.

05 SUPPLY AND INSTALL 3 – 1C #3/0 AWG RW90 COPPER IN ONE 50mm RIGID ALUMINUM CONDUIT FROM SERVICE FUSED DISCONNECT SWITCH TO NEW MCC '6A'. ROUTE CONDUIT AND CABLE ADJACENT TO EXISTING 50mm ALUMINUM CONDUIT RUN. NEW CABLE AND CONDUIT LENGTH SHALL BE IDENTICAL TO THE EXISTING CABLE / CONDUIT LENGTH IN ORDER TO PARALLEL ONE EXITING AND ONE NEW CONDUIT / CABLE FEED TO THE NEW MCC '6A'. CONFIRM ROUTING AND CABLE / CONDUIT LENGTH ON SITE. COMPLETE CORING THROUGH FLOOR AS REQUIRED. PRIOR TO CORING, X–RAY FLOOR SLAB TO PREVENT DAMAGE TO OTHER SYSTEMS OR STRUCTURES.

06 SUPPLY AND INSTALL JUNCTION BOXES AS REQUIRED TO EXTEND PANEL BRANCH CIRCUITS IN ORDER TO REACH THE NEW ELECTRICAL PANEL.

07 PROVIDE BREAKER AS PER MANUFACTURER'S RECOMMENDATIONS.

DRAWING NUMBER	REFERENCE DRAWINGS

APEGM Certificate of Authorization
SNC-Lavalin Inc.
No. 4489 Expiry: April 30, 2009

B.M. ELEV. | FIELD BOOK #:
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VERTICAL			
DATE	2007/04/12	DATE	

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ENGINEER'S SEAL

BID OPPORTUNITY 613–2008

Winnipeg THE CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT

2008 PUMPING STATION UPGRADES
INSTALLATION OF NEW PUMPING UNITS
AND MODIFICATIONS TO THE
BALTIMORE WASTEWATER PUMPING STATION
ELECTRICAL SINGLE LINE DIAGRAM

CITY DRAWING NUMBER	SHEET	REV.	SIZE
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