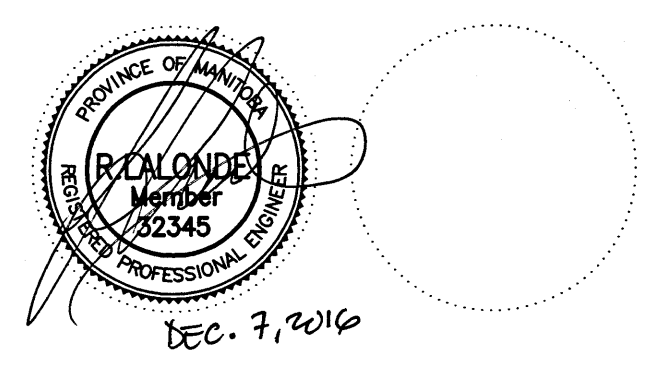


0	2016/12/08	ISSUED FOR CONSTRUCTION
#	date	issue notes

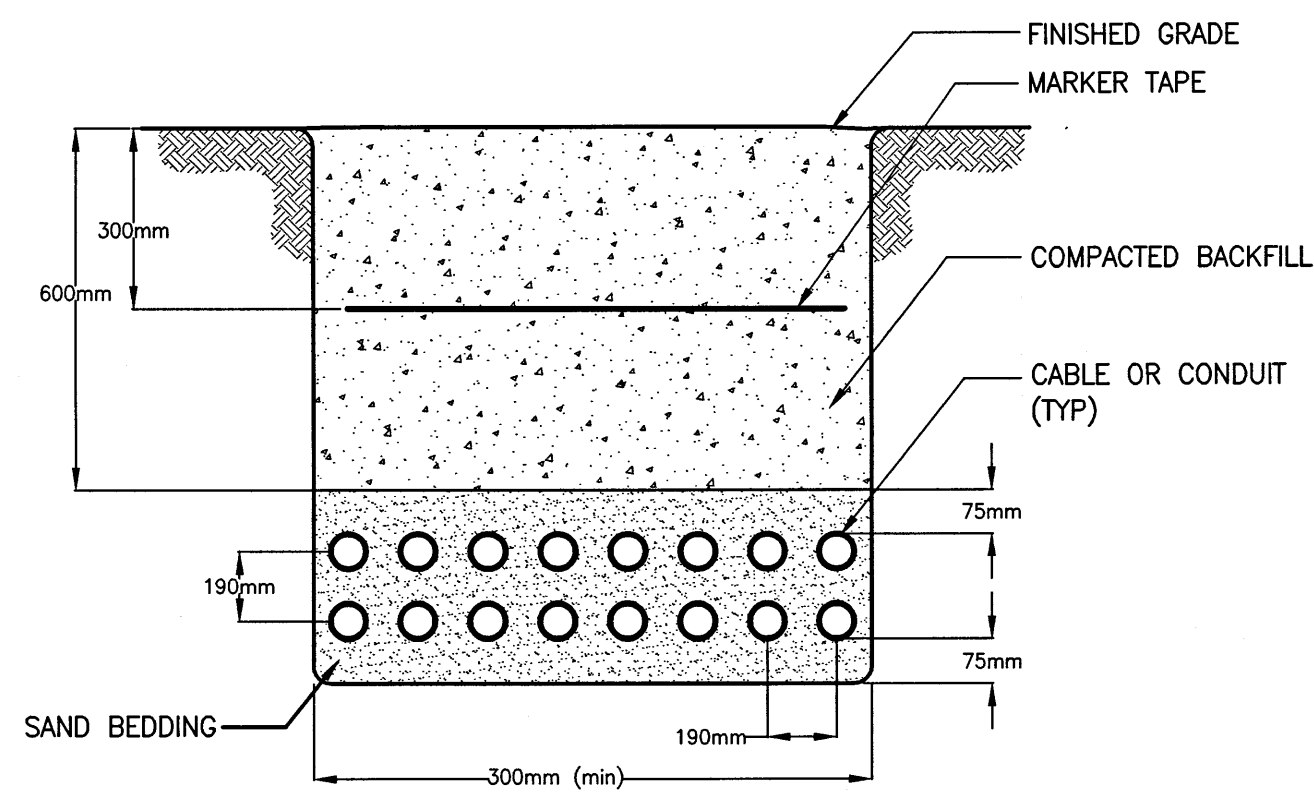
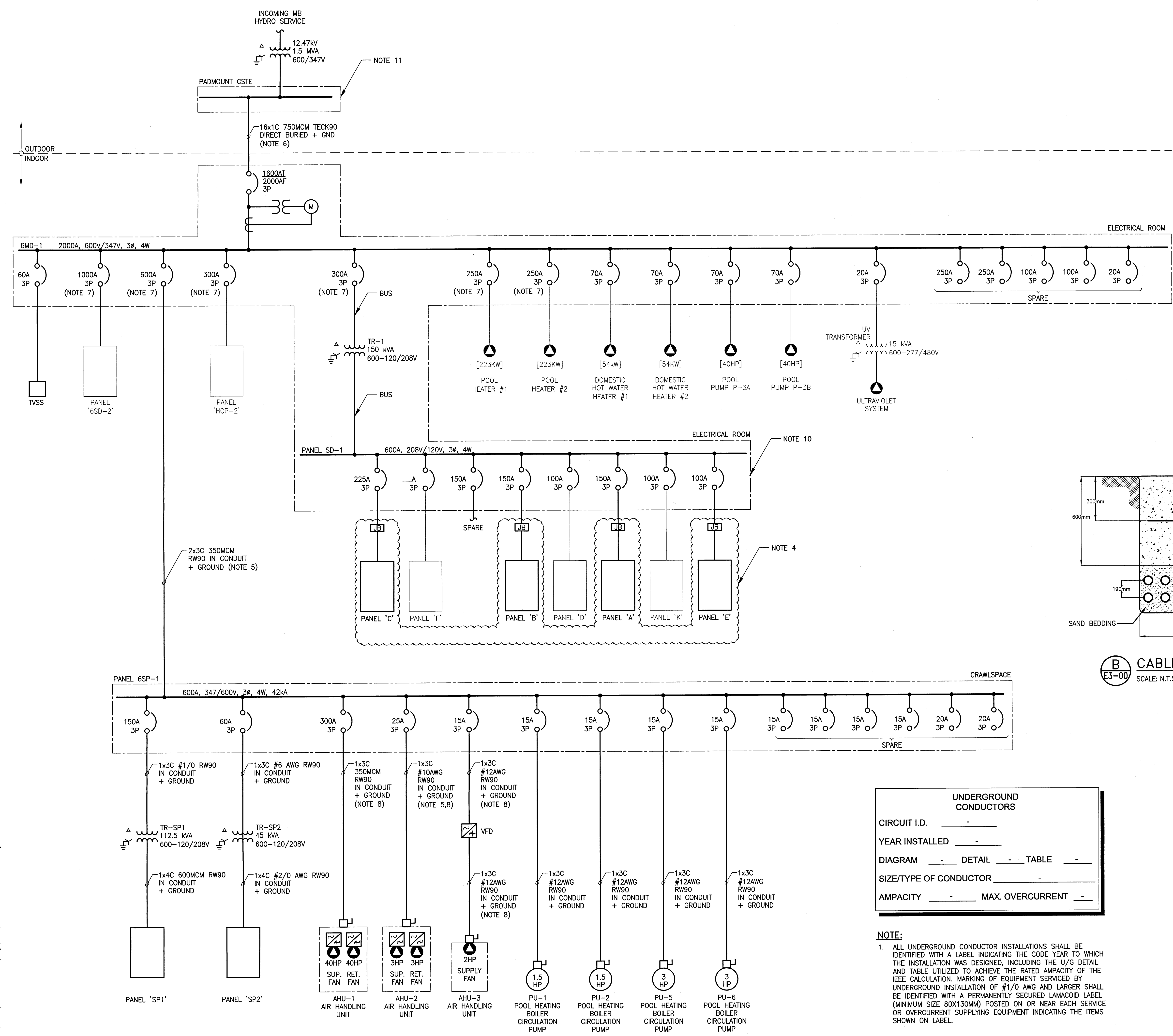


**SEVEN OAKS POOL RENOVATION & ADDITION**  
444 Adsum Drive  
Winnipeg, MB  
Canada

**ELECTRICAL SINGLE LINE DIAGRAM & LOAD CALCULATIONS**

drawn by: GCN  
approved by: [Signature]  
scale: AS NOTED  
date issued: 2016.11.23  
proj. #: 14-1736-008  
rev. #: R-0

