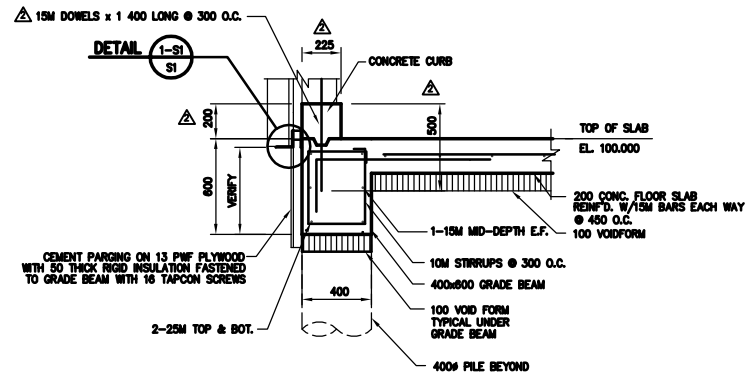
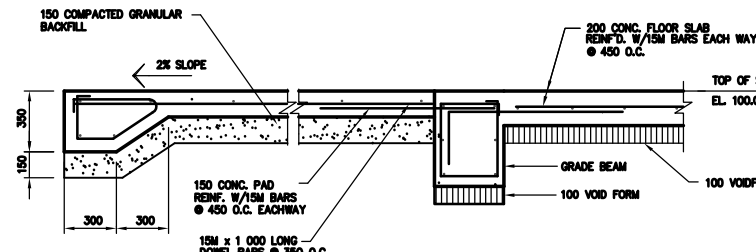


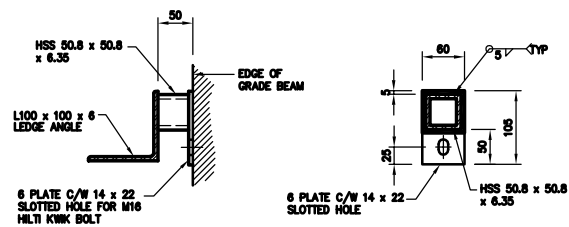
FLOOR PLAN
1:50



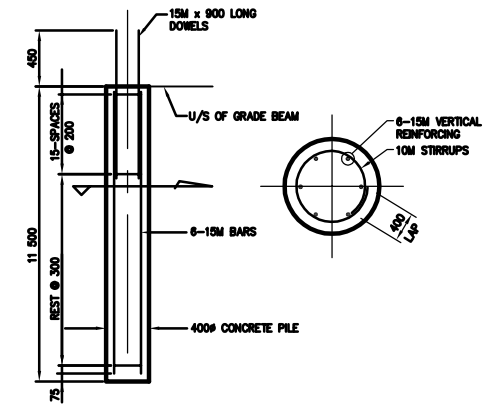
SECTION A-S1
1:20



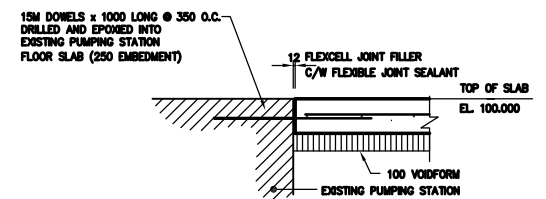
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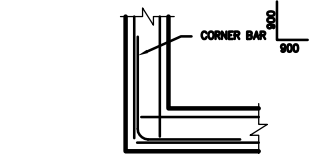
DETAIL 1-S1
1:5



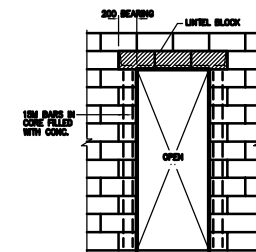
SKIN FRICTION PILE DETAIL
N.T.S.



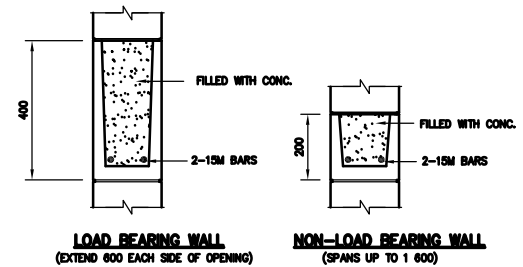
SECTION C-S1
1:20



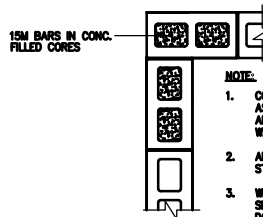
TYPICAL GRADE BEAM CORNER BAR DETAIL
N.T.S.



