

GENERAL NOTES

- THESE NOTES ARE TO BE READ IN CONJUNCTION WITH THE PROJECT SPECIFICATIONS AND ALL OTHER PERTINENT CODES AND CONTRACT DOCUMENTS. IN THE EVENT OF A CONFLICT, THE MOST STRINGENT REQUIREMENT SHALL GOVERN.
- DO NOT SCALE DRAWINGS
- VERIFY ALL DIMENSIONS, ELEVATIONS AND EXTENT OF WORK WITH DRAWINGS AND REPORT ANY DISCREPANCIES OR CONFLICTS TO THE CONTRACT ADMINISTRATOR PRIOR TO PROCEEDING WITH CONSTRUCTION. DO NOT DIMENSION FROM ELECTRONIC DRAWINGS. REWORK OF ITEMS FABRICATED PRIOR TO IDENTIFICATION OF DISCREPANCIES AND/OR CONFLICTS SHALL BE AT NO ADDITIONAL COST TO THE CITY.
- STRUCTURAL DRAWINGS SHOWING THE COMPLETED STRUCTURE DO NOT INDICATE COMPONENTS WHICH MAY BE NECESSARY FOR SAFETY DURING CONSTRUCTION.
- LOCATE SERVICES AND PROTECT THEM AT ALL TIMES DURING CONSTRUCTION.
- STRUCTURAL INTEGRITY OF EXISTING STRUCTURES TO BE MAINTAINED DURING CONSTRUCTION.
- REPORT ANY UNSOUND CONDITIONS OBSERVED OR CREATED IMMEDIATELY TO THE CONTRACT ADMINISTRATOR.
- MODIFICATIONS, ALTERATIONS, OR SUBSTITUTIONS MUST BE AUTHORIZED IN WRITING BY THE CONTRACT ADMINISTRATOR PRIOR TO ANY FABRICATION OR ERECTION.
- THE CONTRACTOR SHALL COMPLY WITH ALL HEALTH AND SAFETY REQUIREMENTS AND REGULATIONS FOR THE PROVINCE OF MANITOBA.
- ALL CONTRACTOR MEANS AND METHODS, INCLUDING TEMPORARY SCAFFOLDING SHALL BE ERECTED AND REMOVED BY AN APPROPRIATELY EXPERIENCED INSTALLATION CONTRACTOR IN ACCORDANCE WITH MANITOBA REGULATION 217/2006. SCAFFOLDING TO BE DESIGNED AND APPROVED FOR USE IN ACCORDANCE WITH SECTION 28 OF 217/2006.

SHOP DRAWINGS:

- THE CONTRACTOR SHALL SUBMIT SPECIFIED SHOP DRAWINGS TO THE CONTRACT ADMINISTRATOR FOR REVIEW. ALL SUBMISSIONS MUST BE IN METRIC UNITS. WHERE DATA IS IN IMPERIAL UNITS, THE CORRECT METRIC EQUIVALENT SHALL ALSO BE SHOWN ON ALL SUBMISSIONS FOR REVIEW.
- ORIGINAL, PURPOSE-SPECIFIC SHOP DRAWINGS ARE TO BE PREPARED BY THE CONTRACTOR, FABRICATOR, SUBCONTRACTOR, SUPPLIER, DISTRIBUTOR, OR MANUFACTURER, TO ILLUSTRATE THE APPROPRIATE PORTIONS OF THE WORK SHOWING FABRICATION, LAYOUT, SETTING OR ERECTION DETAILS AS SPECIFIED IN APPROPRIATE SECTIONS.
- SHOP DRAWINGS FOR THE FOLLOWING COMPONENTS SHALL BE SEALED, SIGNED AND DATED BY A PROFESSIONAL ENGINEER LICENSED TO PRACTICE IN THE PROVINCE OF MANITOBA:
 - EXCAVATION SHORING WITH DESIGN CRITERIA AND ASSUMPTIONS SHOWN ON THE DRAWINGS REINFORCING STEEL.
 - METAL FABRICATIONS.
- THE CONTRACTOR SHALL REVIEW SHOP DRAWINGS, PRODUCT DATA AND SAMPLES PRIOR TO SUBMISSION AND STAMP AND SIGN DRAWINGS INDICATING CONFORMANCE TO THE CONTRACT REQUIREMENTS. THE CONTRACTOR SHALL VERIFY
 - FIELD MEASUREMENTS.
 - FIELD CONSTRUCTION CRITERIA.
 - CATALOGUE NUMBERS AND SIMILAR DATA.
 - WEIGHTS AND LOADS.
- THE CONTRACTOR SHALL COORDINATE EACH SUBMISSION WITH REQUIREMENTS OF WORK AND CONTRACT DOCUMENTS. INDIVIDUAL SHOP DRAWINGS WILL NOT BE REVIEWED UNTIL ALL RELATED DRAWINGS ARE AVAILABLE.
- THE CONTRACTOR SHALL NOTIFY THE CONTRACT ADMINISTRATOR, IN WRITING AT TIME OF SUBMISSION, OF DEVIATIONS FROM REQUIREMENTS OF CONTRACT DOCUMENTS.
- THE CONTRACTOR'S RESPONSIBILITY FOR ERRORS AND OMISSIONS IN SUBMISSION IS NOT RELIEVED BY THE CONTRACT ADMINISTRATOR'S REVIEW OF SUBMITTALS.
- NO DELAY OR CLAIMS WILL BE ALLOWED THAT ARISE BECAUSE OF DELAYS IN SUBMISSION, RE-SUBMISSION, AND REVIEW OF SHOP DRAWINGS.

