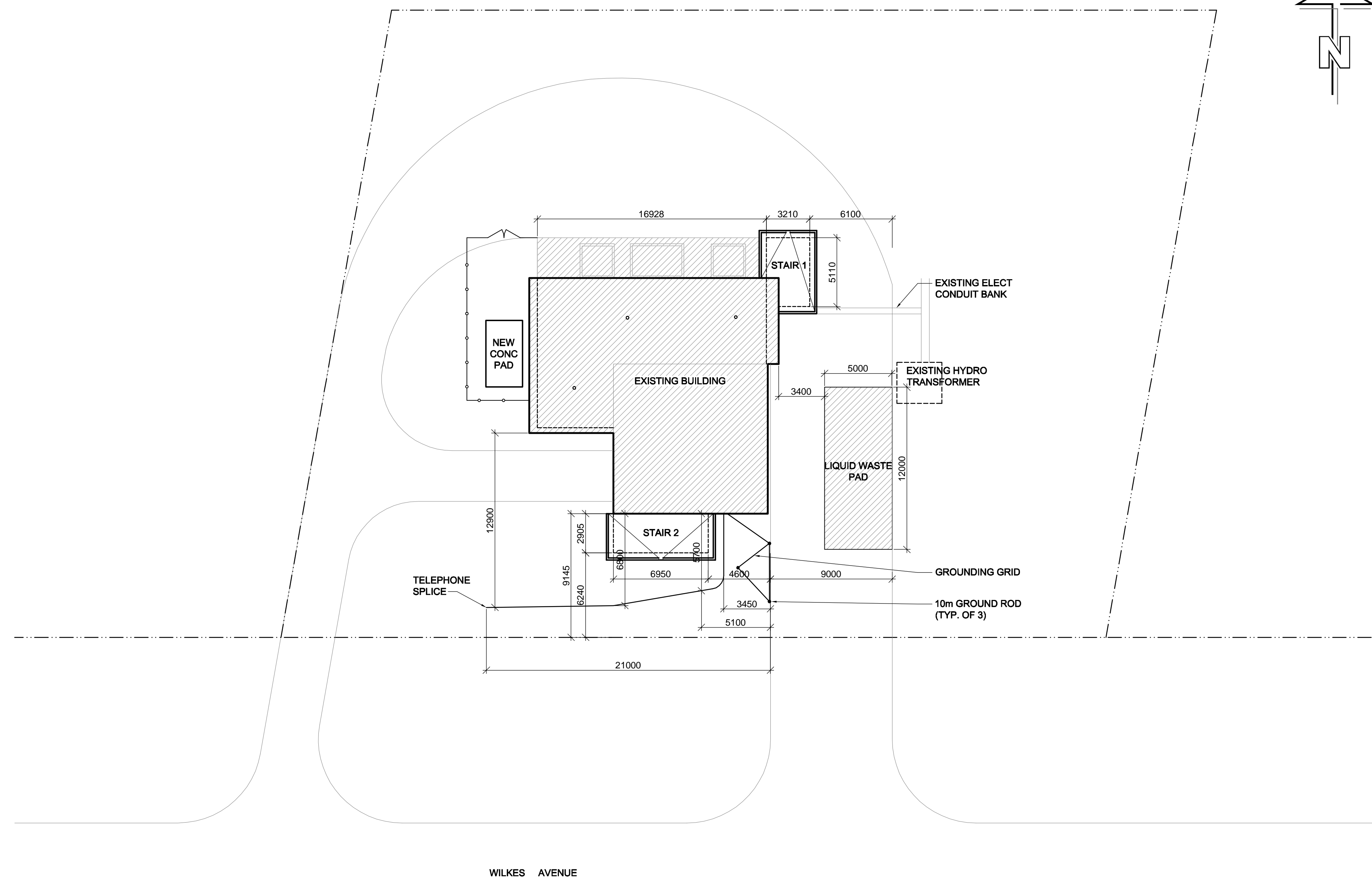
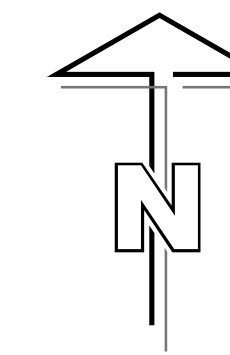


Record Drawings – 2007 Building Upgrades

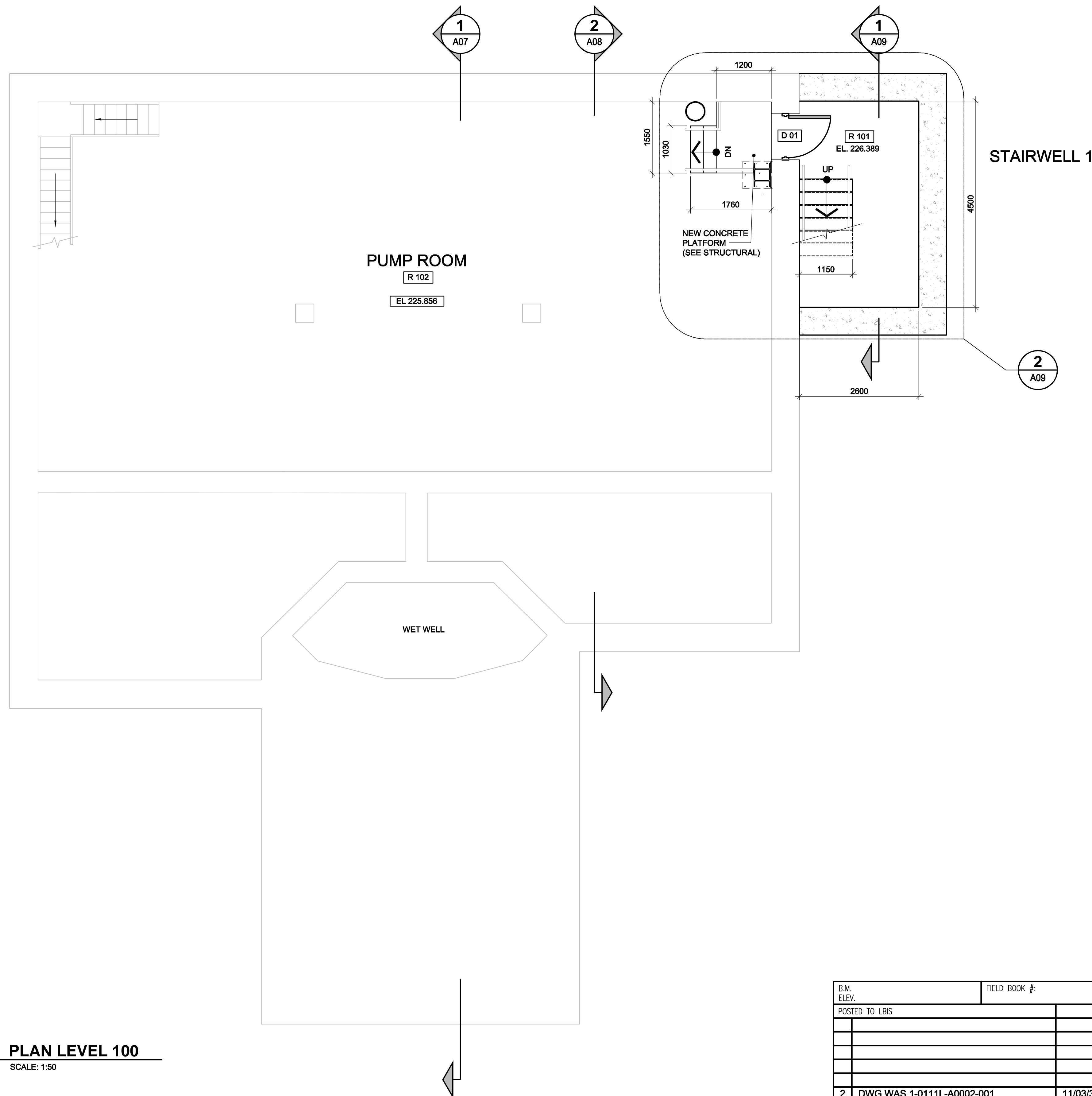
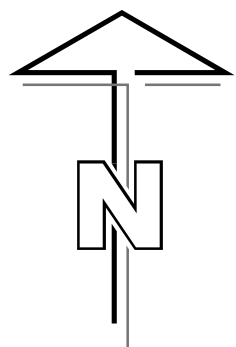


1 SITE PLAN
A01 SCALE: 1:200

REFERENCE DWG No.	DRAWING No.
A1	1-0111L-B0001-001
A2	1-0111L-B0002-001
A3	1-0111L-B0003-001
A4	1-0111L-B0004-001
A5	1-0111L-B0005-001
A6	1-0111L-B0006-001
A7	1-0111L-B0007-001
A8	1-0111L-B0008-001
A9	1-0111L-B0009-001
A10	1-0111L-B0010-001
A11	1-0111L-B0011-001
A12	1-0111L-B0012-001
A13	1-0111L-B0013-001
A14	1-0111L-B0014-001
A15	1-0111L-B0015-001

AS-CONSTRUCTED

B.M. ELEV.	FIELD BOOK #:	Neil Cooper Architect Inc. 10-395 Berry Street, Winnipeg, Manitoba R3J 1N6 Phone (204) 885-3855 Fax (204) 831-7148		ENGINEER'S SEAL	THE CITY OF WINNIPEG WATER AND WASTE DEPARTMENT PERIMETER ROAD PUMPING STATION UPGRADES Contract B - Building Upgrades Architectural - New Construction SITE PLAN
POSTED TO LBIS		DESIGNED BY NC	CHECKED BY -	REV. 1 AS CONSTRUCTED WAS SEALED BY NEIL COOPER AND DATED JAN 28, 2010	
		DRAWN BY AL	APPROVED BY -		
		HOR. SCALE AS NOTED	RELEASED FOR CONSTRUCTION		
		VERTICAL AS NOTED			
		DATE 07/06/14	DATE		
NO.	REVISIONS	DATE	BY	FILENAME: 1-0111L-B0001-001.dwg	
CITY DRAWING NUMBER 1-0111L-B0001					SHEET 001 REV. 2 SIZE D



1
A02
PLAN LEVEL 100
SCALE: 1:50

REFERENCE DWG No.	DRAWING No.
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A13	1-0111L-B0013-001
A14	1-0111L-B0014-001
A15	1-0111L-B0015-001

AS-CONSTRUCTED

B.M. ELEV.	FIELD BOOK #:	Neil Cooper Architect Inc. 10-395 Berry Street, Winnipeg, Manitoba R3J 1N6 Phone (204) 885-3855 Fax (204) 831-7148	
POSTED TO LBIS		DESIGNED BY NC	CHECKED BY -
		DRAWN BY CGC/AL	APPROVED BY -
2	DWG WAS 1-0111L-A0002-001	11/03/31	SW
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0	ISSUED FOR CONSTRUCTION	08/04/03	AL
HOR. SCALE	AS NOTED	RELEASED FOR CONSTRUCTION	
VERTICAL	AS NOTED		
DATE	07/06/14	DATE	
NO. REVISIONS	DATE	BY	FILENAME: 1-0111L-B0002-001.dwg

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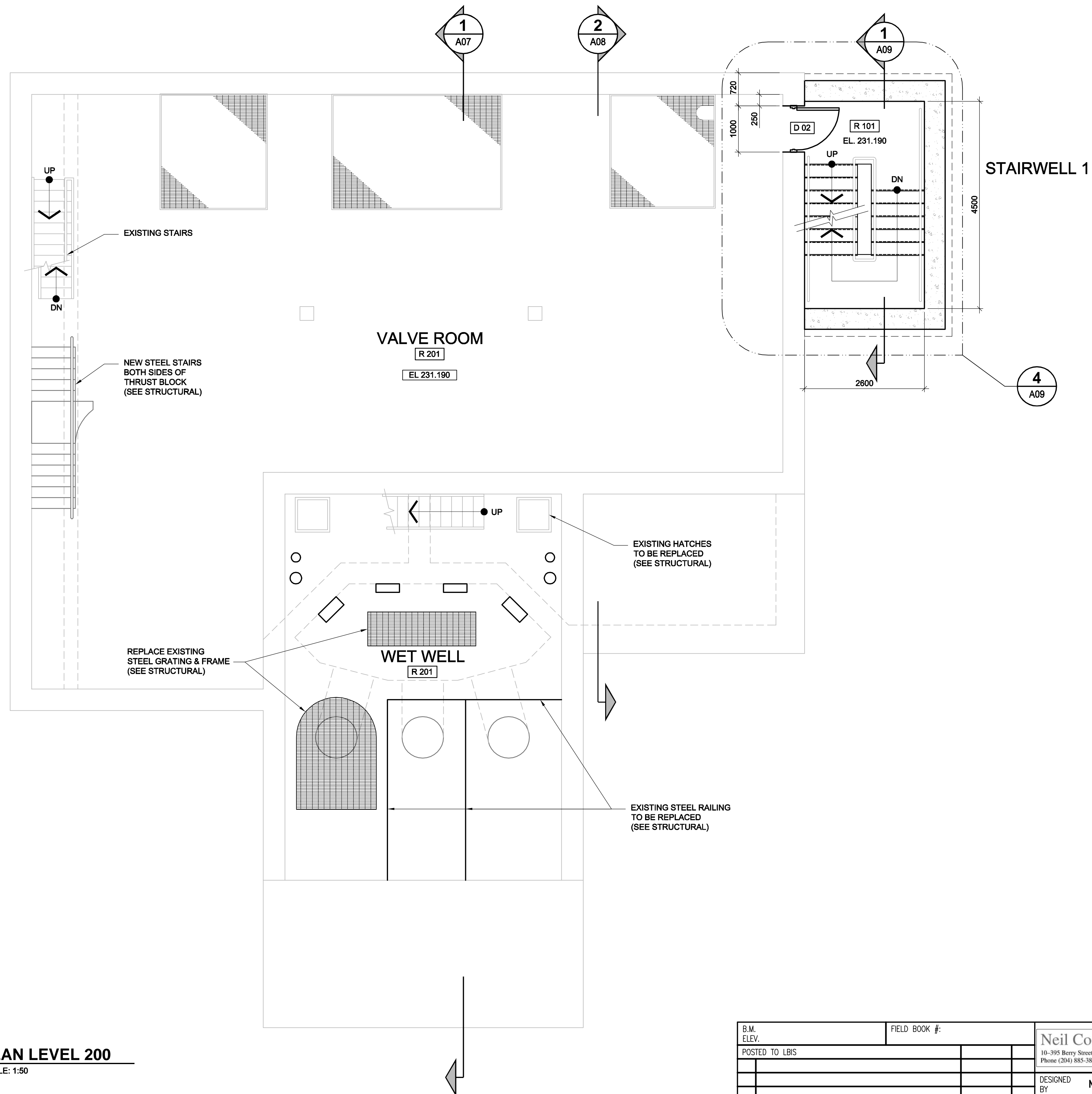
REV. 1
AS CONSTRUCTED
WAS SEALED BY
NEIL COOPER
AND DATED
JAN 28, 2010

THE CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT

PERIMETER ROAD PUMPING STATION UPGRADES
Contract B - Building Upgrades

Architectural - New Construction
LEVEL 100 FLOOR PLAN

CITY DRAWING NUMBER	SHEET	REV.	SIZE
1-0111L-B0002	001	2	D



1
A03 **PLAN LEVEL 200**
SCALE: 1:50

REFERENCE DWG No.	DRAWING No.
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A8	1-0111L-B0008-001
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A11	1-0111L-B0011-001
A12	1-0111L-B0012-001
A13	1-0111L-B0013-001
A14	1-0111L-B0014-001
A15	1-0111L-B0015-001

AS-CONSTRUCTED

B.M. ELEV.	FIELD BOOK #:	Neil Cooper Architect Inc.	
POSTED TO LBIS		10-395 Berry Street, Winnipeg, Manitoba R3J 1N6 Phone (204) 885-3855 Fax (204) 831-7148	
		DESIGNED BY NC	CHECKED BY -
		DRAWN BY CGC/AL	APPROVED BY -
2	DWG WAS 1-0111L-A0003-001	11/03/31	SW
1	AS - CONSTRUCTED	09/10/28	ALS
0	ISSUED FOR CONSTRUCTION	08/04/03	AL
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NO.	REVISIONS	DATE	BY
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ENGINEER'S SEAL

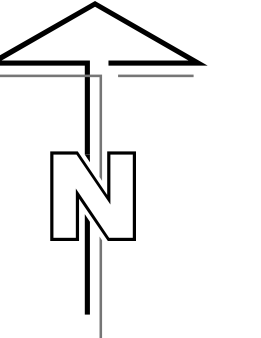
REV. 1
AS CONSTRUCTED
WAS SEALED BY
NEIL COOPER
AND DATED
JAN 28, 2010

THE CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT

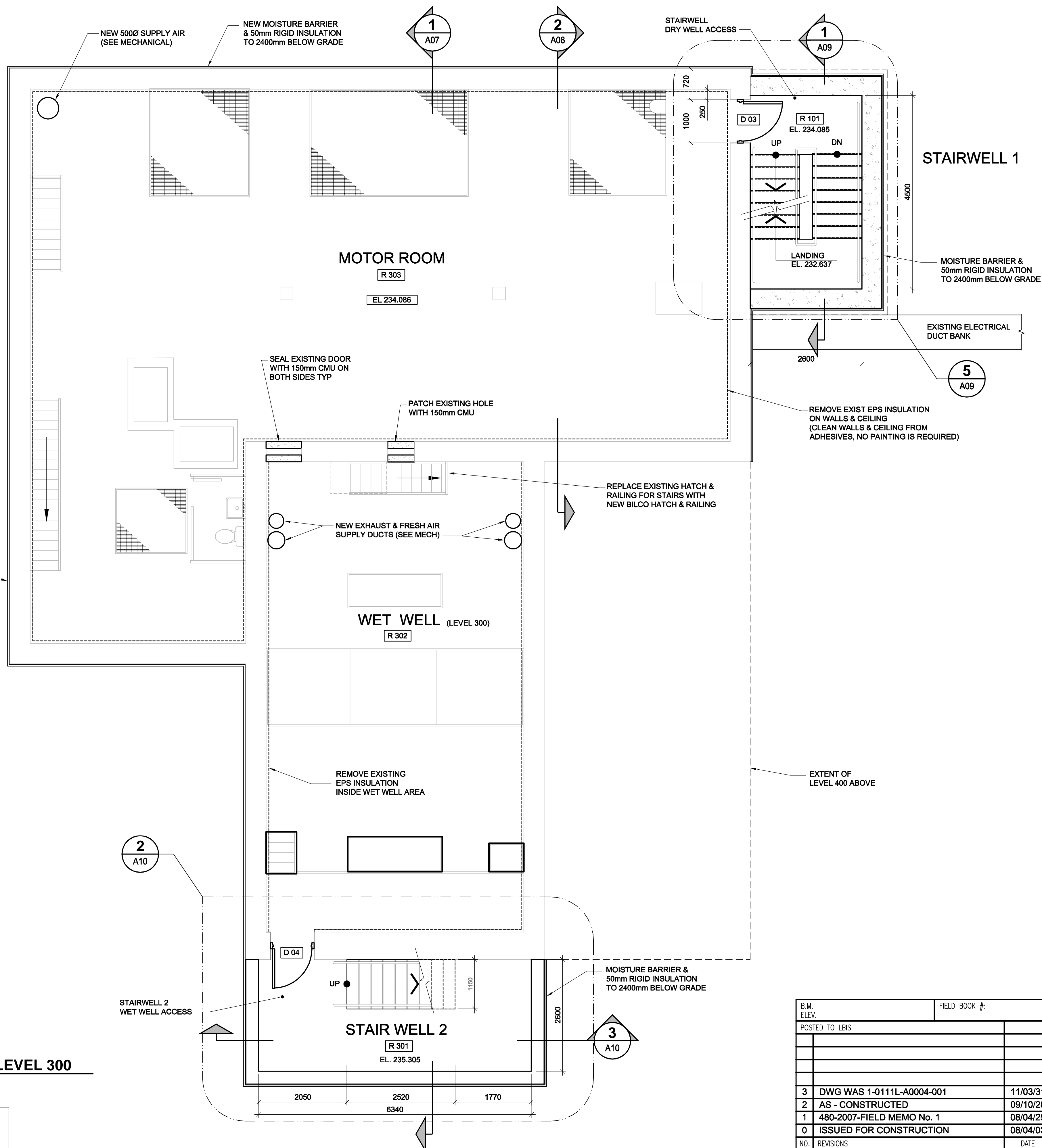
PERIMETER ROAD PUMPING STATION UPGRADES
Contract B - Building Upgrades

Architectural - New Construction
LEVEL 200 FLOOR PLAN

CITY DRAWING NUMBER	SHEET	REV.	SIZE
1-0111L-B0003	001	2	D



W MOISTURE BARRIER
0mm RIGID INSULATION
2400mm BELOW GRADE



1
A04
PLAN LEVEL 300
SCALE: 1:50

AS-CONSTRUCTED

REFERENCE DWG No.	DRAWING No.
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A12	1-0111L-B0012-001
A13	1-0111L-B0013-001
A14	1-0111L-B0014-001
A15	1-0111L-B0015-001

B.M. ELEV.	FIELD BOOK #:	Neil Cooper Architect Inc.	
POSTED TO LBIS		10-395 Berry Street, Winnipeg, Manitoba R3J 1N6 Phone (204) 885-3855 Fax (204) 831-7148	
		DESIGNED BY NC	CHECKED BY -
		DRAWN BY CGC/AL	APPROVED BY -
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2	AS - CONSTRUCTED	09/10/28	ALS
1	480-2007-FIELD MEMO No. 1	08/04/25	AL
0	ISSUED FOR CONSTRUCTION	08/04/03	AL
NO. REVISIONS	DATE	BY	FILENAME: 1-0111L-B0004-001.dwg

ENGINEER'S SEAL

REV. 2
AS CONSTRUCTED
WAS SEALED BY
NEIL COOPER
AND DATED
JAN 28, 2010

THE CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT

PERIMETER ROAD PUMPING STATION UPGRADES
Contract B - Building Upgrades

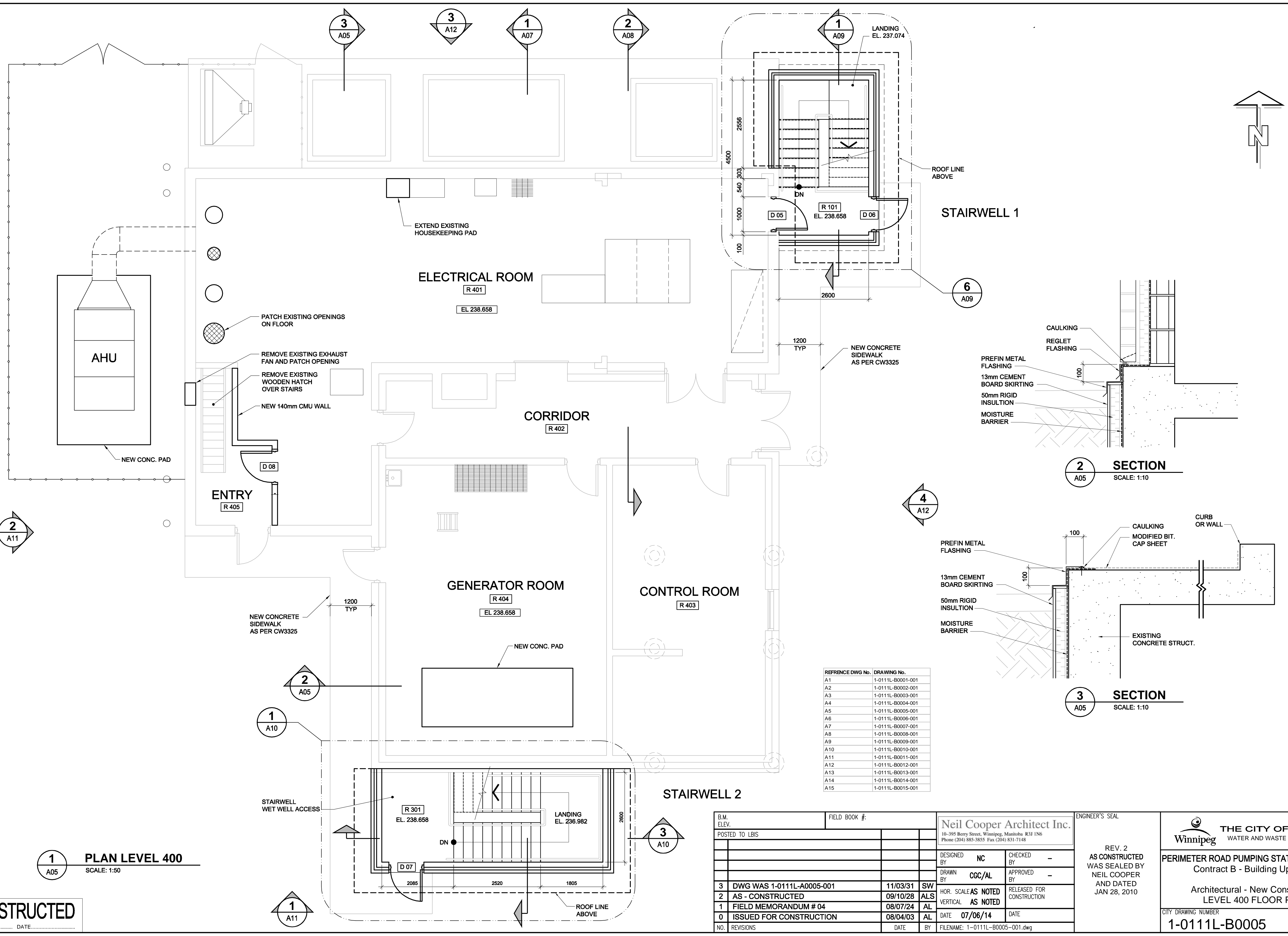
Architectural - New Construction
LEVEL 300 FLOOR PLAN

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D SIZE: 22" x 34" (559mm x 864mm)

PLOT: 01/04/2011 9:44:41 AM

NCA FILE NAME: 1-0111L-B0005-001.dwg Saved By: chamillo



1 PLAN LEVEL 400
SCALE: 1:50

2 SECTION
SCALE: 1:10

3 SECTION
SCALE: 1:10

REFERENCE DWG No.	DRAWING No.
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A4	1-0111L-B0004-001
A5	1-0111L-B0005-001
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A14	1-0111L-B0014-001
A15	1-0111L-B0015-001

B.M. ELEV.	FIELD BOOK #:	DATE	BY
POSTED TO LBIS			
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2	AS - CONSTRUCTED	09/10/28	ALS
1	FIELD MEMORANDUM # 04	08/07/24	AL
0	ISSUED FOR CONSTRUCTION	08/04/03	AL
NO.	REVISIONS	DATE	BY

Neil Cooper Architect Inc. 10-395 Berry Street, Winnipeg, Manitoba R3J 1N6 Phone (204) 885-3855 Fax (204) 831-7148	
DESIGNED BY NC	CHECKED BY -
DRAWN BY CGC/AL	APPROVED BY -
HOR. SCALE AS NOTED	RELEASED FOR CONSTRUCTION
VERTICAL AS NOTED	
DATE 07/06/14	DATE

ENGINEER'S SEAL

REV. 2
AS CONSTRUCTED
WAS SEALED BY
NEIL COOPER
AND DATED
JAN 28, 2010

THE CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT

PERIMETER ROAD PUMPING STATION UPGRADES
Contract B - Building Upgrades

Architectural - New Construction
LEVEL 400 FLOOR PLAN

CITY DRAWING NUMBER **1-0111L-B0005** SHEET REV. SIZE **001 3 D**

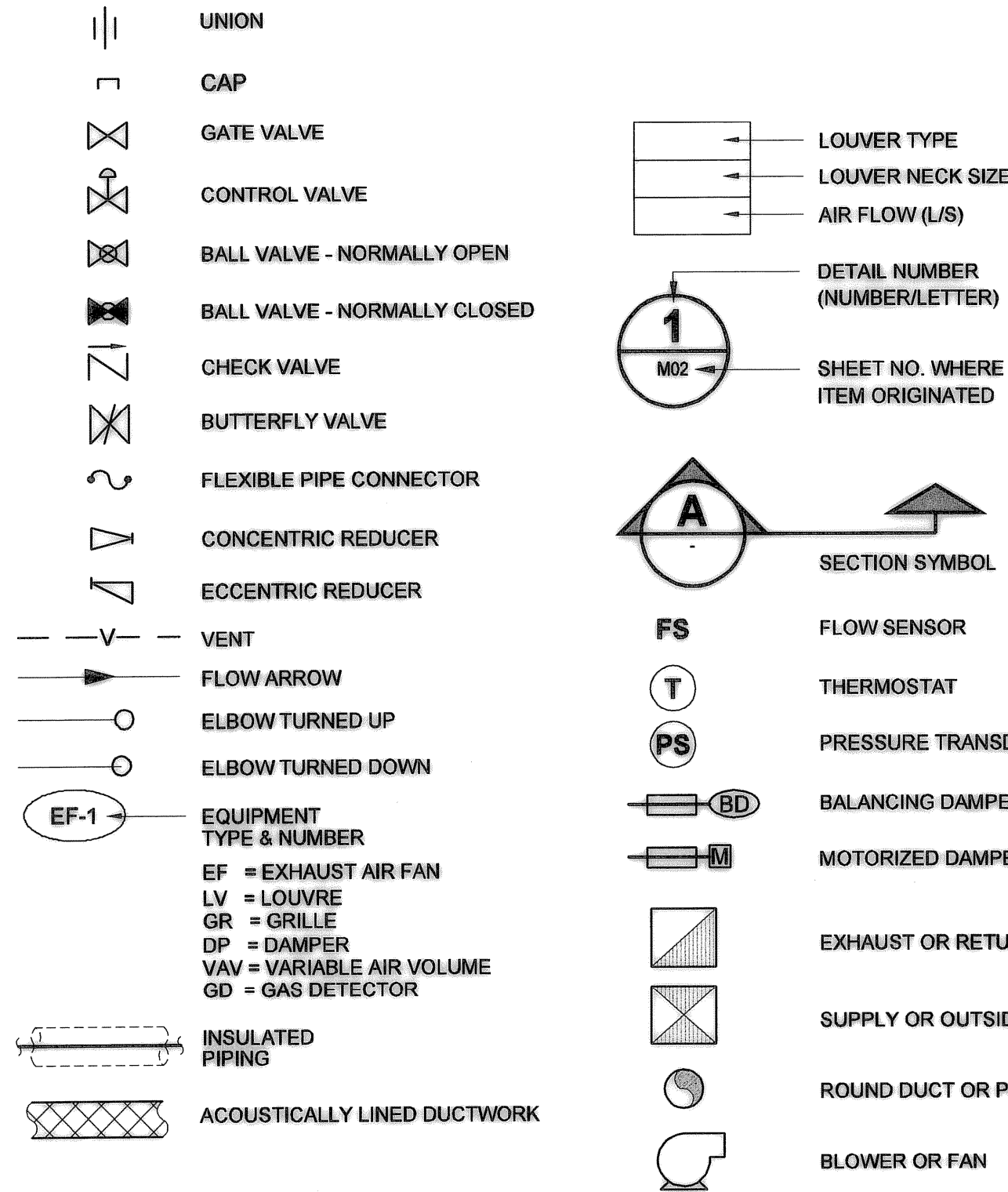
AS-CONSTRUCTED

D SIZE 22" x 34" (559mm x 864mm)

PLLOT: 10/01/20 8:25:17 AM

UMA FILE NAME: -0111L-M0001-001.dwg Saved By: kowalski

LEGEND



GENERAL NOTES:

- 1. DIMENSIONS AND BUILDING ORIENTATION SHOWN ON THE DRAWING ARE APPROXIMATE. THE CONTRACTOR IS RESPONSIBLE TO VERIFY EQUIPMENT/BUILDING LOCATIONS AND DIMENSIONS ON SITE.
2. PATCH ALL OPENINGS REMAINING AFTER EQUIPMENT, DUCT, OR PIPING INSTALLATION/REMOVALS. PATCHING TO ACHIEVE COLOUR MATCHED FINISH OF LIKE MATERIALS TO THE SURROUNDING SURFACE MATERIAL.
3. CUT ALL NEW OPENINGS REQUIRED FOR NEW INSTALLATIONS OR DEMOLITION WORK USING DUE CARE AND APPROPRIATE TOOLS AND METHODS TO MAINTAIN THE INTEGRITY OF THE STRUCTURE/ASSEMBLY IN WHICH THE OPENING IS BEING CUT. MECHANICAL CONTRACTOR SHALL SUPPLY GALVANIZED STEEL SHEET METAL AND SLEEVES FOR EQUIPMENT PENETRATING THE WALL.
4. ELECTRICALLY ISOLATE ALL DISSIMILAR METALS.
5. PROVIDE ADDITIONAL FRAMING AT ALL WALL PENETRATIONS.
6. PERFORM ALL WORK IN CO-ORDINATION WITH ALL OTHER TRADES AND CONTRACTORS. PROVIDE COMPLETE FUNCTIONAL AND CODE COMPLIANT SYSTEMS.
7. CONTRACTOR IS RESPONSIBLE FOR TAKING OUT PERMITS AND PAYING ALL FEES RELATED TO DEMOLITION/MODIFICATION OF THE EXISTING SYSTEMS, CONSTRUCTION, MODIFICATION AND INSTALLATION OF NEW SYSTEMS.
8. DEMOLITION/MODIFICATION/DISPOSAL/INSTALLATION OF MECHANICAL WHICH INVOLVE NATURAL GAS PIPING AND EQUIPMENT SHALL BE CONDUCTED IN ACCORDANCE WITH THE MANITOBA FIRE CODE, REGULATIONS, INDUSTRY STANDARDS AND LOCAL BYLAWS.
9. USE SKILLED AND LICENSED LABOURERS AND JOURNEYMEN TO PERFORM ALL WORK.
10. ALL WASTE IS TO BE DISPOSED OF OFF SITE IN AN APPROVED FACILITY LICENSED TO ACCEPT SUCH WASTE.
11. CONTRACTOR IS RESPONSIBLE TO REMOVE ANY CONTAMINATED OR HAZARDOUS WASTE/REFUSE, WHICH IS CAUSED BY THIS CONSTRUCTION WORK, AND TO DISPOSE THEM OFF SITE AS PER CODE.
12. CONTRACTOR TO PROVIDE PROTECTION TO OWNER EQUIPMENT DURING CONSTRUCTION. WORK WITH EXTREME CARE AROUND OPERATING EQUIPMENT.
13. COORDINATE THE TIMING, DURATION AND SAFETY REQUIREMENTS FOR SHUT-DOWNS TO ALLOW PIPING TIE-INS AND WORK IN HAZARDOUS ATMOSPHERE WITH THE CITY OF WINNIPEG WATER AND WASTE DEPARTMENT.
14. VERIFY CONFINED SPACES ENTRY REQUIREMENTS WITH CITY PRIOR TO ENTERING SUCH SPACES.
15. CONTRACTOR SHALL PROVIDE REQUIRED PERSONNEL FACILITIES FOR STAFF ON SITE.
16. PROVIDE TEMPORARY WET WELL EXHAUST VENTILATION AS FOLLOWS:
- 450 LPS (950 CFM) AT ALL TIMES.
- MINIMUM OF 1800 LPS (3800 CFM) OR AS REQUIRED FOR CONFINED SPACE ENTRY WHEN OCCUPIED.

DESIGN NOTES:

DRY WELL, GENERATOR ROOM, AND CONTROL ROOM WILL BE ELECTRICALLY DECLASSIFIED PER NFPA 2003-820 TABLE 4.2 ROW 17 LINE B & A AND AS PER NFPA 496, BY MAINTAINING 25 Pa POSITIVE STATIC PRESSURE USING CONTINUOUS VENTILATION. 6 AIR CHANGES PER HOUR (ACH) WILL BE PROVIDED IF THE STATIC PRESSURE FALLS BELOW 25 Pa (POSITIVE) OR 10% OF LEL IS EXCEEDED.

REMAINDER OF LEVEL 400 IS UNCLASSIFIED BUT PROVIDED WITH MINIMUM 1 ACH.

MAKE UP AIR UNIT IS SIZED FOR 50°C OUTDOOR TEMPERATURE RISE.

WET WELL WILL BE POSITIVELY SEPARATED FROM OTHER AREAS AND RETAIN CLASS 1 DIV. 1 RATING.

EXHAUST FOR WET WELL WILL BE PROVIDED @ 3 ACH CONTINUOUSLY AND WILL INCREASE TO 12 ACH IF 10% OF THE LOWER FLAMMABLE LIMIT (LFL) OR 10% OF THE LOWER EXPLOSIVE LIMIT (LEL) IS EXCEEDED OR IF MANUALLY SELECTED FOR CONFINED SPACE ENTRY REQUIREMENTS.

NATURAL GAS LOAD ALLOWANCES
EXISTING PUMP ENGINE: 1025 kW (3.5 MMBH)
HVAC: 295 kW (1.0 MMBH)
STAND BY GENERATOR: 1025 kW (3.5 MMBH)

GENERATOR ROOM VENTILATION BASED ON 150kW KOHLER UNIT HEAT INTO ROOM: ENGINE: 85 kW (287 MBH) GENERATOR: 16 kW (55MBH)

174 LPS COMB. AIR
5714 LPS RADIATOR AIR
32°C OUTSIDE AIR TEMPERATURE
40°C ROOM ALLOWABLE TEMPERATURE
4200 LPS ROOM COOLING AIR

L400 MAIN ROOM MXX-SF BASED ON 10kW EQUIPMENT LOAD
NO AIR FLOW FROM M609AHU
32°C OUTDOOR AIR TEMPERATURE, 37°C INDOOR AIR TEMPERATURE

IMPORTANT: ASBESTOS NOTIFICATION AND ACKNOWLEDGMENT
Every effort has been made to identify known asbestos containing materials within the areas of the proposed work. As a precautionary measure, where material is encountered by trades and conditions that is suspect or suspicious, the Trade/Contractor/Subcontractor is to contact the Contract Administrator who will have samples taken and tested to confirm its composition.

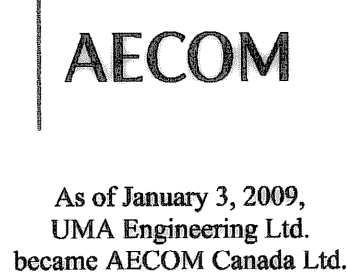
Ms. Reg. 53-88 (Workplace Health Hazard Regulation), Ms. Reg. 100-88R (Fibres and Silica Regulation) and associated Codebooks apply to all maintenance and renovation work that may disturb asbestos or suspected asbestos-containing materials in the Workplace. Such regulations and guidelines state that any disturbance of asbestos-containing materials may only be performed by workers or by an outside contractor who have first received the required training in asbestos-related procedures.

WORKING WITH ASBESTOS CAN BE DANGEROUS. INHALING ASBESTOS FIBERS CAN CAUSE VARIOUS TYPES OF LUNG DISEASE INCLUDING CANCER. SMOKING INCREASES THE RISK OF LUNG CANCER FROM ASBESTOS EXPOSURE.

ACKNOWLEDGMENT:

In undertaking the work of this project, we the trades or contractor agree to perform our work in such a manner so as NOT to disturb any asbestos-containing materials without:

- 1. giving notice to the appropriate supervisor, individual manager and/or project coordinator at the Water And Waste Department that known or suspected asbestos-containing material(s) will be disturbed, or
2. halting work and giving notice to the Contract Administrator when unforeseen suspected asbestos-containing materials are uncovered during the provisions of work/contract.



As of January 3, 2009, UMA Engineering Ltd. became AECOM Canada Ltd.

AECOM AS-CONSTRUCTED
SIG..... DATE.....

MAKE UP AIR UNIT SCHEDULE

Table with 7 columns: ITEM, LOCATION, MANUFACTURER AND MODEL No., AIRFLOW (LPS), TSP / ESP (Pa), kW INPUT (MBTU INPUT), TEMP. RISE AT MAX. FLOW (C°), DETAILS. Row 1: M609-AHU, OUTSIDE, ENGINEERED AIR DJE-100, 3775, 250, 293 (1000), 32, INDIRECT FIRED, 100% OUTSIDE AIR, MINIMUM 15:1 TURNDOWN MODULATING BURNER, 0-10 VDC DISCHARGE TEMP. RESET, LOCKABLE DISCONNECT

NOTE: VFD IN M.C.C. BY DIVISION 26

FAN SCHEDULE

Table with 10 columns: ITEM, LOCATION, MANUFACTURER AND MODEL No., AIRFLOW (LPS), FAN SIZE, TSP / ESP (Pa), RPM, BHP, MOTOR kW, VOLTAGE / PHASE, DETAILS. Rows include M610-EF, M620-EF, M634-SF, M640-SF.

NOTE: VFD IN M.C.C. BY DIVISION 26

LOUVRE SCHEDULE

Table with 5 columns: ITEM, LOCATION, MANUFACTURER AND MODEL No., SIZE W x H, OPEN AREA. Rows include LV-1 to LV-5.

DAMPER SCHEDULE

Table with 6 columns: ITEM, LOCATION, MANUFACTURER AND MODEL No., SIZE, AIRFLOW (LPS), ACCESSORIES. Rows include M621-MD to M635-MD.

GRILLE SCHEDULE

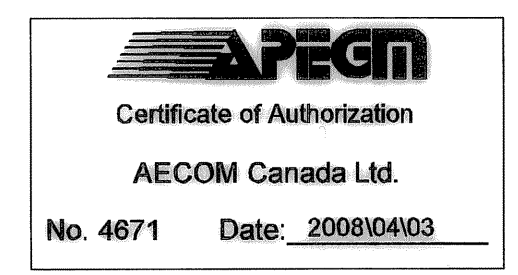
Table with 5 columns: ITEM, LOCATION, MANUFACTURER AND MODEL No., ACCESSORIES. Rows include GR-1, GR-2.

VARIABLE AIR VOLUME SCHEDULE

Table with 6 columns: ITEM, LOCATION, MANUFACTURER AND MODEL No., MINIMUM AIRFLOW (LPS), MAXIMUM AIRFLOW (LPS), ACCESSORIES. Rows include M615-VAV to M617-VAV.

WASTE WATER VALVE SCHEDULE

Table with 8 columns: P&ID TAG, LOCATION/USE, VALVE No., MAKE/MODEL, SIZE (MM), MAX PRESSURE KPA (PSI), ACTUATOR, MATERIALS OF CONSTRUCTION. Row 1: M, P2 DISCHARGE, P2-02, PRATT BALLCENTRIC PLUG, 450, 1035 (150), DOUBLE ACTING ON/OFF PNEUMATIC, WITH LIMIT SWITCHES 625 KPa (90 PSIG) OPERATING PRESSURE, BODY: CAST IRON ASTM A126 CLASS B, VALVE PLUG: CAST IRON ASTM A126 CLASS B, SEATING: BUNA, FLANGES: ANSI B16.1, CLASS 125, BEARINGS: SINTERED, OIL IMPREGNATED TYPE 316, SS ASTM A-743 OR BRONZE ASTM B-127

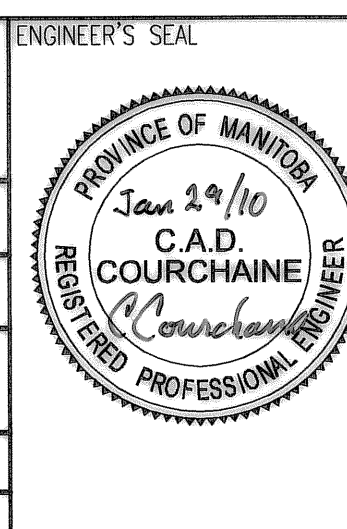


PERIMETER ROAD PUMPING STATION UPGRADES Contract B - Building Upgrades

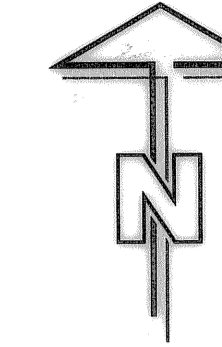
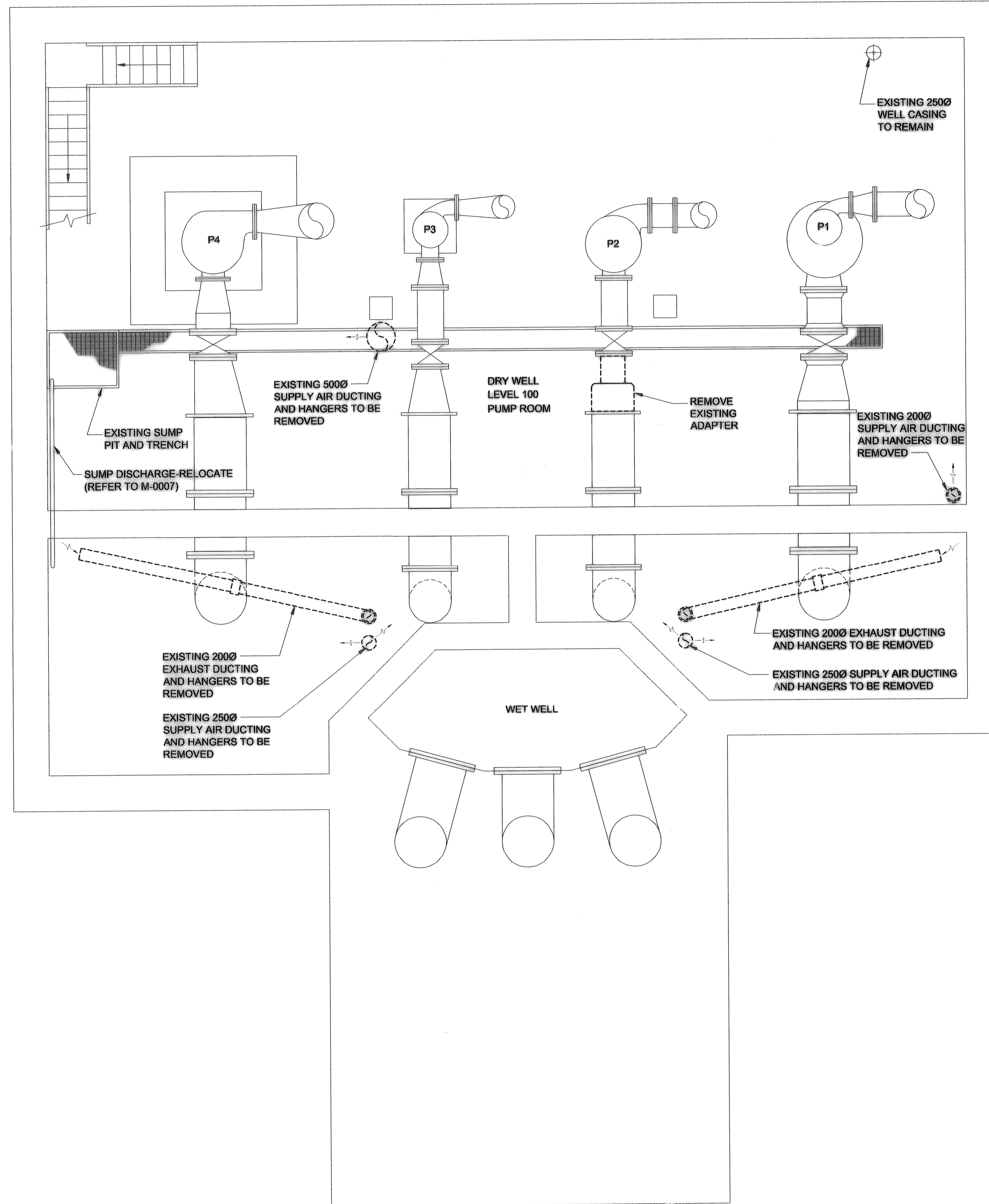
Mechanical GENERAL NOTES AND LEGEND

CITY DRAWING NUMBER: 1-0111L-M0001 SHEET: 001 REV: 2

Revision table with columns: NO., REVISIONS, DATE, BY. Rows include AS-CONSTRUCTED, ISSUED FOR PCN #20, ISSUED FOR CONSTRUCTION.



