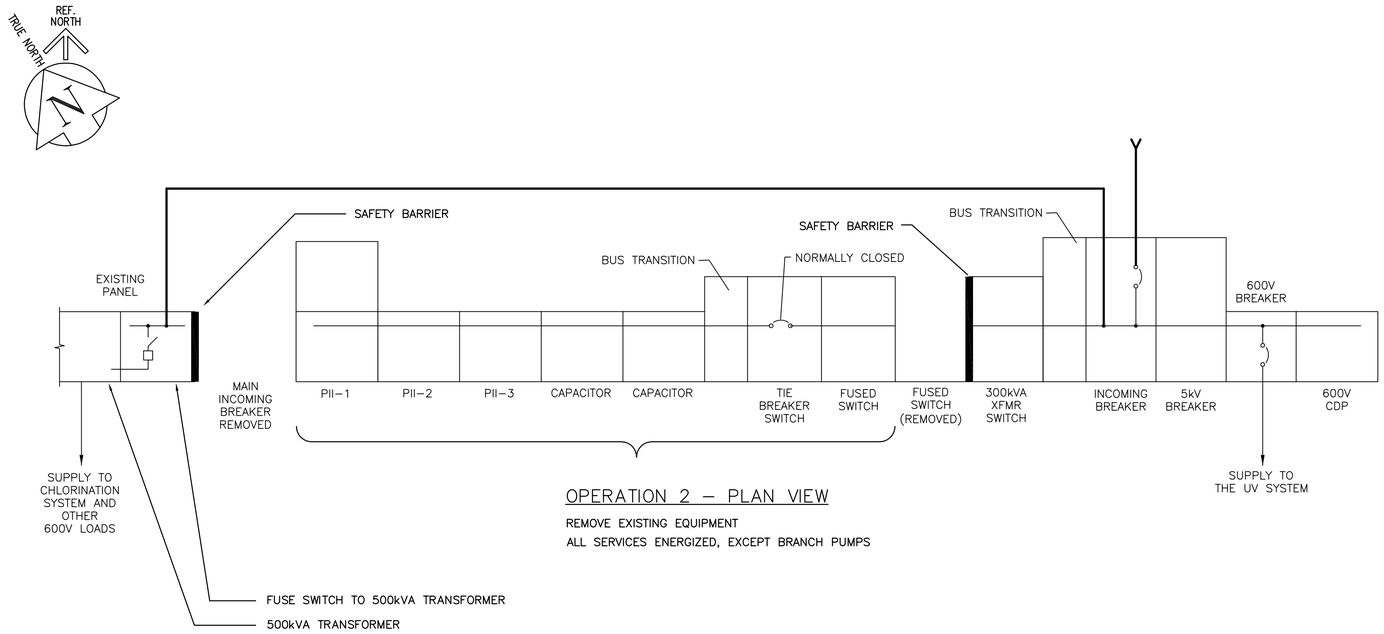
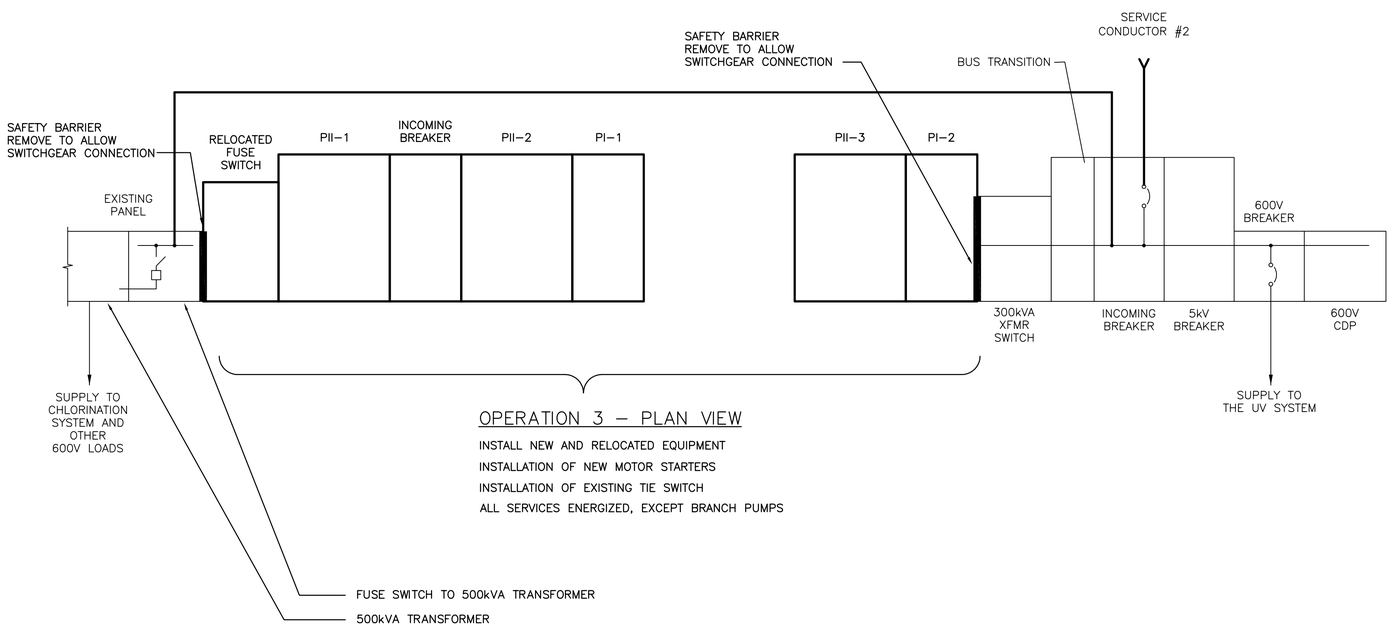
SHEET: COW-A1 (05/2005)