TYPICAL BEARING WALL FOR CONG. BLOCK LINTELS
N.T.S.



LINTEL BLOCK DETAILS
N.T.S.



VERTICAL REINFORCEMENT
N.T.S.

GENERAL NOTES:

- DESIGN IS IN ACCORDANCE WITH THE NATIONAL BUILDING CODE OF CANADA 1995 EDITION PLUS 1998 MANITOBA AMENDMENTS
 - EXCAVATE ALL TOP SOIL, ORGANIC MATERIAL AND LOOSE OR UNSUITABLE FILL TO THE APPROVAL OF THE CONTRACT ADMINISTRATOR
 - CONFIRM THE LOCATIONS OF ALL SUBGRADE SERVICES PRIOR TO COMMENCING SITE WORK
 - DO NOT SCALE THE DRAWINGS
 - VERIFY ALL DIMENSIONS, ELEVATIONS AND SCOPE OF WORK PRIOR TO COMMENCEMENT OF CONSTRUCTION
 - STRUCTURAL DRAWINGS SHOW THE COMPLETED STRUCTURE. THEY DO NOT SHOW THE COMPONENTS WHICH MAY BE NECESSARY FOR SAFETY DURING CONSTRUCTION
 - THE CONTRACTOR IS RESPONSIBLE FOR SAFETY IN AND ABOUT THE JOB SITE DURING CONSTRUCTION
 - IF ANY UNSOUND STRUCTURAL CONDITIONS ARE OBSERVED OR CREATED DURING CONSTRUCTION REPORT THEM IMMEDIATELY TO THE CONTRACT ADMINISTRATOR
 - STRUCTURAL DRAWINGS MAY NOT SHOW ALL ELECTRICAL AND MECHANICAL OPENINGS. REFER TO ELECTRICAL AND MECHANICAL DRAWINGS FOR ACTUAL LOCATIONS AND ELEVATIONS OF OPENINGS. NOTIFY THE CONTRACT ADMINISTRATOR OF ANY ADDITIONAL OPENING REQUIREMENTS
 - CONTRACTOR RESPONSIBLE FOR ALL SURFACE RESTORATIONS AS PER E7.
- FOUNDATIONS:**
- FRICTION PILES ARE DESIGNED FOR AN ASSUMED SKIN FRICTION OF 14.4 MPa
 - MECHANICALLY VIBRATE THE TOP 4.5 METRES OF THE PILES

CAST-IN-PLACE CONCRETE:

- TO BE READ IN CONJUNCTION WITH CW 2180 AND AS AMENDED IN ACCORDANCE WITH THESE NOTES
- CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF CSA A23.1
- CONCRETE MIX SHALL BE IN ACCORDANCE WITH PERFORMANCE SPECIFICATION AND SHALL HAVE THE FOLLOWING PROPERTIES:
 - CLASS OF EXPOSURE: S-1
 - MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS: 35MPa
 - MAXIMUM SLUMP: 80mm ± 20mm
 - AIR CONTENT: 5 - 6%
 - MAXIMUM WATER/CEMENT RATIO: 0.40
- CONCRETE COVER SHALL BE 75mm FOR PILES AND GRADE BEAMS. ALL OTHER CONCRETE SHALL BE 50mm
- CHAMFER ALL EXTERIOR CORNERS 20mm
- FORMWORK, SHORING AND BRACING SHALL MEET DESIGN CODE AND CSA A23.1 REQUIREMENTS AND BE CONSTRUCTED ACCURATELY SO THAT RESULTANT FINISHED CONCRETE CONFORMS TO THE SHAPES, LINES AND DIMENSIONS INDICATED ON THE DRAWINGS
- FOR COLD WEATHER CONCRETING ALL ICE, SNOW AND FROST SHALL BE REMOVED FROM THE FORMWORK AND THE TEMPERATURE OF ALL CONTACT SURFACES INCLUDING REINFORCING STEEL SHALL BE RAISED ABOVE 10°C FOR AT LEAST 24 HOURS PRIOR TO CASTING CONCRETE. CONCRETE SHALL NOT BE LESS THAN 20°C NOR MORE THAN 30°C WHEN DEPOSITED. CONCRETE SHALL BE ENCLOSED AND THIS AREA SHALL HAVE A TEMPERATURE OF NOT LESS THAN 20°C FOR 3 DAYS AND NOT LESS THAN 5°C FOR AN ADDITIONAL 4 DAYS
- THREE CONCRETE TEST CYLINDERS AND ONE SLUMP/AIR TEST SHALL BE TAKEN EACH DAY THAT CONCRETE IS PLACED, AND SHALL BE REPEATED FOR EVERY 20m³ OF CONCRETE PLACED EACH DAY UNLESS OTHERWISE DIRECTED BY THE CONTRACT ADMINISTRATOR
- NOTIFY THE CONTRACT ADMINISTRATOR OR TESTING AGENCY 48 HOURS PRIOR TO PLACING CONCRETE