UMA AECOM
DESIGNED BY: CAC CHECKED BY:
DRAWN BY: RJP APPROVED BY:
DATE: 07/05/09



IMPORTANT: ASBESTOS NOTIFICATION AND ACKNOWLEDGMENT

Every effort has been made to identify known asbestos containing materials within the areas of the proposed work and where in direct contact or where posing a hazard, to remove it by proper controlled means before construction. As a precautionary measure, where material is encountered by trades and contractors that is suspect or suspicious, the Trade/Contractor/Subcontractor is to contact the Water And Waste Department who will have samples taken and tested to confirm its composition.

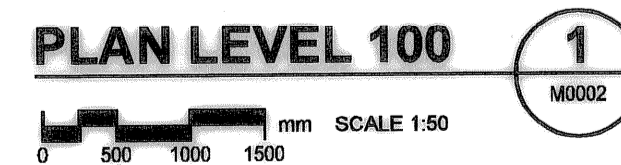
Mt. Reg. 53-84 (Workplace Health Hazard Regulation), Mt. Reg. 100-88R (Fibrosis and Silicosis Regulation) and associated Guidelines apply to all maintenance and renovation work that may disturb asbestos or suspect asbestos-containing materials in the Workplaces. Such regulations and guidelines state that any disturbance of asbestos-containing materials may only be performed by workers or by an outside contractor who have first received the required training in asbestos-related precautions.

WORKING WITH ASBESTOS CAN BE DANGEROUS. INHALING ASBESTOS FIBERS CAN CAUSE VARIOUS TYPES OF LUNG DISEASE INCLUDING CANCER. SMOKING INCREASES THE RISK OF LUNG CANCER FROM ASBESTOS EXPOSURE.

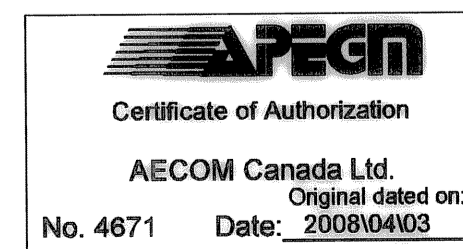
ACKNOWLEDGMENT:

In undertaking the work of this project, we the trade or contractor agree to perform our work in such a manner so as NOT to disturb any asbestos-containing materials without:

- giving notice to the appropriate supervisor, individual manager and/or project coordinator at the Water And Waste Department that unless or suspected asbestos-containing material(s) will be disturbed, or
- halting work and giving notice to the appropriate individual manager and/or project coordinator at the Water And Waste Department when unforeseen suspect asbestos-containing materials are uncovered during the provisions of noncontaminated.



NOTE:
CAUTION: EXISTING DUCTING CONTAINS ASBESTOS, WET WELL AREAS ARE CONSIDERED CONFINED SPACES AND SUITABLE PROCEDURES MUST BE FOLLOWED.



B.M. ELEV.	FIELD BOOK #:	UMA AECOM		ENGINEER'S SEAL	
POSTED TO L&BS		© 2009 UMA ENGINEERING LTD. ALL RIGHTS RESERVED.			
DESIGNED BY	CAC	CHECKED BY	-----	THE CITY OF WINNIPEG WATER AND WASTE DEPARTMENT PERIMETER ROAD PUMPING STATION UPGRADES Contract B - Building Upgrades Mechanical - Demolition LEVEL 100 FLOOR PLAN	
DRAWN BY	RJP	APPROVED BY	-	CITY DRAWING NUMBER: 1-0111L-M0002 SHEET: 001 REV: 1 SIZE: D	
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NO. REVISIONS	DATE	BY			

AECOM

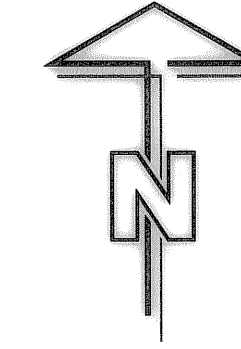
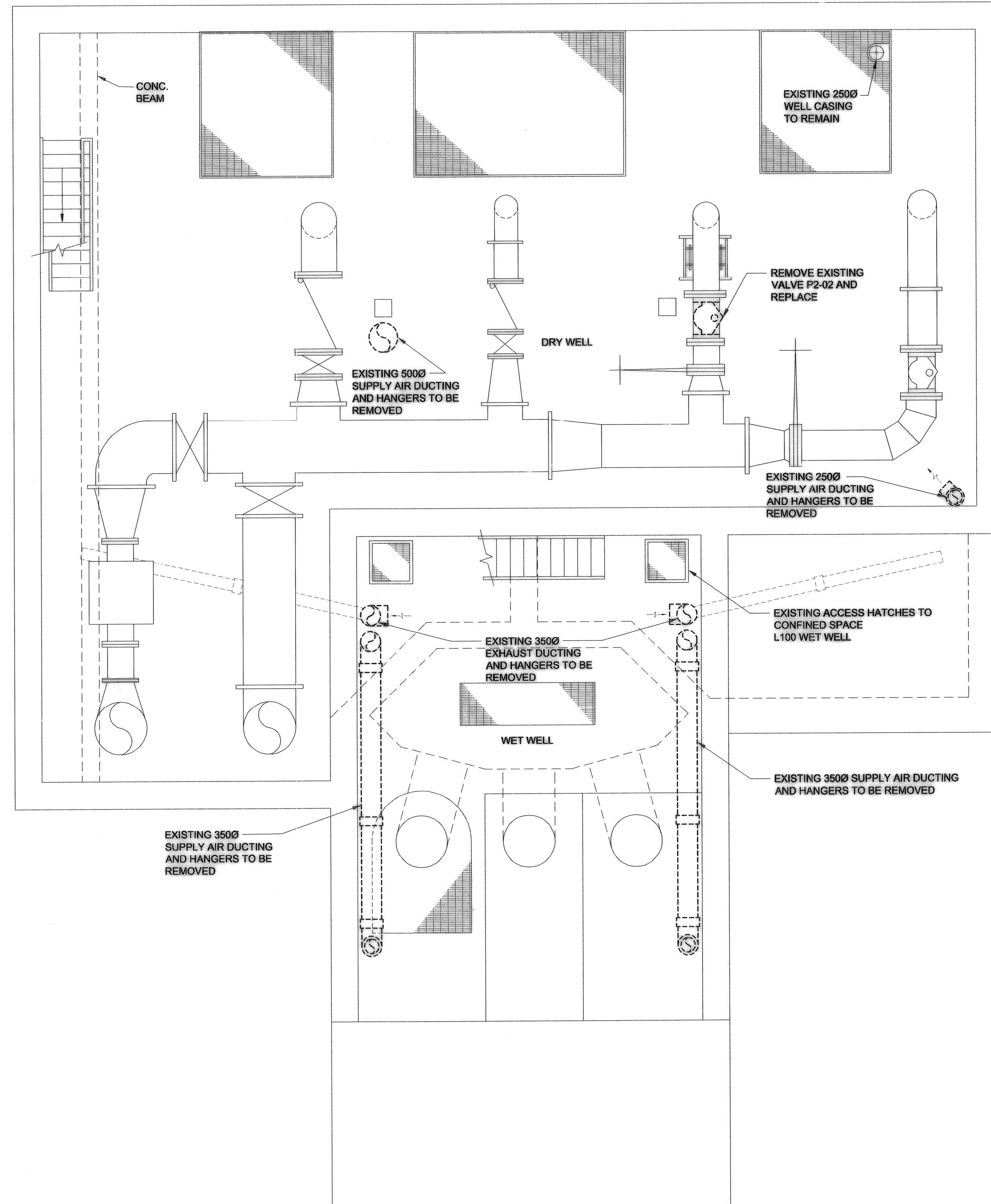
As of January 3, 2009,
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became AECOM Canada Ltd.

AECOM AS-CONSTRUCTED

D SIZE 22" x 34" (559mm x 864mm)

PLOT: 10/01/29 9:26:03 AM

UMA FILE NAME: 1-0111L-M0003-001.dwg Saved By: kowalski



IMPORTANT: ASBESTOS NOTIFICATION AND ACKNOWLEDGMENT

Every effort has been made to identify known asbestos containing materials within the areas of the proposed work and remove in direct control or where posing a hazard to remove it by proper controlled means before construction. As a precautionary measure, when material is encountered by trades and contractors that is suspect or suspicious, the Trade/Contractor/Subcontractor is to contact the Water And Waste Department who will have samples taken and tested to confirm its composition.

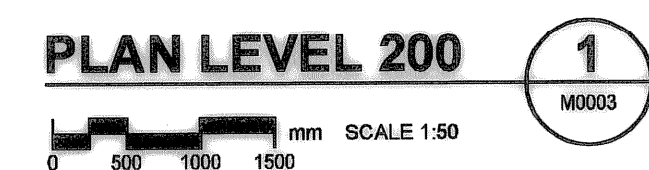
Mt. Reg. 53-48 (Workplace Health Hazard Regulation), Mt. Reg. 100-88R (Fibres and Silicates Regulation) and associated Guidelines apply to all maintenance and renovation work that may disturb asbestos or suspect asbestos-containing materials in the Workplace. Such regulations and guidelines state that any disturbance of asbestos-containing materials may only be performed by workers or by an outside contractor who have first received the required training in asbestos-related practices.

WORKING WITH ASBESTOS CAN BE DANGEROUS. INHALING ASBESTOS FIBERS CAN CAUSE VARIOUS TYPES OF LUNG DISEASE INCLUDING CANCER. SMOKING INCREASES THE RISK OF LUNG CANCER FROM ASBESTOS EXPOSURE.

ACKNOWLEDGMENT:

In undertaking the work of this project, we the trade or contractor agree to perform our work in such a manner so as NOT to disturb any asbestos-containing materials without:

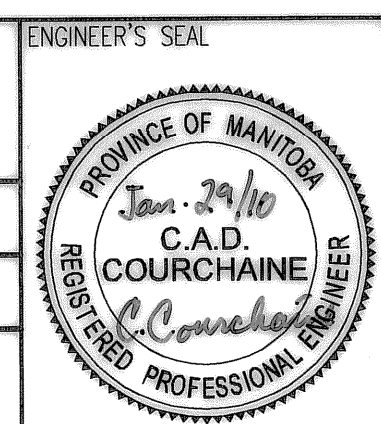
- giving notice to the appropriate supervisor, individual manager and/or project coordinator at the Water And Waste Department that known or suspected asbestos-containing material(s) will be disturbed, or
- halting work and giving notice to the appropriate individual manager and/or project coordinator at the Water And Waste Department when unforeseen suspected asbestos-containing materials are uncovered during the provisions of services/materials.



NOTE:
CAUTION: EXISTING DUCTING CONTAINS ASBESTOS, WET WELL AREAS ARE CONSIDERED CONFINED SPACES AND SUITABLE PROCEDURES MUST BE FOLLOWED.

APEGM
Certificate of Authorization
AECOM Canada Ltd.
Original dated on: 2008/04/03
No. 4671 Date: 2008/04/03

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DRAWN BY	RJP	APPROVED BY	---
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VERTICAL	AS NOTED	DATE	DATE
1 AS - CONSTRUCTED	09/10/28	ALS	
0 ISSUED FOR CONSTRUCTION	08/04/03	RS	DATE 07/05/09
NO. REVISIONS	DATE	BY	FILENAME: 1-0111L-M0003-001.dwg



THE CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT

PERIMETER ROAD PUMPING STATION UPGRADES
Contract B - Building Upgrades

Mechanical - Demolition
LEVEL 200 FLOOR PLAN

CITY DRAWING NUMBER: 1-0111L-M0003
SHEET: 001
REV: 1
SIZE: D

AECOM

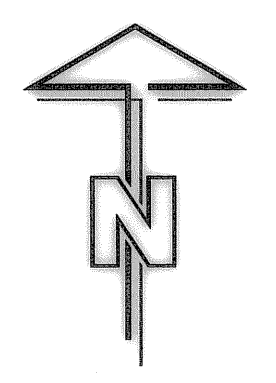
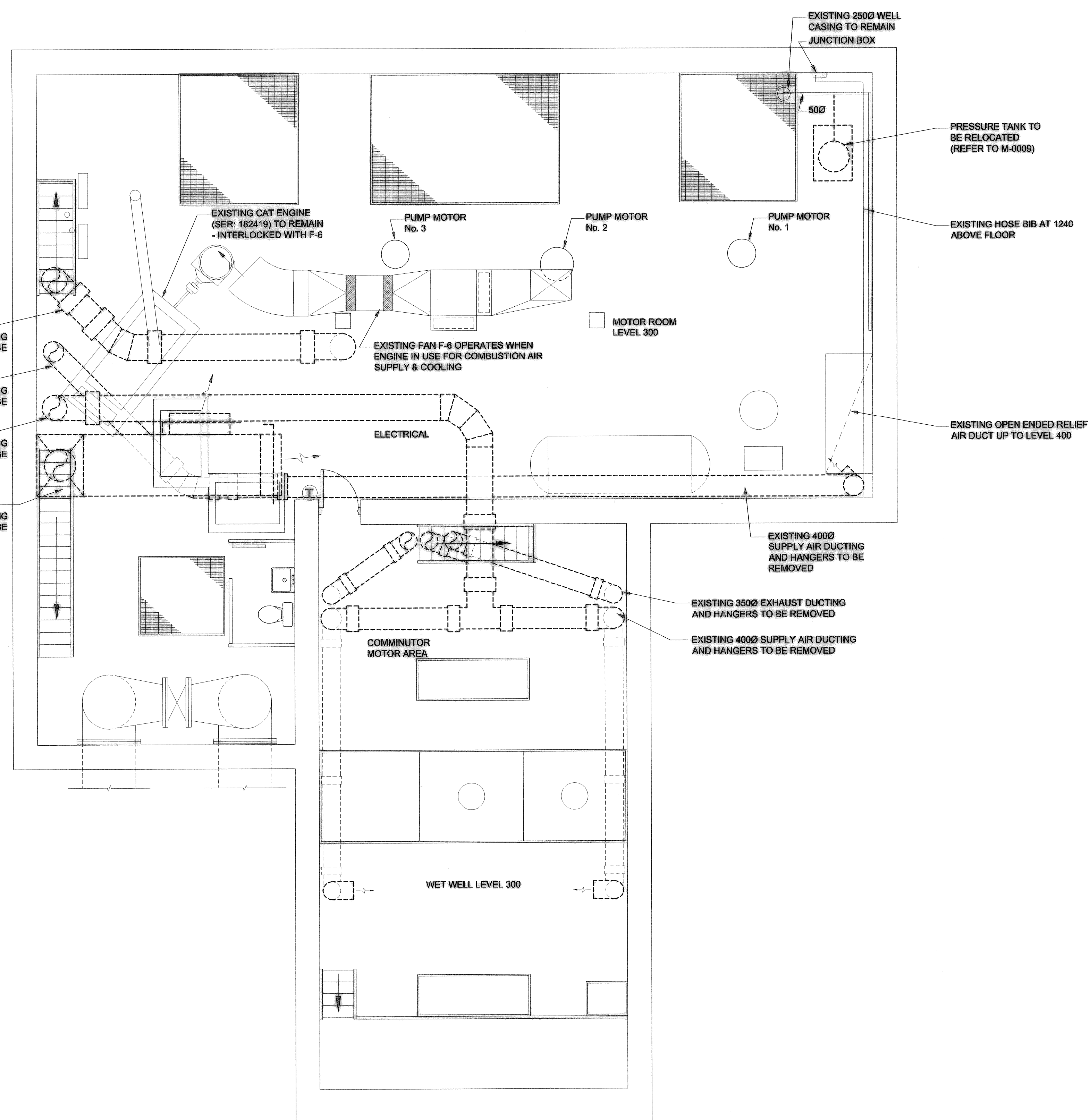
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SIG..... DATE.....

D SIZE 22" x 34" (559mm x 864mm)

PLOT: 10/11/09 8:26:26 AM

FILE NAME: 1-0111L-M0004-001.dwg Saved By: kowalskis



IMPORTANT: ASBESTOS NOTIFICATION AND ACKNOWLEDGMENT

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Ms. Reg. 53-38 (Workplace Health Hazard Regulation), Ms. Reg. 100-88R (Fibers and Silicates Regulation) and associated Guidelines apply to all maintenance and renovation work that may disturb asbestos or suspect asbestos-containing materials in the Workplace. Such regulations and guidelines state that any disturbance of asbestos-containing materials may only be performed by workers or by an outside contractor who have first received the required training in asbestos-related precautions.

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EXISTING 5000 SUPPLY AIR DUCTING AND HANGERS TO BE REMOVED

EXISTING 4000 SUPPLY AIR DUCTING AND HANGERS TO BE REMOVED

EXISTING 5000 SUPPLY AIR DUCTING AND HANGERS TO BE REMOVED

EXISTING 1200x900 SUPPLY AIR DUCTING AND DAMPERS TO BE REMOVED

PRESSURE TANK TO BE RELOCATED (REFER TO M-0009)

EXISTING HOSE BIB AT 1240 ABOVE FLOOR

EXISTING OPEN ENDED RELIEF AIR DUCT UP TO LEVEL 400

EXISTING 4000 SUPPLY AIR DUCTING AND HANGERS TO BE REMOVED

EXISTING 3500 EXHAUST DUCTING AND HANGERS TO BE REMOVED

EXISTING 4000 SUPPLY AIR DUCTING AND HANGERS TO BE REMOVED

PLAN LEVEL 300

0 500 1000 1500 mm SCALE 1:50

NOTE:
CAUTION: EXISTING DUCTING CONTAINS ASBESTOS. WET WELL AREAS ARE CONSIDERED CONFINED SPACES AND SUITABLE PROCEDURES MUST BE FOLLOWED.

AECOM

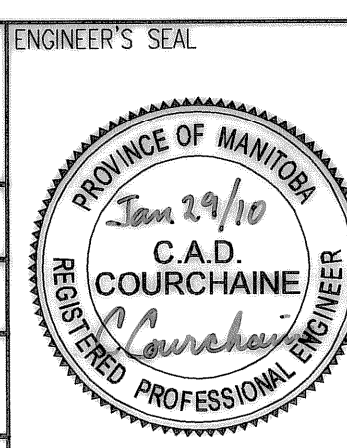
As of January 3, 2009, UMA Engineering Ltd. became AECOM Canada Ltd.

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SIG..... DATE.....

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Certificate of Authorization
AECOM Canada Ltd.
Original dated on: No. 4671 Date: 2008/04/03

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0 ISSUED FOR CONSTRUCTION	08/04/03	RS	
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THE CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT

PERIMETER ROAD PUMPING STATION UPGRADES
Contract B - Building Upgrades

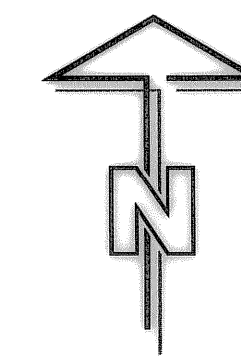
Mechanical - Demolition
LEVEL 300 FLOOR PLAN

CITY DRAWING NUMBER: **1-0111L-M0004** SHEET: **001** REV: **1** SIZE: **D**

D SIZE 22" x 34" (558mm x 864mm)

PLOT: 10/01/29 8:26:51 AM

UMA FILE NAME: 1-0111L-M0005-001.dwg Saved By: tovalakis



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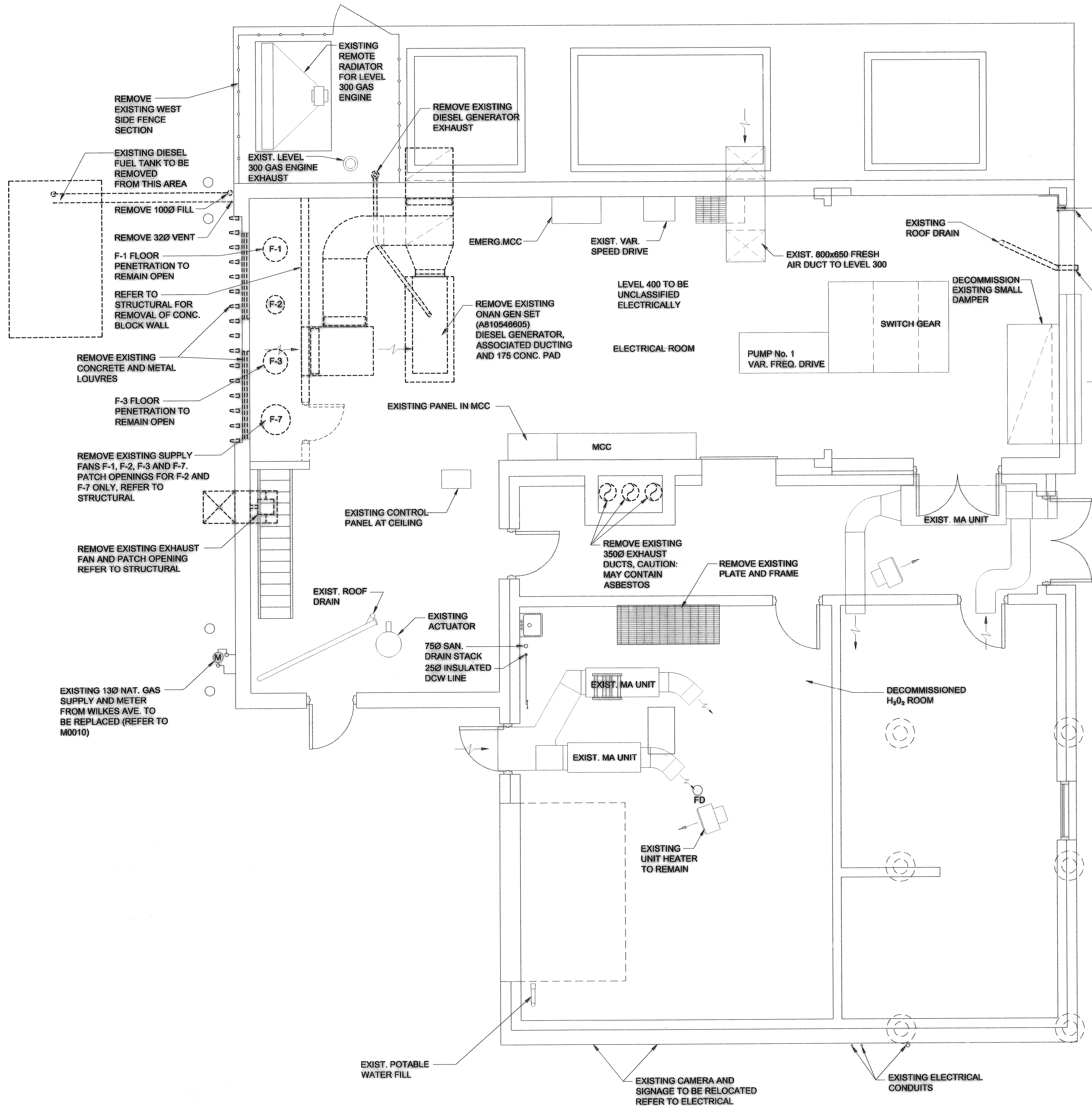
Ms. Reg. 53-88 (Workplace Health Hazard Regulation), Ms. Reg. 100-88R (Fumes and Silica - Regulation) and associated Guidelines apply to all maintenance and renovation work that may disturb asbestos or suspect asbestos-containing materials in the Workplace. Such regulations and guidelines state that any disturbance of asbestos-containing materials may only be performed by workers or by an outside contractor who have first received the required training in asbestos-related procedures.

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PLAN LEVEL 400 1
M0005

0 500 1000 1500 mm SCALE 1:50

NOTE:
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AECOM

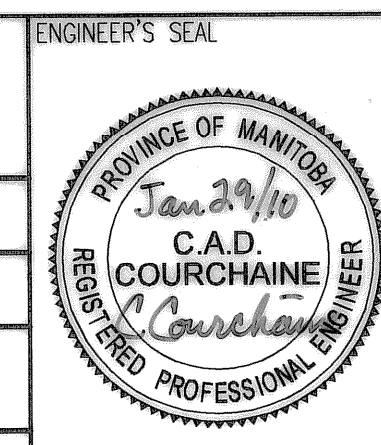
As of January 3, 2009, UMA Engineering Ltd. became AECOM Canada Ltd.

AECOM AS-CONSTRUCTED
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DRN	CHK	DES	ENG	IDR
UMA REVIEW				

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NO. REVISIONS	DATE	BY	FILENAME: 1-0111L-M0005-001.dwg

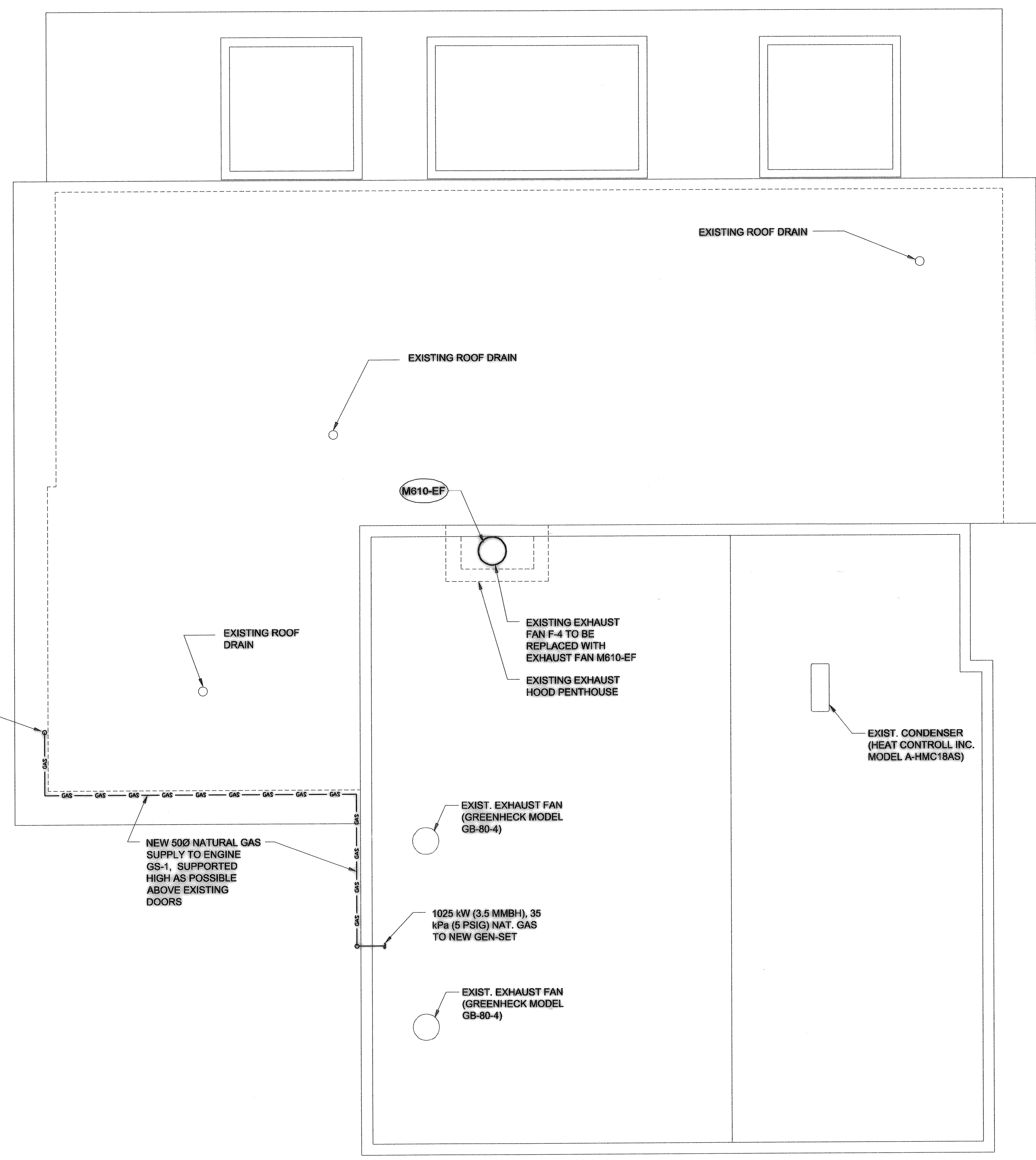
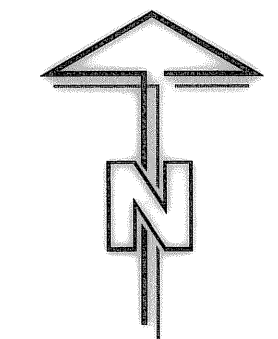


THE CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT

PERIMETER ROAD PUMPING STATION UPGRADES
Contract B - Building Upgrades

Mechanical - Demolition
LEVEL 400 FLOOR PLAN

CITY DRAWING NUMBER: **1-0111L-M0005** SHEET REV. SIZE: **001 1 D**



HAULED LIQUID WASTE FACILITY. APPROX. LOCATION. PROTECT DURING CONSTRUCTION

ROOF PLAN 1
 SCALE 1:50
 0 500 1000 1500 mm

NOTE:
 CAUTION: EXISTING DUCTING CONTAINS ASBESTOS, WET WELL AREAS ARE CONSIDERED CONFINED SPACES AND SUITABLE PROCEDURES MUST BE FOLLOWED.

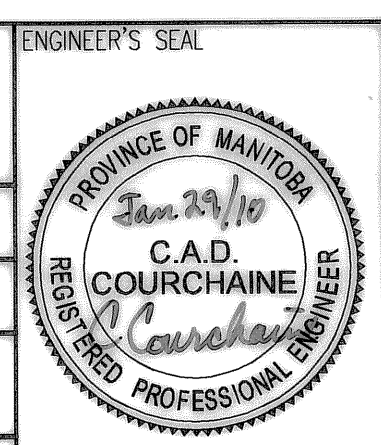
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 No. 4671 Date: 2008/04/03

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VERTICAL	AS NOTED	DATE	07/05/09
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0	ISSUED FOR CONSTRUCTION	08/04/03	RS
NO.	REVISIONS	DATE	BY
FILENAME: 1-0111L-M0006-001.dwg			



THE CITY OF WINNIPEG
 WATER AND WASTE DEPARTMENT

PERIMETER ROAD PUMPING STATION UPGRADES
 Contract B - Building Upgrades

Mechanical ROOF PLAN

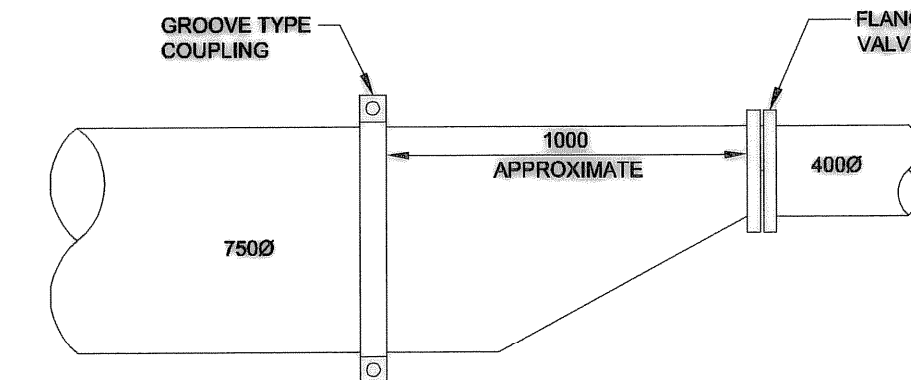
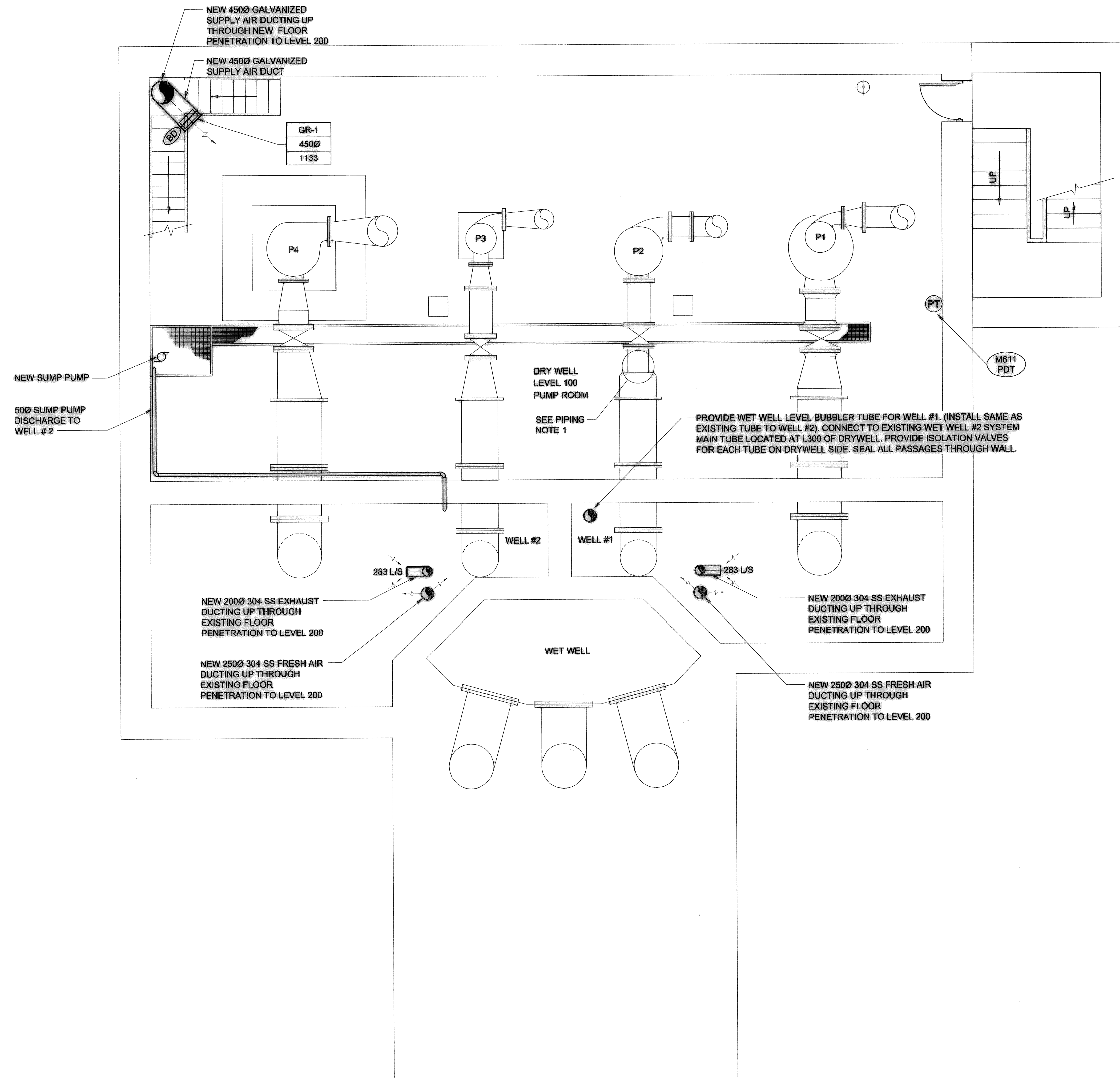
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SHEET	REV.	SIZE
001	1	D

D SIZE 22" x 34" (559mm x 864mm)

PLOT: 10/01/29 8:27:39 AM

UMA FILE NAME: 1-0111L-M0007-001.dwg Saved By: kowalskis



DETAIL

SCALE: N.T.S.

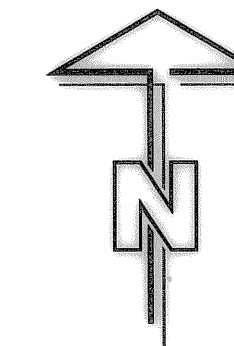
P2 SUCTION REDUCER REPLACEMENT
PAINT AS PER PIPING NOTES
(ALL DIMENSIONS ARE APPROXIMATE)

PIPING NOTES:

- P2 SUCTION REDUCER TO BE REPLACED WITH SINGLE ECCENTRIC REDUCER, AND SPOOL AS REQUIRED.
- ALL LEVEL 100, 200 AND 300 SUCTION AND DISCHARGE PIPING TO BE CLEANED AND RECOATED AS FOLLOWS:
 - REMOVE ALL LOOSE RUST, DIRT, MOISTURE AND OTHER CONTAMINANTS.
 - PRESSURE WASH ALL SURFACES WITH CLEAN WATER.
 - POWER TOOL AND HAND TOOL CLEAN TO SSPC-SP3 AND SP2 RESPECTIVELY.
 - REMAINING COATING MUST BE STRONGLY ADHERED TO SUBSTRATE.
 - PROVIDE VENTILATION AND HEAT AS REQUIRED TO KEEP PIPING MOISTURE FREE AND WITHIN MANUFACTURER'S RECOMMENDED APPLICATION TEMPERATURE AND HUMIDITY RANGE DURING COATING AND CURING.
 - APPLY 3 COATS (1.5 TO 2.5 MILS DFT PER COAT) USING BRUSH OR ROLLER APPLICATION.
 - COATING TO BE AMERON AMERLOCK 400. COLOUR TO BE APPROVED BY CONTRACT ADMINISTRATOR FROM STANDARD PRODUCT LIST. PREPARE AND APPLY PRODUCT AS PER COATING MANUFACTURER'S RECOMMENDATIONS.

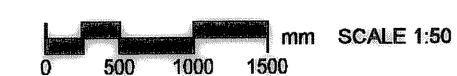
NOTE:

- ALL NEW STEEL WORK, BRACKETS, ETC., TO BE GALVANIZED UNLESS OTHERWISE NOTED.
- APPLY 304 SS . 25mm OPENING WIRE MESH TO ALL DUCT OPENINGS IN WET WELL AREA.



PLAN LEVEL 100

1



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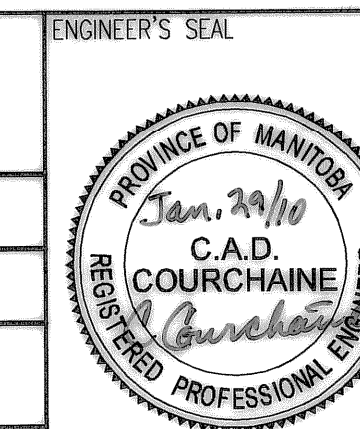
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AS-CONSTRUCTED

SIG. DATE

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Certificate of Authorization
AECOM Canada Ltd.
Original dated on:
No. 4671 Date: 2008/04/03

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		VERTICAL AS NOTED	DATE 07/05/09
1 AS - CONSTRUCTED	09/10/28	ALS	DATE
0 ISSUED FOR CONSTRUCTION	08/04/03	RS	DATE
NO. REVISIONS	DATE	BY	FILENAME: 1-0111L-M0007-001.dwg



THE CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT

PERIMETER ROAD PUMPING STATION UPGRADES
Contract B - Building Upgrades

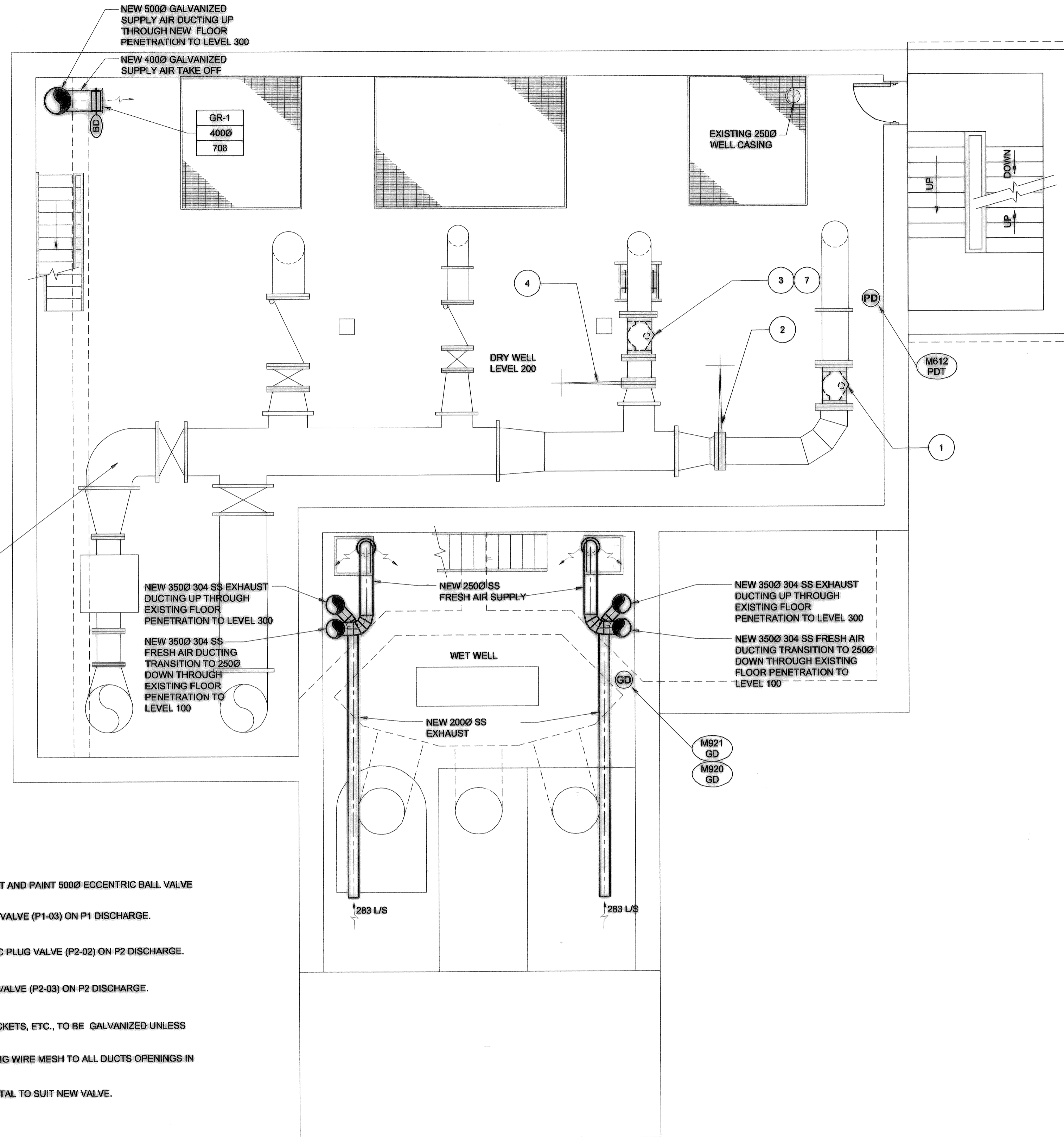
Mechanical - New Construction
LEVEL 100 FLOOR PLAN

CITY DRAWING NUMBER: 1-0111L-M0007
SHEET: 001
REV: 1
SIZE: D

D SIZE 22" x 34" (559mm x 864mm)

PLOT: 10/01/29 8:28:01 AM

UMA FILE NAME: 1-0111L-M0008-001.dwg Saved By: kowalskls

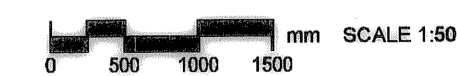


CLEAN AND RECOAT. REFER M0007 PIPING NOTES.

DRAWING NOTES

- 1 REPLACE BOLTS, SANDBLAST AND PAINT 5000 ECCENTRIC BALL VALVE (P1-02) ON P1 DISCHARGE.
- 2 REPLACE 5000 KNIFE GATE VALVE (P1-03) ON P1 DISCHARGE.
- 3 REPLACE 4500 BALLCENTRIC PLUG VALVE (P2-02) ON P2 DISCHARGE.
- 4 REPLACE 4500 KNIFE GATE VALVE (P2-03) ON P2 DISCHARGE.
- 5 ALL NEW STEEL WORK, BRACKETS, ETC., TO BE GALVANIZED UNLESS OTHERWISE NOTED.
- 6 APPLY 304 SS, 25mm OPENING WIRE MESH TO ALL DUCTS OPENINGS IN WET WELL AREA.
- 7 MODIFY OR REPLACE PEDESTAL TO SUIT NEW VALVE.