DESIGN SPECIFICATIONS:

- THIS STRUCTURE HAS BEEN DESIGNED IN ACCORDANCE WITH THE LATEST EDITIONS AND ADDENDUM OF THE FOLLOWING CODES AND DOCUMENTS, WHICH ARE TO BE USED AND MADE AVAILABLE FOR REFERENCE ON SITE FOR THE DURATION OF THE WORK:
 - NATIONAL BUILDING CODE OF CANADA (NBCC)
 - CONCRETE CODE CAN/CSA A23.1, A23.2, A23.3
 - CANADIAN FOUNDATION ENGINEERING MANUAL (CFEM)
 - STEEL CODE CSA S16-01 AND CSA C40.21-350W
 - ALL SPECIFICATIONS COMPLETE WITH ADDENDA AND CHANGE ORDERS.
 - DRAWINGS WITH THE LATEST REVISIONS AS THEY OCCUR.

DESIGN LOADS

- BACKFILL DENSITY = 16.5kN/M³;
- LATERAL EARTH PRESSURE COEFFICIENT K=0.5;
- EQUIPMENT SURCHARGE = 24kPa
- METER CHAMBER DESIGNED FOR FULL HYDROSTATIC LOAD CONDITIONS WITH SHORT TERM WATER LEVELS POTENTIALLY AT ELEVATED WEEP TILE DRAIN LEVEL 225.300m.

GEOTECHNICAL REPORT

- GEOTECHNICAL REPORT FOR THE PROJECT HAS BEEN PREPARED BY TREK GEOTECHNICAL, DATED OCTOBER 2011, FILE NUMBER 001900500. EXCAVATION SHORING DESIGN SHALL BE UNDERTAKEN ACCORDANCE WITH THE RECOMMENDATIONS PROVIDED WITHIN THE REPORT.
- ALL TEMPORARY DEWATERING AND EXCAVATION SHORING TO BE DESIGNED, INSTALLED AND REMOVED BY THE EXCAVATION SUBCONTRACTOR.
- EXCAVATION SUBCONTRACTOR TO PROVIDE A LOCAL DRAW DOWN AND DEPRESSURIZATION WELL THAT IS TO BE INSTALLED AND OPERATIONAL PRIOR TO THE START OF THE EXCAVATION WORK.

CAST-IN-PLACE CONCRETE

- ALL CONCRETE TO BE MIXED, PLACED, AND TESTED ACCORDING TO CSA A23.1 AND CSA A23.2.
- CONCRETE:
 - COMPRESSIVE STRENGTH = 35 MPA AT 28 DAYS,
 - SLUMP = 80 +/- 20 MM,
 - MAXIMUM AGGREGATE SIZE = 20 MM,
 - ENTRAINED AIR = 5 +/- 1%,
 - CEMENT = HS SULPHATE RESISTANT.
- THE USE OF ADDITIVES WITHIN THE CONCRETE MIX ONLY UPON WRITTEN APPROVAL OF THE CONTRACT ADMINISTRATOR PRIOR TO CONSTRUCTION.
- VOLCLAY RX WATERSTOPS TO BE PROVIDED FOR ALL POUR AND CONSTRUCTION JOINTS AT OR BELOW TOP OF SLAB.
- ADVISE THE CONTRACT ADMINISTRATOR AT LEAST 48 HOURS IN ADVANCE OF CONCRETE POUR.
- SLABS TO HAVE MINIMUM 2% SLOPE TOWARDS DRAINS. IF NOT INDICATED ON STRUCTURAL SET.
- FORMS SHALL NOT BE STRIPPED UNTIL 75% OF THE SPECIFIED CONCRETE STRENGTH HAS BEEN REACHED.