REINFORCING STEEL:

- TO BE READ IN CONJUNCTION WITH CW 2180 AND AS AMENDED IN ACCORDANCE WITH THESE NOTES
- ALL REINFORCING STEEL SHALL CONFORM TO CSA G30.18M GRADE 400
- PERFORM CONCRETE REINFORCING WORK IN ACCORDANCE WITH CSA A23.1
- LAPS SHALL BE AT LEAST 40 BAR DIAMETERS. LOCATE REINFORCING SPLICES NOT INDICATED IN THE DRAWINGS AT POINTS OF MINIMUM STRESS
- BEFORE PLACING CONCRETE ENSURE REINFORCING IS CLEAN AND FREE OF LOOSE SCALE, DIRT OR OTHER FOREIGN MATTER THAT WOULD REDUCE OR PREVENT BOND TO THE CONCRETE
- SHOP DRAWINGS SHALL BE SUBMITTED WHICH CLEARLY INDICATE BAR SIZES, SPACINGS, LOCATIONS AND QUANTITIES OF REINFORCING STEEL. COPIES OF STRUCTURAL DRAWINGS WILL NOT BE ACCEPTED FOR USE AS SHOP DRAWINGS

STRUCTURAL STEEL:

- ALL STRUCTURAL STEEL SHAPES AND PLATES SHALL BE IN ACCORDANCE WITH CSA 040.21-M GRADE 300M, EXCEPT W, HP AND HSS SECTIONS WHICH SHALL BE GRADE 350W CLASS C
- ALL GALVANIZING SHALL COMPLY WITH THE LATEST EDITION OF CSA G164, WITH MINIMUM ZINC COATING OF 600g/m². TOUCH UPS TO BE MADE WITH GALVALLOY OR GAL-VIZ
- ALL BOLTS TO BE ASTM A316 STAINLESS STEEL UNLESS OTHERWISE INDICATED



METRIC
WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES

A-B C
A = DETAIL/SECTION No.
B = DRAWING WHERE SHOWN
C = DRAWING WHERE TAKEN

 MMM GROUP Limited Suite 111 - 53 Lombard Ave. Winnipeg, MB R3B 3B1 T: 204.943.3178 F: 204.943.4348 www.mmm.ca			THE CITY OF WINNIPEG WATER AND WASTE DEPARTMENT Winnipeg	REHABILITATION OF BOURNAIS WASTEWATER PUMPING STATION STRUCTURAL DETAILS	CONSULTANT DRAWING NUMBER 42026-S1
DESIGNED BY: OK DRAWN BY: RCS HOR. SCALE: AS SHOWN VERTICAL:	CHECKED BY: JPL APPROVED BY: JPL RELEASED FOR CONSTRUCTION SIGNED BY: K. ZUREK DATE: 27-03-09				SHEET 14 OF 14 CITY DRAWING NUMBER 8759
NO. REVISIONS DATE BY	2 REVISED DIMENSIONS, LIFTING BEAM REPLACED W/SWING ARM LIFTING HOIST 1 ISSUED FOR CONSTRUCTION DATE BY	09.04.20 OK 09.03.28 OK 09.03.28	BID OPPORTUNITY 901-2008 PLOT DATE: 09.03.28		

Apr 25, 2009 11:13am
 P:\2009 - 2009\2009 - Upgrade of the Bournais Wastewater Pumping Station\Drawings\2009 - Details\REV2.dwg - Job:PLN