PLAN LEVEL 200



NOTE: ALL AREAS CLASS 1 GROUP D DIV 1 ELECT. RATING INLESS O/W NOTED

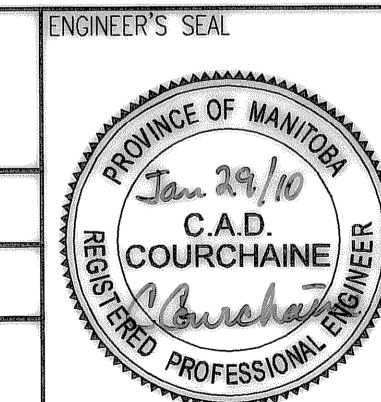
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NO. REVISIONS	DATE	BY	FILENAME: 1-0111L-M0008-001.dwg



THE CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT

PERIMETER ROAD PUMPING STATION UPGRADES
Contract B - Building Upgrades

Mechanical - New Construction
LEVEL 200 FLOOR PLAN

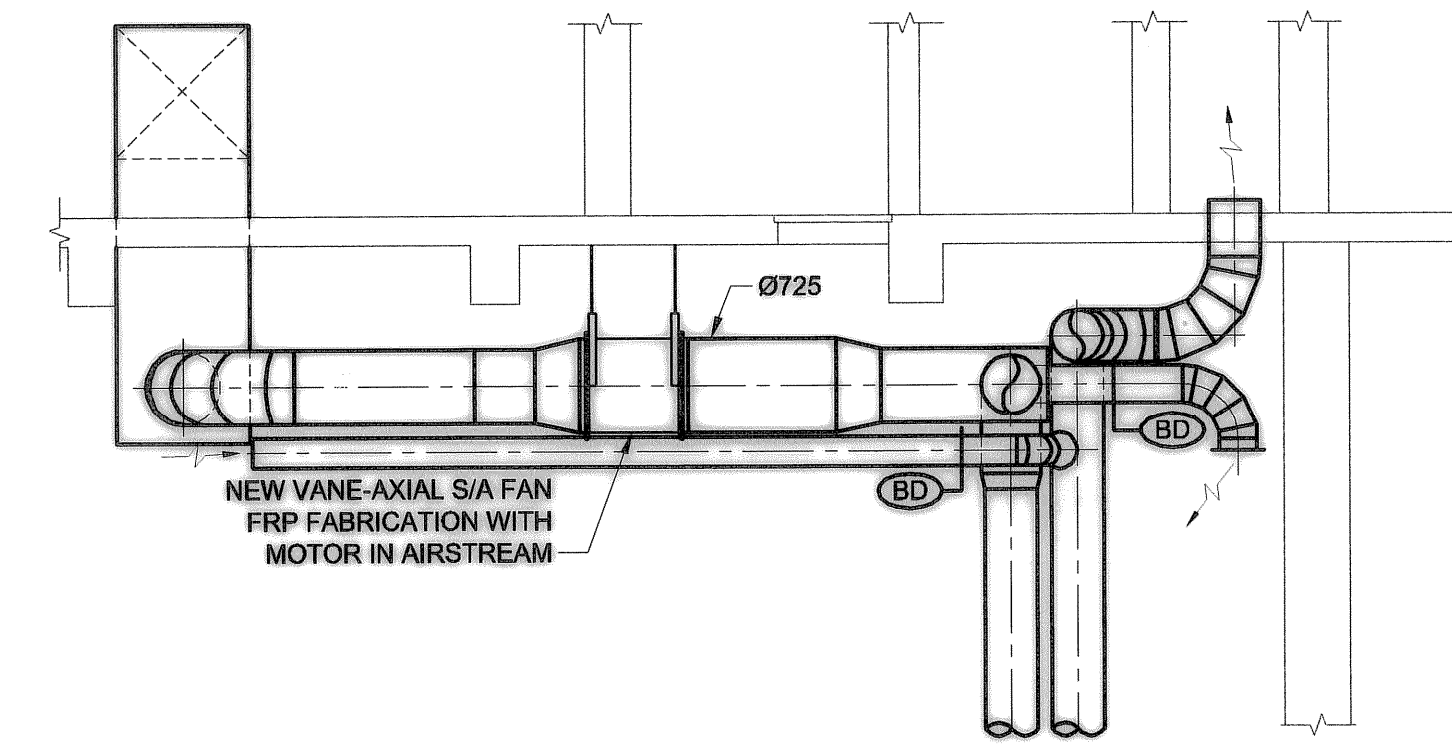
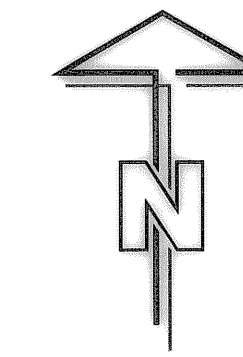
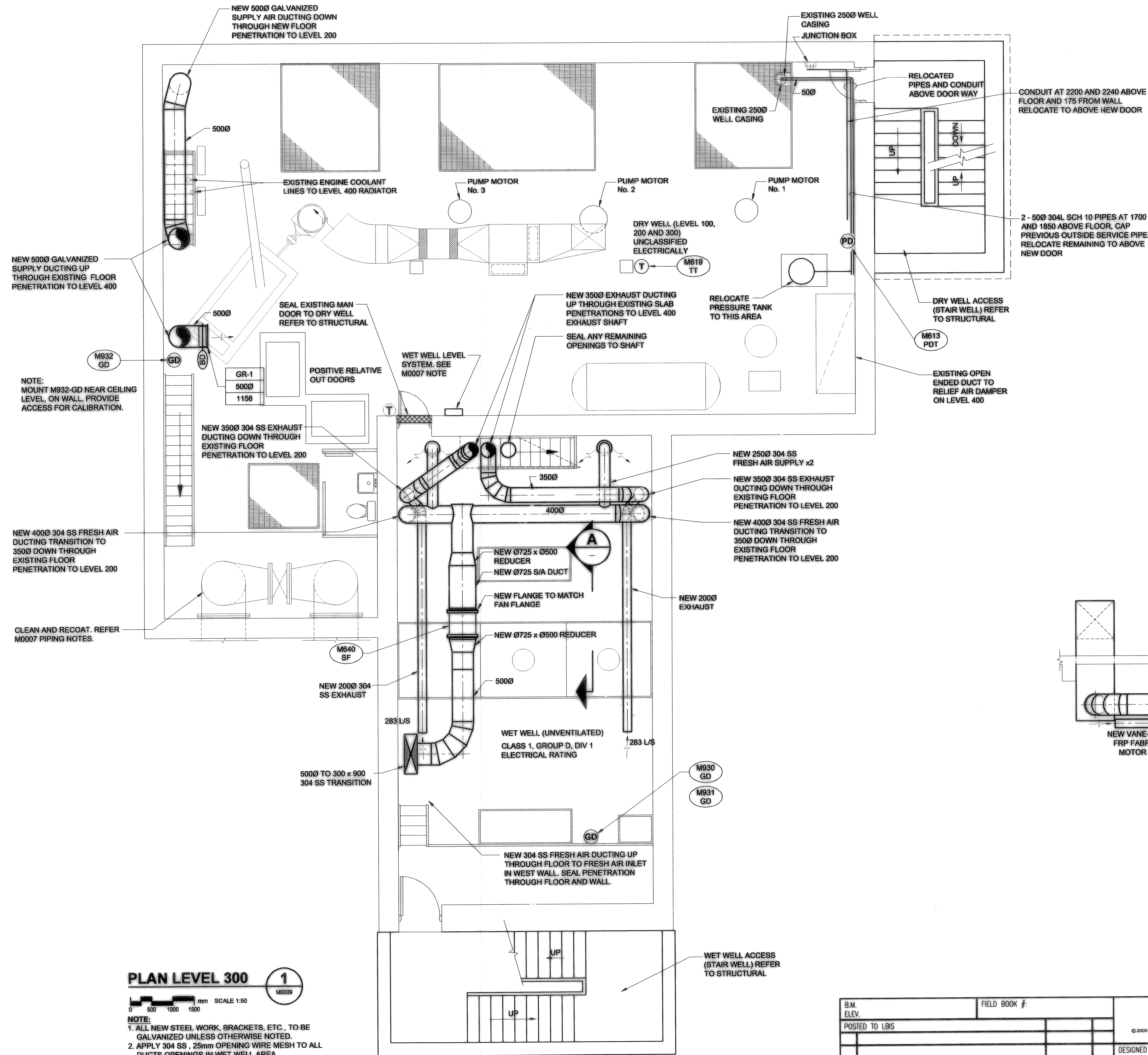
CITY DRAWING NUMBER: 1-0111L-M0008

SHEET: 001 REV: 1 SIZE: D

D SIZE 22" x 34" (559mm x 864mm)

PLOT: 10/01/29 8:28:23 AM

UMA FILE NAME: 1-0111L-M0009-001.dwg Saved By: kowalski



SECTION A

SCALE 1:50
0 500 1000 1500

PLAN LEVEL 300

SCALE 1:50
0 500 1000 1500

- NOTE:
1. ALL NEW STEEL WORK, BRACKETS, ETC., TO BE GALVANIZED UNLESS OTHERWISE NOTED.
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 3. ALL WET WELL DUCTING TO BE SS.

AECOM

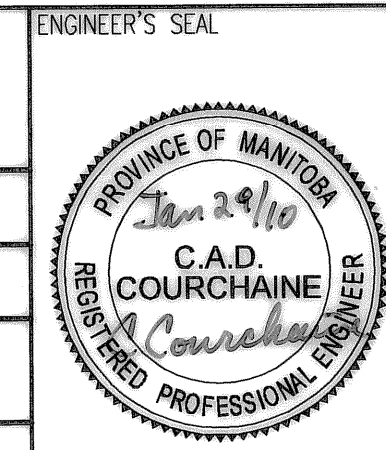
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AECOM Canada Ltd.
No. 4671 Date: 2008/04/03

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2	AS - CONSTRUCTED	09/10/28	ALS	
1	ISSUED FOR PCN #20	09/06/23	RS	
0	ISSUED FOR CONSTRUCTION	08/04/03	RS	

DESIGNED BY	CAC	CHECKED BY	-----
DRAWN BY	RJP	APPROVED BY	---
HOR. SCALE AS NOTED		RELEASED FOR CONSTRUCTION	
VERTICAL AS NOTED			
DATE	07/05/09	DATE	



THE CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT

PERIMETER ROAD PUMPING STATION UPGRADES
Contract B - Building Upgrades

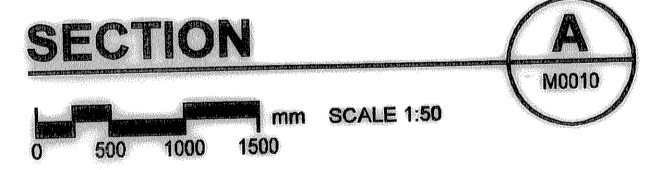
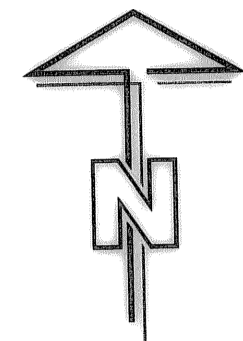
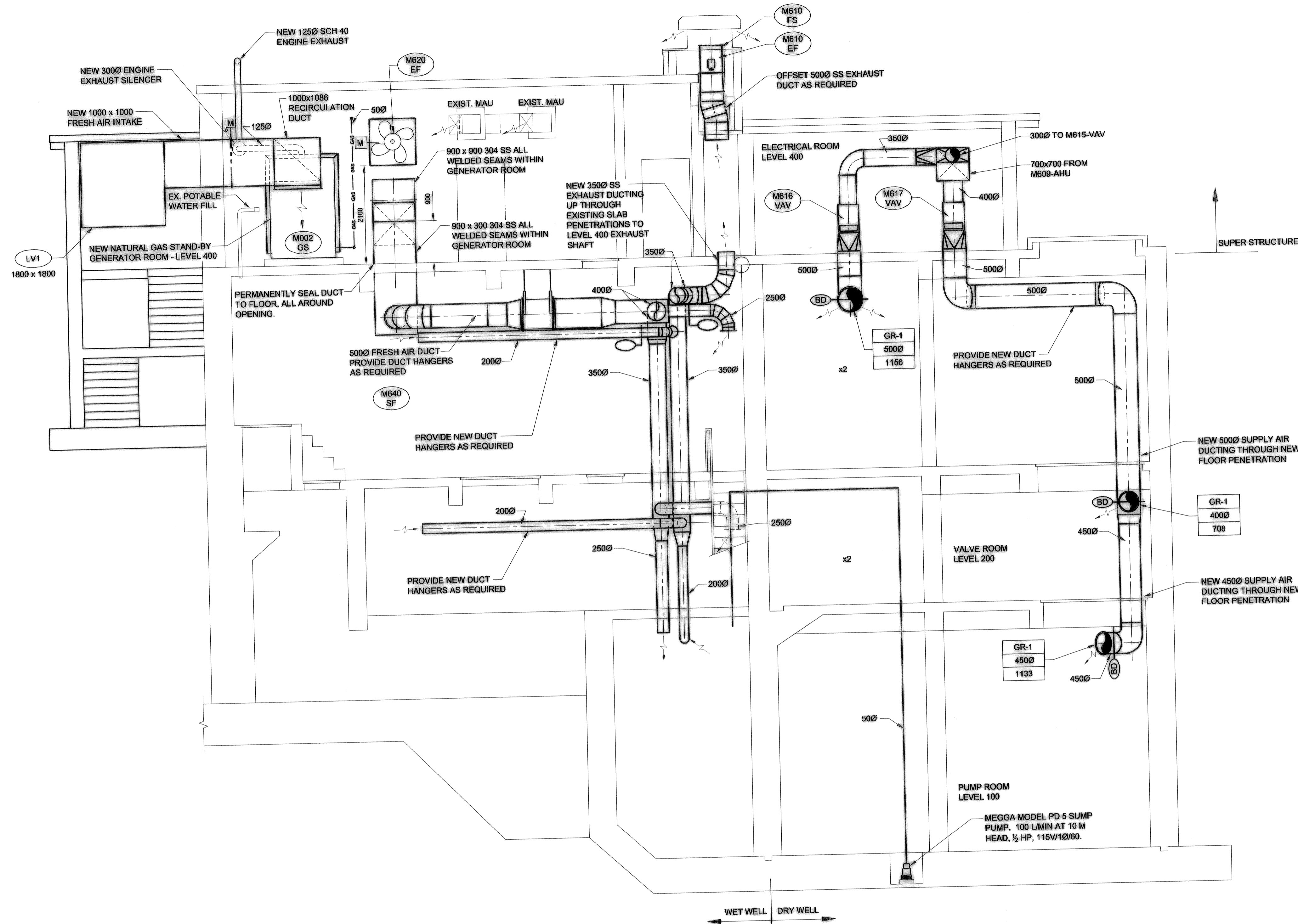
Mechanical - New Construction
LEVEL 300 FLOOR PLAN

CITY DRAWING NUMBER: 1-0111L-M0009
SHEET: 001
REV: 2
SIZE: D

D SIZE 22" x 34" (559mm x 864mm)

PLOT: 10/01/29 8:28:13 AM

UMA FILE NAME: 1-0111L-M0011-001.dwg Saved By: kowalewski



- NOTE:**
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 2. APPLY 304 SS, 25mm OPENING WIRE MESH TO ALL DUCTS OPENINGS IN WET WELL AREA.
 3. ALL DRY WELL AND SUPERSTRUCTURE DUCTING TO BE GALVANIZED UNLESS OTHERWISE NOTED.
 4. ALL WET WELL DUCTING TO BE SS.

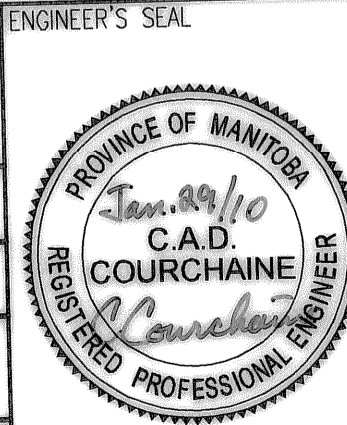
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POSTED TO LBIS		DESIGNED BY CAC	CHECKED BY
		DRAWN BY RJP	APPROVED BY
		HOR. SCALE AS NOTED	RELEASED FOR CONSTRUCTION
		VERTICAL AS NOTED	
1 AS - CONSTRUCTED	09/10/28	ALS	DATE 07/05/09
0 ISSUED FOR CONSTRUCTION	08/04/03	RS	DATE
NO. REVISIONS	DATE	BY	FILENAME: 1-0111L-M0011-001.dwg



THE CITY OF WINNIPEG
 WATER AND WASTE DEPARTMENT
PERIMETER ROAD PUMPING STATION UPGRADES
 Contract B - Building Upgrades
 Mechanical - New Construction
 SECTION

CITY DRAWING NUMBER: 1-0111L-M0011
 SHEET REV. SIZE: 001 1 D

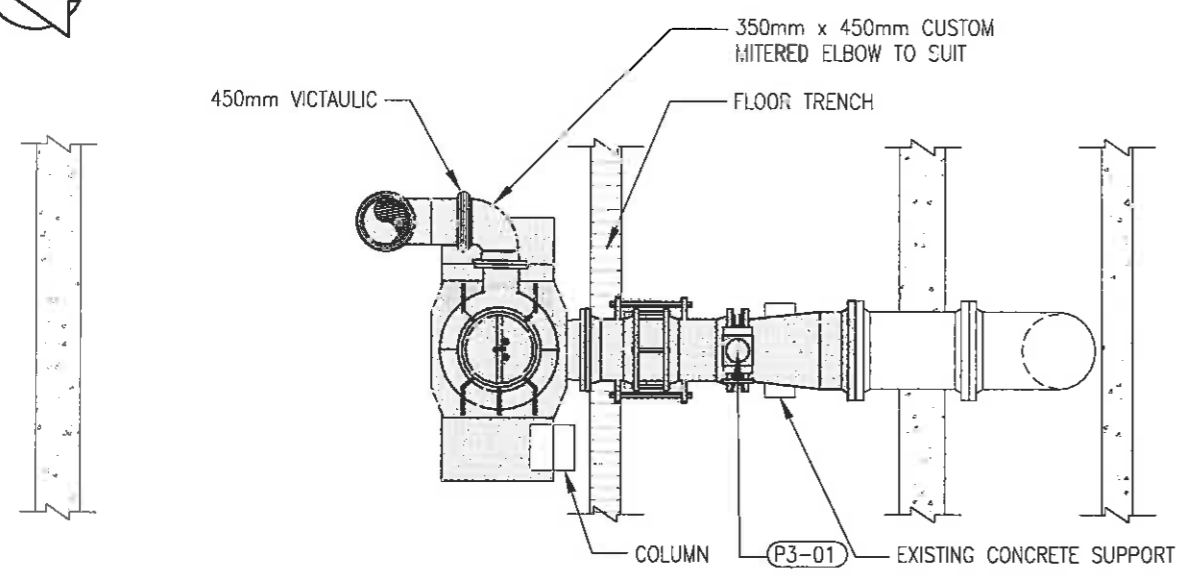
Record Drawings – 2011 Pump 3 Replacement

File Name: P:\Projects\2010\10-0107-23\DWG\Mech\OLD\10-0107-23_FIGURE 2.1.dwg - Tab: FIG. 2.1 Plotted By: mibocquao 09/01/2011 [Thu 10:46am]
 24"x36" PLOT SCALE: 1:1 11"x17" PLOT SCALE: 1:2

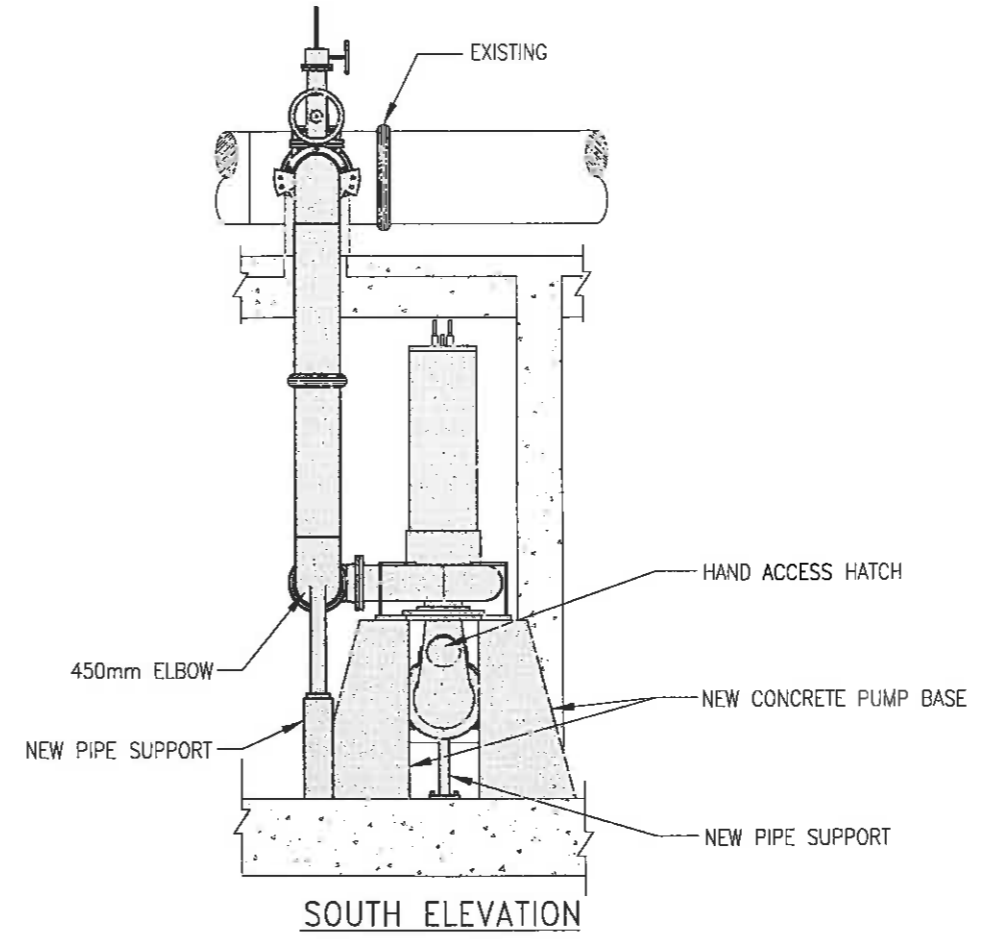


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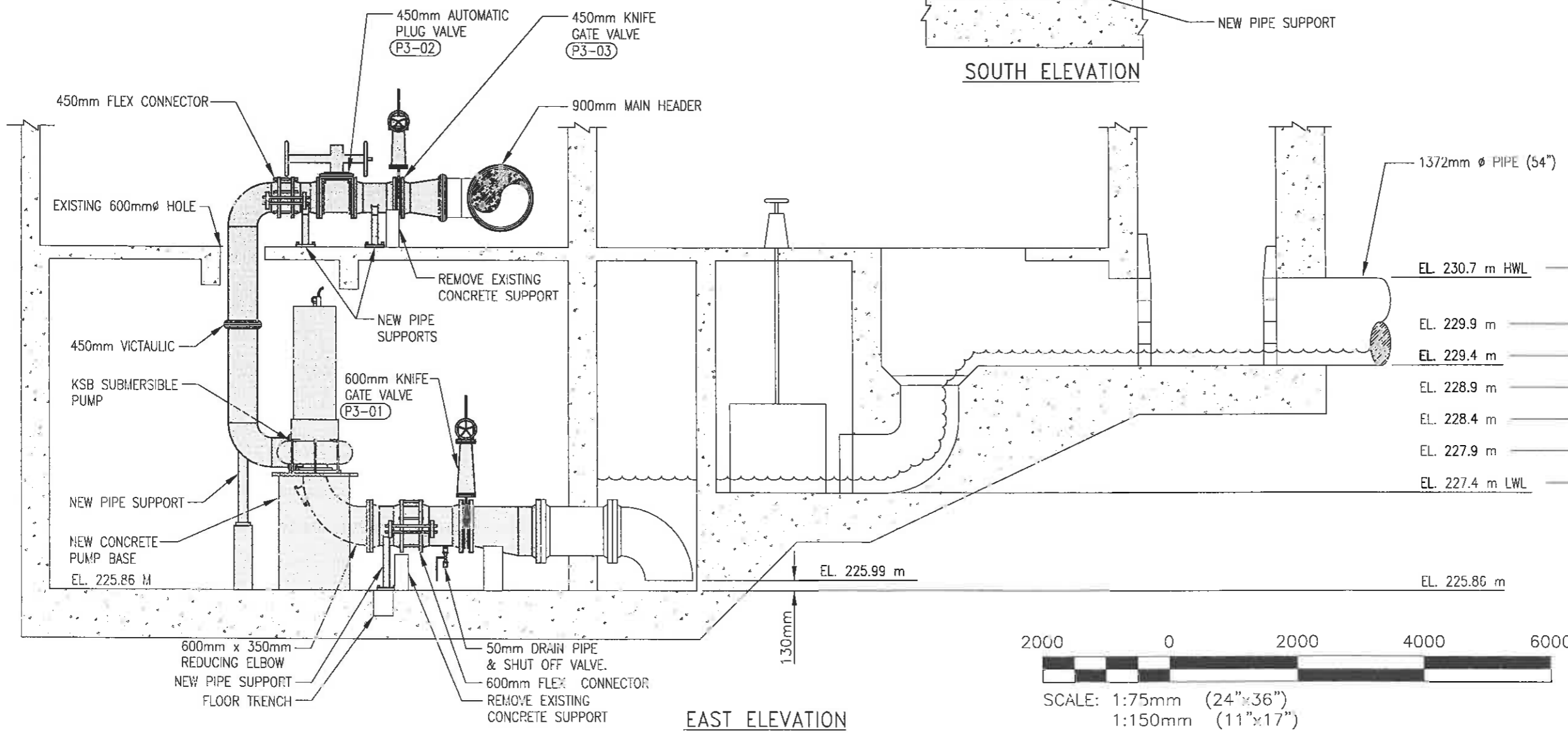
- FLANGED CONNECTION
- VICTAULIC CONNECTION
- SHADED NEW PIPING & EQUIPMENT



PLAN - LEVEL 100



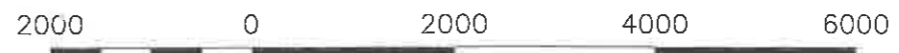
SOUTH ELEVATION



EAST ELEVATION

CURRENT PUMP OPERATING RANGE IN %

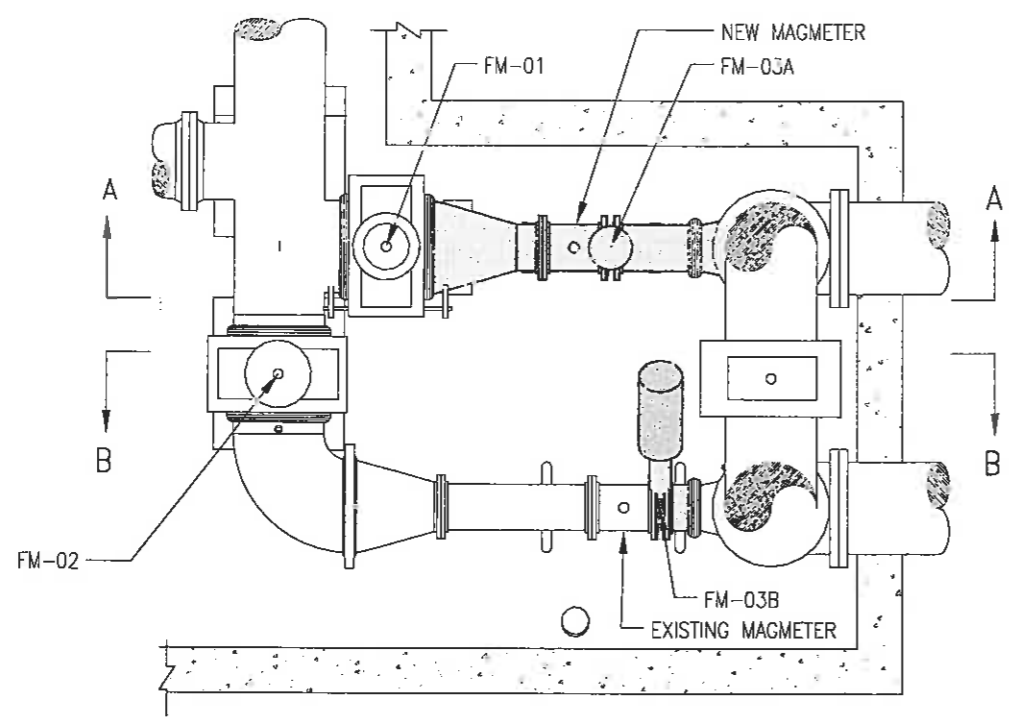
EL. 230.7 m HWL	100%
EL. 229.9 m	75%
EL. 229.4 m	60%
EL. 228.9 m	45%
EL. 228.4 m	30%
EL. 227.9 m	15%
EL. 227.4 m LWL	0%



SCALE: 1:75mm (24"x36")
1:150mm (11"x17")

KGS GROUP CONSULTING ENGINEERS	THE CITY OF WINNIPEG WATER & WASTE DEPARTMENT
REPLACEMENT OF RAW SEWAGE PUMP P-3 PERIMETER ROAD PUMPING STATION	
MECHANICAL PUMP P-3 LAYOUT	
MAY/2011	FIGURE 2.1

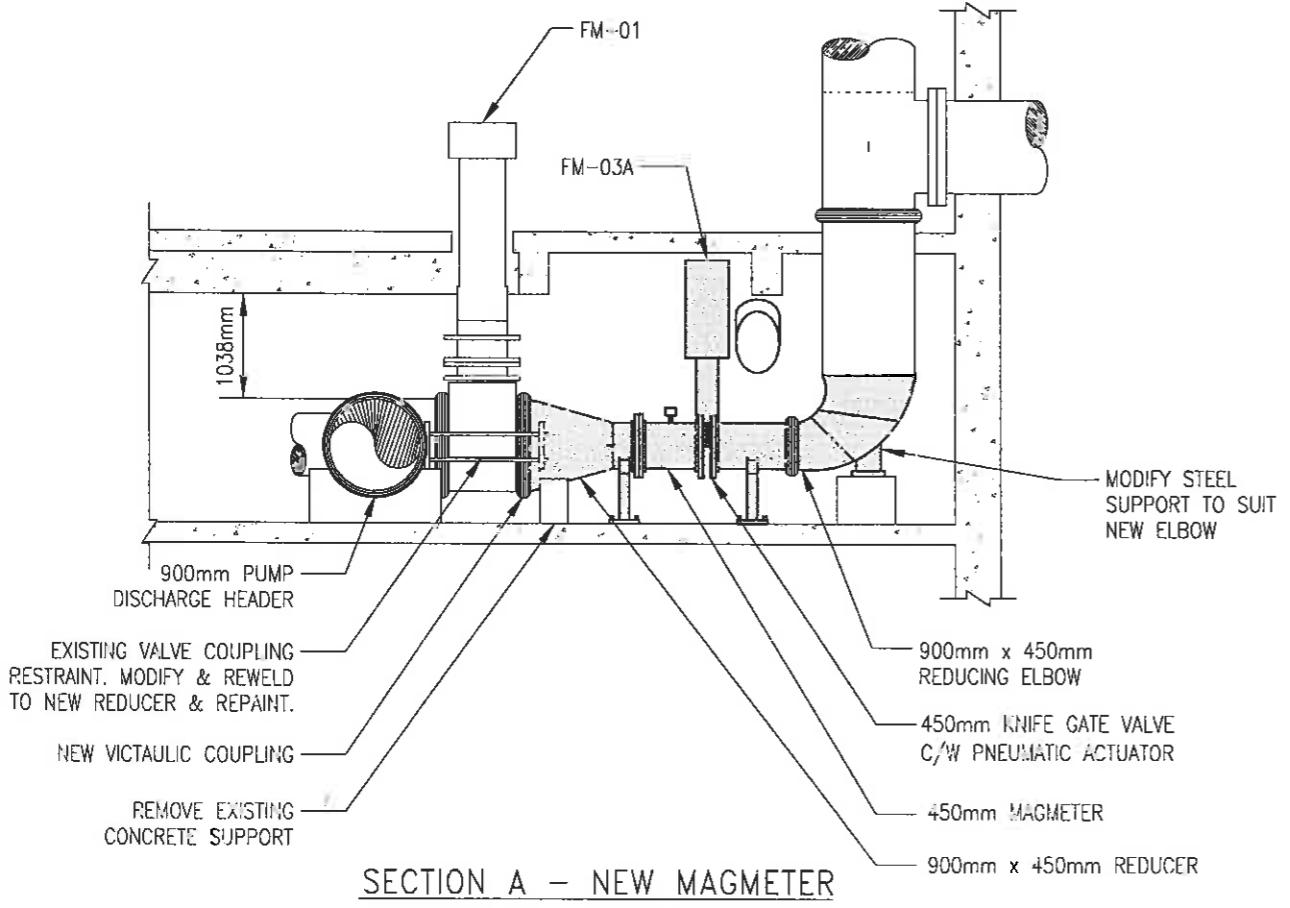
File Name: P:\Projects\2010\10-0107-23\Drawings\Mech\10-0107-23_FIGURE C.1.dwg - Tab: FIG. 6.1 Plotted By: mlccquoo 09/01/2011 [Thu 2:33pm]
 2:33 PM PLOT SCALE: 1:11 X 17 PLOT SCALE: 1:22



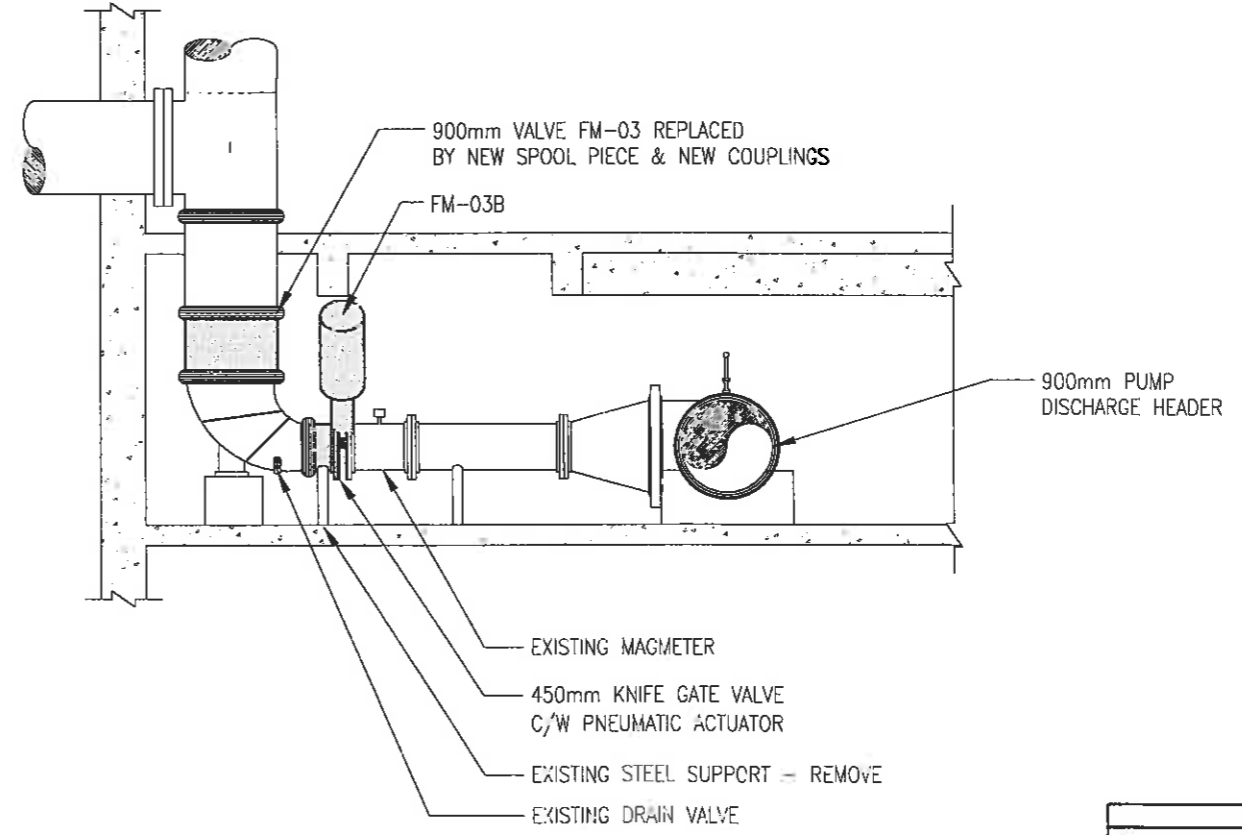
PLAN LEVEL 200 - STATION DISCHARGE MAGMETERS

LEGEND:

- FLANGED CONNECTION
- VICTAULIC CONNECTION
- SHADED NEW PIPING & EQUIPMENT



SECTION A - NEW MAGMETER

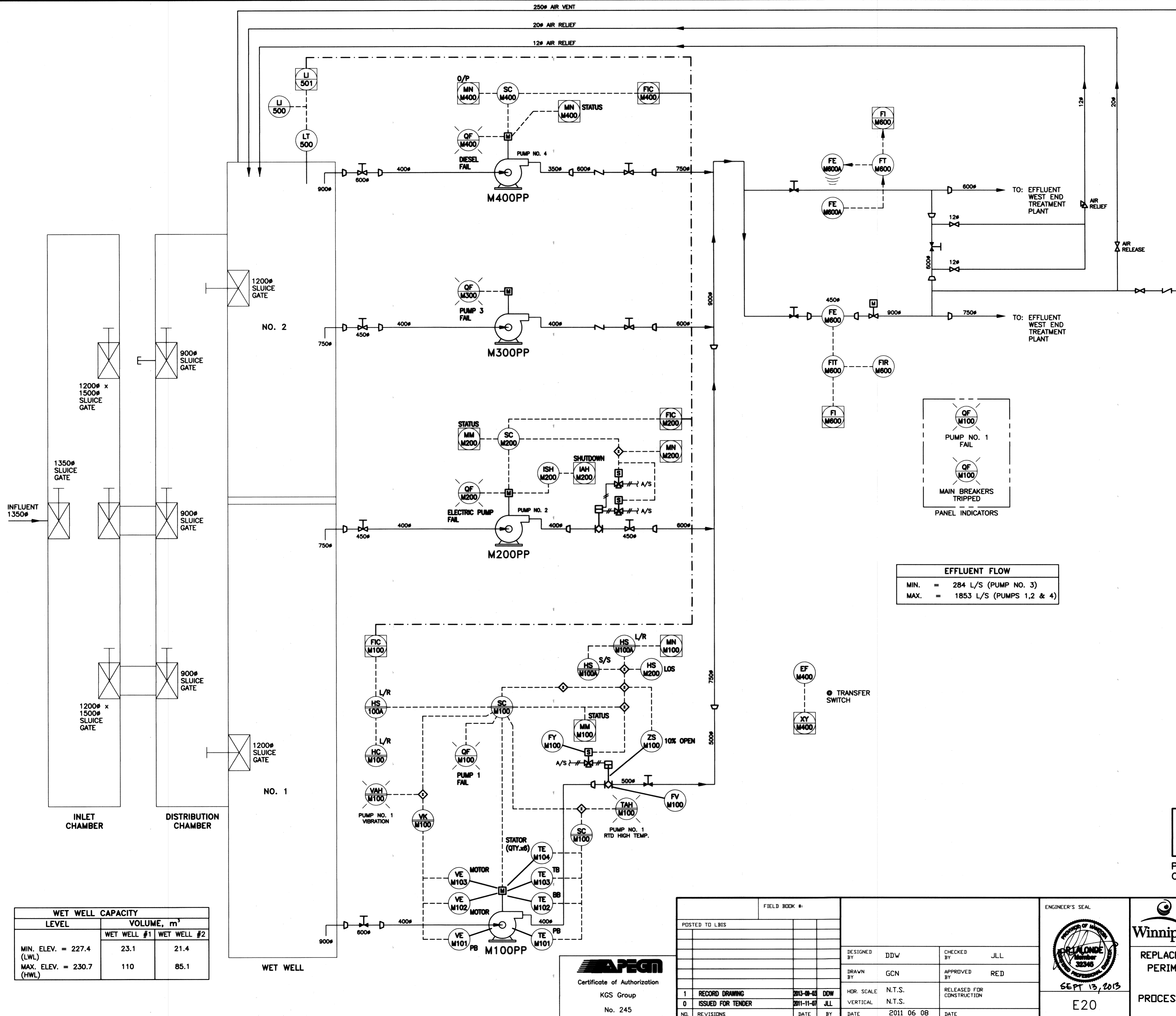


SECTION B - EXISTING MAGMETER

2000 0 2000 4000 6000

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1:150mm (11"x17")

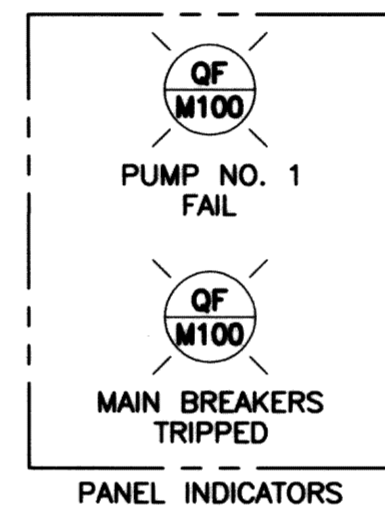
	REPLACEMENT OF RAW SEWAGE PUMP P-3 PERIMETER ROAD PUMPING STATION
MECHANICAL LEVEL 200 - NEW STATION MAGMETER & GATE VALVES	
MAY/2011	FIGURE 6.1



NOTES:
1. -

LEGEND:

- TB TOP BEARING
- BB BOTTOM BEARING
- PB PUMP BEARING
- LOS LOCK - OFF - STOP
- L/R LOCAL / REMOTE
- S/S START / STOP



EFFLUENT FLOW	
MIN.	= 284 L/S (PUMP NO. 3)
MAX.	= 1853 L/S (PUMPS 1, 2 & 4)

PUMP M100PP	
kW	298
CAPACITY	MIN. 450 L/S MAX. 700 L/S
SPEED REG.	VFD

PUMP M200PP	
kW	473 L/S
CAPACITY	473 L/S
SPEED REG.	MAG COUPLING

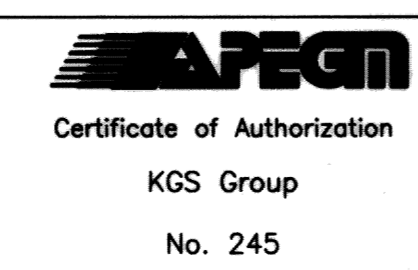
PUMP M300PP	
kW	93
CAPACITY	284 L/S
FIXED SPEED	

PUMP M400PP	
kW	223
CAPACITY	MIN. 300 L/S MAX. 680 L/S
DIESEL ENGINE	GOVERNOR SPEED CONTROL

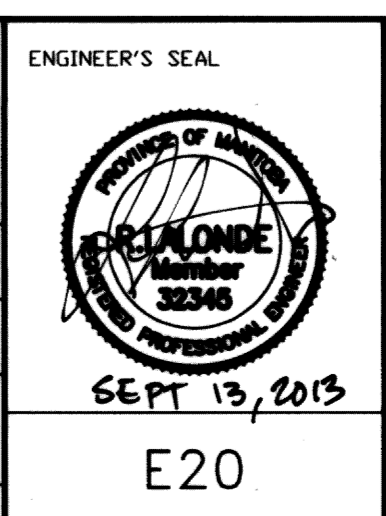
WET WELL CAPACITY		
LEVEL	VOLUME, m ³	
	WET WELL #1	WET WELL #2
MIN. ELEV. = 227.4 (LWL)	23.1	21.4
MAX. ELEV. = 230.7 (HWL)	110	85.1

RECORD DRAWING
WATER & WASTE DEPARTMENT

PROJECT COMPLETION DATE : 27 MAR 2013
CONTRACTOR : T&D ENTERPRISES LTD.
O/H WESCAN ELECTRICAL SERVICES



FIELD BOOK #		ENGINEER'S SEAL	
DESIGNED BY	DDW	CHECKED BY	JLL
DRAWN BY	GCN	APPROVED BY	RED
HDR. SCALE	N.T.S.	RELEASED FOR CONSTRUCTION	
VERTICAL	N.T.S.		
DATE	2011 06 08	DATE	

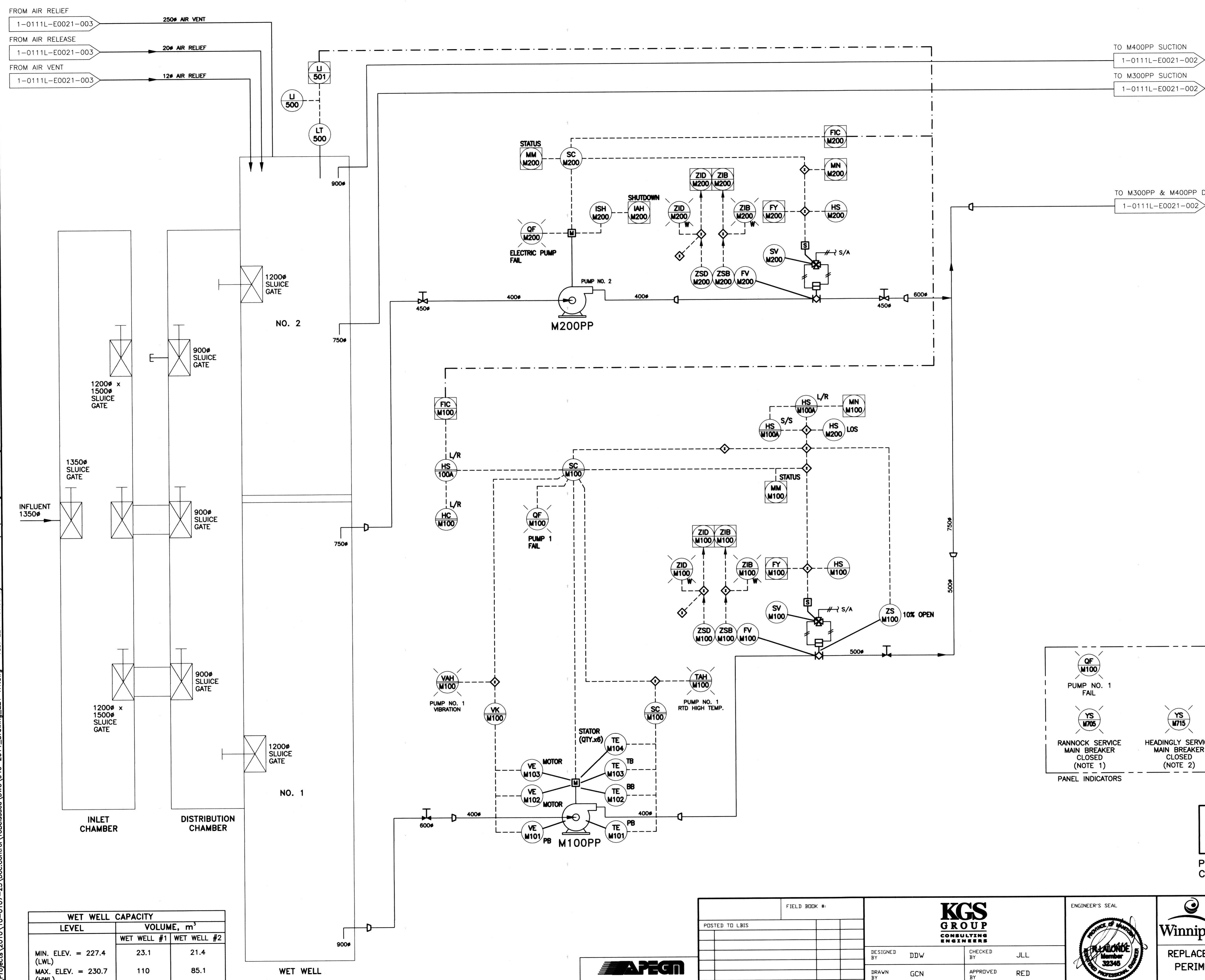


THE CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT

REPLACEMENT OF RAW SEWAGE PUMP P-3
PERIMETER ROAD PUMPING STATION
ELECTRICAL
PROCESS & INSTRUMENTATION DIAGRAM
(EXISTING CONDITIONS)

SHEET 1 OF 1
CITY DRAWING NUMBER
1-0111L-E0020-001

File Name: P:\Projects\2010\10-0107-23\Doc.Control\ToBeIssued\DWG\940-2011_Drawing_E21-R1.dwg - Tab: E21 Plotted By: D.Dereche 09/24/2013 [Tue 10:55am]

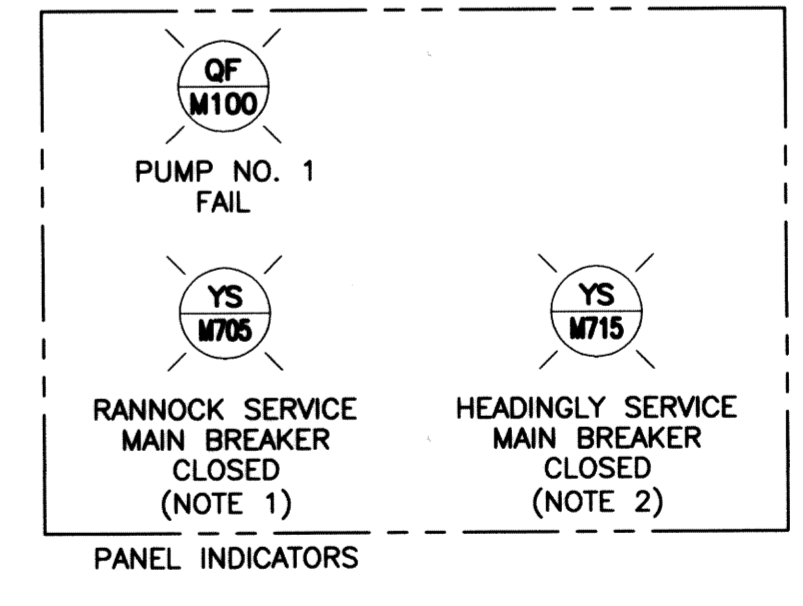


- NOTES:**
- EXISTING INDICATOR TO BE RELABELED.
 - NEW INDICATOR TO BE INSTALLED AND LABELED.