- NOTES:**
- GREY LINE WEIGHT DENOTES EXISTING.
  - EXISTING LOAD INFORMATION WAS PROVIDED BY HYDRO UP TO JUNE OF 2014. THE VALUE SHOWN WAS DETERMINED FROM THE PEAK VALUE WITHIN A FIVE YEAR RANGE.
  - THE ELECTRICAL DISTRIBUTION EQUIPMENT SUPPLIER SHALL PROVIDE AN ARC FLASH STUDY AND UV/WATER RESISTANT VINYL LABELS FOR ALL NEW EQUIPMENT. CONTRACTOR SHALL COORDINATE INSTALLED CABLE LENGTHS AND SIZES WITH THE VENDOR.
  - PANELS A,B,C, AND E SHALL BE REPLACED WITH NEW PANELS TO MATCH EXISTING. NEW PANELS SHALL BE RELOCATED IN THE MEZZANINE. EXTEND ALL EXISTING CIRCUITS TO NEW PANEL LOCATION.
  - INDICATED RUNS SHALL HAVE 100% SPACING BETWEEN CONDUITS. CONTRACTOR SHALL MOUNT NEW CONDUITS TO BASEMENT CEILING AS REQUIRED C/W A UNISTRUT AND P-CLAMO CONSTRUCTION. ALL STRUTS SHALL BE SUPPORTED TO THE CONCRETE DIRECTLY OR IN A TRAPEZE METHOD.
  - CABLE SIZED ACCORDING TO CEC TABLE DBA. INSTALL CABLES IN ACCORDANCE WITH DETAIL 5 OF DIAGRAM DB.
  - PROVIDE INFORMATION METERING ON THE SIX (6) BRANCHES INDICATED. METERING SHALL BE SQUARE D POWER LOGIC 5000 SERIES. REFER TO SPEC SECTION 26 24 13 FOR DETAILS.
  - INDICATED CABLES SHALL BE C/W 1000V RATED INSULATION.
  - N/A.
  - PANEL SD-1 SHALL BE A 30 CIRCUIT PANEL.
  - PROVIDE AND INSTALL A NEW OUTDOOR PAD MOUNT CSTE.
  - ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR TRENCHING AND RETURNING SITE TO EXISTING CONDITIONS.



**B** CABLE TRENCH DETAIL  
SCALE: N.T.S. (NOTE 12)

**UNDERGROUND CONDUCTORS**

CIRCUIT I.D.	-
YEAR INSTALLED	-
DIAGRAM	- DETAIL - TABLE -
SIZE/TYPE OF CONDUCTOR	-
AMPACITY	- MAX. OVERCURRENT -

**NOTE:**

- ALL UNDERGROUND CONDUCTOR INSTALLATIONS SHALL BE IDENTIFIED WITH A LABEL INDICATING THE CODE YEAR TO WHICH THE INSTALLATION WAS DESIGNED, INCLUDING THE U/G DETAIL AND TABLE UTILIZED TO ACHIEVE THE RATED AMPACITY OF THE IEEE CALCULATION. MARKING OF EQUIPMENT SERVICED BY UNDERGROUND INSTALLATION OF #1/0 AWG AND LARGER SHALL BE IDENTIFIED WITH A PERMANENTLY SECURED LAMACOID LABEL (MINIMUM SIZE 80X150MM) POSTED ON OR NEAR EACH SERVICE OR OVERCURRENT SUPPLYING EQUIPMENT INDICATING THE ITEMS SHOWN ON LABEL.

**LOAD CALCULATION**

EXISTING FACILITY DEMAND LOAD	= 770kVA
ESTIMATED NEW ADDITION LOAD	= 304kVA
FUTURE (25%)	= 268kVA
ESTIMATED TOTAL LOAD	= 1342kVA

**FAULT CURRENT CALCULATION**

1500kVA TRANSFORMER:	Z = 4%	PROVIDE 18kA MINIMUM
150kVA TRANSFORMER:	Z = 1.8%	
208V SYSTEM SHORT CIRCUIT AMPACITY	$\frac{1}{\sqrt{3} \left( \frac{1.8\%}{150kVA} \right) 208} = 23.13kA$	PROVIDE 42kA MINIMUM
600V SYSTEM SHORT CIRCUIT AMPACITY	$\frac{1}{\sqrt{3} \left( \frac{4\%}{1500kVA} \right) 600} = 36.10kA$	

**1** SINGLE LINE DIAGRAM - NEW  
SCALE: N.T.S.

**A** BURIED CABLE LAMACOID LABEL  
SCALE: N.T.S.

This drawing must not be scaled. The contractor shall verify all dimensions and other data on this prior to commencement of work. All discrepancies, errors, and omissions are to be reported to the architect, the copyright is the property of the architect, and when made, must bear the name. All permits to be obtained by the architect on request.