OPERATION 2 – PLAN VIEW

REMOVE EXISTING EQUIPMENT

ALL SERVICES ENERGIZED, EXCEPT BRANCH PUMPS



OPERATION 3 – PLAN VIEW

INSTALL NEW AND RELOCATED EQUIPMENT

INSTALLATION OF NEW MOTOR STARTERS

INSTALLATION OF EXISTING TIE SWITCH

ALL SERVICES ENERGIZED, EXCEPT BRANCH PUMPS

Operation #2

1. Disconnect the cables from the 3 existing 2-speed starters to the related pump motors.
2. Remove the following equipment and remove from site:
   a PII-1 2 speed starter for 900/400 HP pump motor.
   b PII-2 2 speed starter for 900/400 HP pump motor.
   c PII-3 2 speed starter for 900/400 HP pump motor.
   d All capacitors and related equipment associated with the 3 900hp pump starters.
   e Bus transition section on west side of existing Tie Breaker Switch.
   f Disconnect all existing control cables from the old two-speed starters. Save the existing control cables for reconnection to the new Benshaw two speed motor starters.
3. Remove and make ready to be reinstalled:
   a Existing Tie Breaker Switch.
   b Existing Spare Fused Switch.

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Operation #3

1. All required bus transitions shall be provided by the equipment supplier, which shall be Schneider and Benshaw. The two suppliers or their designate shall coordinate their respective work to provide fully functioning switchgear sections and associated components, which shall be assembled on site by the electrical Contractor. Provide and install all necessary bus transitions to furnish complete and fully functioning 5 kV switchgear at the Deacon Booster Pumping Station. All switchgear sections shall have 350 MVA fault rating. Provide and supply special bracing for all Switchgear sections, which need to be moved in and out of the place to allow the sections to be moved in horizontal position.
2. Install the new soft starters as indicated below:
   a New PII-1 2 speed soft starter for existing related pump motor. Reconnect all control wiring; provide one additional 2C #14 Teck cable between the soft starter and pump local control panel.
   b New PII-2 2 speed soft starter for existing related pump motor. Reconnect all control wiring; provide one additional 2C #14 Teck cable between the soft starter and pump local control panel.
   c New PII-3 2 speed soft starter for existing related pump motor. Reconnect all control wiring; provide one additional 2C #14 Teck cable between the soft starter and pump local control panel.
   d New PI-1 single speed soft starter for the new related pump motor PI-1. Provide, install and terminate all control wiring as shown on control drawings.
   e New PI-2 single speed soft starter for the new related pump motor PI-2. Provide, install and terminate all control wiring as shown on control drawings.
3. Install new Schneider 1200A 5kV vacuum breaker to match the existing incoming vacuum breaker at East Side of distribution line up. Make bus connection between the fuse switch and the new vacuum breaker.
4. Reinstall the existing (2004) 5kV fused switches as indicated below:
5. Existing 1200A Schneider fused switch labeled as "Future 1".
6. Existing 1200A Schneider fused switch labeled as "Tie Switch".
7. Existing 1200A Schneider fused switch labeled as "Future 2".
8. Core cable holes through the mezzanine floor for all new and relocated switchgear cubicles as required. Some cubicles may require multiple holes (i.e. for two-speed motors; control wiring etc.). Allow for minimum one hole per new and relocated switchgear cubicle. Lay out proposed holes so as to miss the top and bottom reinforcing bars within the slab; locate reinforcing bars using non-destructive testing equipment such as ultra-sound or x-ray. Submit proposed coring layout for review prior to coring; core to layout reviewed and acceptable to the Contract Administrator
9. Supply and install cables for new motors PI-1 and PI-2. Cables shall be 3/C #4 5kv Teck with suitable termination. Refer to Note 2 on drawing WD-E0401.
10. Provide and install new cables for the three existing 2-speed pumps PII-1,PII-2 and PII-3. The cables shall be 3C - 4/O 5 kV Teck with suitable termination. Refer to Note 3 on drawing WD-E0401.
11. Connect all bus bars for each piece of equipment in the distribution line-up.
12. Perform all bus connection for equipment as required between equipment cells.

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Certificate of Authorization
Earth Tech Canada Inc.
No. 730

B.M.
ELEV.

NO.	REVISIONS	DATE	BY
01	35-2006 ADDENDUM 3	07/08/01	LAE
00	ISSUED FOR TENDER	07/03/19	ERC

CH2MHILL
Frederickson Cooper ARCHITECTS
EarthTech A Tyco International Ltd. Company

DESIGNED BY	GSN	CHECKED BY	GSN
DRAWN BY	ERC/CPG	APPROVED BY	AHL
SCALE:	N.T.S.	RELEASED FOR CONSTRUCTION BY:	R. SOROKOWSKI
DATE	2006/09/11	DATE	2007/03/19

ENGINEER'S SEAL
ORIGINAL SIGNED BY
P. STRYK
2007/03/19

CONSULTANT DRAWING NO.
WD-E0412

Winnipeg
THE CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENGINEERING DIVISION

WATER TREATMENT PLANT
DEACON BOOSTER PUMP STATION
UPGRADE

CITY FILE NUMBER
SHEET OF

ELECTRICAL
SWITCHGEAR REPLACEMENT AND UPGRADE
SEQUENCE OF OPERATIONS

CITY DRAWING NUMBER
1-0601D-G-E0412-001-01D

Last Save: 2007-08-08 9:06 AM

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