- LEGEND:**
- TB TOP BEARING
 - BB BOTTOM BEARING
 - PB PUMP BEARING
 - LOS LOCK - OFF - STOP
 - L/R LOCAL / REMOTE
 - S/S START / STOP

PUMP M100PP	
KW CAPACITY	298
SPEED REG.	VFD
	MIN. 450 L/S
	MAX. 700 L/S

PUMP M200PP	
KW CAPACITY	473 L/S
SPEED REG.	MAG COUPLING



WET WELL CAPACITY		
LEVEL	VOLUME, m ³	
	WET WELL #1	WET WELL #2
MIN. ELEV. = 227.4 (LWL)	23.1	21.4
MAX. ELEV. = 230.7 (HWL)	110	85.1

APEGN
 Certificate of Authorization
 KGS Group
 No. 245

NO.	REVISIONS	DATE	BY
1	RECORD DRAWING	2013-09-03	DDW
0	ISSUED FOR TENDER	2011-11-07	JLL

DESIGNED BY	DDW	CHECKED BY	JLL
DRAWN BY	GCN	APPROVED BY	RED
HOR. SCALE	N.T.S.	RELEASED FOR CONSTRUCTION	
VERTICAL	N.T.S.		
DATE	2011 05 20	DATE	

ENGINEER'S SEAL

 E21

THE CITY OF WINNIPEG
 WATER AND WASTE DEPARTMENT
 REPLACEMENT OF RAW SEWAGE PUMP P-3
 PERIMETER ROAD PUMPING STATION
ELECTRICAL
 PROCESS & INSTRUMENTATION DIAGRAM
 (NEW MODIFICATIONS)

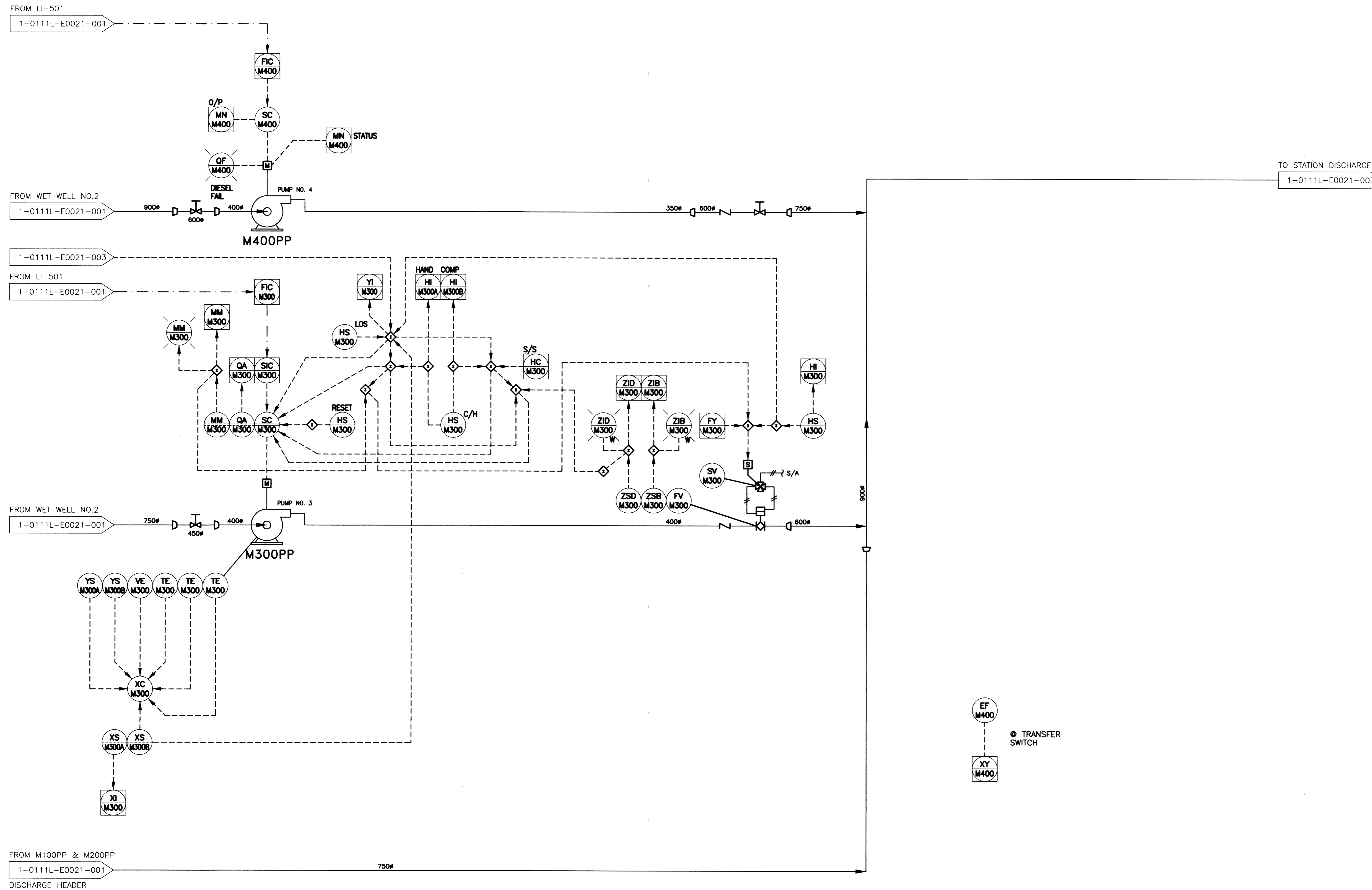
PROJECT COMPLETION DATE : 27 MAR 2013
 CONTRACTOR : T&D ENTERPRISES LTD.
 O/H WESCAN ELECTRICAL SERVICES

SHEET 1 OF 3
 CITY DRAWING NUMBER
 1-0111L-E0021-001

RECORD DRAWING
 WATER & WASTE DEPARTMENT

NOTES:

1. -

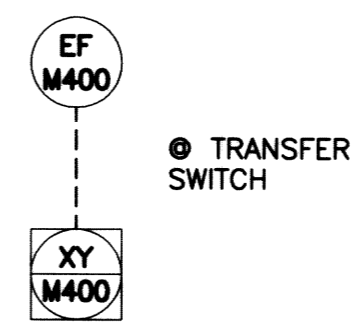


LEGEND:

- TB TOP BEARING
- BB BOTTOM BEARING
- PB PUMP BEARING
- LOS LOCK - OFF - STOP
- L/R LOCAL / REMOTE
- S/S START / STOP

PUMP M300PP	
kW	93
CAPACITY	284 L/S
FIXED SPEED	

PUMP M400PP	
kW	223
CAPACITY	MIN. 300 L/S MAX. 680 L/S
DIESEL ENGINE	GOVERNOR SPEED CONTROL



RECORD DRAWING
 WATER & WASTE DEPARTMENT
 PROJECT COMPLETION DATE : 27 MAR 2013
 CONTRACTOR : T&D ENTERPRISES LTD.
 O/H WESCAN ELECTRICAL SERVICES

APEGN
 Certificate of Authorization
 KGS Group
 No. 245

FIELD BOOK #:		DESIGNED BY DDW		CHECKED BY JLL	
1	RECORD DRAWING	2013-09-03	DDW		
0	ISSUED FOR TENDER	2011-11-07	JLL		
NO.	REVISIONS	DATE	BY	DATE	BY

ENGINEER'S SEAL

 E22

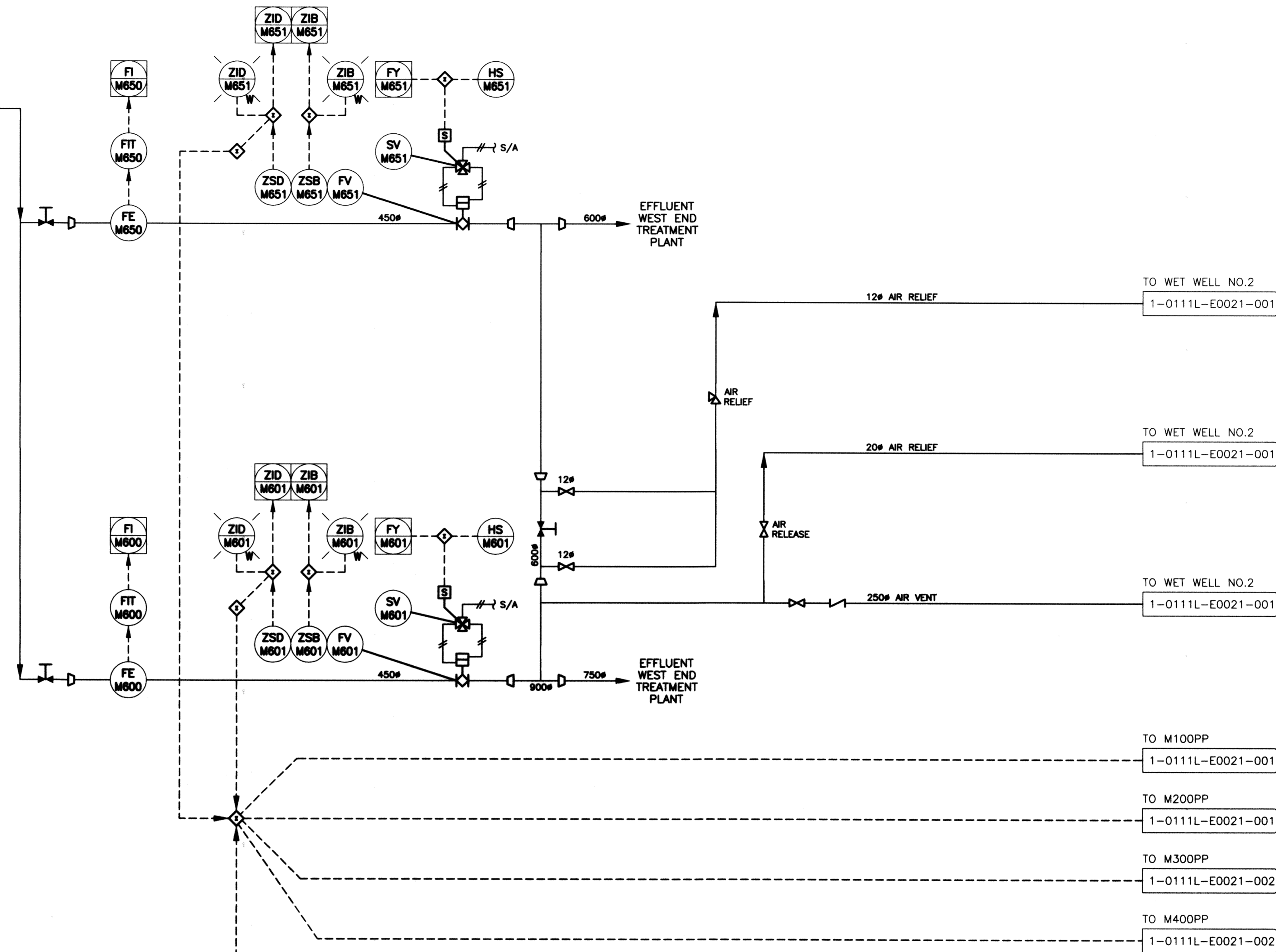
THE CITY OF WINNIPEG
 WATER AND WASTE DEPARTMENT
 REPLACEMENT OF RAW SEWAGE PUMP P-3
 PERIMETER ROAD PUMPING STATION
ELECTRICAL
 PROCESS & INSTRUMENTATION DIAGRAM
 (NEW MODIFICATIONS) SHEET 2

SHEET 2 OF 3
 CITY DRAWING NUMBER
 1-0111L-E0021-002

NOTES:

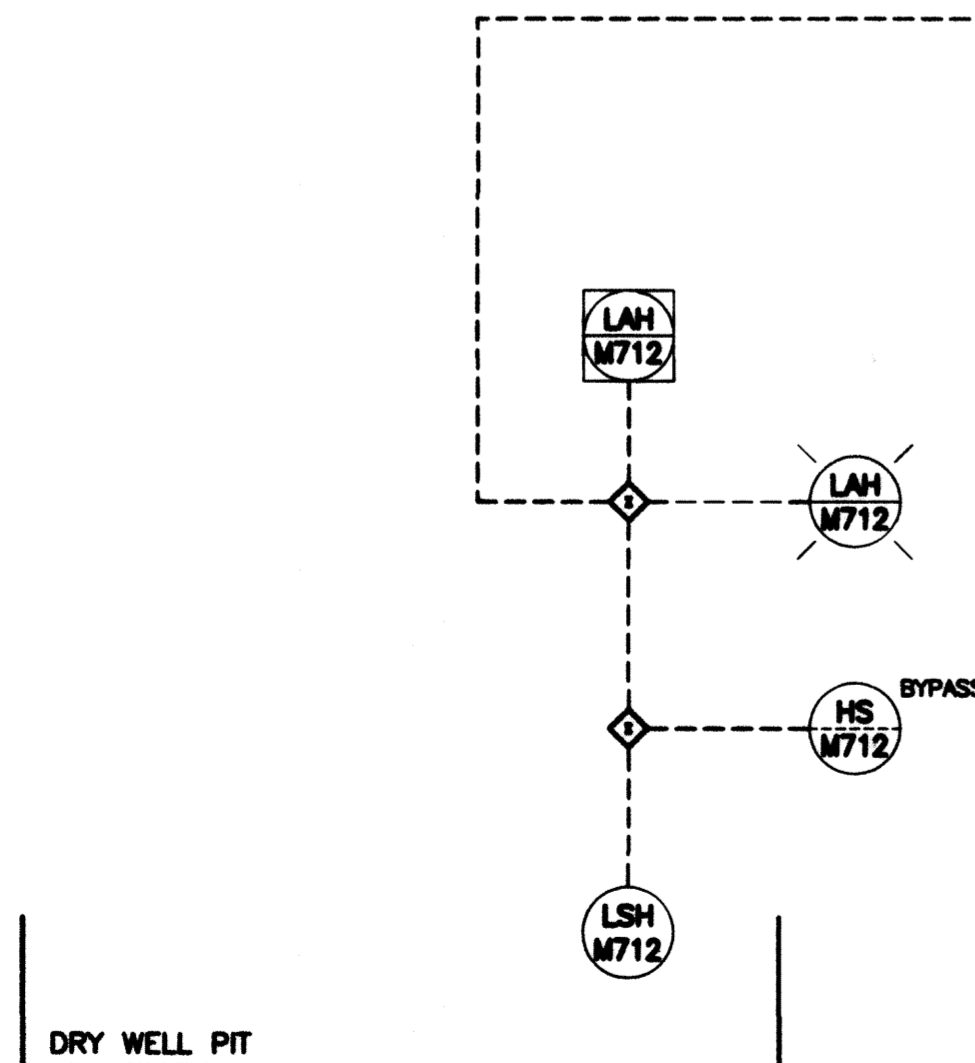
1. -

FROM M100PP & M200PP
1-0111L-E0021-002
DISCHARGE



LEGEND:

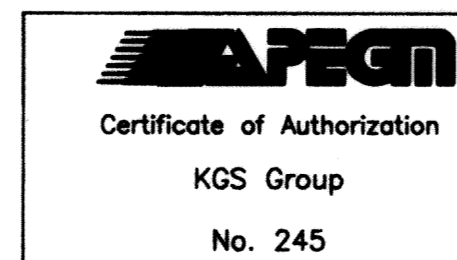
- TB TOP BEARING
- BB BOTTOM BEARING
- PB PUMP BEARING
- LOS LOCK - OFF - STOP
- L/R LOCAL / REMOTE
- S/S START / STOP



EFFLUENT FLOW	
MIN.	= 284 L/S (PUMP NO. 3)
MAX.	= 1853 L/S (PUMPS 1,2 & 4)

RECORD DRAWING
WATER & WASTE DEPARTMENT

PROJECT COMPLETION DATE : 27 MAR 2013
CONTRACTOR : T&D ENTERPRISES LTD.
O/H WESCAN ELECTRICAL SERVICES



NO.	REVISIONS	DATE	BY
1	RECORD DRAWING	2013-08-05	DOW
0	ISSUED FOR TENDER	2011-11-07	JLL

DESIGNED BY		CHECKED BY	
DDW	JLL	JLL	
DRAWN BY		APPROVED BY	
GCN	RED		
HOR. SCALE		RELEASED FOR CONSTRUCTION	
N.T.S.			
VERTICAL		DATE	
N.T.S.		2011 06 08	

ENGINEER'S SEAL
E23
SEPT 24, 2013

THE CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT

REPLACEMENT OF RAW SEWAGE PUMP P-3
PERIMETER ROAD PUMPING STATION
ELECTRICAL
PROCESS & INSTRUMENTATION DIAGRAM
(NEW MODIFICATIONS) SHEET 3

SHEET 3 OF 3
CITY DRAWING NUMBER
1-0111L-E0021-003

CW-9-M564-1

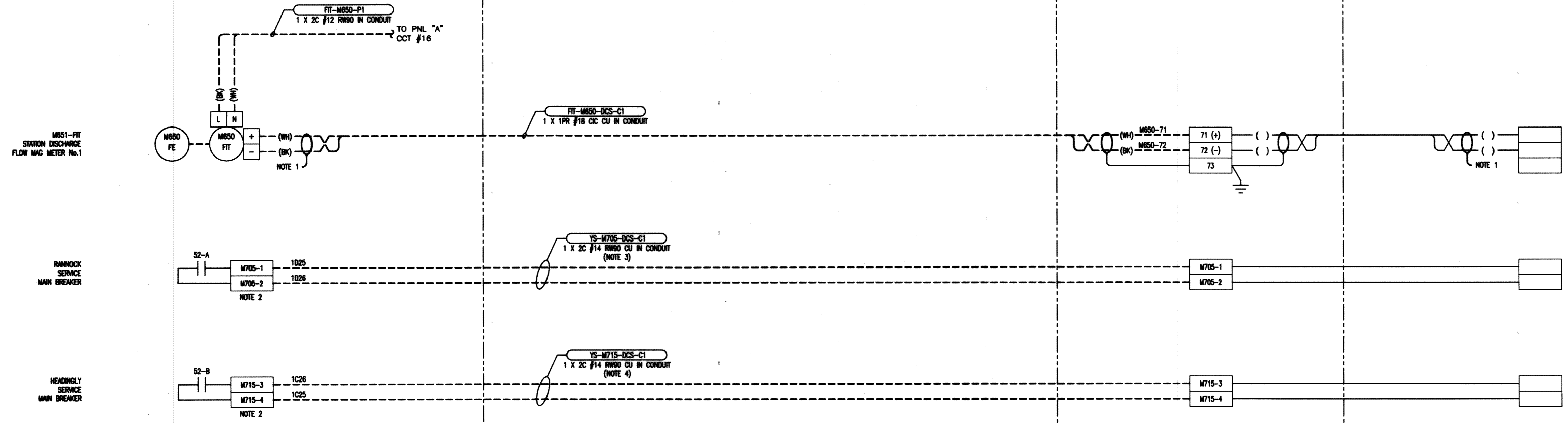
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FIELD DEVICE

DCS CABINET

FIELD TERMINATION SECTION

DCS TERMINALS



NOTES:

1. ISOLATE AND TAPE BACK SHIELD AT THIS END ONLY.
2. CONTRACTOR TO REUSE THE TWO EXISTING TERMINAL BLOCKS AND ADD TWO NEW TERMINAL BLOCKS WITHIN THE 600V SWITCH GEAR AND RELABEL AS SHOWN. REFER TO THE EXISTING CITY DRAWING WEP-0660 FOR EXISTING DETAILS.
3. EXISTING WIRING TO BE RELOCATED AS SHOWN.
4. PROVIDE NEW WIRING AS SHOWN.
5. DCS TERMINAL TO BE DETERMINED BY CITY AT A LATER DATE AND LABELED WITH AS-BUILTS.

LEGEND

- FIELD WIRING
- PANEL WIRING (BY OTHERS)

RECORD DRAWING
 WATER & WASTE DEPARTMENT
 PROJECT COMPLETION DATE : 27 MAR 2013
 CONTRACTOR : T&D ENTERPRISES LTD.
 O/H WESCAN ELECTRICAL SERVICES

MAPEGN
 Certificate of Authorization
 KGS Group
 No. 245

B.M. ELEV.	FIELD BOOK #:
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0 ISSUED FOR TENDER	2011-11-07 JLL
NL REVISIONS	DATE BY

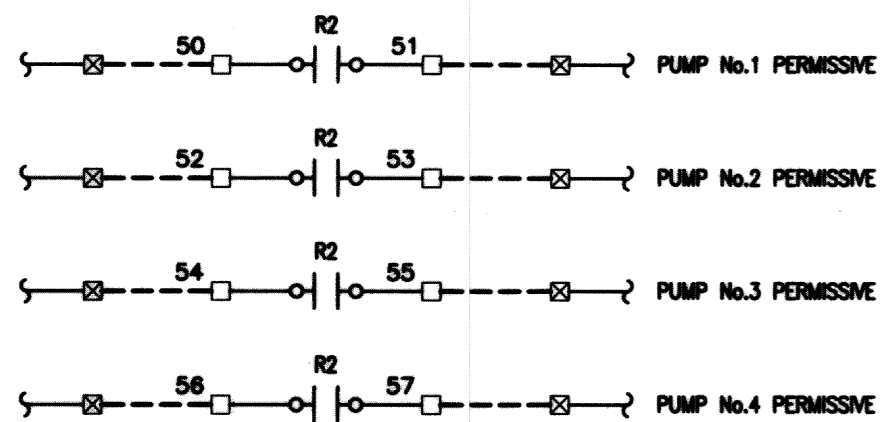
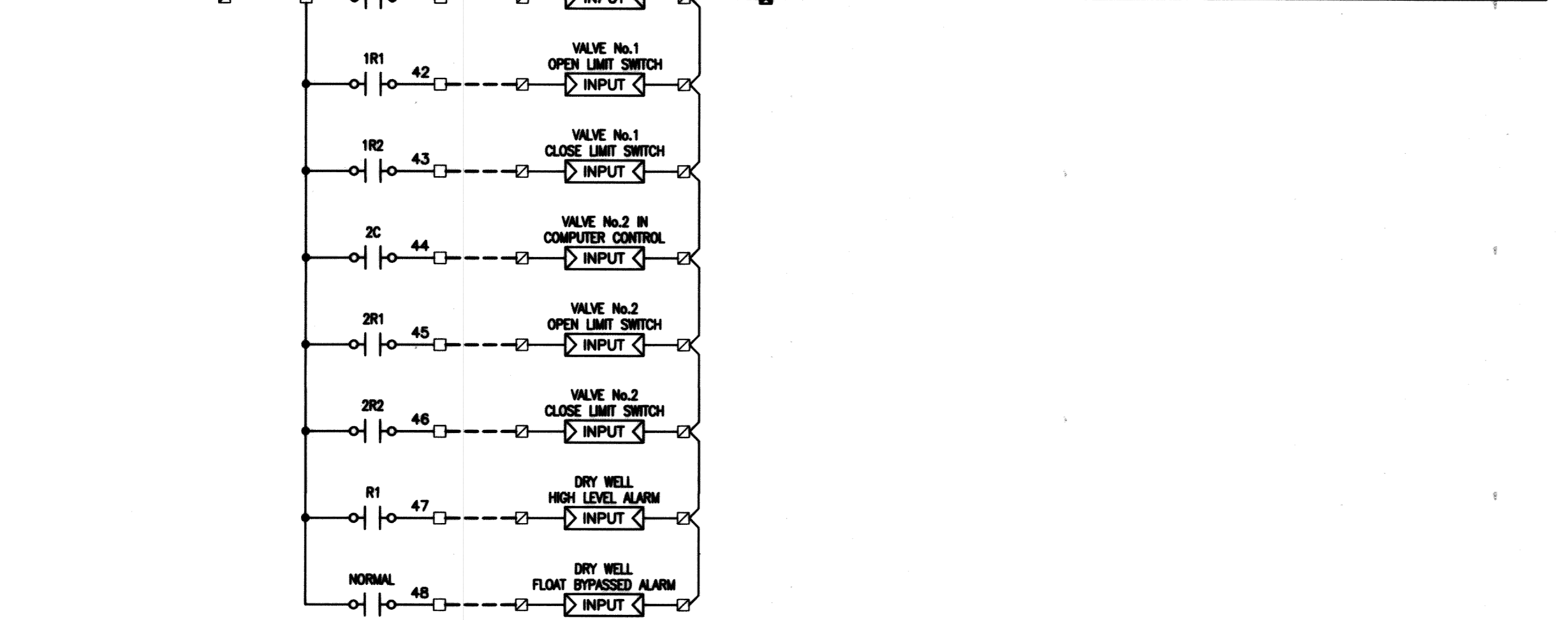
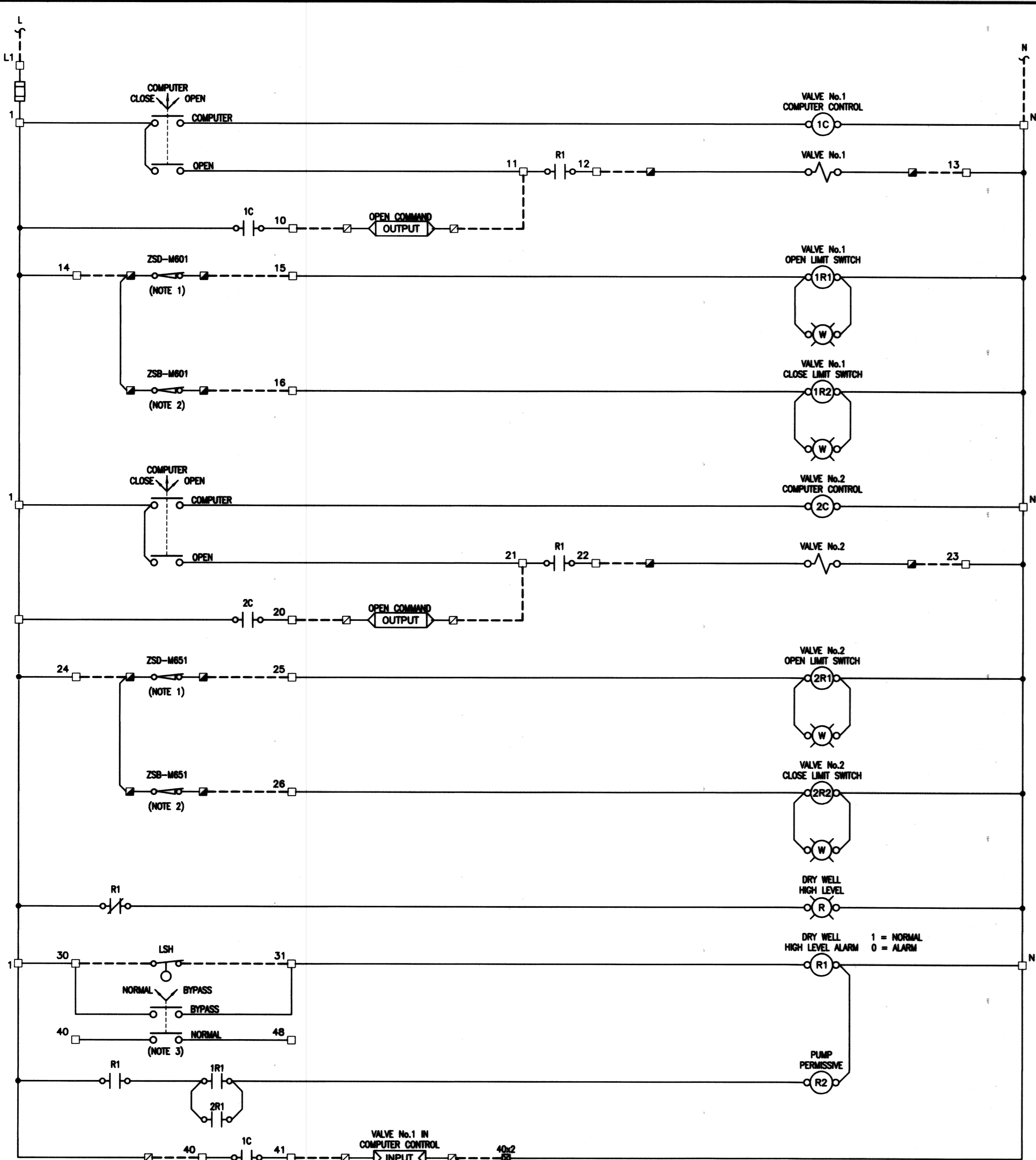
KGS GROUP CONSULTING ENGINEERS		DESIGNED BY	DDW	CHECKED BY	JLL
		DRAWN BY	GCN	APPROVED BY	RED
HOR. SCALE	N.T.S.	RELEASED FOR CONSTRUCTION			
VERTICAL	N.T.S.	DATE	2011 07 14	DATE	

ENGINEER'S SEAL

 E24

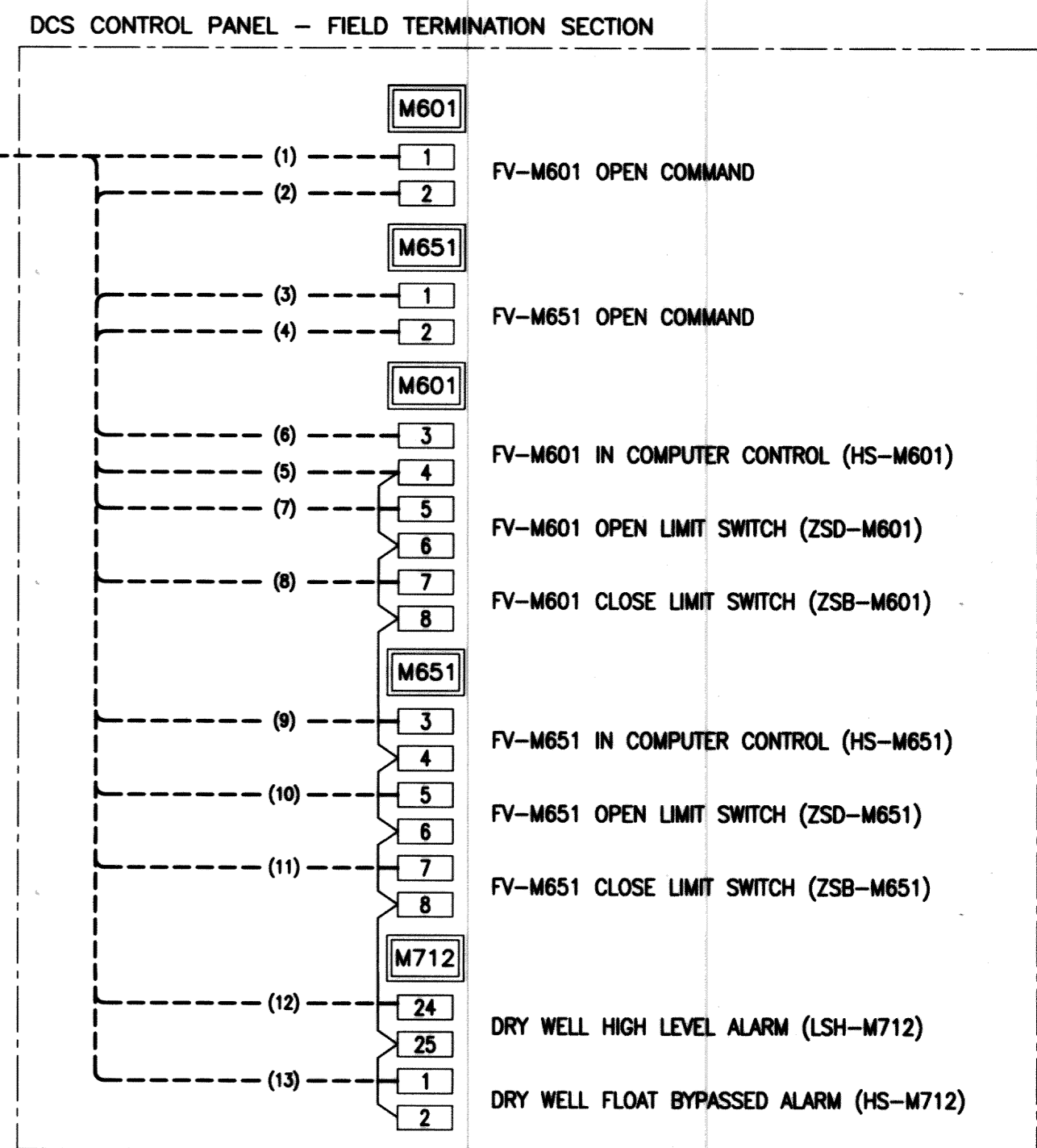
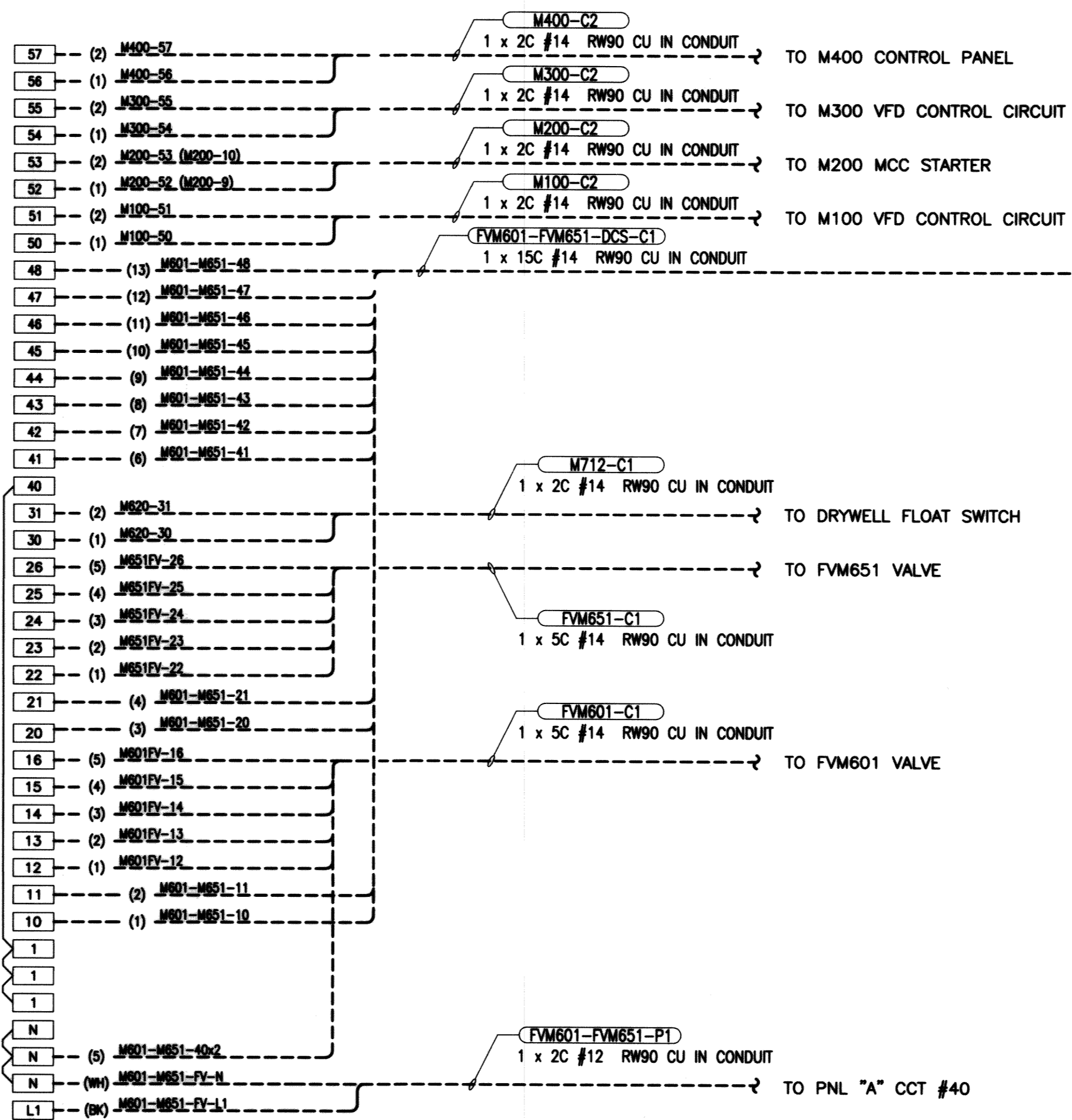
THE CITY OF WINNIPEG
 WATER AND WASTE DEPARTMENT
 REPLACEMENT OF RAW SEWAGE PUMP P-3
 PERIMETER ROAD PUMPING STATION
ELECTRICAL
 MISCELLANEOUS
 LOOPS DRAWING

SHEET 1 OF 1
 CITY DRAWING NUMBER
 1-0111L-E0022-001



RECORD DRAWING
 WATER & WASTE DEPARTMENT
 PROJECT COMPLETION DATE : 27 MAR 2013
 CONTRACTOR : T&D ENTERPRISES LTD.
 O/H WESCAN ELECTRICAL SERVICES

APEN
 Certificate of Authorization
 KGS Group
 No. 245



- NOTES:**
- LIMIT SWITCH CONTACT CLOSURES TO PROVE VALVE IN THE OPEN POSITION.
 - LIMIT SWITCH CONTACT CLOSURES TO PROVE VALVE IN THE CLOSED POSITION.
 - NORMAL BYPASS SWITCH FOR DRY WELL FLOAT SHALL BE INSTALLED INTERNALLY WITHIN CONTROL PANEL. SWITCH STATUS MONITORED BY THE DCS TO ALARM WHEN SWITCH IS IN THE BYPASS MODE.
 - M400 CONTROL PANEL IS LOCATED NEXT TO PUMP M400PP ON LEVEL 300.

- LEGEND**
- VALVE CONTROL PANEL TERMINALS
 - FIELD DEVICE TERMINALS
 - ⊠ DCS TERMINALS
 - ⊞ PUMP CONTROL PANEL TERMINALS
 - FIELD WIRING
 - PANEL WIRING
 - () CONDUCTOR IDENTIFICATION
 - WIRE CONNECTION
 - PILOT LIGHT
 - ➡ OUTPUT PLC OUTPUT
 - ⊠ INPUT PLC INPUT

B.M. ELEV.	FIELD BOOK #:
POSTED TO L.B.S.	
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2 ISSUED FOR P1 #1	2012-03-20 JLL
1 ISSUED FOR ADDENDUM #1	2011-12-06 JLL
0 ISSUED FOR TENDER	2011-11-07 JLL
NO. REVISIONS	DATE BY DATE
	2011 05 20

KGS GROUP CONSULTING ENGINEERS	
DESIGNED BY DDW	CHECKED BY JLL
DRAWN BY GCN	APPROVED BY RED
HOR. SCALE N.T.S.	RELEASED FOR CONSTRUCTION
VERTICAL N.T.S.	
DATE 2011 05 20	DATE

ENGINEER'S SEAL

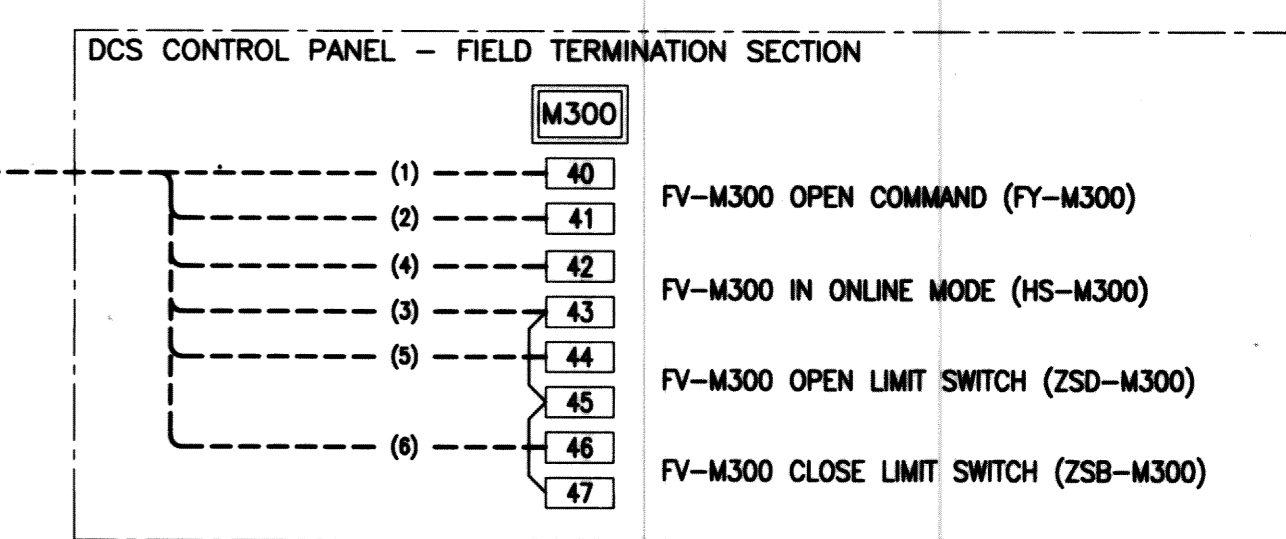
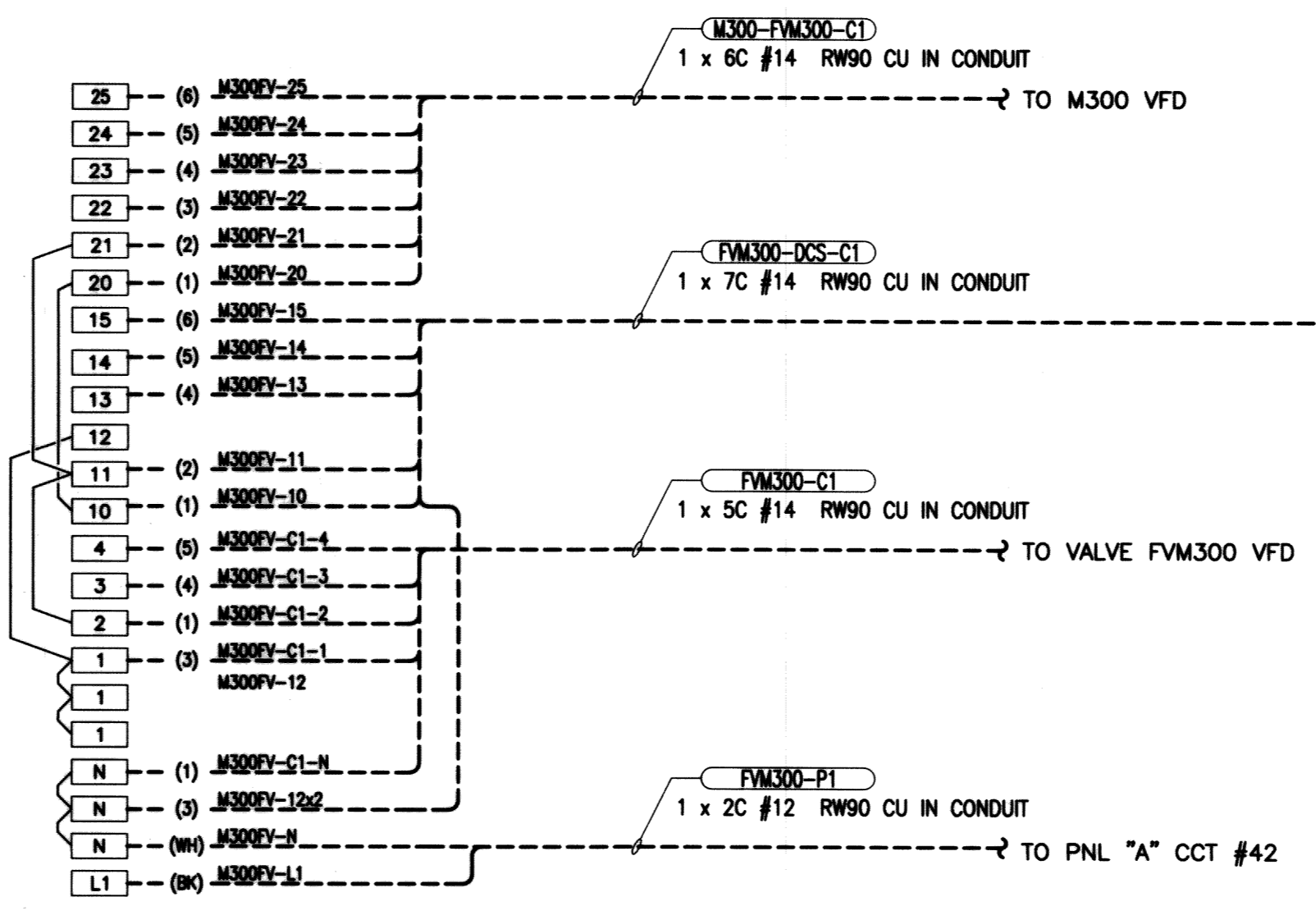
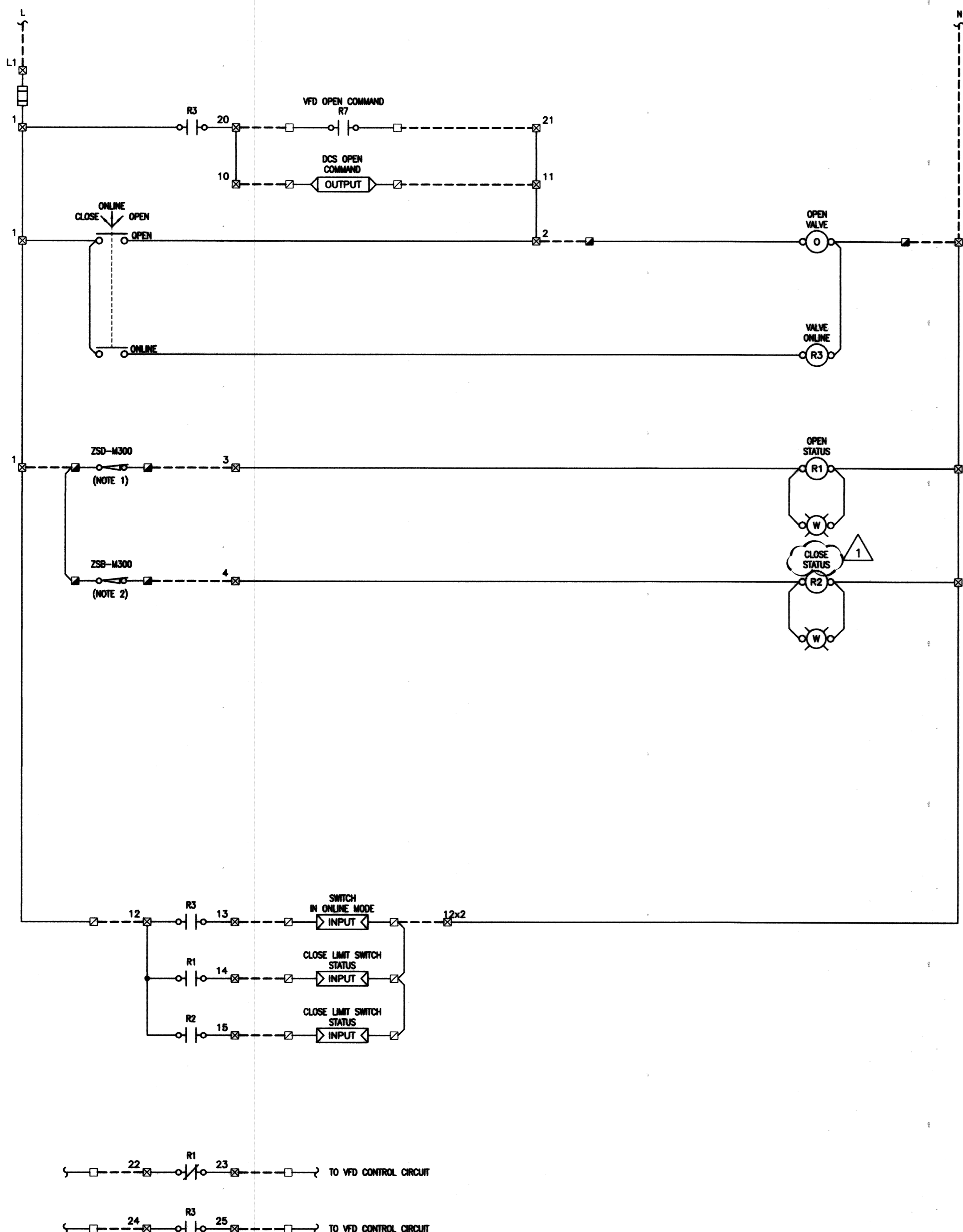
SEPT 13, 2013
E30

THE CITY OF WINNIPEG
 WATER AND WASTE DEPARTMENT

REPLACEMENT OF RAW SEWAGE PUMP P-3
 PERIMETER ROAD PUMPING STATION

ELECTRICAL
 STATION DISCHARGE VALVES
 SCHEMATIC & WIRING DIAGRAM

SHEET 1 OF 1
 CITY DRAWING NUMBER
 1-0111L-E0023-001



- NOTES:**
- LIMIT SWITCH CONTACT CLOSURES TO PROVE VALVE IN THE OPEN POSITION.
 - LIMIT SWITCH CONTACT CLOSURES TO PROVE VALVE IN THE CLOSED POSITION.

