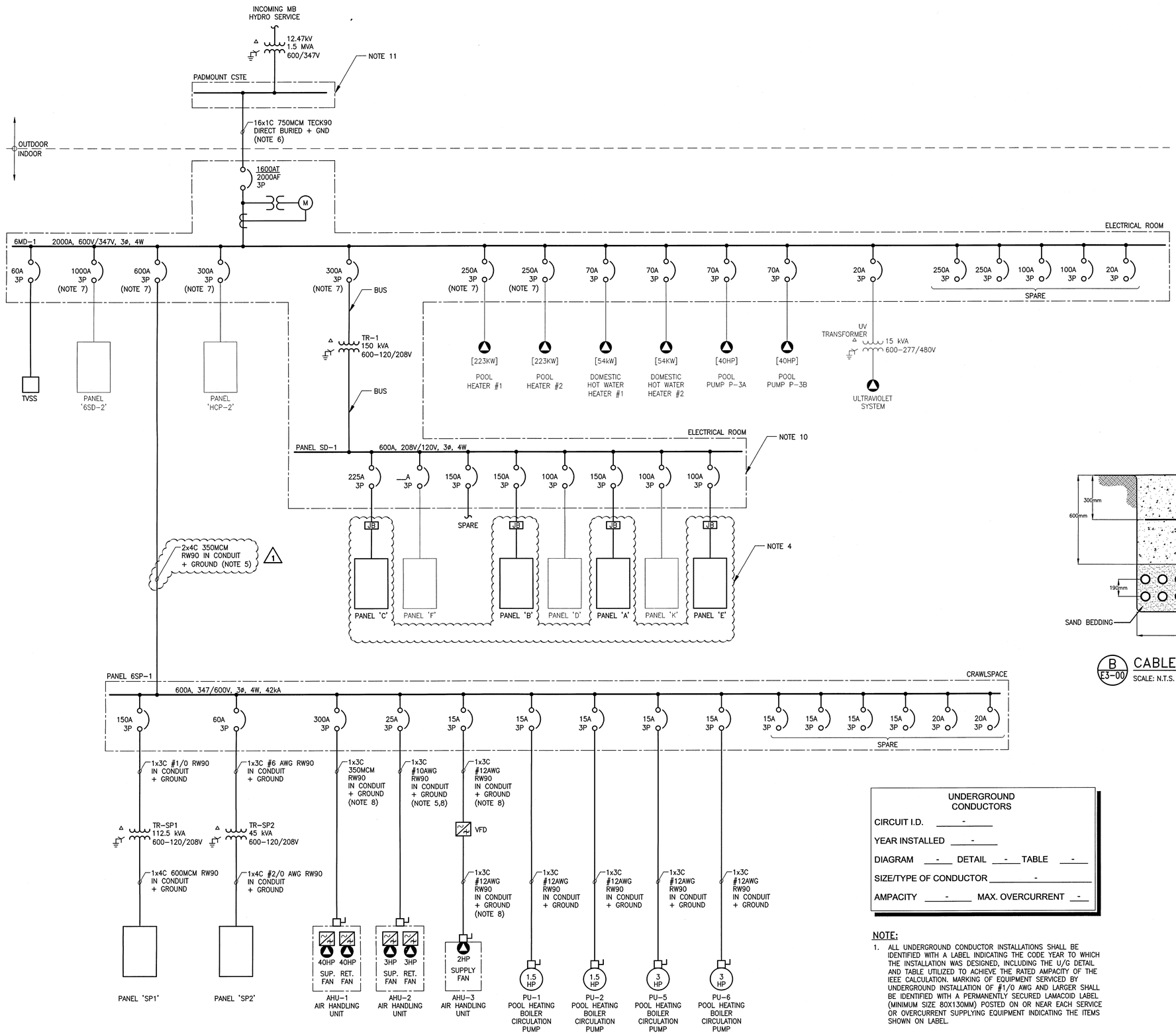
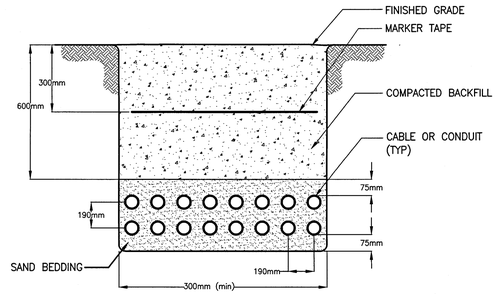


1 / E3–00 SINGLE LINE DIAGRAM – NEW

SCALE: N.T.S.

NOTES:

1. GREY LINE WEIGHT DENOTES EXISTING.
2. 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.
3. 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.
4. 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.
5. 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.
6. CABLE SIZED ACCORDING TO CEC TABLE D8A. INSTALL CABLES IN ACCORDANCE WITH DETAIL 5 OF DIAGRAM D8.
7. 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.
8. INDICATED CABLES SHALL BE C/W 1000V RATED INSULATION.
9. N/A.
10. PANEL SD–1 SHALL BE A 30 CIRCUIT PANEL.
11. PROVIDE AND INSTALL A NEW OUTDOOR PAD MOUNT CSTE.
12. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR TRENCHING AND RETURNING SITE TO EXISTING CONDITIONS.



B / E3–00 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:

1. 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 80X130MM) POSTED ON OR NEAR EACH SERVICE OR OVERCURRENT SUPPLYING EQUIPMENT INDICATING THE ITEMS SHOWN ON LABEL.

A / E3–00 BURIED CABLE LAMACOID LABEL

SCALE: N.T.S.

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% * 150kVA TRANSFORMER: Z = 1.8%		
208V SYSTEM SHORT CIRCUIT AMPACITY	$\frac{1}{\sqrt{3}\left(\frac{(1.8\%)}{150kVA}\right)208} = 23.13kA$ $\frac{1}{\left(\frac{1}{23.13kA}\right)+\left(\frac{1}{36.10kA}\right)} = 14.10kA$	PROVIDE 18kA MINIMUM
600V SYSTEM SHORT CIRCUIT AMPACITY	$\frac{1}{\sqrt{3}\left(\frac{(4\%)}{1500kVA}\right)600} = 36.10kA$	PROVIDE 42kA MINIMUM

* THIS IMPEDANCE VALUE IS BASED ON THE VALUE PROVIDED UNDER THE MANITOBA HYDRO ELECTRICAL CODE, 11th EDITION.
* CONTRACTOR AND MANUFACTURER TO ENSURE ALL FUSES AND BREAKERS ARE AN APPROVED CSA SERIES TESTED COMBINATION.

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KGS GROUP CONSULTING ENGINEERS

APEGM Certificate of Authorization KGS Group No. 245

issue / rev.

#	date	issue notes
1	2017/01/02	RE-ISSUED FOR CONSTRUCTION
0	2016/12/08	ISSUED FOR CONSTRUCTION

professional seals

project information

SEVEN OAKS POOL

444 Adsum Drive
Winnipeg, MB
Canada

client

City of Winnipeg
4th Floor - 86 King Street
Winnipeg, MB

drawing information

ELECTRICAL SINGLE LINE DIAGRAM & LOAD CALCULATIONS

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

SEVEN OAKS POOL RENOVATION & ADDITION
BID OPPORTUNITY NO. 1044-2016

E0 02

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