- LEGEND**
- VFD CONTROL ENCLOSURE TERMINALS
 - ▣ VALVE TERMINALS
 - VFD TERMINALS
 - ▤ DCS TERMINALS
 - ▥ VALVE ENCLOSURE TERMINALS
 - FIELD WIRING
 - PANEL WIRING
 - () CONDUCTOR IDENTIFICATION
 - WIRE CONNECTION
 - PILOT LIGHT
 - ◀ OUTPUT ▶ PLC OUTPUT
 - ◀ INPUT ▶ PLC INPUT

RECORD DRAWING
 WATER & WASTE DEPARTMENT
 PROJECT COMPLETION DATE : 27 MAR 2013
 CONTRACTOR : T&D ENTERPRISES LTD.
 O/H WESCAN ELECTRICAL SERVICES

MAPEGM
 Certificate of Authorization
 KGS Group
 No. 245

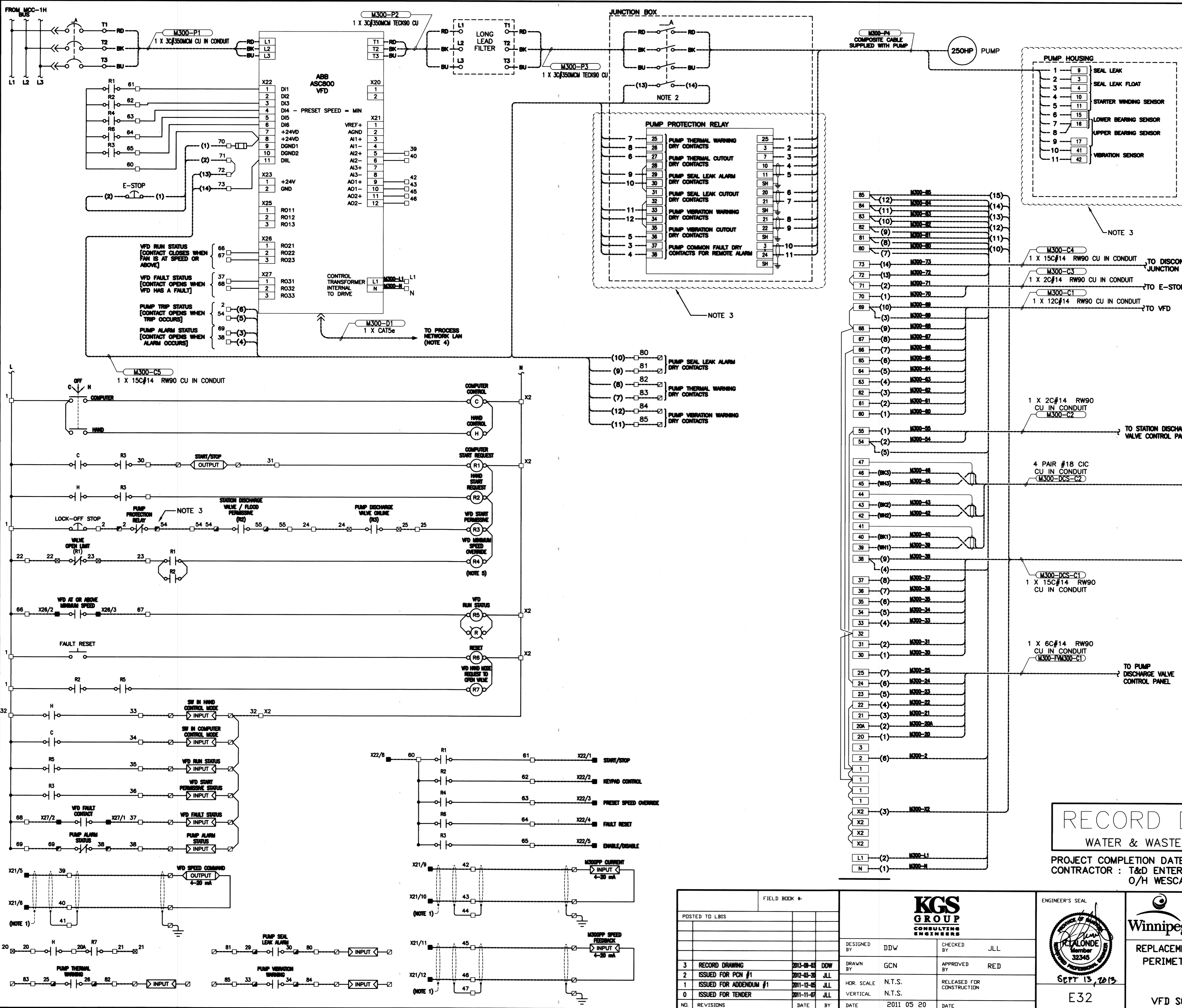
NO.	REVISIONS	DATE	BY	DATE	2011 05 20	DATE
2	RECORD DRAWING	2013-09-03	DDW			
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0	ISSUED FOR TENDER	2011-11-07	JLL			

ENGINEER'S SEAL

 E31

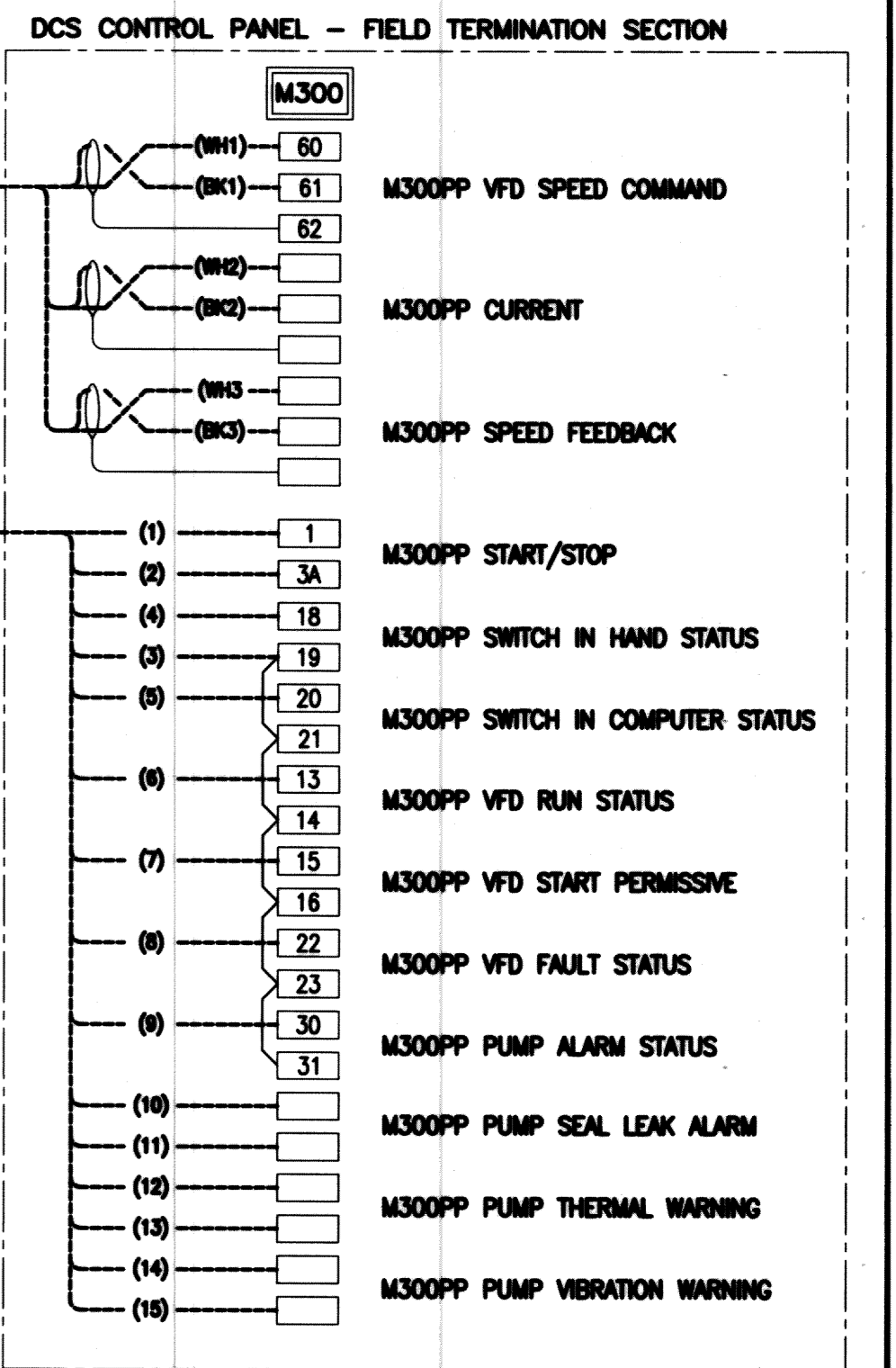
THE CITY OF WINNIPEG
 WATER AND WASTE DEPARTMENT
 REPLACEMENT OF RAW SEWAGE PUMP P-3
 PERIMETER ROAD PUMPING STATION
ELECTRICAL
 PUMP M300PP DISCHARGE VALVE FV-M300
 SCHEMATIC & WIRING DIAGRAM

SHEET 1 OF 1
 CITY DRAWING NUMBER
 1-0111L-E0024-001



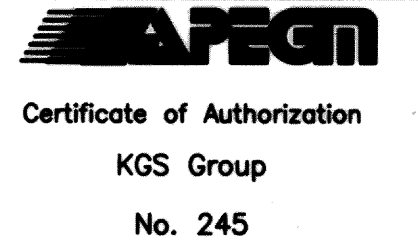
- NOTES:**
- ISOLATE AND TAPE BACK SHIELD AT THIS END ONLY.
 - AUXILIARY CONTACT ON DISCONNECT SWITCH SHALL BREAK BEFORE DISCONNECT OPENS AND MAKE AFTER DISCONNECT CLOSURE.
 - REFER TO KSB PUMP PROTECTION DRAWING T199-31566, SHT'S 1 & 2 FOR PUMP PROTECTION WIRING DETAILS.
 - CABLE SHALL INCLUDE A 28 FOOT WHIP SO THAT THE CITY MAY TERMINATE CABLE WITHIN CONTROL ROOM. EXTEND CABLE TO THE SOUTHWEST CORNER OF THE CONTROL ROOM ON LEVEL 466.
 - VFD SHALL BE PROGRAMMED SUCH THAT WHEN "R4" IS CLOSED (VFD DI4 INPUT IS CLOSED) THE VFD SHALL OPERATE AT ITS PROGRAMMED MINIMUM SPEED ONLY. ANY SPEED REFERENCE FROM DCS OR MANUALLY ENTERED SPEED REFERENCE FROM INTEGRAL VFD INTERFACE SHALL BE LOCKED OUT UNTIL RELAY "R4" RELEASES CONTROL TO THE DCS OR LOCAL INTEGRAL INTERFACE.

- LEGEND**
- PUMP PROTECTION PANEL TERMINALS
 - VFD CONTROL ENCLOSURE TERMINALS
 - VFD TERMINALS
 - DCS TERMINALS
 - STATION DISCHARGE VALVE CONTROL PANEL TERMINALS
 - PUMP DISCHARGE VALVE TERMINALS
 - FIELD WIRING
 - PANEL WIRING
 - () CONDUCTOR IDENTIFICATION
 - WIRE CONNECTION
 - PILOT LIGHT
 - ◻ OUTPUT PLC OUTPUT
 - ◻ INPUT PLC INPUT

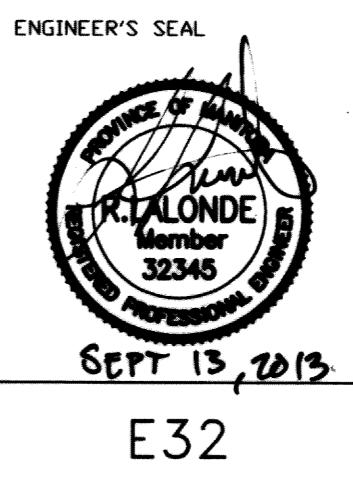


RECORD DRAWING
 WATER & WASTE DEPARTMENT

PROJECT COMPLETION DATE : 27 MAR 2013
 CONTRACTOR : T&D ENTERPRISES LTD.
 O/H WESCAN ELECTRICAL SERVICES



NO.	REVISIONS	DATE	BY	DATE
3	RECORD DRAWING	2013-08-05	DDW	
2	ISSUED FOR PCN #1	2012-03-26	JLL	
1	ISSUED FOR ADDENDUM #1	2011-12-05	JLL	
0	ISSUED FOR TENDER	2011-11-07	JLL	

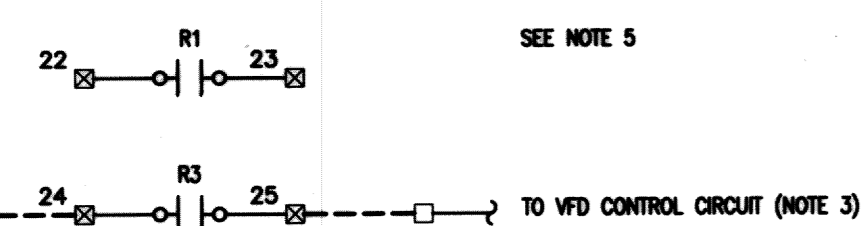
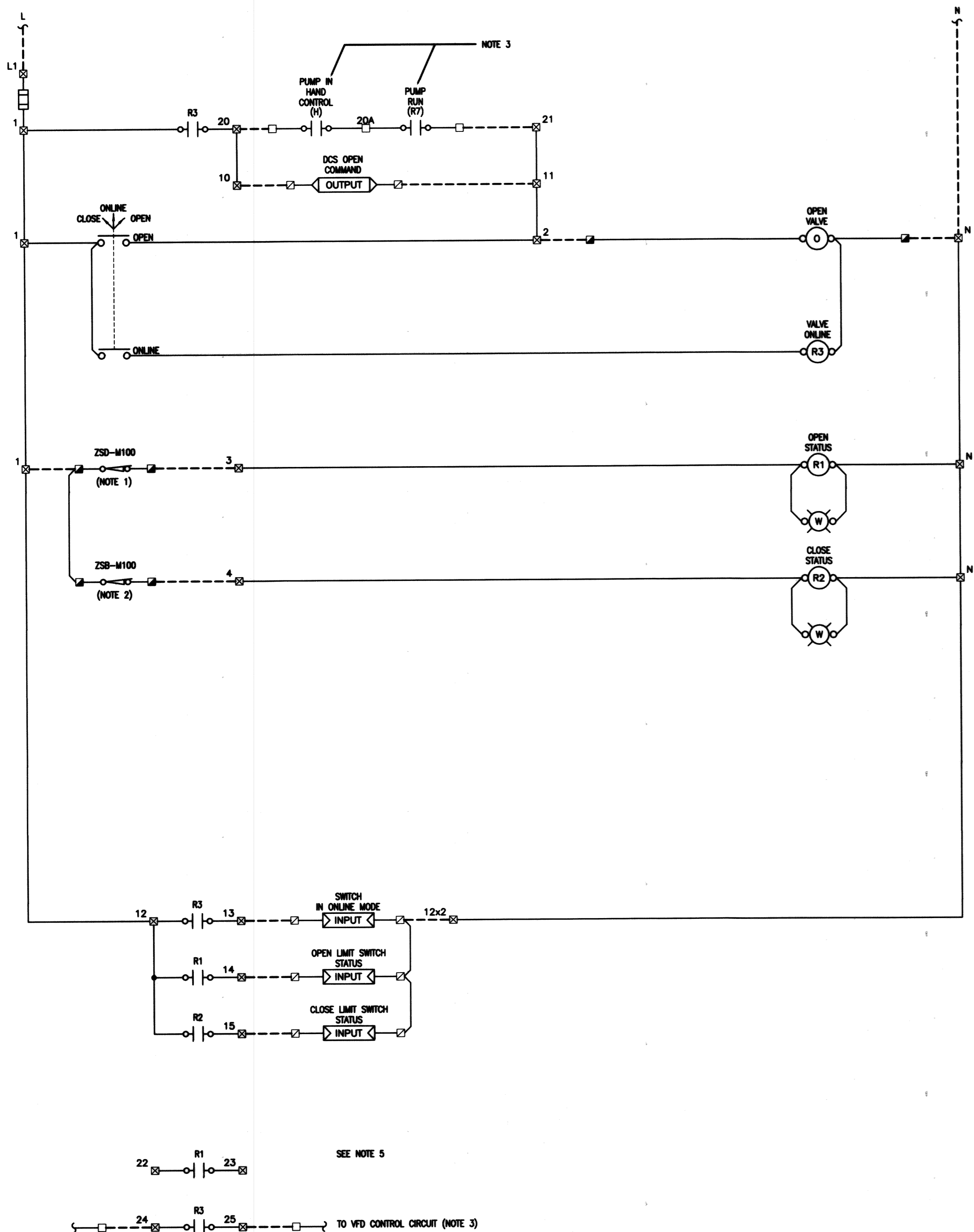


THE CITY OF WINNIPEG
 WATER AND WASTE DEPARTMENT

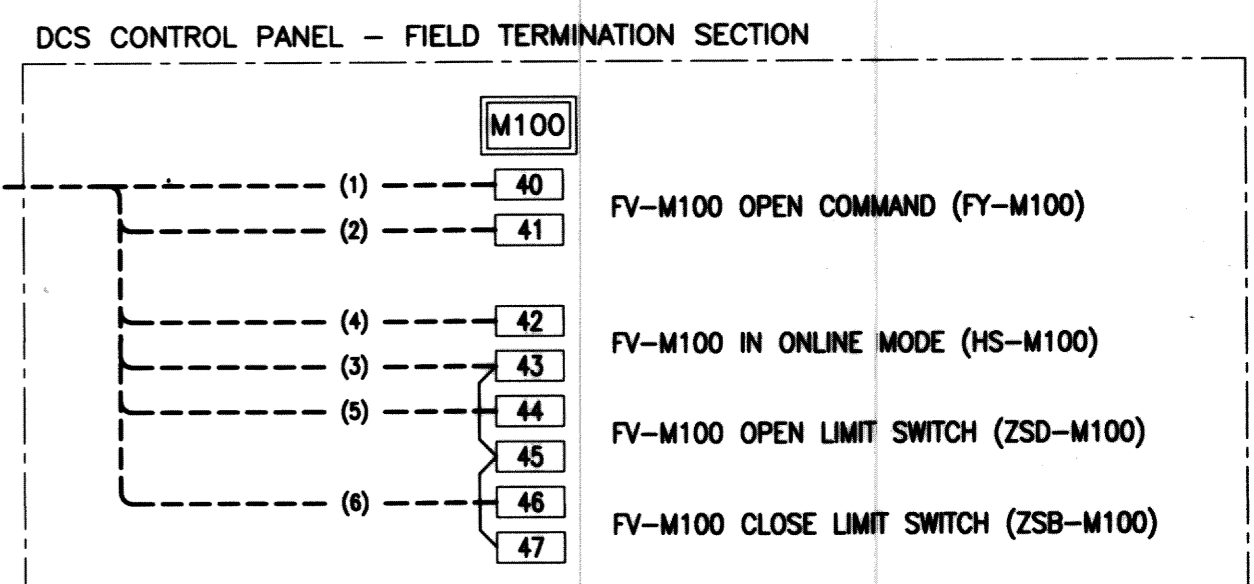
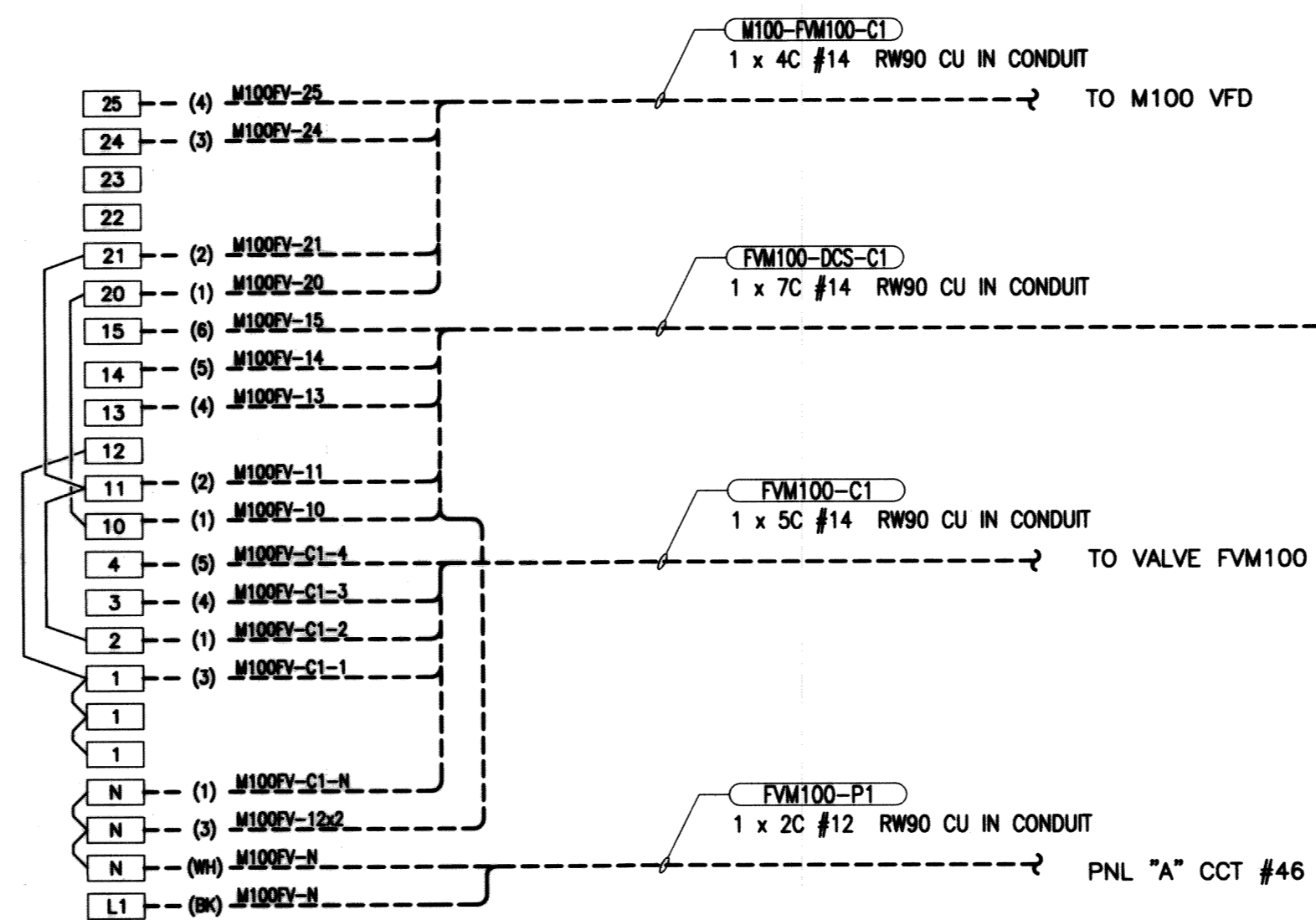
REPLACEMENT OF RAW SEWAGE PUMP P-3
 PERIMETER ROAD PUMPING STATION
ELECTRICAL
 PUMP M300PP
 VFD SCHEMATIC & WIRING DIAGRAM

SHEET 1 OF 1
 CITY DRAWING NUMBER
 1-0111L-E0025-001

File Name: P:\Projects\2010\10-0107-23\Doc.Control\ToBeIssued\DWG\940-2011_Drawing_E33-R2.dwg - Tab: E33 Plotted By: DDeroche 09/13/2013 [Fri 11:19am]



- NOTES:**
- LIMIT SWITCH CONTACT CLOSURES TO PROVE VALVE IN THE OPEN POSITION.
 - LIMIT SWITCH CONTACT CLOSURES TO PROVE VALVE IN THE CLOSED POSITION.
 - REFER TO KING'S ELECTRIC DRAWING #00-4383 FOR REFERENCE.



- LEGEND**
- VFD CONTROL ENCLOSURE TERMINALS
 - VALVE TERMINALS
 - VFD TERMINALS
 - DCS TERMINALS
 - VALVE ENCLOSURE TERMINALS
 - FIELD WIRING
 - PANEL WIRING
 - () CONDUCTOR IDENTIFICATION
 - WIRE CONNECTION
 - PILOT LIGHT
 - ◁ OUTPUT ▷ PLC OUTPUT
 - ▷ INPUT ◁ PLC INPUT

RECORD DRAWING
 WATER & WASTE DEPARTMENT
 PROJECT COMPLETION DATE : 27 MAR 2013
 CONTRACTOR : T&D ENTERPRISES LTD.
 O/H WESCAN ELECTRICAL SERVICES

APEGN
 Certificate of Authorization
 KGS Group
 No. 245

B.M. ELEV.	FIELD BOOK #:	KGS GROUP CONSULTING ENGINEERS	
POSTED TO LBIS		DESIGNED BY: DDW	CHECKED BY: JLL
		DRAWN BY: GCN	APPROVED BY: RED
2 RECORD DRAWING	2013-08-08	DDW	
1 ISSUED FOR FI #1	2012-03-20	JLL	
0 ISSUED FOR TENDER	2011-11-07	JLL	
NO. REVISIONS	DATE	BY	DATE
			2011 05 20

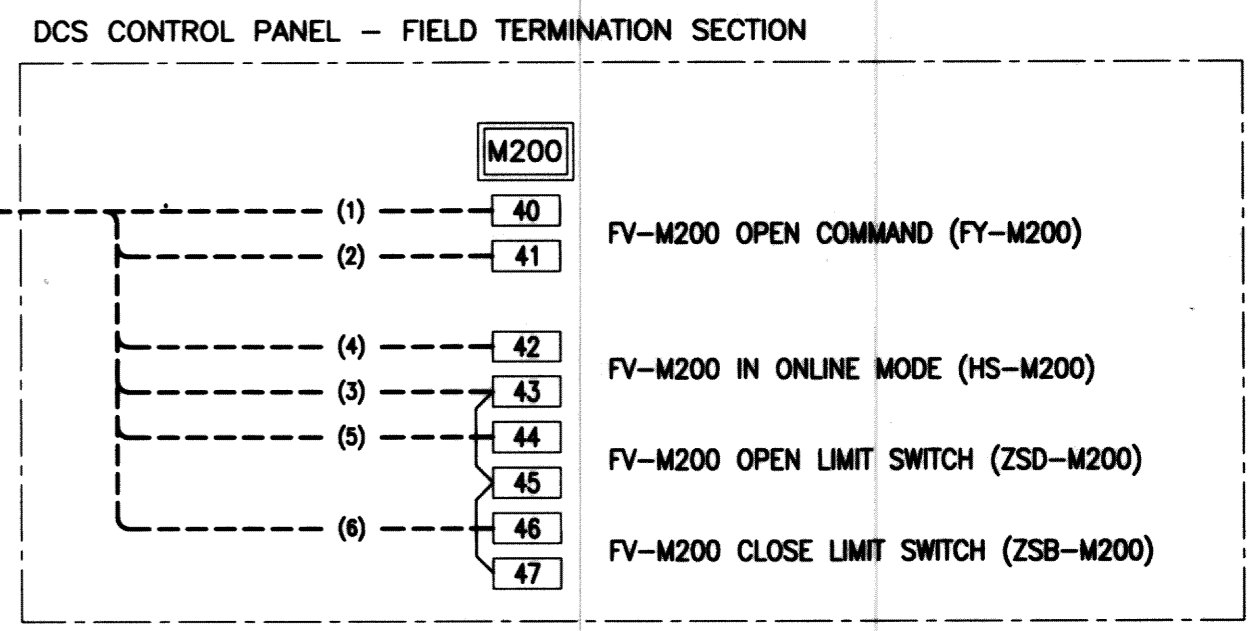
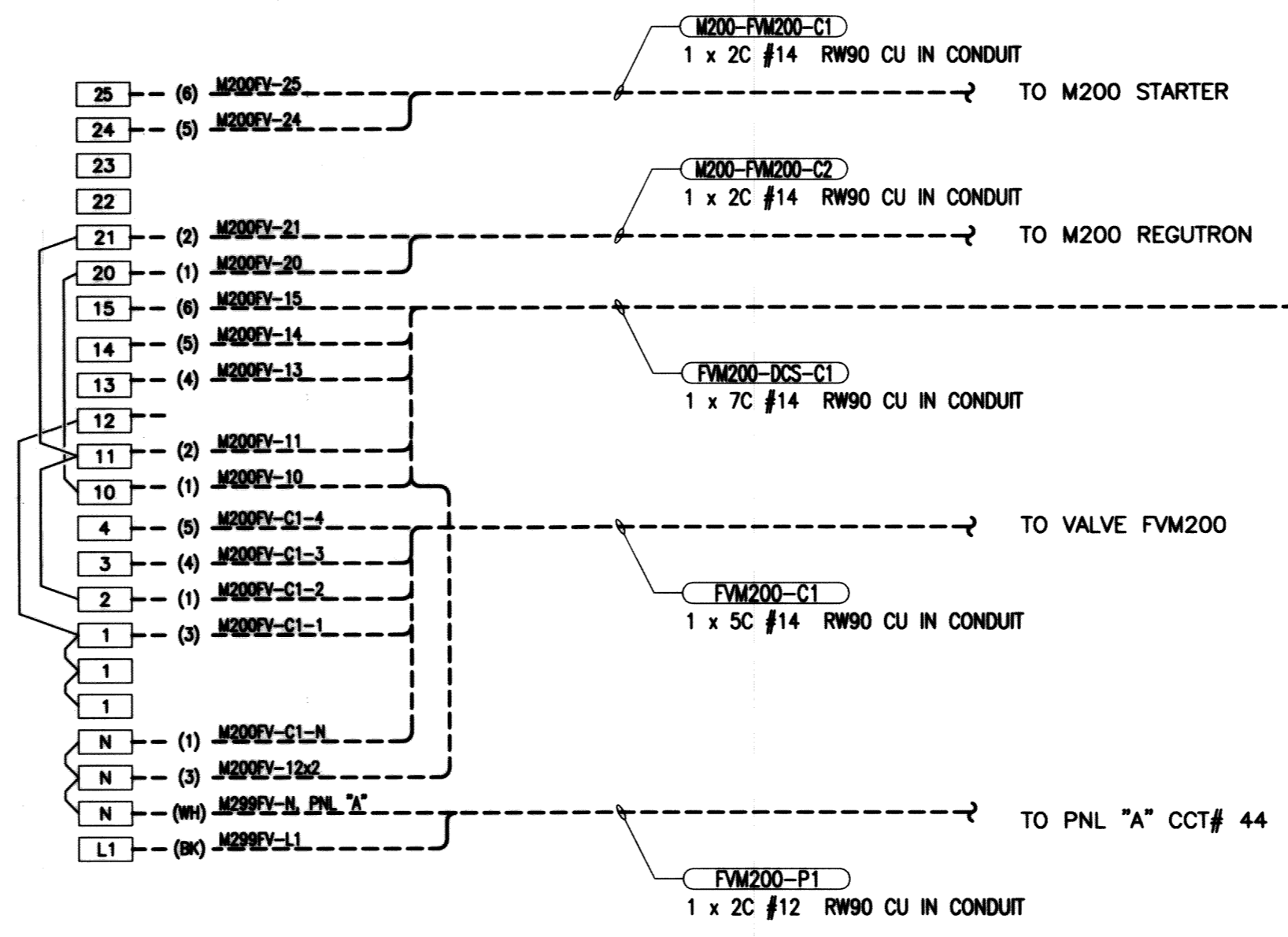
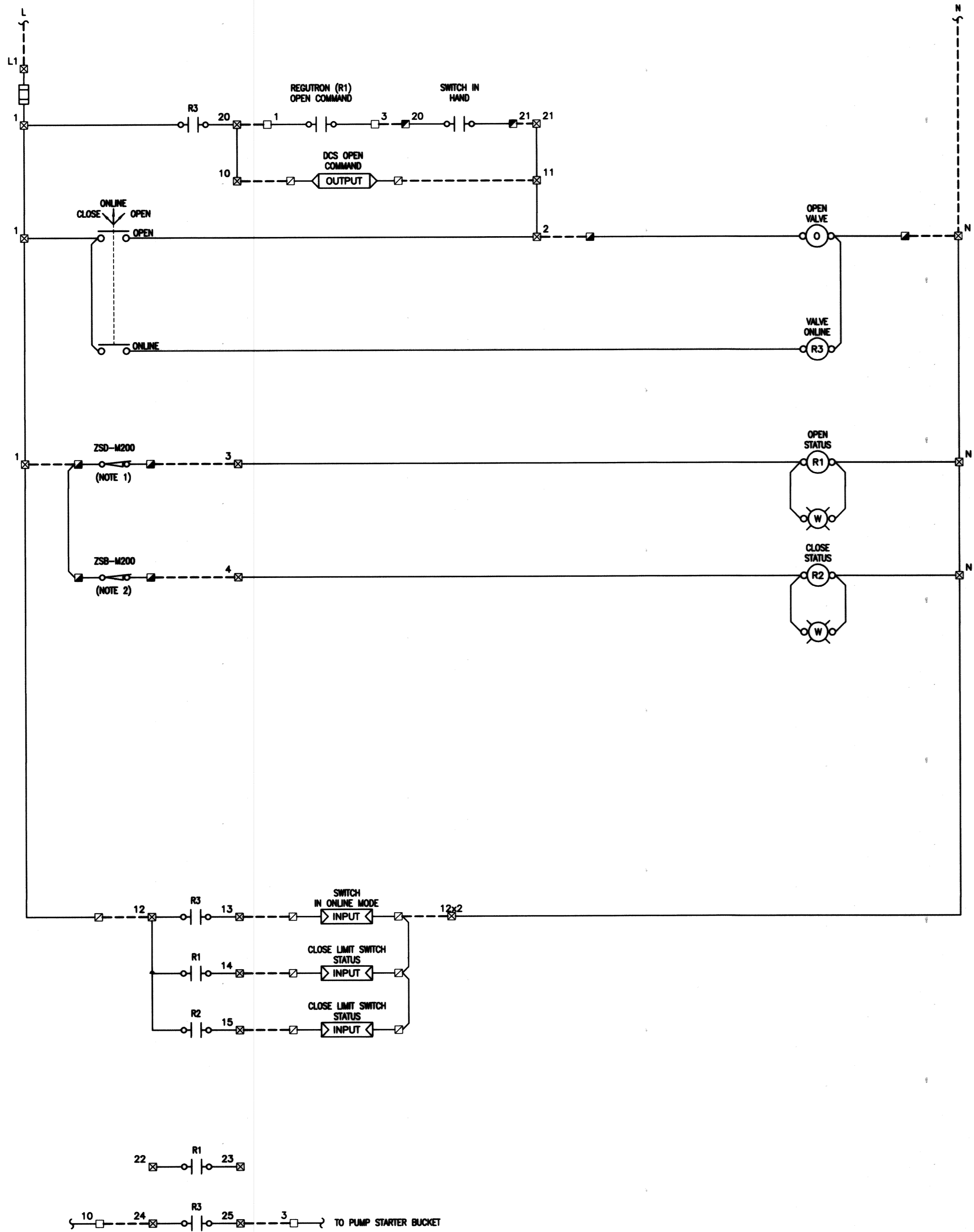
ENGINEER'S SEAL

 E33

THE CITY OF WINNIPEG
 WATER AND WASTE DEPARTMENT
 REPLACEMENT OF RAW SEWAGE PUMP P-3
 PERIMETER ROAD PUMPING STATION
ELECTRICAL
 PUMP M100PP DISCHARGE VALVE FV-M100
 SCHEMATIC & WIRING DIAGRAM

SHEET 1 OF 1
 CITY DRAWING NUMBER
 1-0111L-E0026-001

File Name: P:\Projects\2010\10-0107-23\Doc\Control\ToBeIssued\DWG\940-2011_Drawing_E34-R3.dwg - Tab: E34 Plotted By: DDeroche 09/13/2013 [Fri 11:18am]



- NOTES:**
- LIMIT SWITCH CONTACT CLOSURES TO PROVE VALVE IN THE OPEN POSITION.
 - LIMIT SWITCH CONTACT CLOSURES TO PROVE VALVE IN THE CLOSED POSITION.
 - CONTRACTOR TO EXTEND TO THE NEAREST AVAILABLE POWER PANEL. PROVIDE A NEW 15A SINGLE POLE BREAKER WITHIN THE PANEL.

- LEGEND**
- MCC TERMINALS
 - MCC M200 BUCKET
 - VALVE TERMINALS
 - VFD TERMINALS
 - DCS TERMINALS
 - VALVE ENCLOSURE TERMINALS
 - FIELD WIRING
 - PANEL WIRING
 - () CONDUCTOR IDENTIFICATION
 - WIRE CONNECTION
 - PILOT LIGHT
 - ◻ OUTPUT PLC OUTPUT
 - ◻ INPUT PLC INPUT

RECORD DRAWING
 WATER & WASTE DEPARTMENT
 PROJECT COMPLETION DATE : 27 MAR 2013
 CONTRACTOR : T&D ENTERPRISES LTD.
 O/H WESCAN ELECTRICAL SERVICES

MAPEGN
 Certificate of Authorization
 KGS Group
 No. 245

BM. ELEV.	FIELD BOOK #:	
POSTED TO LBIS		
3	RECORD DRAWING	2013-08-03 DDW
2	ISSUED FOR FI #1	2012-05-20 JLL
1	ISSUED FOR ADDENDUM #1	2011-12-05 JLL
0	ISSUED FOR TENDER	2011-11-07 JLL
NO.	REVISIONS	DATE BY

KGS GROUP CONSULTING ENGINEERS	
DESIGNED BY: DDW	CHECKED BY: JLL
DRAWN BY: GCN	APPROVED BY: RED
HDR. SCALE: N.T.S.	RELEASED FOR CONSTRUCTION
VERTICAL: N.T.S.	
DATE: 2011 05 20	DATE:

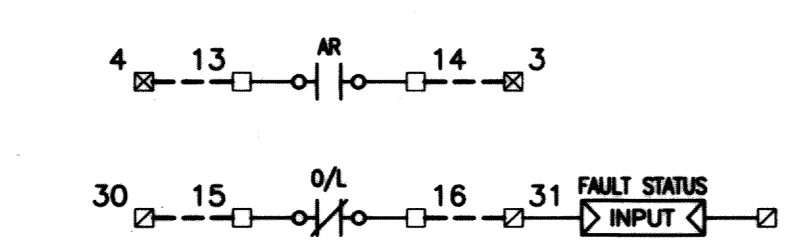
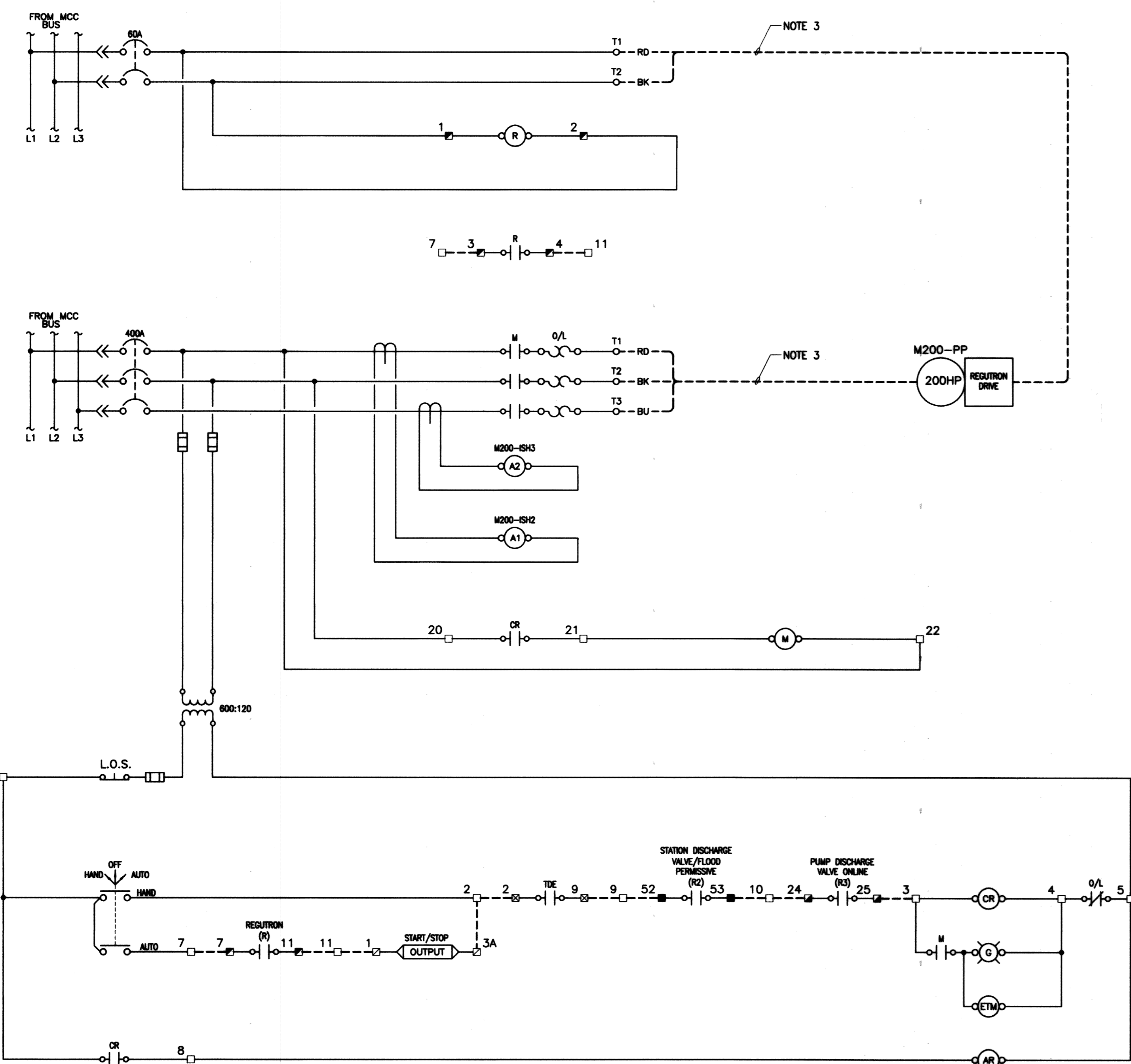
ENGINEER'S SEAL

 SEPT 13, 2013
 E34

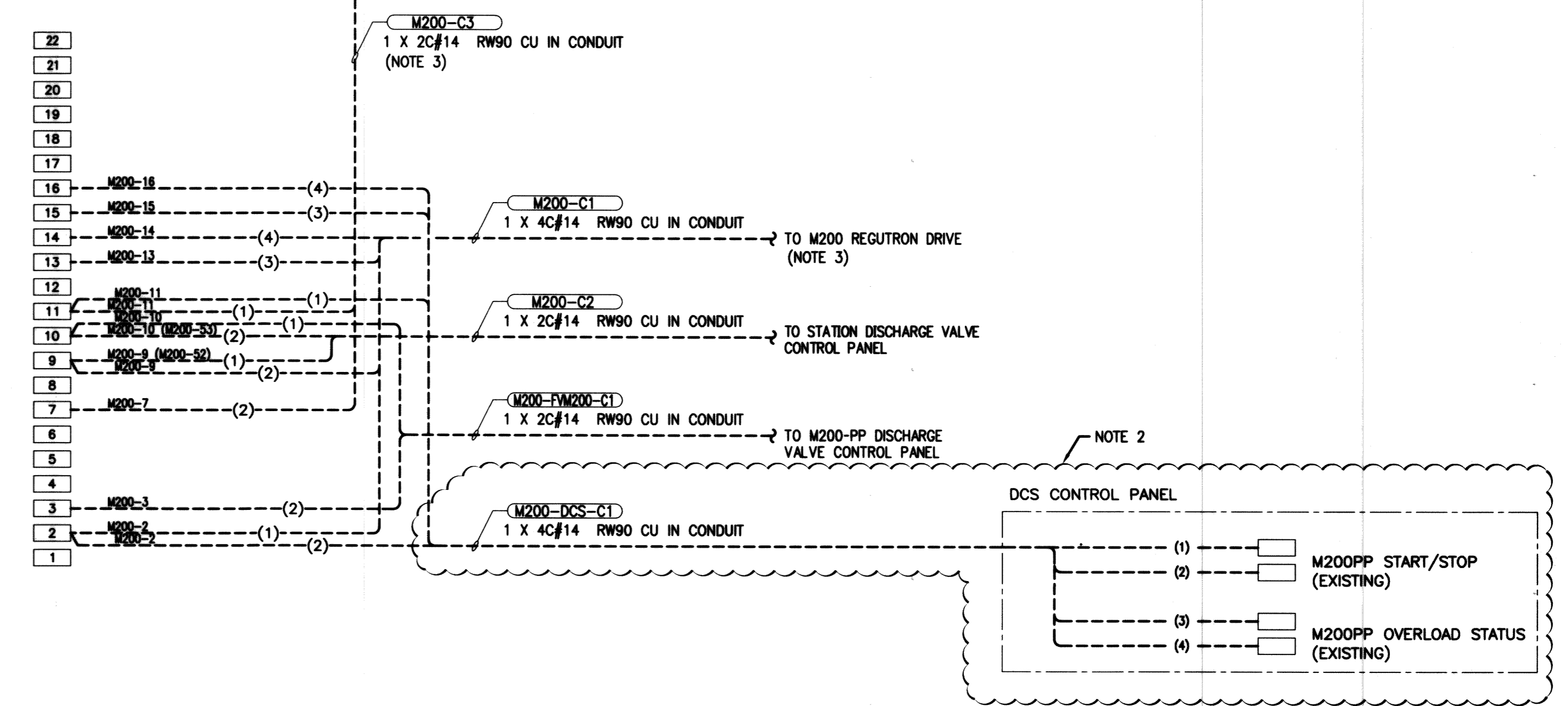
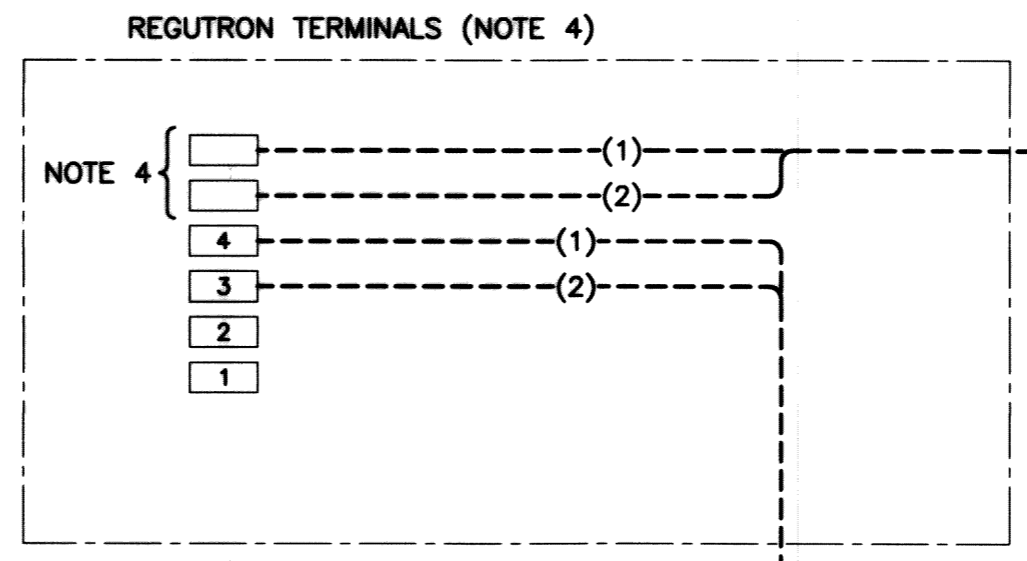
THE CITY OF WINNIPEG
 WATER AND WASTE DEPARTMENT

REPLACEMENT OF RAW SEWAGE PUMP P-3
 PERIMETER ROAD PUMPING STATION
ELECTRICAL
 PUMP M200PP DISCHARGE VALVE FV-M200
 SCHEMATIC & WIRING DIAGRAM

SHEET 1 OF 1
 CITY DRAWING NUMBER
 1-0111L-E0027-001



- NOTES:**
- CONTRACTOR SHALL LABEL ALL EXISTING CONDUCTORS WHEN COMPLETING THE DEMOLITION WORK OF THE EXISTING NON-ESSENTIAL MCC. CONTRACTOR SHALL TRACE ALL EXISTING WIRING AND PROVIDE AN AS-BUILT FOR REVIEW BY THE ENGINEER.
 - EXISTING CABLE TO BE TERMINATED WITHIN THE EXISTING MCC AS REQUIRED.
 - EXISTING CABLE TO BE DISCONNECTED ON THE EXISTING MCC AND RECONNECTED WITHIN THE NEW MCC.
 - EXISTING TERMINALS WITHIN THE REGUTRON TO PROVIDE A SIGNAL TO OPEN THE VALVE WHEN PUMP REACHES MINIMUM SPEED. CONTRACTOR TO INCLUDE AS-BUILT OF THE REGUTRON TERMINALS.



- LEGEND**
- MCC TERMINALS
 - STATION DISCHARGE VALVE CONTROL PANEL TERMINALS
 - ▣ DCS TERMINALS
 - ▤ M200PP DISCHARGE VALVE CONTROL PANEL TERMINALS
 - ▥ REGUTRON TERMINALS
 - ▧ REGUTRON MCC DISCONNECT TERMINALS
 - FIELD WIRING
 - PANEL WIRING
 - () CONDUCTOR IDENTIFICATION
 - WIRE CONNECTION
 - ⊙ PILOT LIGHT
 - OUTPUT PLC OUTPUT
 - INPUT PLC INPUT

RECORD DRAWING
 WATER & WASTE DEPARTMENT
 PROJECT COMPLETION DATE : 27 MAR 2013
 CONTRACTOR : T&D ENTERPRISES LTD.
 O/H WESCAN ELECTRICAL SERVICES

MAPEGN
 Certificate of Authorization
 KGS Group
 No. 245

FIELD BOOK #:			
POSTED TO LBS:			
DESIGNED BY:	DDW	CHECKED BY:	JLL
DRAWN BY:	GCN	APPROVED BY:	RED
HR. SCALE:	N.T.S.	RELEASED FOR CONSTRUCTION:	
VERTICAL:	N.T.S.		
DATE:	2011 07 13	DATE:	

ENGINEER'S SEAL

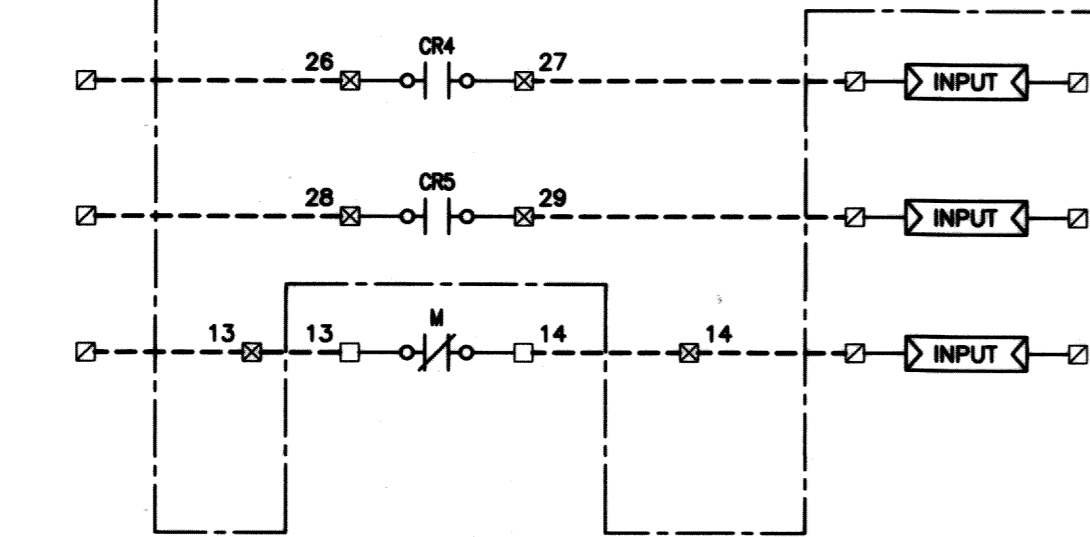
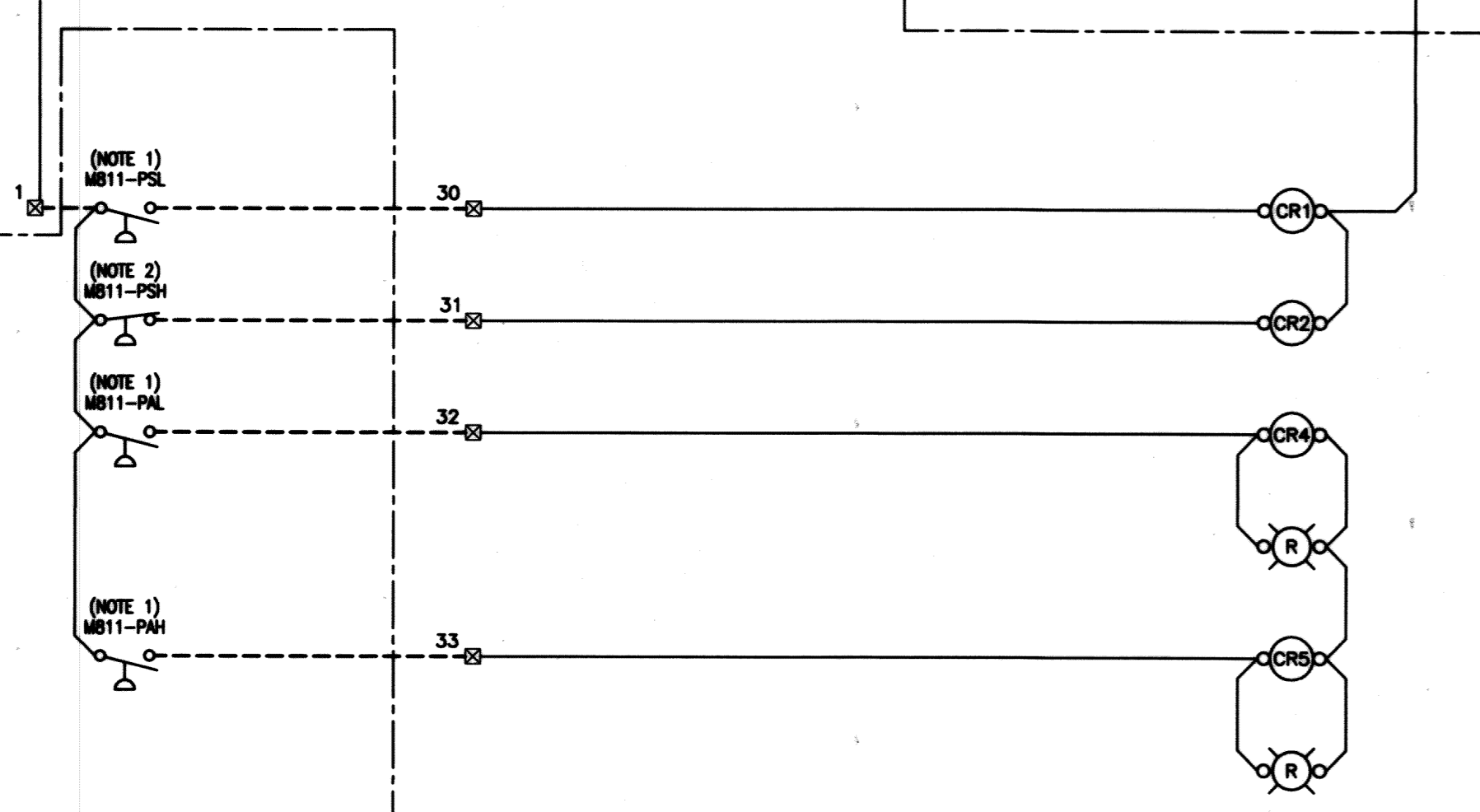
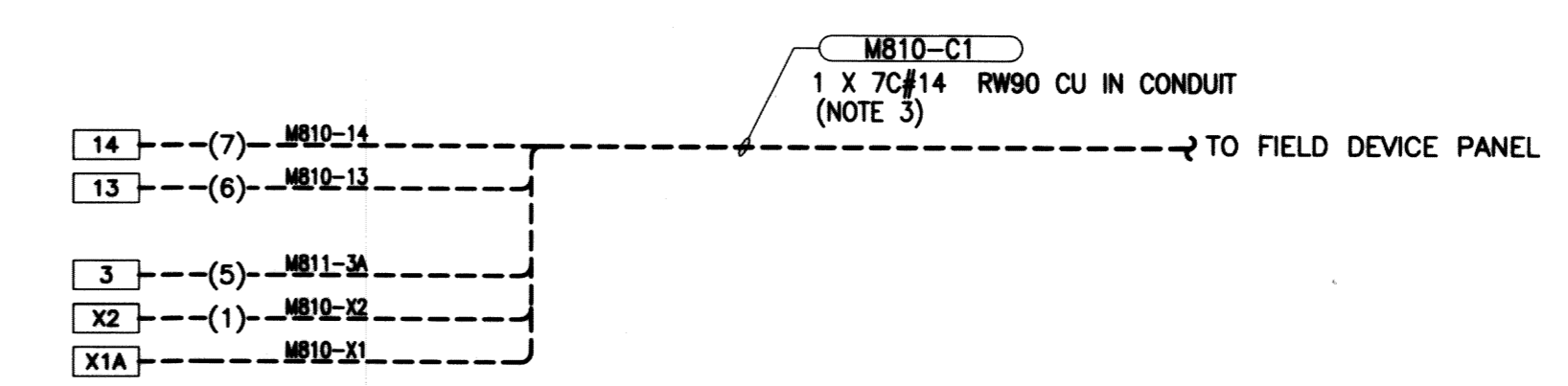
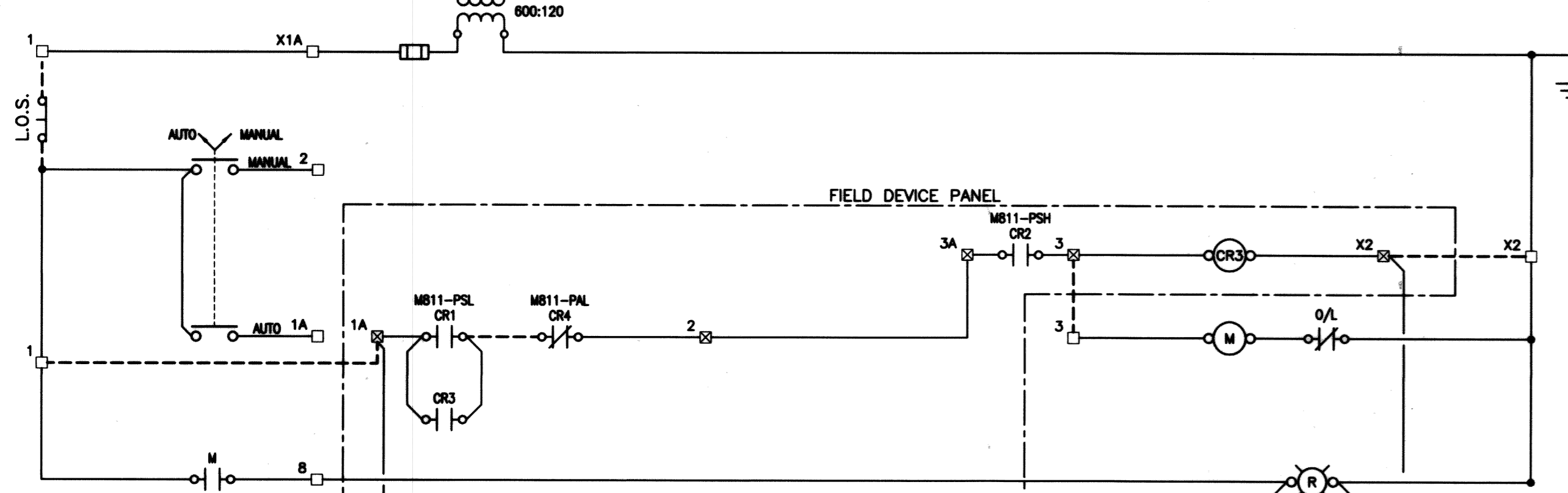
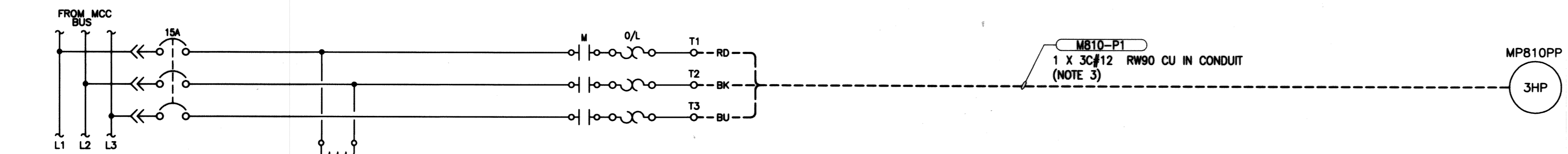
 E35

THE CITY OF WINNIPEG
 WATER AND WASTE DEPARTMENT
 REPLACEMENT OF RAW SEWAGE PUMP P-3
 PERIMETER ROAD PUMPING STATION
ELECTRICAL
 PUMP M200PP MCC STARTER
 SCHEMATIC & WIRING DIAGRAM

SHEET 1 OF 1
 CITY DRAWING NUMBER
 1-0111L-E0028-001

NOTES:

1. ALARM CONTACT OPENS ON FALLING PRESSURE.
2. ALARM CONTACT OPENS ON RISING PRESSURE.
3. EXISTING CABLES TO BE DISCONNECTED FROM THE EXISTING MCC AND SHALL BE RECONNECTED TO THE NEW MCC.



LEGEND

- MCC TERMINALS
- STATION DISCHARGE VALVE CONTROL PANEL TERMINALS
- ▣ DCS TERMINALS
- ▤ REGUTRON MCC DISCONNECT TERMINALS
- ▥ REGUTRON TERMINALS
- ▧ M200PP DISCHARGE VALVE CONTROL PANEL TERMINALS
- FIELD WIRING
- PANEL WIRING
- () CONDUCTOR IDENTIFICATION
- WIRE CONNECTION
- ⊙ PILOT LIGHT
- ◻ OUTPUT PLC OUTPUT
- ◻ INPUT PLC INPUT

RECORD DRAWING
 WATER & WASTE DEPARTMENT
 PROJECT COMPLETION DATE : 27 MAR 2013
 CONTRACTOR : T&D ENTERPRISES LTD.
 O/H WESCAN ELECTRICAL SERVICES

WAPCON
 Certificate of Authorization
 KGS Group
 No. 245

NO.	REVISIONS	DATE	BY
1	RECORD DRAWING	2013-03-03	DDW
0	ISSUED FOR TENDER	2011-11-07	JLL

KGS GROUP CONSULTING ENGINEERS	
DESIGNED BY: DDW	CHECKED BY: JLL
DRAWN BY: GCN	APPROVED BY: RED
HOR. SCALE: N.T.S.	RELEASED FOR CONSTRUCTION
VERTICAL: N.T.S.	
DATE: 2011 07 13	DATE:

ENGINEER'S SEAL

 E36

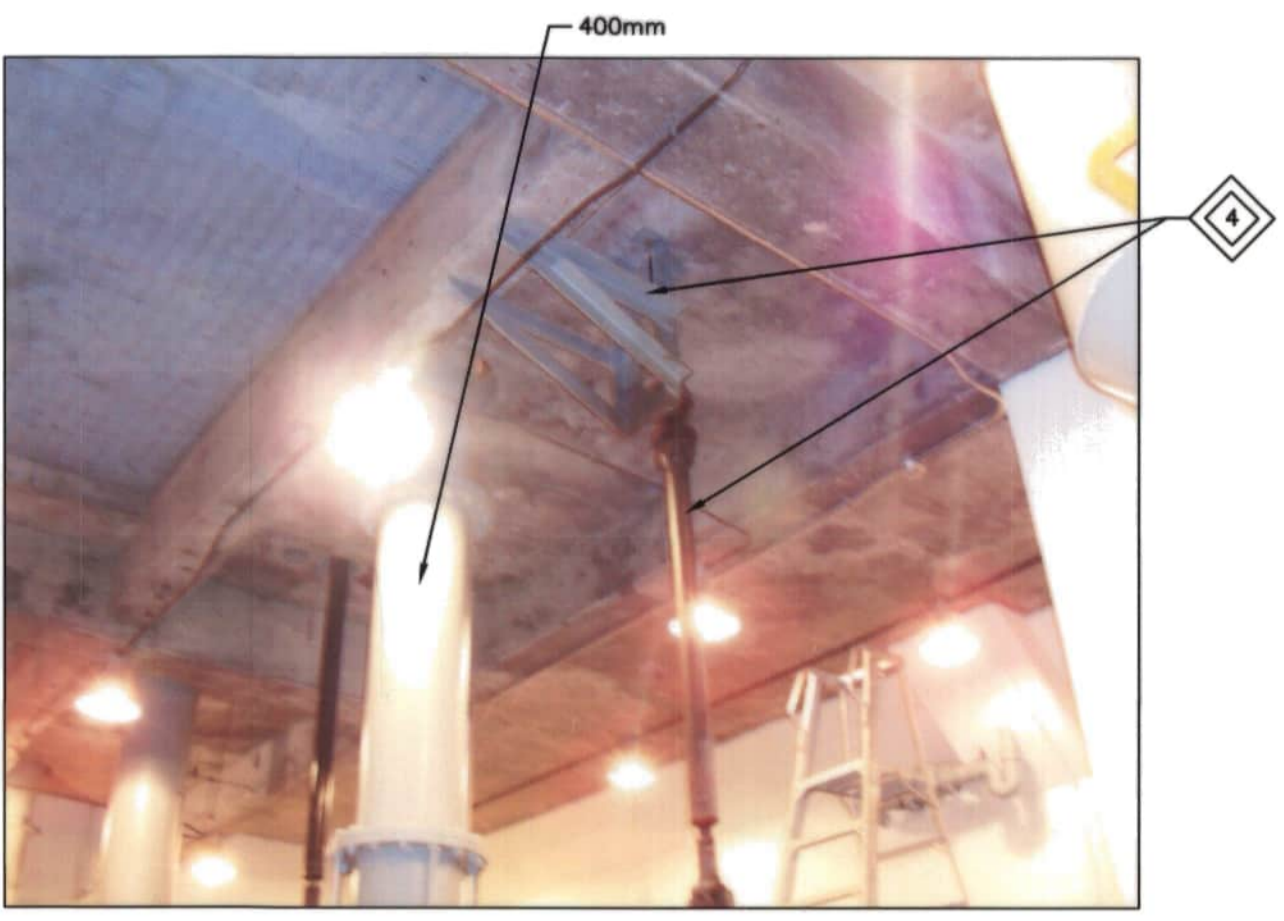
THE CITY OF WINNIPEG
 WATER AND WASTE DEPARTMENT

REPLACEMENT OF RAW SEWAGE PUMP P-3
 PERIMETER ROAD PUMPING STATION
ELECTRICAL
 PUMP MB10PP FLUSH WATER
 SCHEMATIC & WIRING DIAGRAM

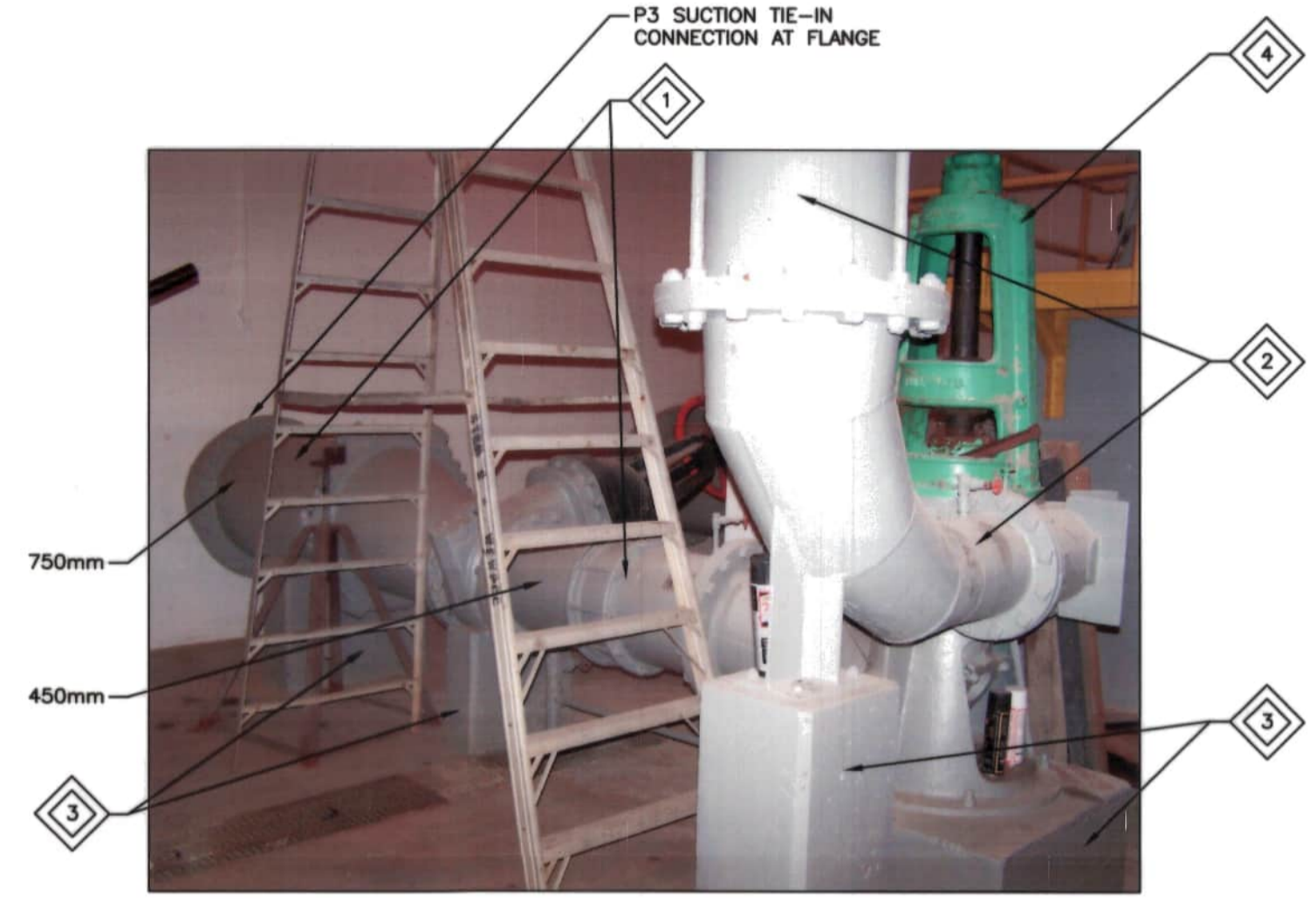
SHEET 1 OF 1
 CITY DRAWING NUMBER
 1-0111L-E0029-001



1 P3 PIPING - LEVEL 100
M1



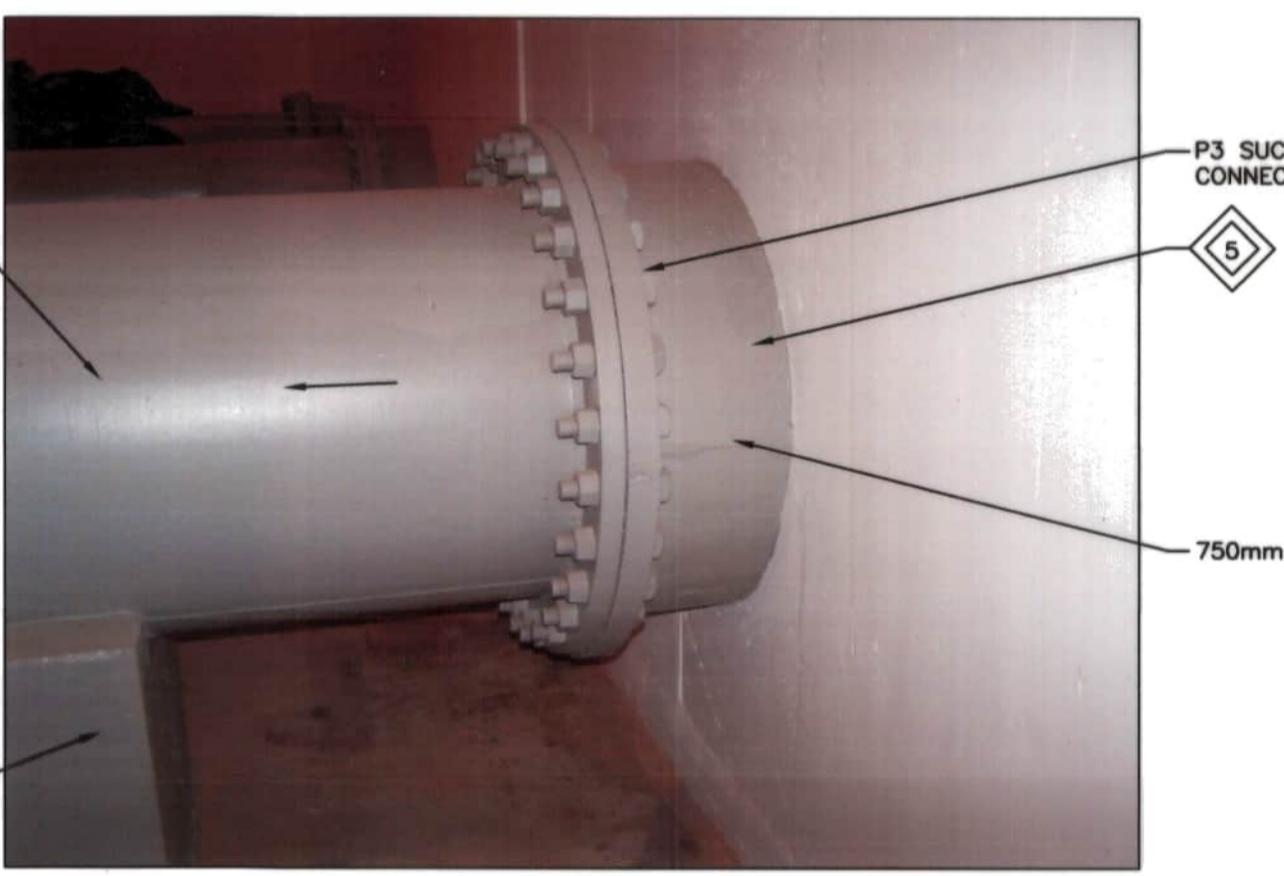
2 P3 PIPING - LEVEL 100
M1



3 P3 PIPING - LEVEL 100
M1



4 P3 SUCTION PIPING - LEVEL 100
M1



5 P3 SUCTION PIPING - LEVEL 100
M1



6 P3 DISCHARGE PIPING - LEVEL 200
M1



7 P3 DISCHARGE PIPING - LEVEL 200
M1



8 P3 DISCHARGE PIPING - LEVEL 200
M1



9 P3 PUMP MOTOR - LEVEL 300
M1

KEY NOTES:

- 1 EXISTING SUCTION PIPING, VALVE & FITTINGS DOWN STREAM OF TIE-IN CONNECTION REMOVED.
- 2 EXISTING DISCHARGE PIPING, VALVES, FITTINGS TO DISCHARGE TIE-IN CONNECTION ON LEVEL 200 REMOVED.
- 3 EXISTING CONCRETE SUPPORTS REMOVED FLUSH WITH FLOOR.
- 4 EXISTING PUMP P3 RELATED SHAFT, SHAFT SUPPORT BRACKET AT LEVEL 100 CEILING, SHAFT PROTECTIVE COVER AND BEARING STEEL SUPPORT BEAM ON LEVEL 200, AND MOTOR ON LEVEL 300 REMOVED.
- 5 EXISTING 750mm (30" CAST IRON) PIPING.
- 6 EXISTING 900mm PUMP DISCHARGE HEADER.

RECORD DRAWING
WATER & WASTE DEPARTMENT

PROJECT COMPLETION DATE : 27 MARCH 2013
CONTRACTOR : T&D ENTERPRISES LTD.
O/A WESCAN ELECTRICAL SERVICES.

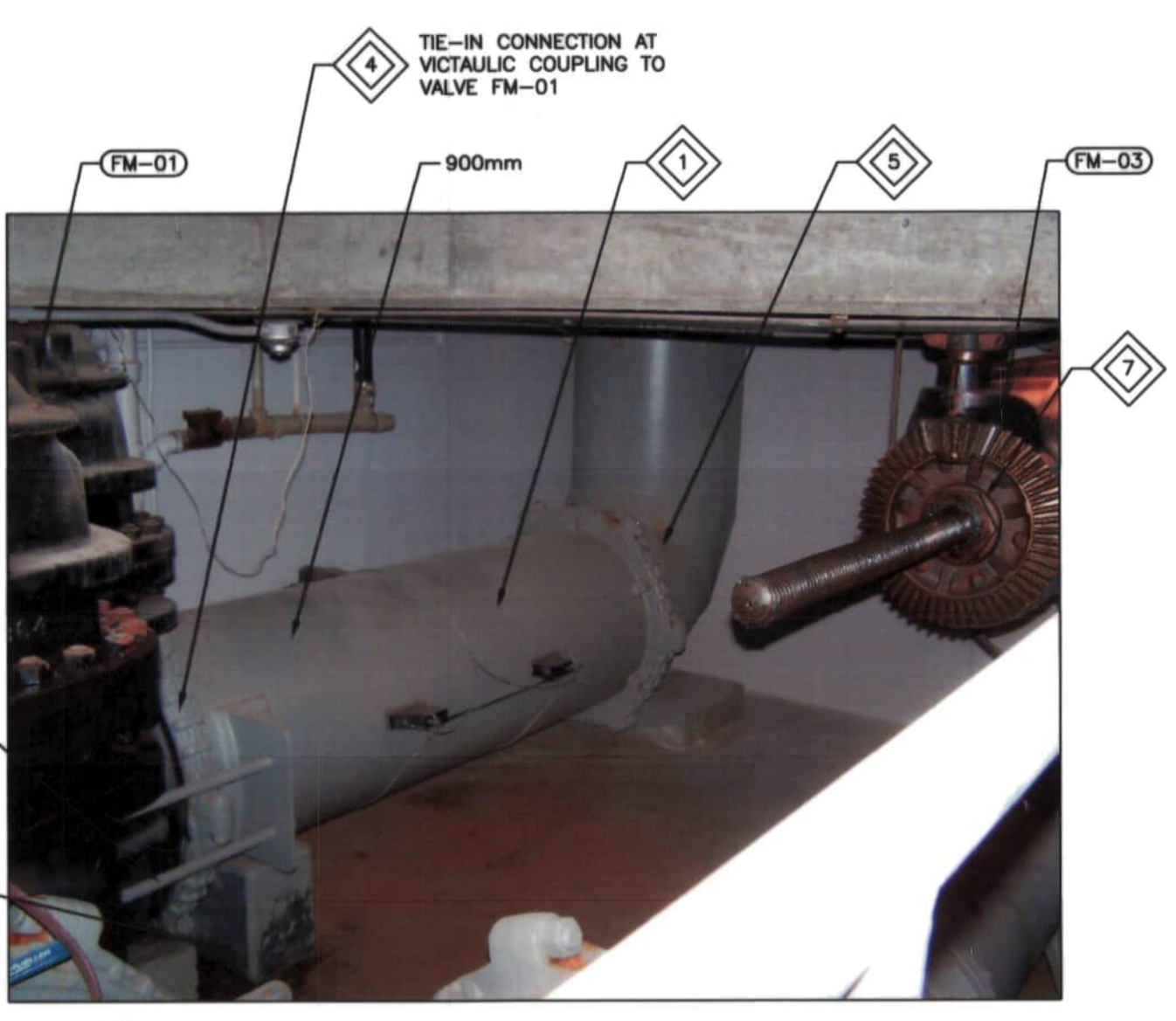


FIELD BOOK #:				ENGINEER'S SEAL	
POSTED TO LBIS					
DESIGNED BY	RED	CHECKED BY	JS	M01	
DRAWN BY	MSL	APPROVED BY	RED		
HOR. SCALE	N.T.S.	RELEASED FOR CONSTRUCTION			
VERTICAL	N.T.S.	DATE	2011 07 15		
NO. REVISIONS		DATE		DATE	

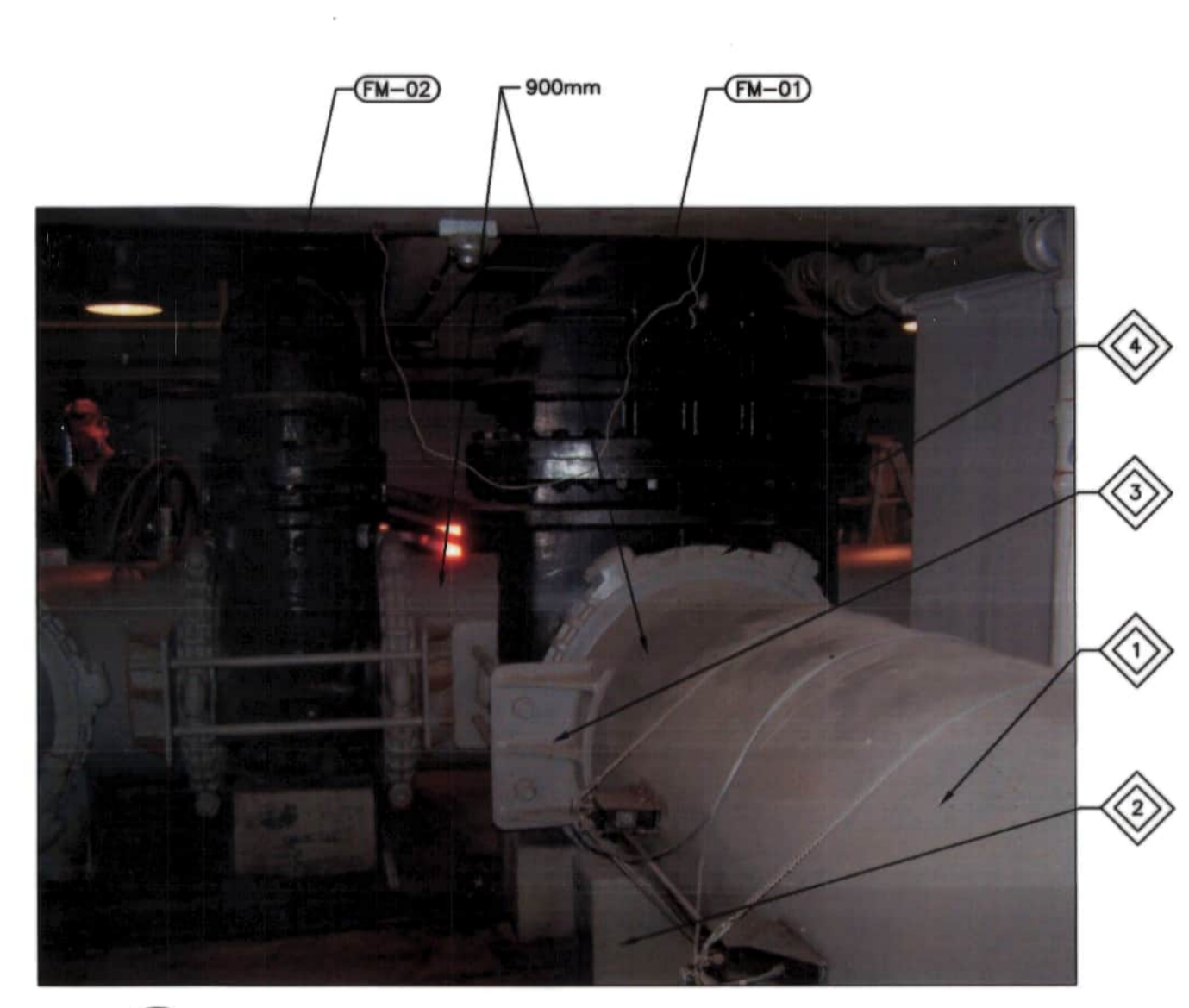
THE CITY OF WINNIPEG
 WATER AND WASTE DEPARTMENT
 REPLACEMENT OF RAW SEWAGE PUMP P-3
 PERIMETER ROAD PUMPING STATION
MECHANICAL
 PUMP P3 & RELATED PIPING DEMOLITION

SHEET 1 OF 1
 CITY DRAWING NUMBER
 1-0111L-M0013-001

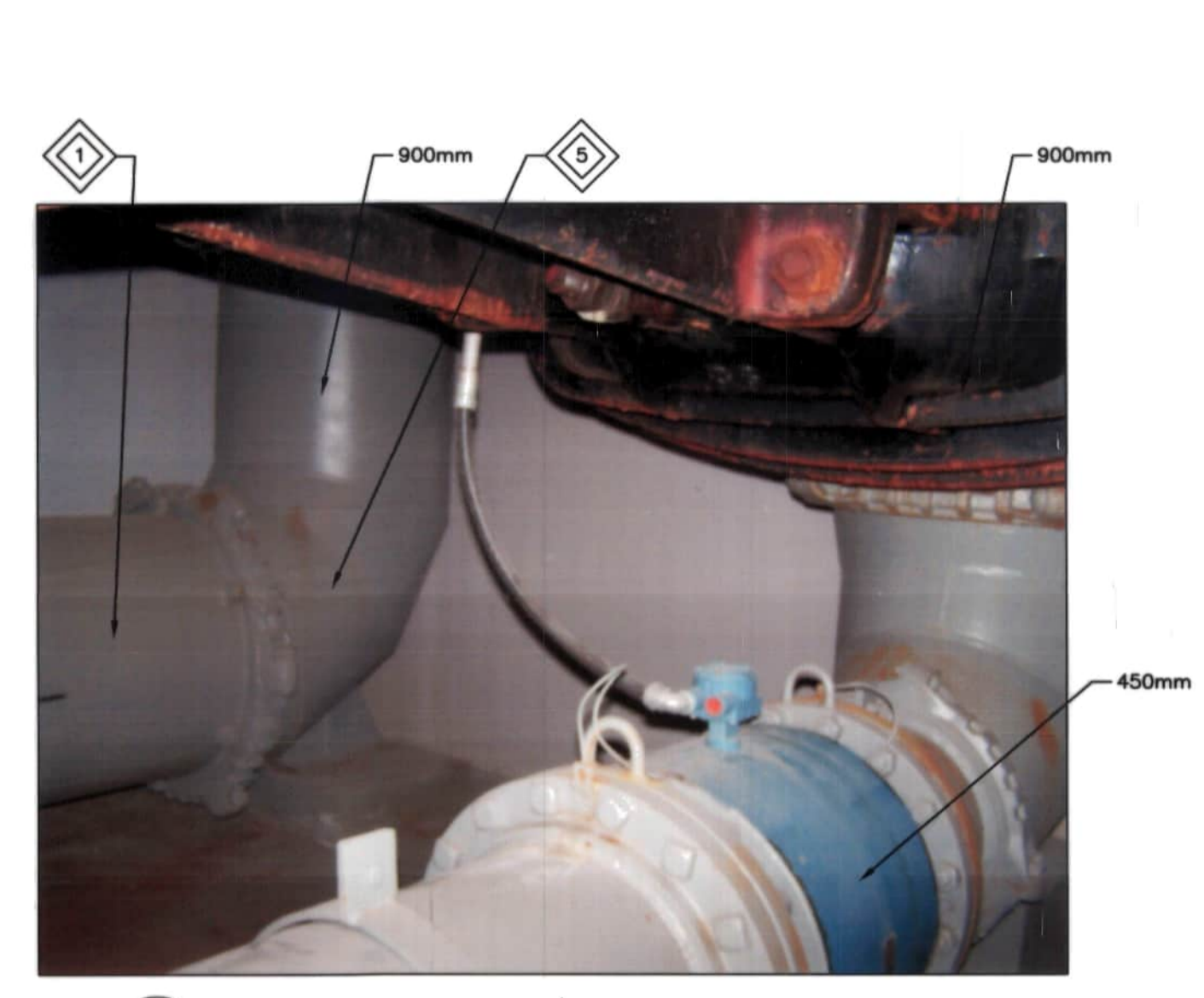
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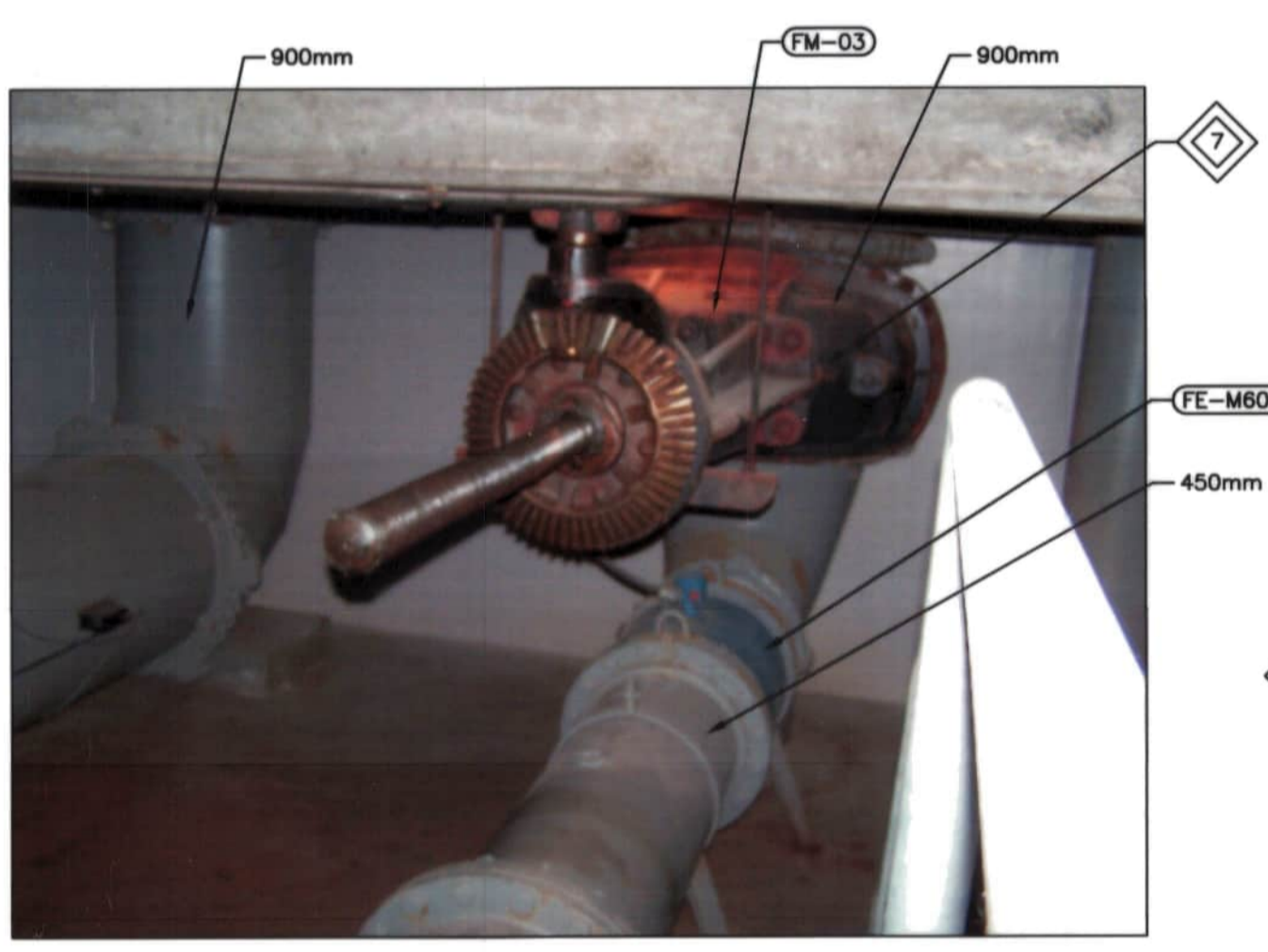
1 SHUTDOWN 5 - DEMOLITION FOR NEW MAGMETER
M2



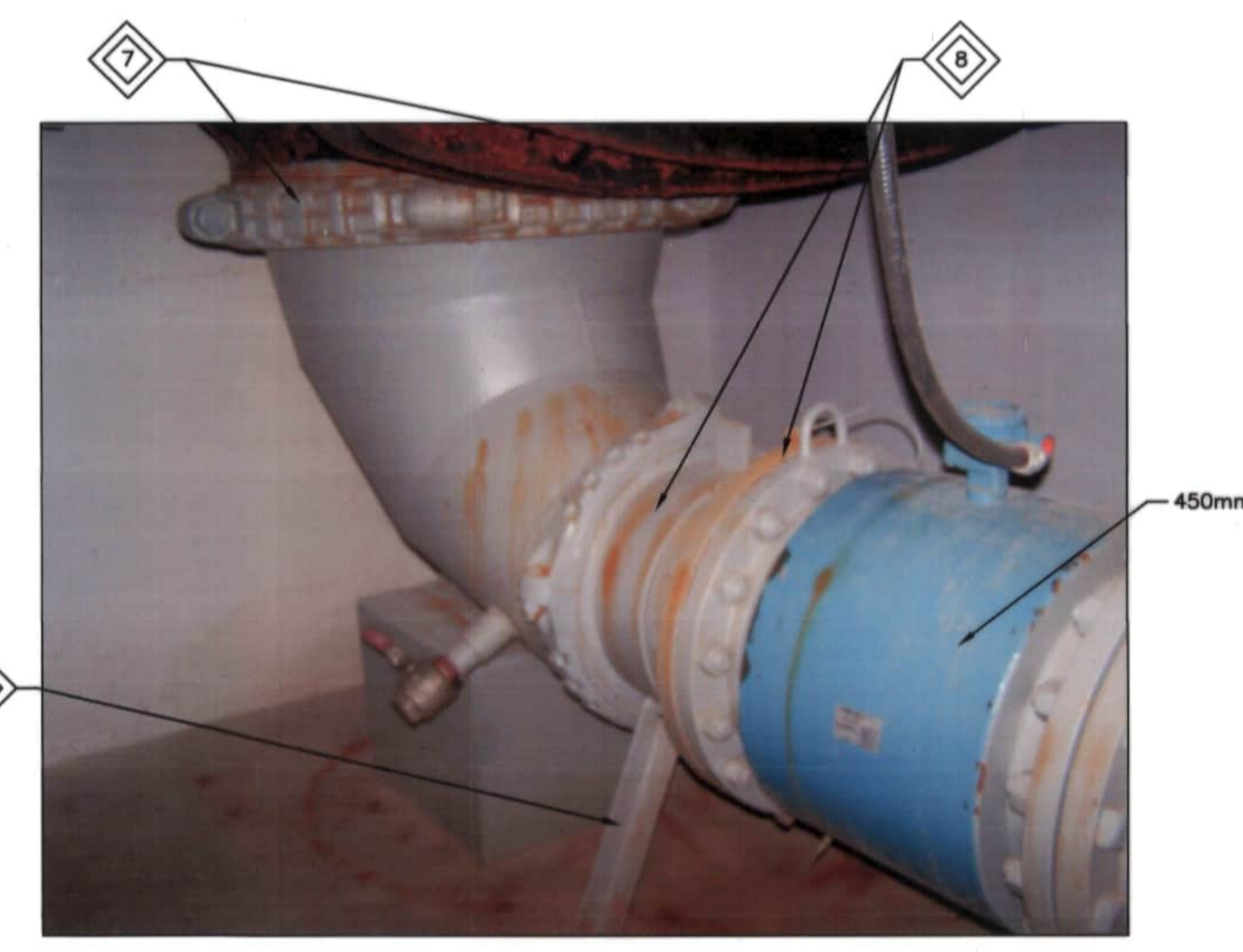
2 SHUTDOWN 5 - DEMOLITION FOR NEW MAGMETER
M2



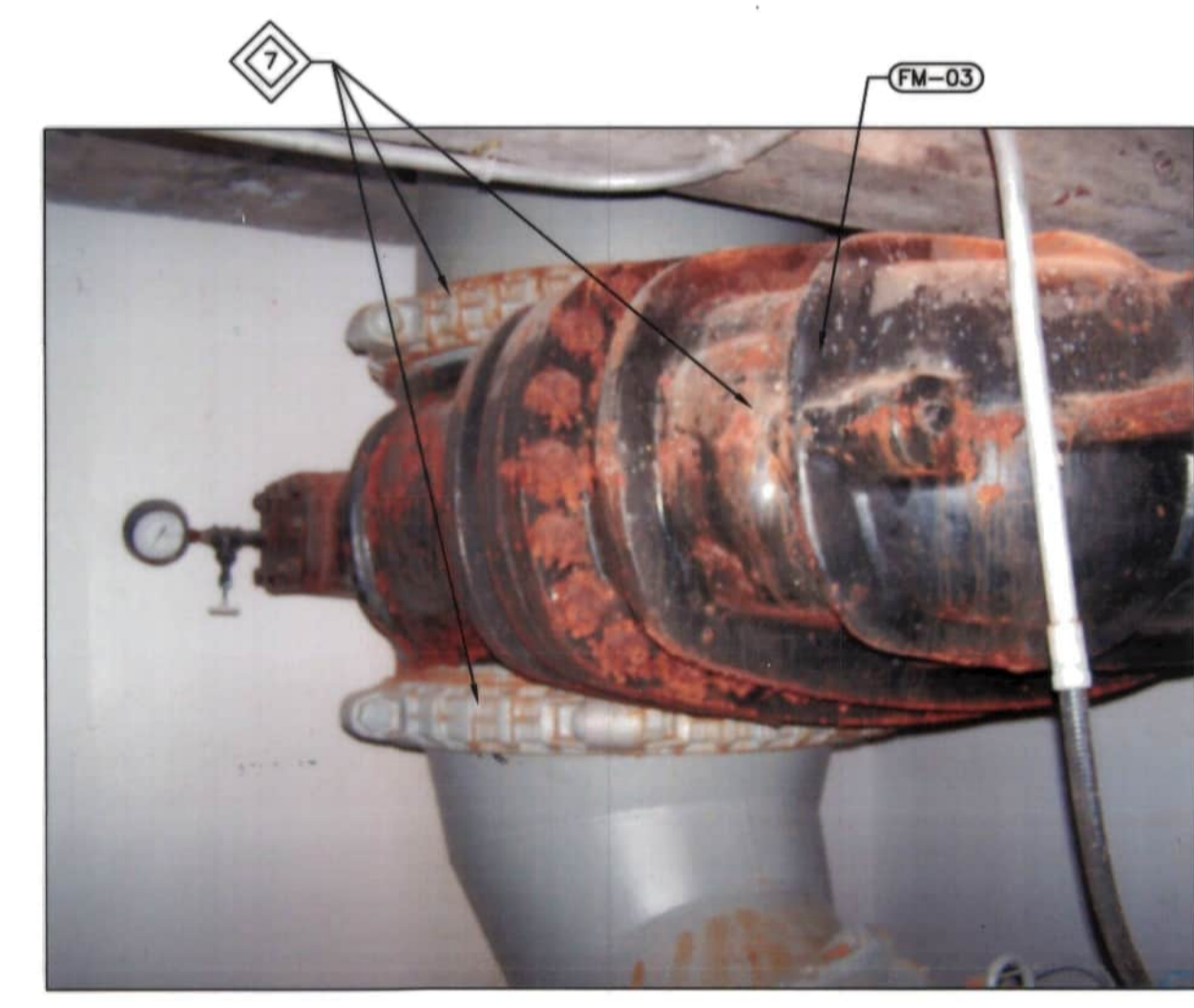
3 SHUTDOWN 5 - DEMOLITION FOR NEW MAGMETER
M2



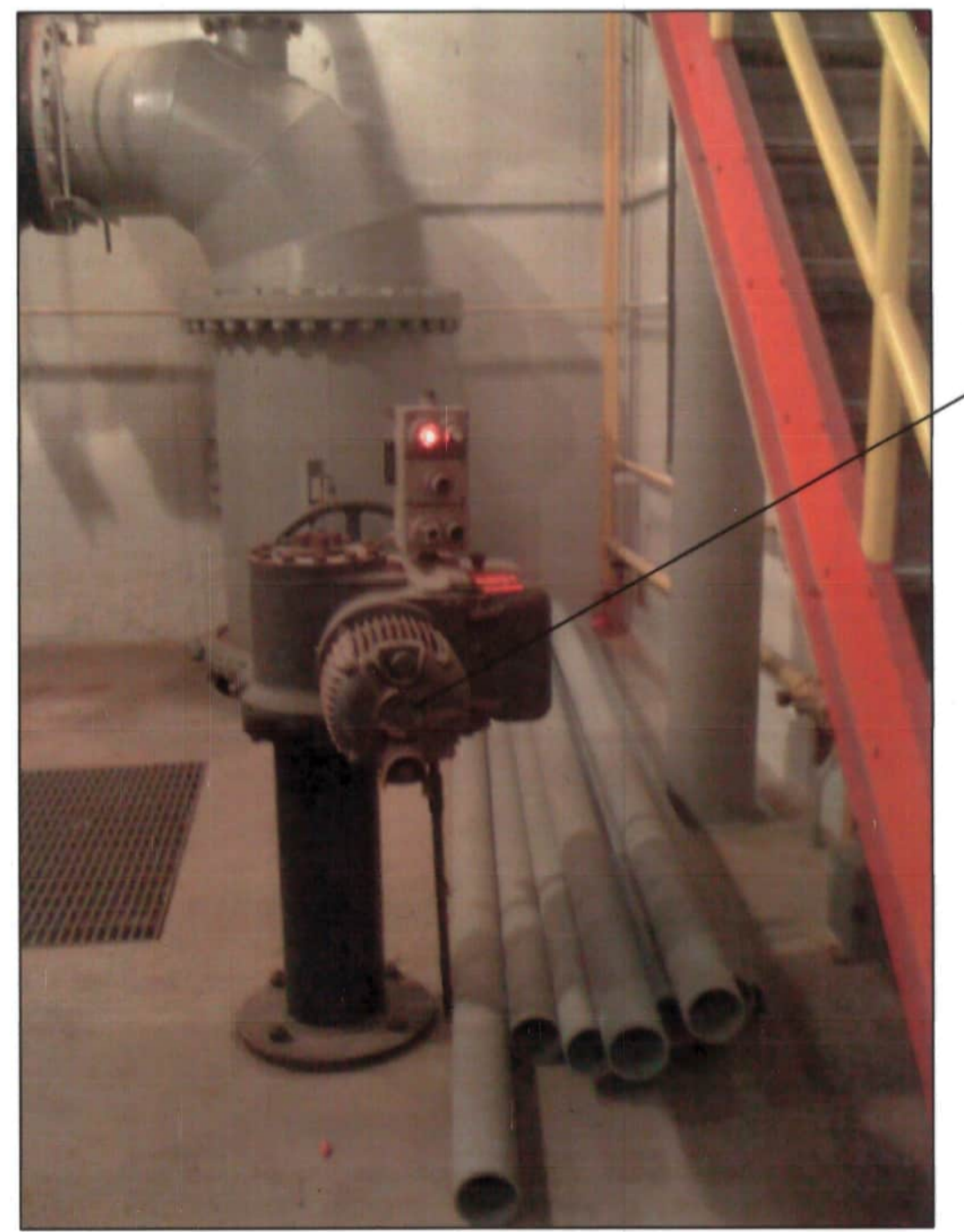
4 SHUTDOWN 6 - DEMOLITION VALVE FM-03
M2



5 SHUTDOWN 6 - DEMOLITION VALVE FM-03
M2



6 SHUTDOWN 6 - DEMOLITION VALVE FM-03
M2



7 SHUTDOWN 7 - FM-03 ACTUATOR (LEVEL 300)
M2



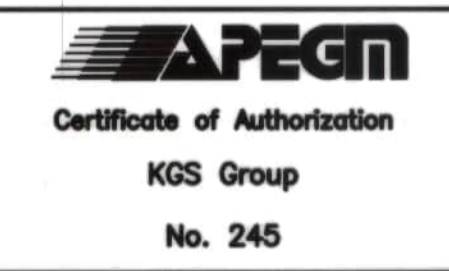
8 SHUTDOWN 7 - CONTROL VALVE P1-02
M2

KEY NOTES:

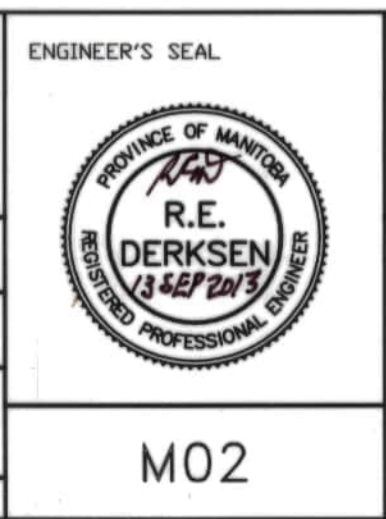
- 1 EXISTING 900mm PIPING FROM VALVE FM-01 COUPLING UP TO AND INCLUDING DOWNSTREAM ELBOW REMOVED.
- 2 EXISTING SUPPORT REMOVED.
- 3 EXISTING VALVE COUPLING RESTRAINT, MODIFIED TO MATCH EXISTING RESTRAINT QUALITY & REWELDED TO NEW 900mm x 450mm REDUCER & REPAINTED (ONE OF TWO SHOWN).
- 4 EXISTING VICTAULIC COUPLING REMOVED AND REPLACED.
- 5 EXISTING 900mm ELBOW REMOVED, REPLACED WITH 900mm x 450mm REDUCING ELBOW.
- 6 REMOVED EXISTING 500mm SPOOL PIECE AND COUPLING.
- 7 REMOVED EXISTING 900mm VALVE FM-03 AND VICTAULIC COUPLINGS.
- 8 REMOVED EXISTING 450mm PIPE SECTION AND COUPLING. TEMPORARY MAGMETER SUPPORT PROVIDED AS REQUIRED.
- 9 REMOVED FM-03 ELECTRIC ACTUATOR ON LEVEL 300
- 10 REMOVED EXISTING VALVE (P1-02)

RECORD DRAWING
WATER & WASTE DEPARTMENT

PROJECT COMPLETION DATE : 27 MARCH 2013
CONTRACTOR : T&D ENTERPRISES LTD.
O/A WESCAN ELECTRICAL SERVICES.



FIELD BOOK #:		KGS GROUP CONSULTING ENGINEERS	
POSTED TO LBIS		DESIGNED BY RED	CHECKED BY JS
		DRAWN BY MSL	APPROVED BY RED
		HR. SCALE N.T.S.	RELEASED FOR CONSTRUCTION
		VERTICAL N.T.S.	
1 RECORD DRAWING	13 09 03	RED	
0 ISSUED FOR TENDER	11 11 07	RED	
NO. REVISIONS	DATE	BY	DATE
			2011 07 15



THE CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT

REPLACEMENT OF RAW SEWAGE PUMP P-3
PERIMETER ROAD PUMPING STATION
MECHANICAL
LEVEL 200
ADDITIONAL DEMOLITION




SHEET 1 OF 1
CITY DRAWING NUMBER
1-0111L-M0014-001

CW-9-M564-1

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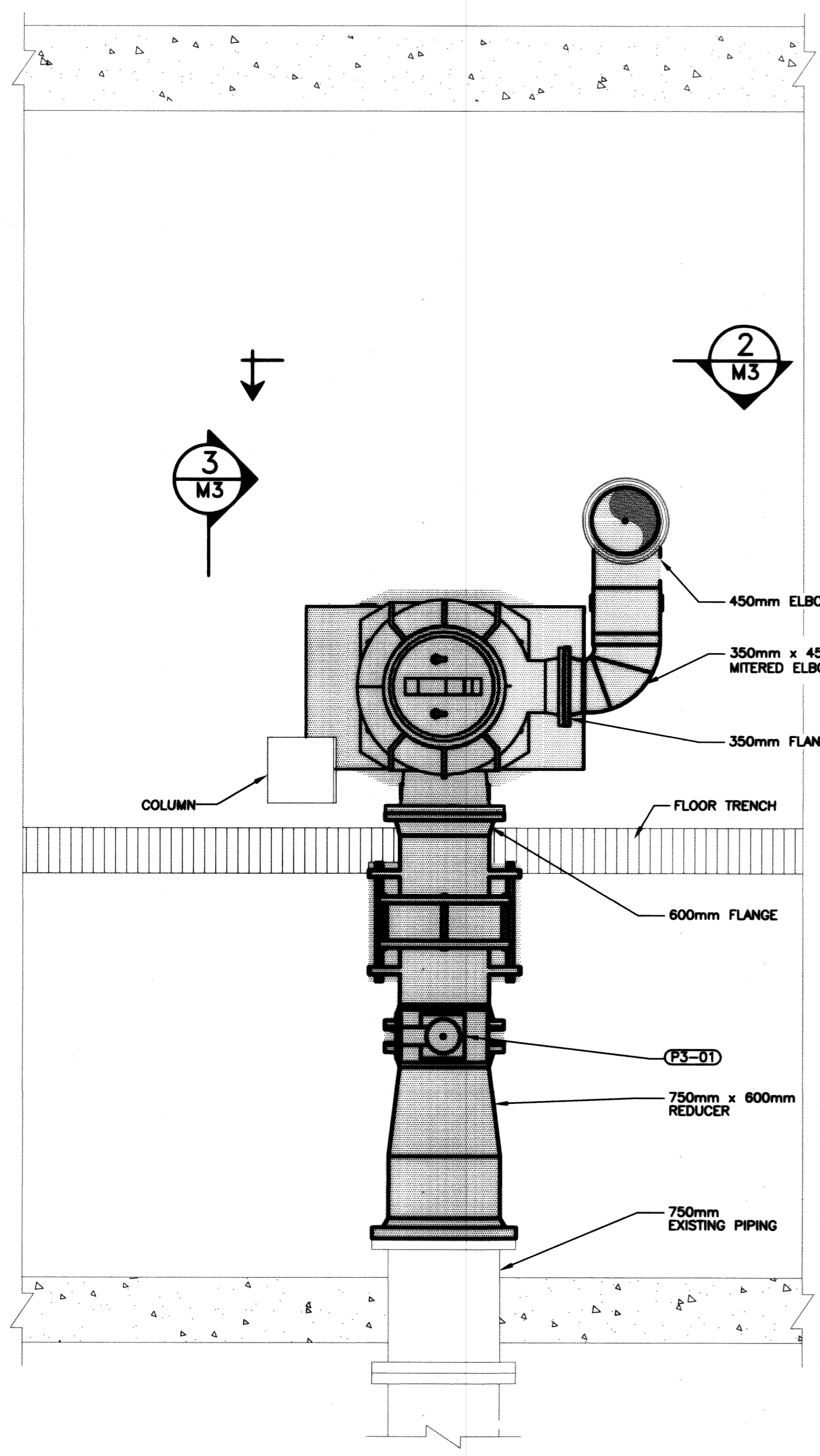
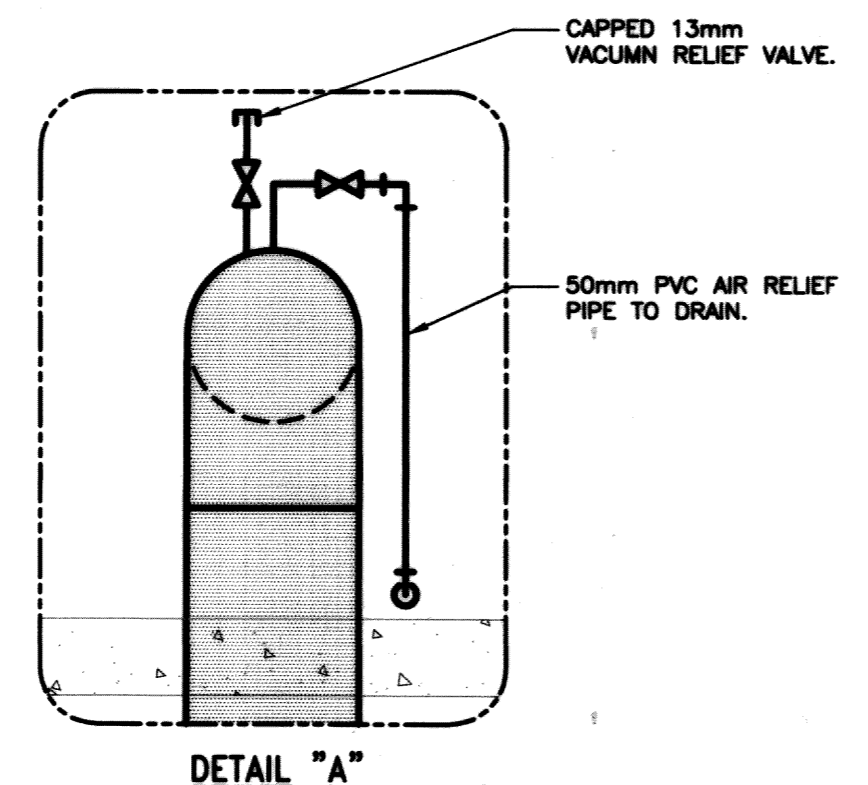


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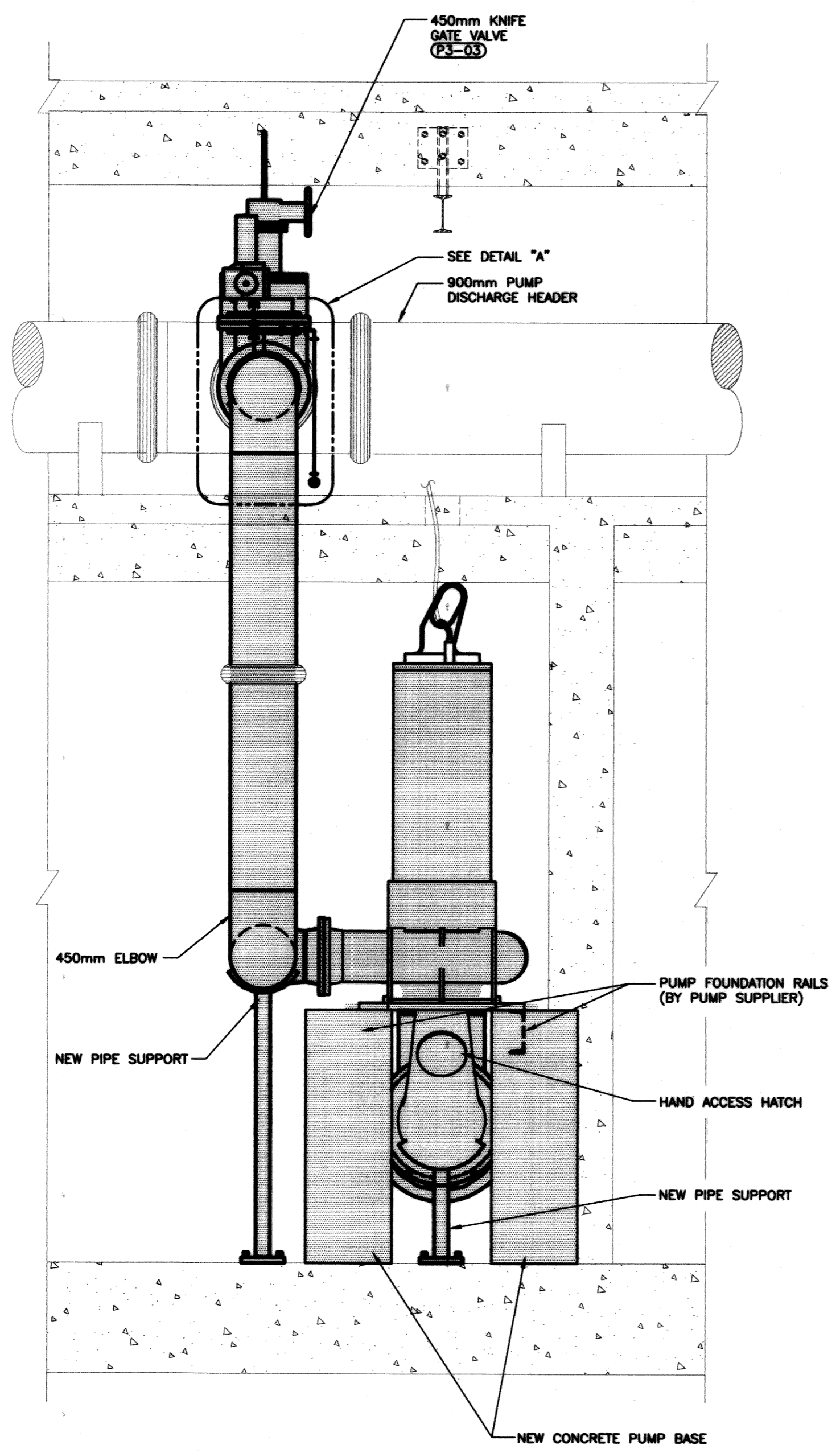
-  FLANGED CONNECTION
-  VICTAULIC COUPLING
-  SHADED
- NEW PIPING & EQUIPMENT

NOTES:

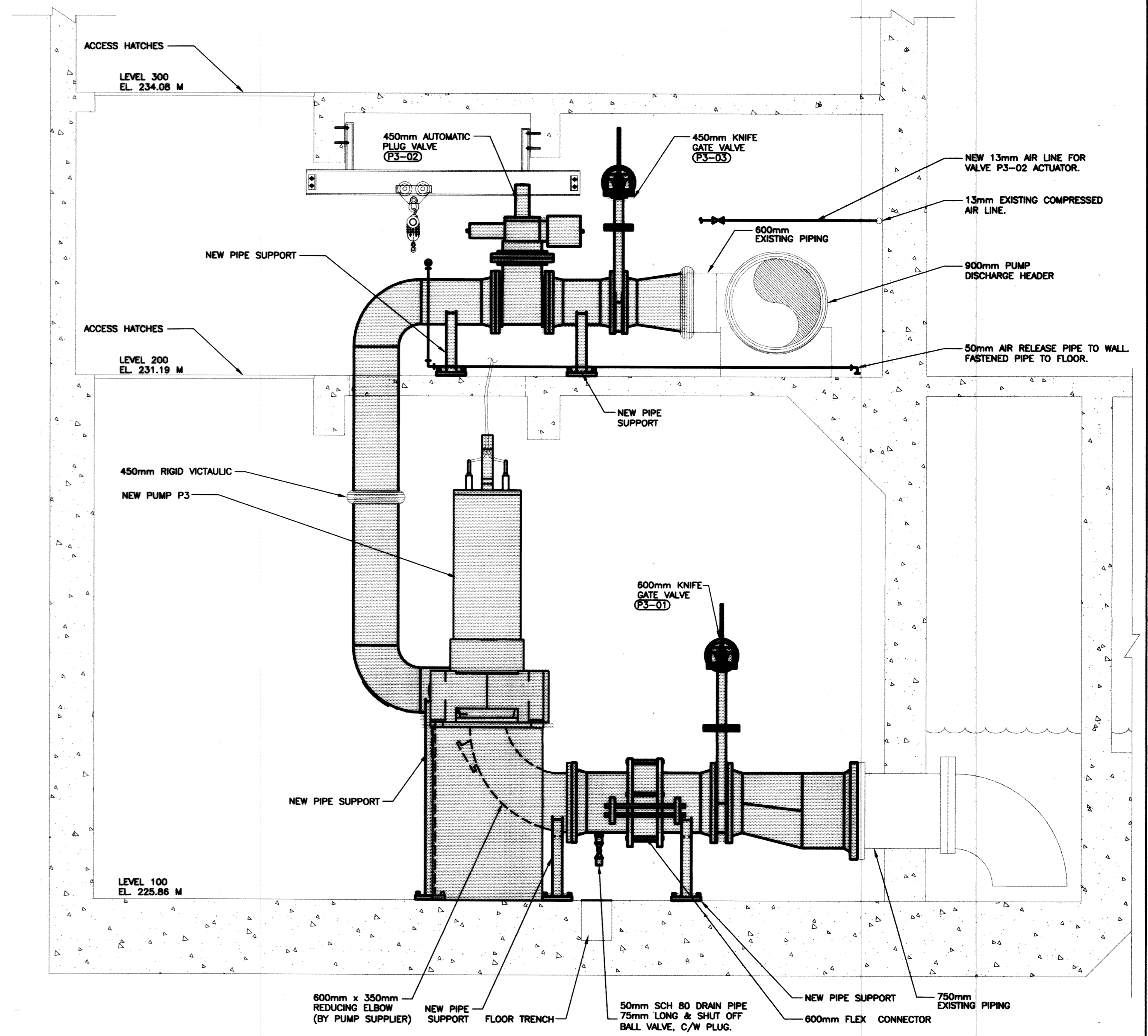
1. GRADE ELEVATION AT 238.66 M



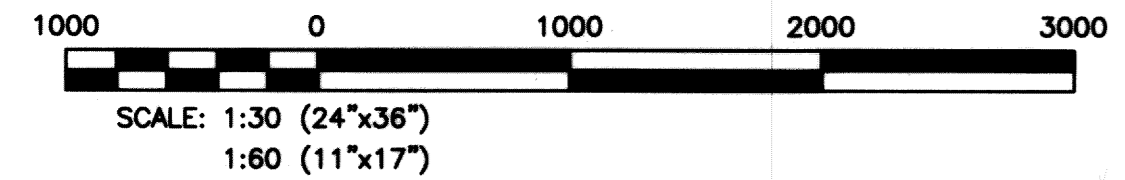
1 PLAN - LEVEL 100



2 SOUTH ELEVATION

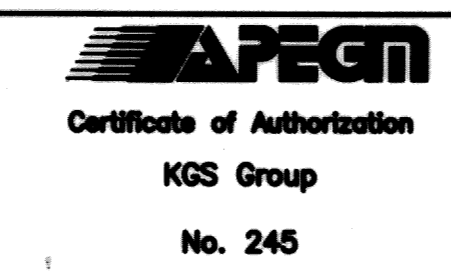


3 EAST ELEVATION




RECORD DRAWING
WATER & WASTE DEPARTMENT

PROJECT COMPLETION DATE : 27 MARCH 2013
CONTRACTOR : T&D ENTERPRISES LTD.
O/A WESCAN ELECTRICAL SERVICES.



NO.	REVISIONS	DATE	BY	DATE
1	RECORD DRAWING	13 09 03	RED	
0	ISSUED FOR TENDER	11 11 07		

DESIGNED BY	RED	CHECKED BY	JS
DRAWN BY	MSL	APPROVED BY	RED
HOR. SCALE	AS NOTED	RELEASED FOR CONSTRUCTION	
VERTICAL	AS NOTED		
DATE	2011 07 15	DATE	

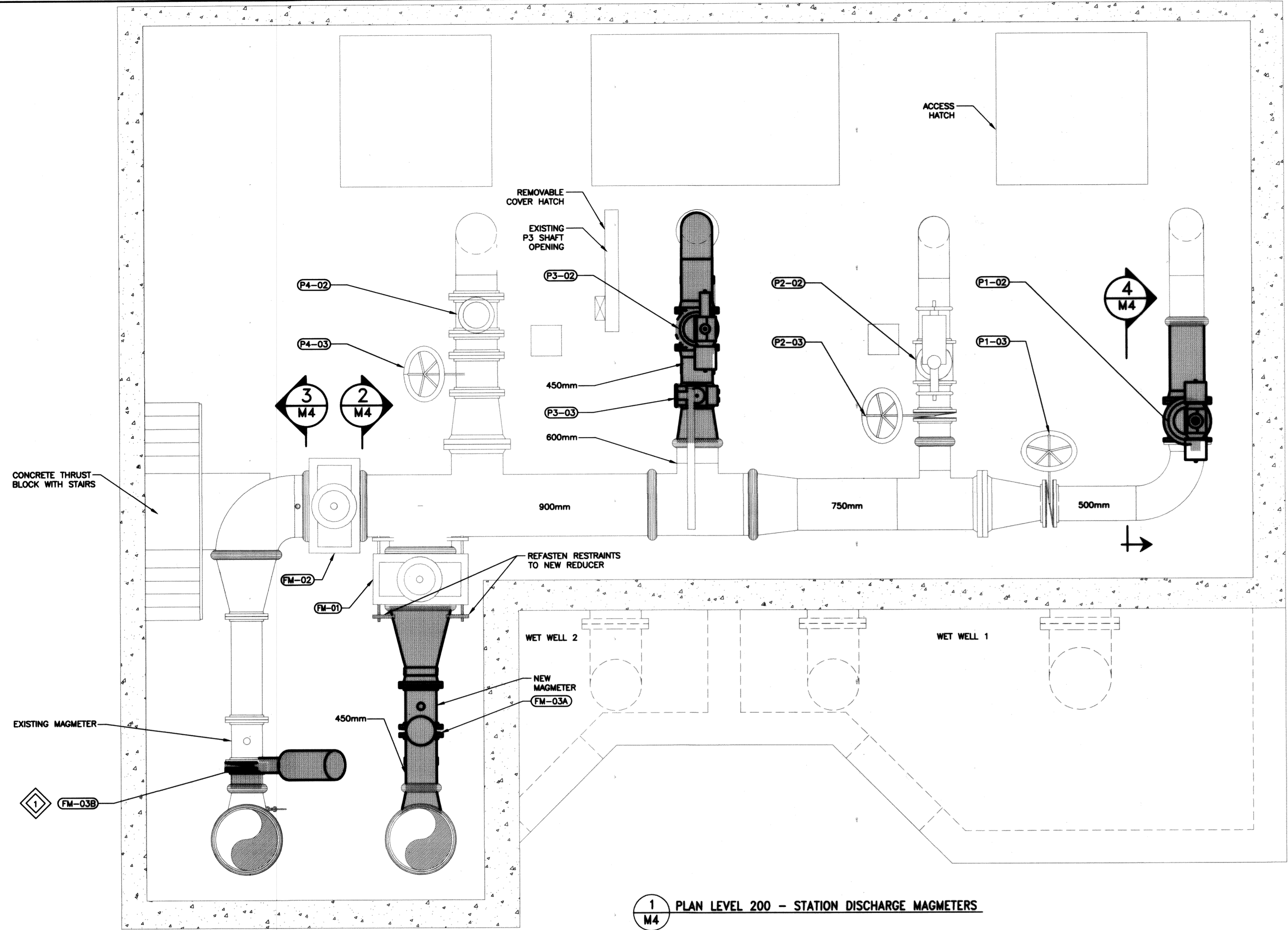
ENGINEER'S SEAL

 M03

THE CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT

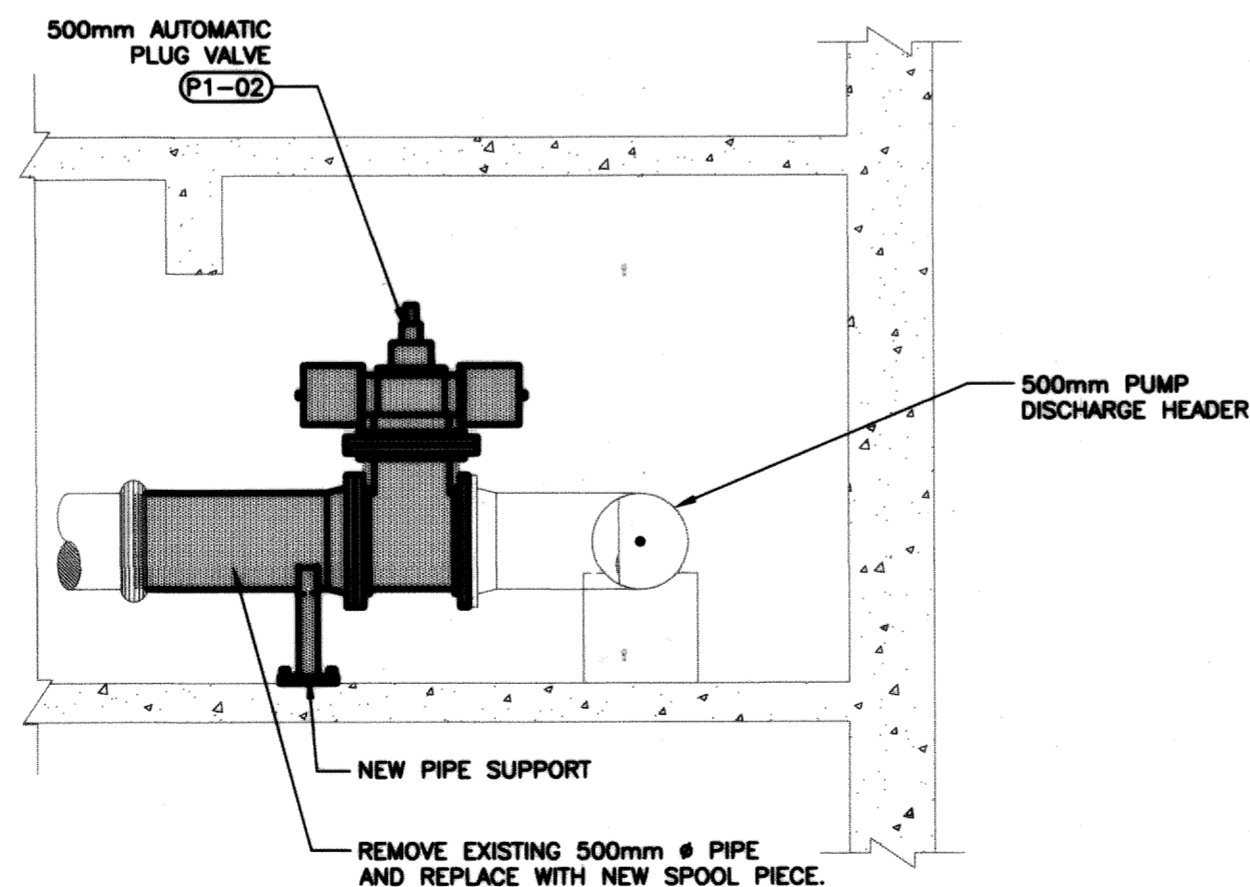
REPLACEMENT OF RAW SEWAGE PUMP P-3
PERIMETER ROAD PUMPING STATION
MECHANICAL
NEW PUMP P3 & RELATED PIPING

SHEET 1 OF 1
CITY DRAWING NUMBER
1-0111L-M0015-001

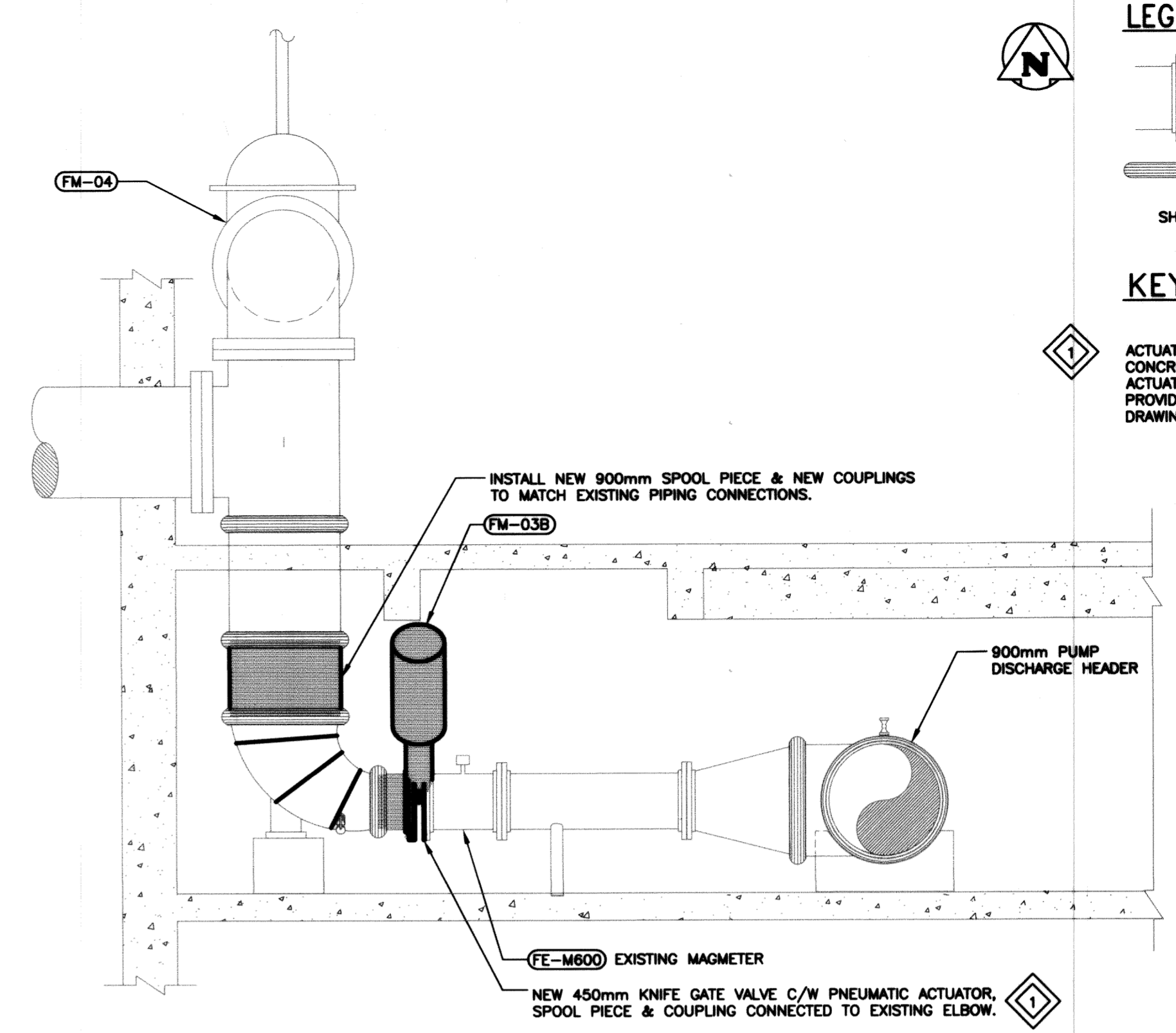
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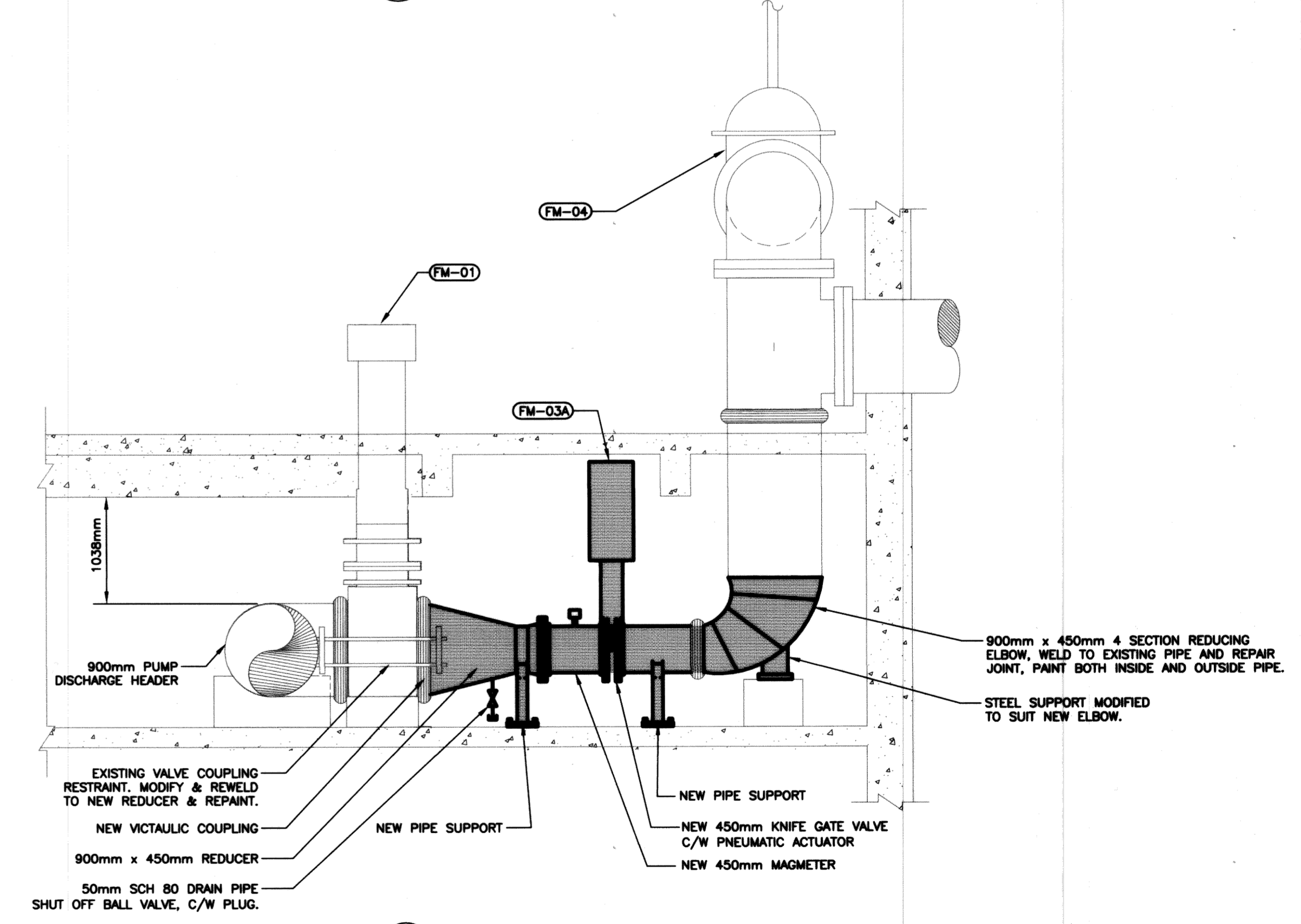
1
M4
PLAN LEVEL 200 - STATION DISCHARGE MAGMETERS



4
M4
SECTION - EXISTING PLUG VALVE REPLACEMENT



3
M4
SECTION - EXISTING MAGMETER



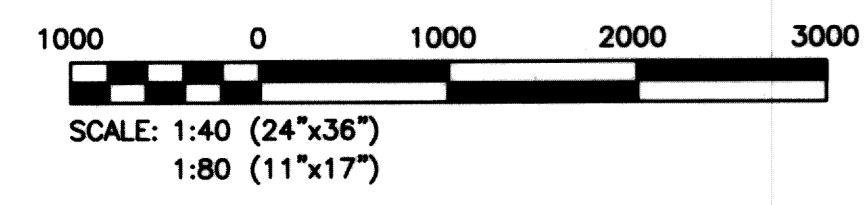
2
M4
SECTION - NEW MAGMETER

LEGEND:

- FLANGED CONNECTION
- VICTAULIC COUPLING
- SHADED
- NEW PIPING & EQUIPMENT

KEY NOTES:

ACTUATOR INSTALLED AT AN ANGLE TO CLEAR CONCRETE BEAM ABOVE BY MINIMUM 100mm. ACTUATOR SUPPORTED FROM CONCRETE ABOVE. PROVIDE SUPPORT DETAIL. PROVIDE SHOP DRAWING FOR REVIEW.



RECORD DRAWING
WATER & WASTE DEPARTMENT

PROJECT COMPLETION DATE : 27 MARCH 2013
CONTRACTOR : T&D ENTERPRISES LTD.
O/A WESCAN ELECTRICAL SERVICES.

APEGN
Certificate of Authorization
KGS Group
No. 245

FIELD BOOK #:	
POSTED TO LBIS	
1 RECORD DRAWING	13 08 03 RED
0 ISSUED FOR TENDER	11 11 07 RED
NO. REVISIONS	DATE BY

KGS GROUP
CONSULTING ENGINEERS

DESIGNED BY	RED	CHECKED BY	JS
DRAWN BY	MSL	APPROVED BY	RED
HOR. SCALE	AS NOTED	RELEASED FOR CONSTRUCTION	
VERTICAL	AS NOTED		
DATE	2011 07 15	DATE	

ENGINEER'S SEAL

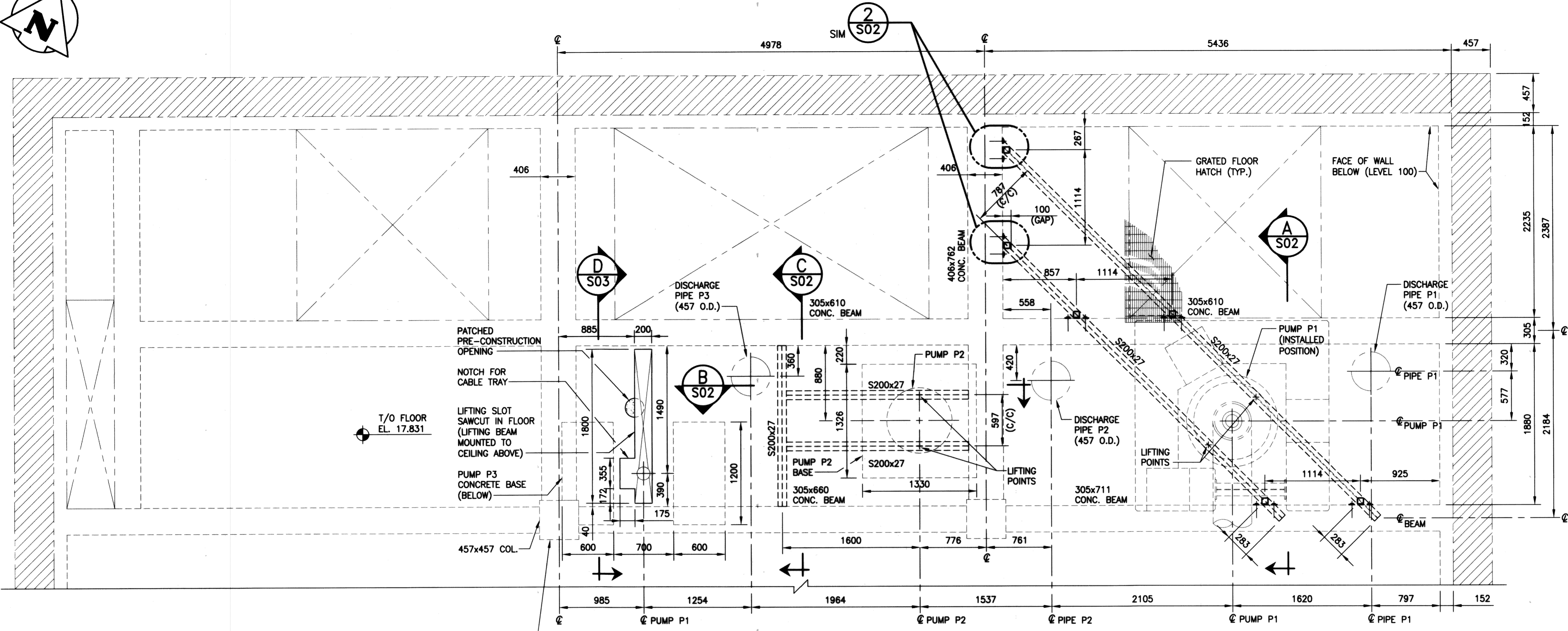
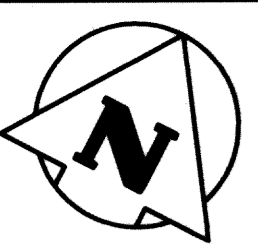
M04

THE CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT

REPLACEMENT OF RAW SEWAGE PUMP P-3
PERIMETER ROAD PUMPING STATION
MECHANICAL
LEVEL 200
NEW PIPING SYSTEM

SHEET 1 OF 1
CITY DRAWING NUMBER
1-0111L-M0016-001

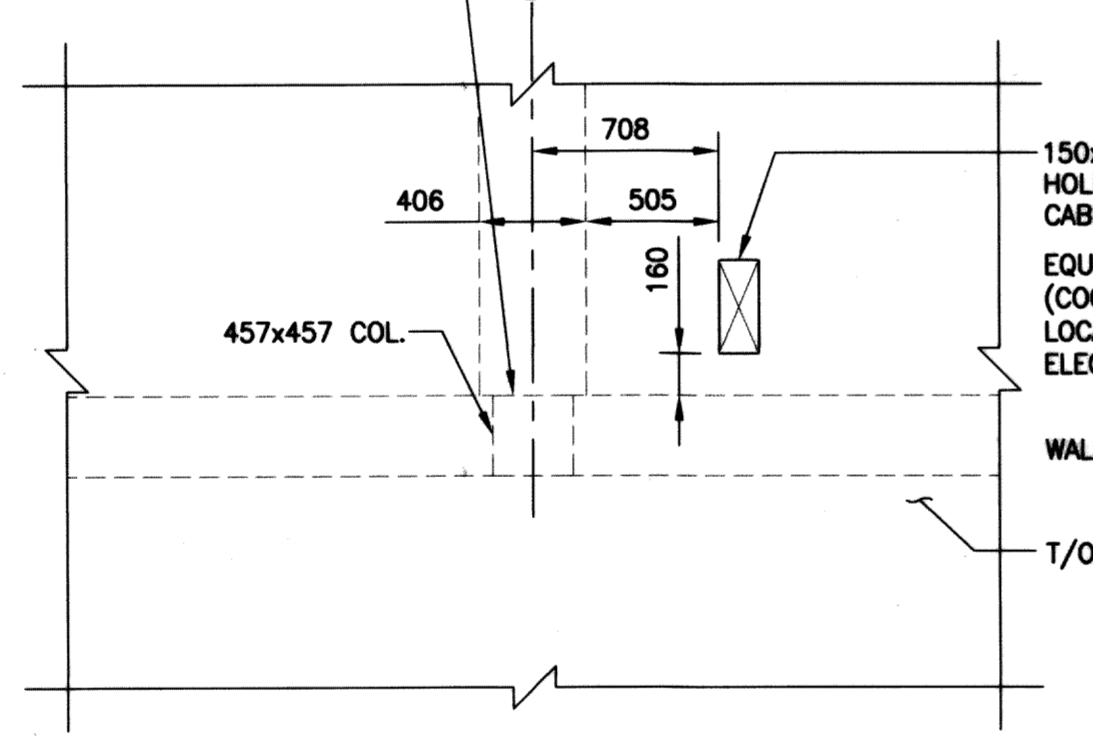
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PLAN AT EL. 17.831 (58.5') - LEVEL 200

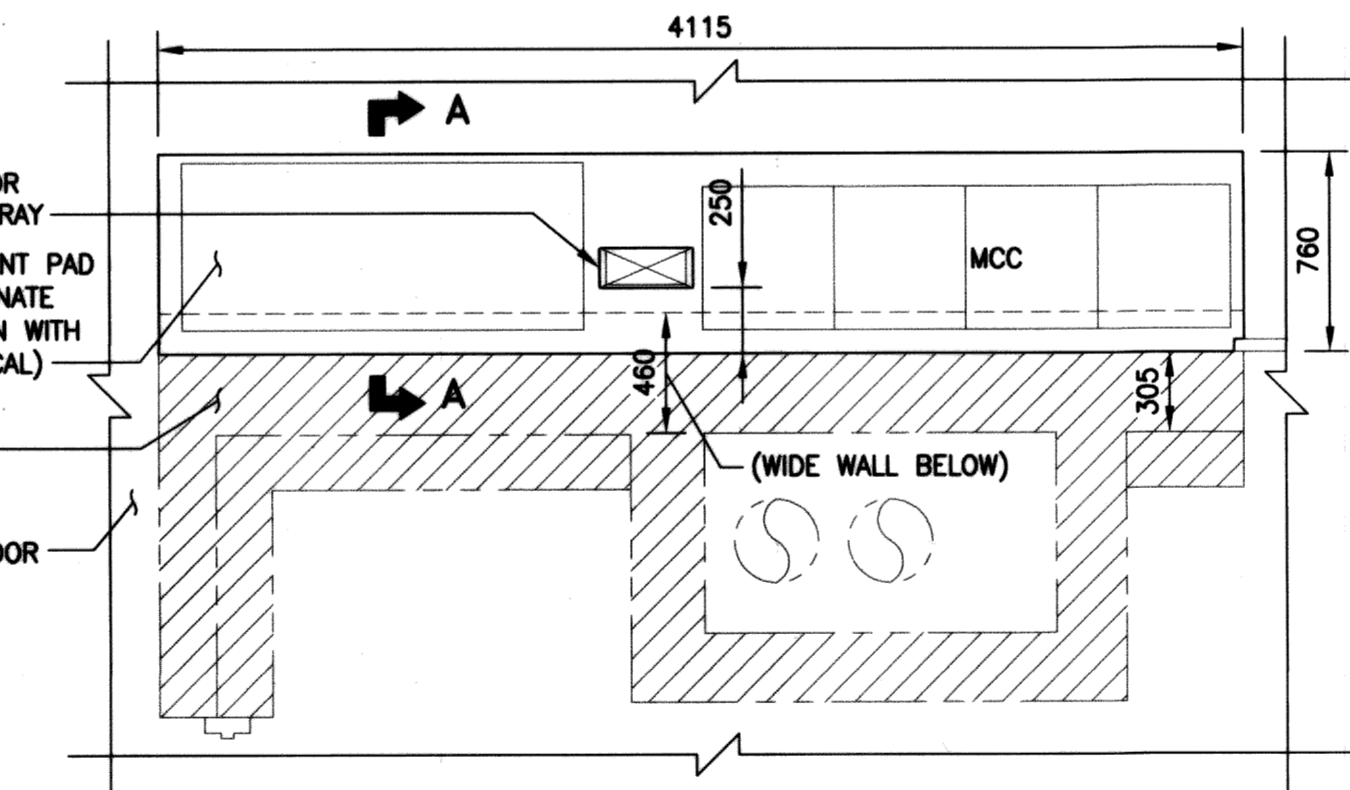
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DIMENSIONS ARE APPROXIMATE ONLY.



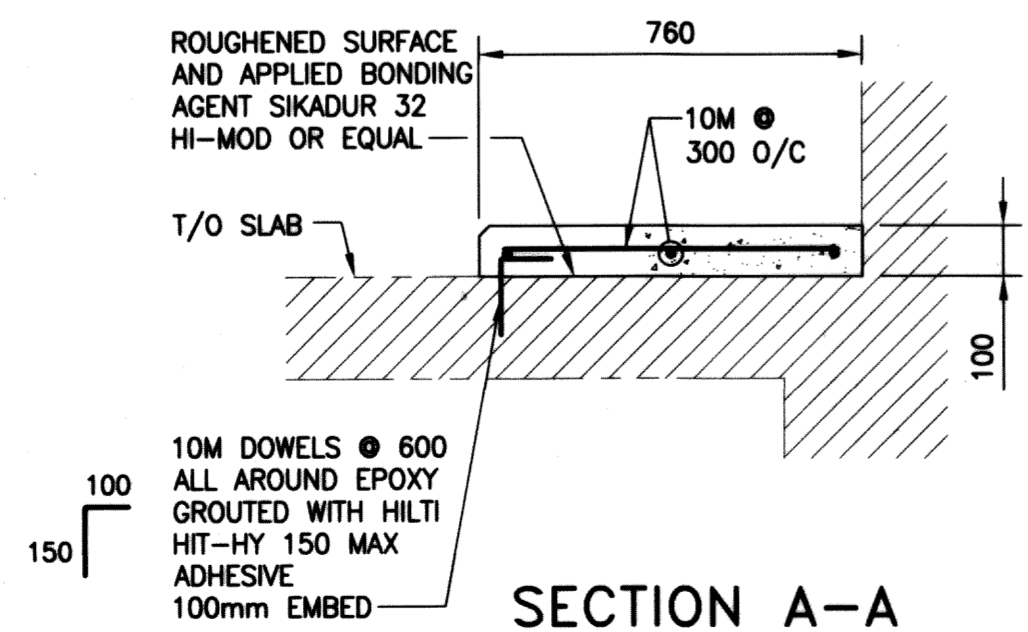
PARTIAL PLAN - LEVEL 300

SCALE: 1:30



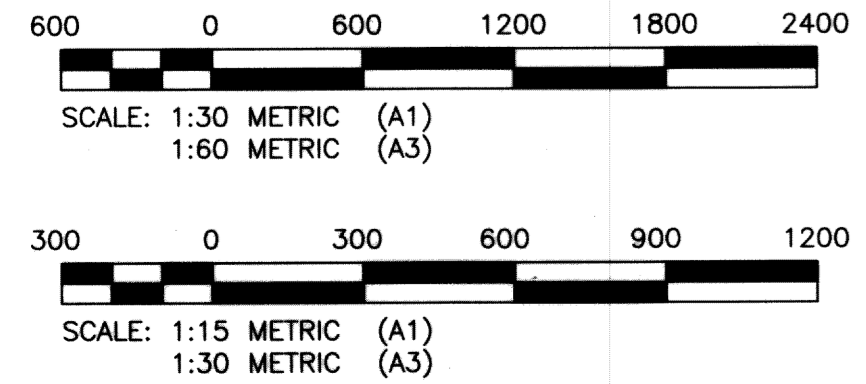
PARTIAL PLAN - LEVEL 400

SCALE: 1:30



SECTION A-A

SCALE: 1:15



RECORD DRAWING
WATER & WASTE DEPARTMENT

PROJECT COMPLETION DATE : 27 MAR 2013
CONTRACTOR : T & D ENTERPRISES LTD.
O/A WESCAN ELECTRICAL SERVICES



FIELD BOOK #:		DESIGNED BY: JMW		CHECKED BY: CHS	
POSTED TO LBIS:		DRAWN BY: FBV		APPROVED BY: RED	
1 RECORD DRAWING		13 03 08		HQR. SCALE: AS NOTED	
0 ISSUED FOR TENDER		11 11 07		VERTICAL: AS NOTED	
NO. REVISIONS		DATE		DATE: 2011 06 8	

KGS GROUP
CONSULTING ENGINEERS

ENGINEER'S SEAL: **C.M. SIEPMAN** Member 2013

7450

S01

THE CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT

REPLACEMENT OF RAW SEWAGE PUMP P-3
PERIMETER ROAD PUMPING STATION

STRUCTURAL
GENERAL ARRANGEMENT/PLAN

SHEET 1 OF 1
CITY DRAWING NUMBER
1-0111L-S0014-001

STRUCTURAL AND MISCELLANEOUS STEEL:

- STRUCTURAL AND MISCELLANEOUS STEEL FABRICATION AND ERECTION IN ACCORDANCE WITH CAN/CSA S16 (LATEST).
- STRUCTURAL STEEL MET THE REQUIREMENTS OF CAN/CSA G40.20/G40.21 (LATEST).
ROLLED W-SHAPES CSA G40.21-350W
ROLLED SHAPES & PLATES CSA G40.21-300W
BOLTS, NUTS, & WASHERS ASTM A325
WELDING ELECTRODES CSA W48.1
- WELDING IN ACCORDANCE WITH CSA W59 (LATEST), BY WELDERS CERTIFIED AND QUALIFIED IN ACCORDANCE WITH CSA W47.1 (LATEST). ALL WELDS 1/4" UNLESS NOTED OTHERWISE.
- FIELD CONNECTIONS ARE BOLTED 3/4" DIAMETER A325 BEARING TYPE UNLESS NOTED OTHERWISE. BOLTS TIGHTENED IN ACCORDANCE WITH CSA S16 (LATEST).
- STRUCTURAL AND MISCELLANEOUS STEEL FINISHED AS INDICATED BELOW, UNLESS OTHERWISE NOTED:
SURFACE PREP. TO SSPC-10
- ONE PRIME COAT INTERZINC 52 (2.5 MIL)
- ONE FINISH COAT INTERGARD EF HI-BUILD (6.0 MIL)
- COLOUR OF STRUCTURAL AND MISCELLANEOUS STEEL AS FOLLOWS:
- STRUCTURAL STEEL - LIGHT GREY
- MONORAIL BEAMS - HI-VISIBILITY YELLOW

ALUMINUM:

- ALUMINUM IN ACCORDANCE WITH CAN/CSA S517 AND THE ALUMINUM ASSOCIATION "SPECIFICATION FOR ALUMINUM STRUCTURES". ALUMINUM FOR PLATES AND EXTRUDED SHAPES TYPE 6061-T651.
- ALUMINUM WELDING IN ACCORDANCE WITH CSA W59.2 (LATEST) BY WELDERS CERTIFIED AND QUALIFIED IN ACCORDANCE WITH CSA W47.2 (LATEST). ALL WELDS 6MM UNLESS OTHERWISE NOTED.
- NEOPRENE GASKETS PROVIDED WHERE ALUMINUM IN CONTACT WITH CONCRETE.

CONCRETE:

- CONCRETE MATERIALS AND WORKMANSHIP IN ACCORDANCE WITH CSA A23.1 (LATEST). SEE BELOW FOR MIX REQUIREMENTS.
- MIX WATER POTABLE.
- DESIGN, FABRICATE AND ERECT FORMWORK/SHORING IN ACCORDANCE WITH CAN/CSA-S269.3 (LATEST).
- ALL EXPOSED CORNERS HAVE 25MM CHAMFER FILLET UNLESS NOTED.
- BONDING AGENTS USED TO ADHERE NEW CONCRETE TO EXISTING CONCRETE OR STEEL. ACCEPTABLE PRODUCT: [SIKADUR 32 HI-MOD (EPOXY), SIKALATEX R (ACRYLIC, MIX INTO GROUT)].

CONCRETE MIX DESIGNS:

INTER. CONC.	EXPOSURE CLASS	[N]
ALL SLABS, WALLS, BMS & COLUMNS	MIN. 28 DAY COMP. STRENGTH	[30] MPA
	CEMENT TYPE	[GU]
	MAX. W/C RATIO	[0.45]
	MAX. AGGREGATE SIZE	[20MM]
	ENTRAINED AIR CONTENT	[N/A]

REINFORCING STEEL:

- REINFORCING STEEL IS NEW DEFORMED BILLET STEEL BARS CONFORMING TO CSA G30.18 (LATEST) GRADE TO BE 400 MPa.
- REINFORCING STEEL IS CLEAN, FREE OF RUST, DIRT, LOOSE SCALE, OIL, GREASE OR ANY OTHER MATERIAL WHICH WOULD REDUCED BOND WITH THE CONCRETE.

PATCHING & REMOVALS - GENERAL:

- PATCHED EXISTING FLOOR, WALL, CEILING ASSEMBLIES, ETC. FLUSH WHERE REQUIRED DUE TO DEMOLITION/RENOVATION WORK TO MATCH EXISTING CONSTRUCTION, MATERIALS, TEXTURES AND FINISHES UNLESS NOTED OR PERMITTED OTHERWISE.
- SIDES OF EXISTING HOLES PLUGGED COATED WITH BONDING AGENT. BOTTOM OF HOLE FORMED AND HOLE FILLED WITH CONCRETE.
- BONDING AGENT USED TO ADHERE NEW CONCRETE TO EXISTING CONCRETE. ACCEPTABLE PRODUCT: SIKADUR 32 HI-MOD OR EQUAL.
- REFER TO MECHANICAL FOR PUMP AND PIPING CONCRETE BASES.

LIFTING PROCEDURE (PUMP P1 & P2):

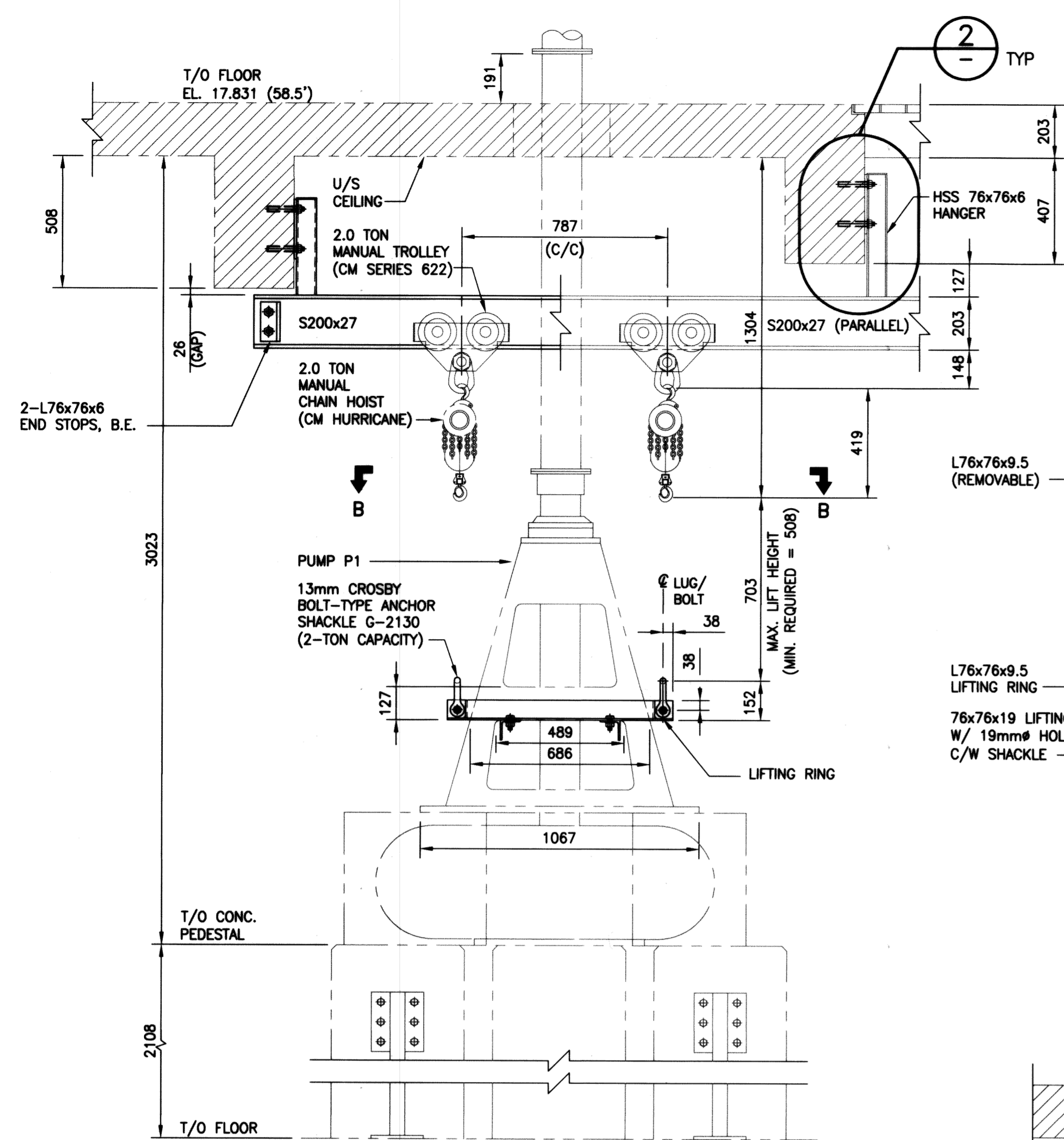
- REMOVE VERTICAL SHAFT ABOVE PUMP COUPLING.
- LOWER LIFTING RING OVER TOP OF PUMP CASING UNTIL SNUG.
- INSERT HORIZONTAL ANGLES THROUGH OPENINGS IN PUMP CASING AND BOLT IN PLACE TO LIFTING RING.
- CONNECT HOISTS TO SHACKLES ON LIFTING RING.
- DETACH PUMP UNIT FROM VOLUTE AND LIFT USING BOTH HOISTS SIMULTANEOUSLY.
- MOVE PUMP UNIT NORTHWEST OF CONCRETE SUPPORT PEDESTALS USING MANUAL TROLLEYS.
- LOWER PUMP UNIT ONTO WHEELED CART LOCATED ON FLOOR.
- ROLL CART BELOW FLOOR HATCH AND REMOVE PUMP UNIT FROM STATION USING MOBILE CRANE.

LIFTING PROCEDURE (PUMP P3):

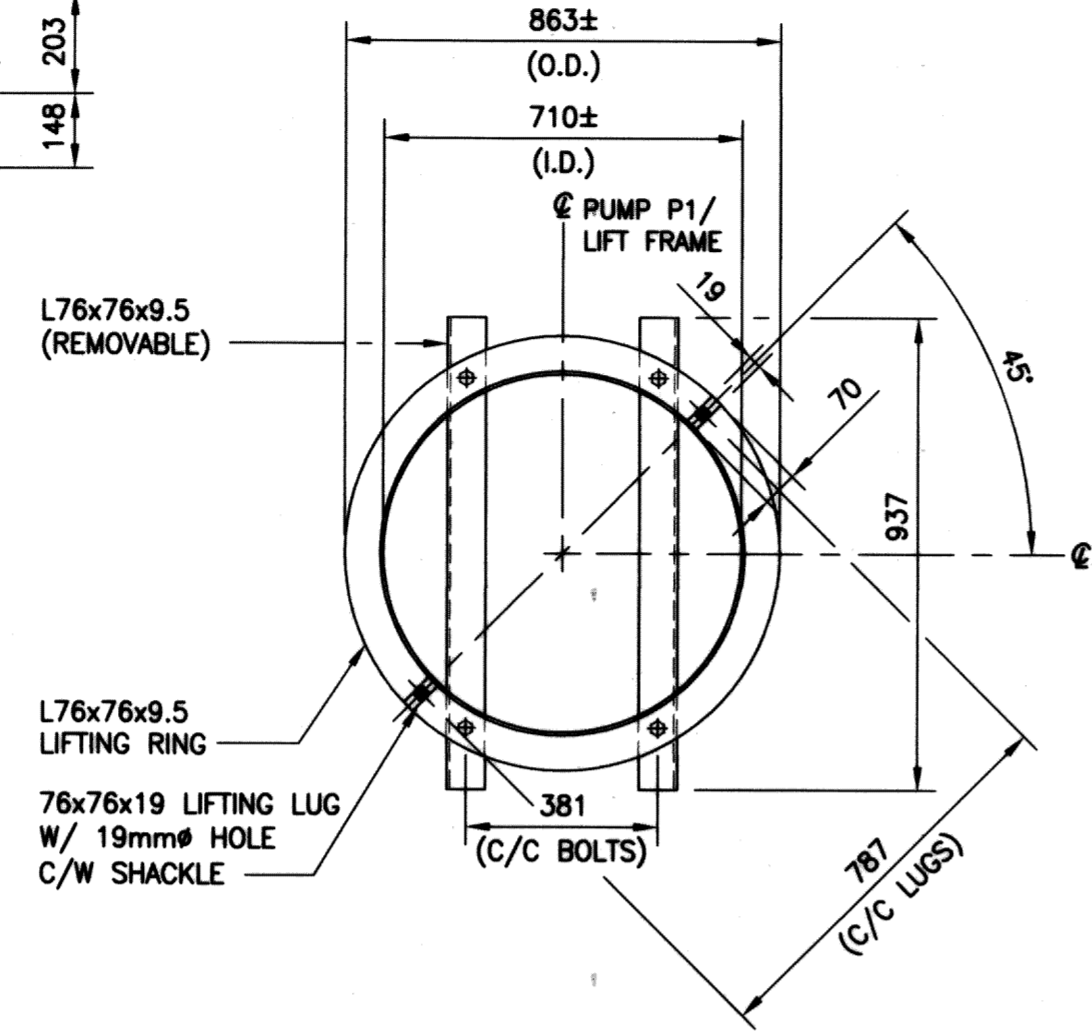
- REMOVE GRATING FROM FLOOR SLOT AT LEVEL 200.
- CONNECT HOISTS TO EYEBOLT MOUNTED AT TOP OF PUMP.
- DETACH PUMP FROM VOLUTE AND LIFT CLEAR.
- MOVE PUMP UNIT NORTH USING MANUAL TROLLEY.
- LOWER PUMP ONTO WHEELED SUPPORT FRAME/CART LOCATED ON THE FLOOR.
- ROLL CART BELOW FLOOR HATCH AND REMOVE PUMP UNIT FROM STATION USING MOBILE CRANE.

METRIC
WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES

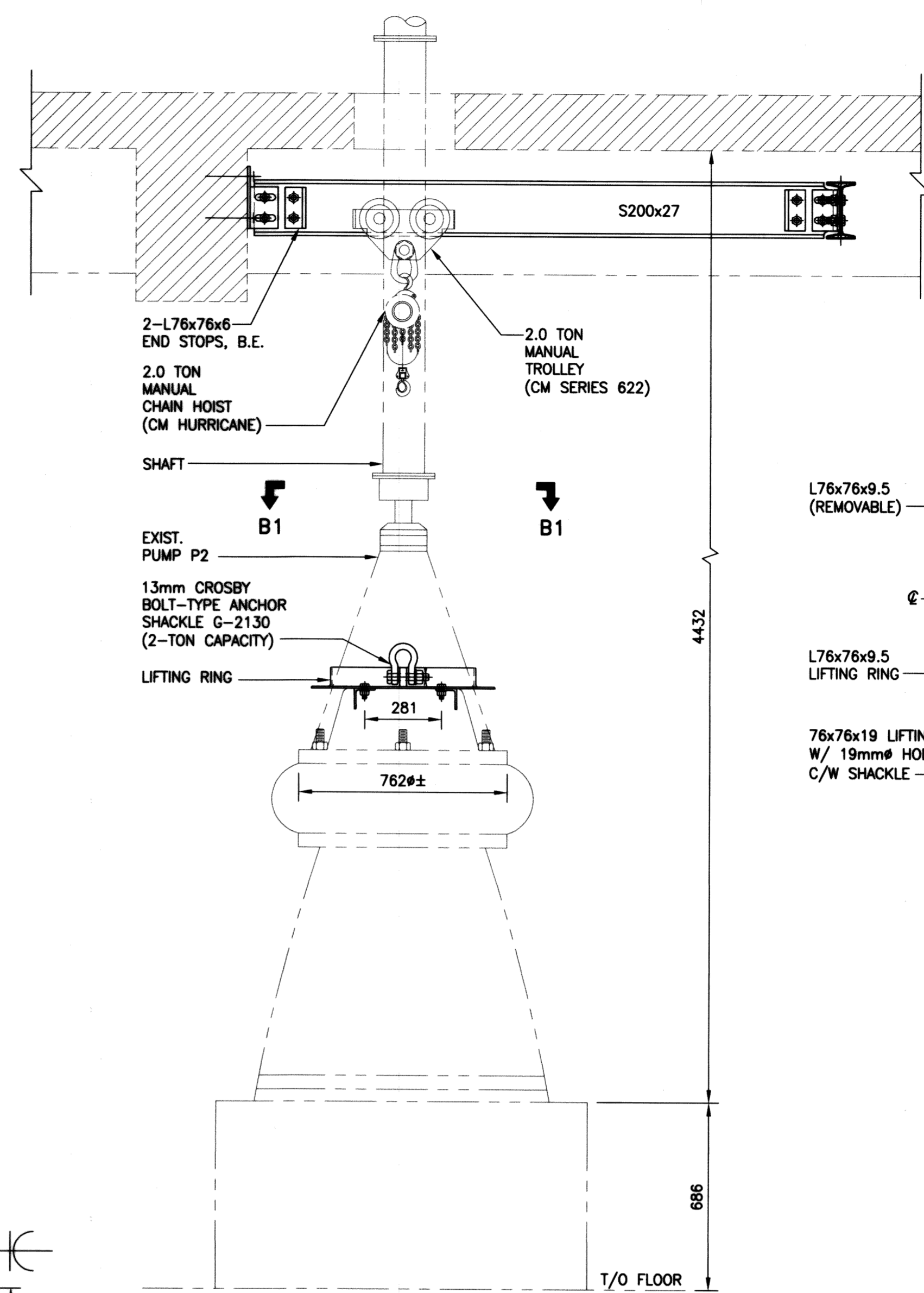
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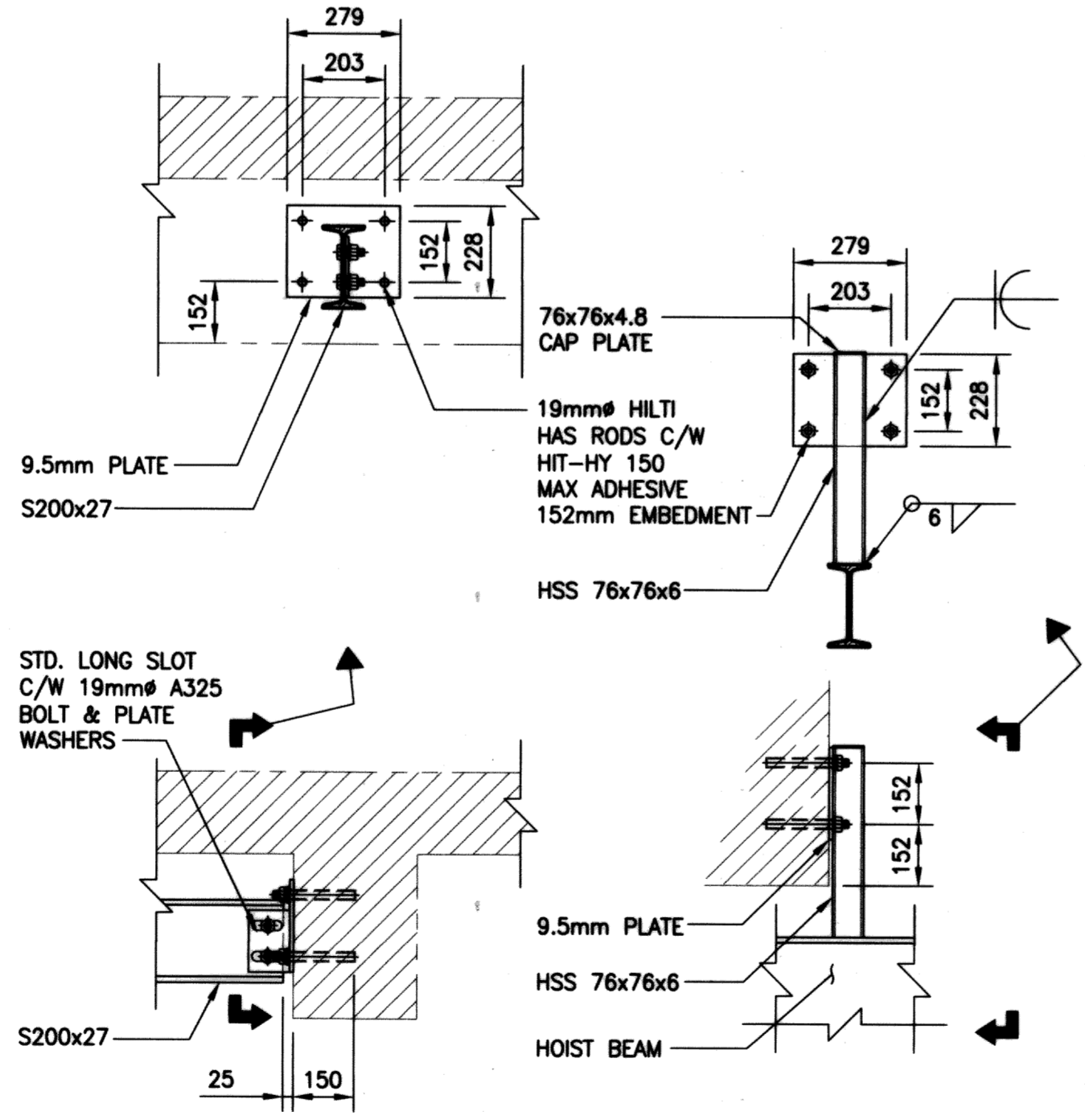
A SECTION
S01 SCALE: 1:15



PUMP NOT SHOWN FOR CLARITY
SECTION B-B
SCALE: 1:15

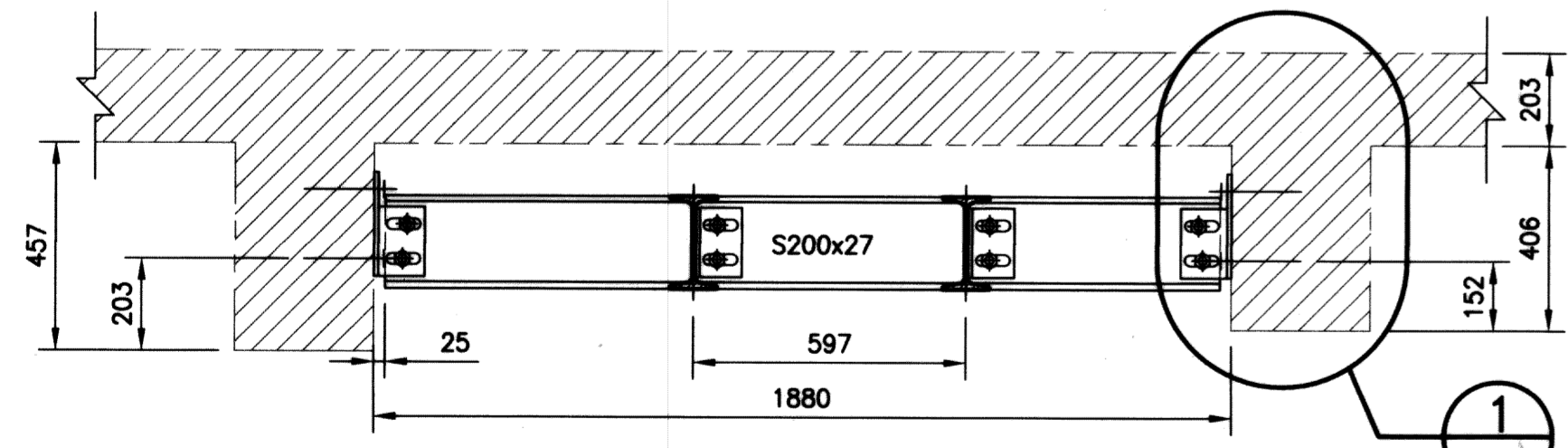


PUMP NOT SHOWN FOR CLARITY
SECTION B1-B1
SCALE: 1:15



1 DETAIL
SCALE: 1:15

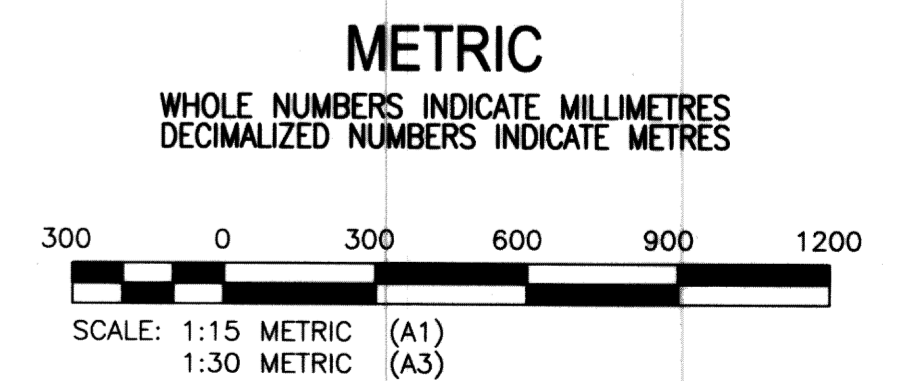
2 DETAIL (TYP.)
SCALE: 1:15



C SECTION
S01 SCALE: 1:15

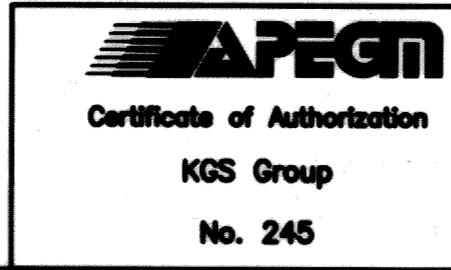
(LOOKING SOUTH)
B SECTION
S01 SCALE: 1:15

REFER TO DWG. S01 FOR GENERAL NOTES.



RECORD DRAWING
WATER & WASTE DEPARTMENT

PROJECT COMPLETION DATE : 27 MAR 2013
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O/A WESCAN ELECTRICAL SERVICES



NO.	REVISIONS	DATE	BY
1	RECORD DRAWING	13 09 03	QIS
0	ISSUED FOR TENDER	11 11 07	QIS

DESIGNED BY	CHECKED BY
JWV	CMS
DRAWN BY	APPROVED BY
FBV	RED
HDR. SCALE	RELEASED FOR CONSTRUCTION
AS NOTED	
VERTICAL	DATE
AS NOTED	2011 06 8

ENGINEER'S SEAL
C.M. SIEPMAN
Member
2013
Professional Engineers
S02

THE CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT

REPLACEMENT OF RAW SEWAGE PUMP P-3
PERIMETER ROAD PUMPING STATION
STRUCTURAL
SECTIONS/DETAILS (1 OF 2)

SHEET 1 OF 1
CITY DRAWING NUMBER
1-0111L-S0015-001