REINFORCING STEEL

- ALL REINFORCING STEEL TO CONFORM TO CSA G30.12M, GRADE 400.
- ALL REINFORCING STEEL TO BE DETAILED IN ACCORDANCE WITH THE LATEST RSIC REINFORCING STEEL MANUAL OF STANDARD PRACTICE, CAN/CSA-A23.1 AND CAN/CSA-A23.3.
- CONCRETE COVER:
 - GRADE BEAMS (BOTTOM) 50 MM(USE VOID FORM)
 - GRADE BEAMS (SIDE & TOP) 40 MM
 - WALLS (EXTERIOR) 50 MM (USE BOARD FORM)
 - WALLS (INTERIOR) 40 MM
- SUBMIT TO THE CONTRACT ADMINISTRATOR SHOP DRAWINGS WHICH CLEARLY INDICATE BAR SIZES, GRADE, SPACING, HOOKS, BENDS, AND SUPPORTING / SPACING DEVICES, ETC., FOR REVIEW PRIOR TO THE FABRICATION OF REINFORCING STEEL.
- DO NOT PLACE REINFORCEMENT WITHOUT FIRST OBTAINING A COPY OF THE REVIEWED SHOP DRAWINGS FROM THE CONTRACT ADMINISTRATOR.
- ALL REINFORCING SHALL BE HELD IN PLACE AND TIED BY THE USE OF PROPER ACCESSORIES SUPPLIED BY THE REINFORCING STEEL FABRICATOR.
- ALL REINFORCING STEEL SHALL BE CLEANED OF ALL DIRT, GREASE AND OTHER DELETERIOUS MATERIALS PRIOR TO PLACING.
- REINFORCING STEEL SHALL NOT BE WELDED OR HEATED.
- EXTEND LONGITUDINAL STEEL IN GRADE BEAMS 450 MM AROUND CORNERS, OR USE 900 MM CORNER BARS.
- IF REINFORCING STEEL IS LAPPED, BOTTOM STEEL SHALL ONLY BE LAPPED OVER SUPPORTS, TOP STEEL SHALL ONLY BE LAPPED AT MID-SPAN.



STRUCTURAL STEEL

- ALL MATERIALS SHALL CONFORM TO CSA G40.21 GRADE 350W WITH HDG FINISH.
- DETAILING, FABRICATION AND ERECTION TO BE IN ACCORDANCE WITH CAN/CSA-S16-01.
- ALL WELDING TO CONFORM TO CSA W47.1 & W59.

- INSTALL ANCHORS IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS.
- WELDING SHOPS TO BE CERTIFIED TO DIVISION 1 OR 2 OF CSA W47.1 BY THE CANADIAN WELDING BUREAU. ALL WELDING TO BE PERFORMED BY CWB CERTIFIED WELDERS.
- SUBMIT 3 PRINTS OF EACH STEEL SHOP DRAWING FOR REVIEW PRIOR TO FABRICATION AND ERECTION. SHOP DRAWINGS TO BE SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE PROVINCE OF MANITOBA, CANADA INDICATING DESIGN RESPONSIBILITY FOR CONNECTIONS AND DETAILING, WHERE APPLICABLE.

FIELD ANCHORING

- LOCATE EXISTING REINFORCING IN THE CONCRETE ELEMENTS TO RECEIVE POST-FACTO ANCHORAGE AND POSITION HOLES FOR THE NEW ANCHORS CLEAR OF THE EXISTING REINFORCING.
- DRILL HOLES INTO THE EXISTING CONCRETE ADVANCING THE DRILL BIT TO FULL DEPTH OF REQUIRED ANCHORAGE. IF REINFORCEMENT IS ENCOUNTERED, TERMINATE DRILLING THE HOLE AND RELOCATE THE ANCHORAGE CLEAR OF THE REINFORCING. USE A STANDARD HARDENED CARBIDE TIPPED CONCRETE BIT. DO NOT USE A CORE DRILL THAT CAN INTERCEPT AND CUT THE EXISTING REINFORCING.
- ADVISE THE CONTRACT ADMINISTRATOR IMMEDIATELY IF THE REQUIRED ANCHORAGE HOLE LOCATIONS CANNOT BE FIELD ADJUSTED TO CLEAR THE EXISTING REINFORCING AND AWAIT FURTHER INSTRUCTIONS. THE SITE ENGINEER WILL REVIEW THE SITUATION AND MAKE A DETERMINATION REGARDING HOW BEST TO INSTALL THE ANCHORS, GIVEN THE ACTUAL POSITIONS OF THE REINFORCING ENCOUNTERED.

 SNC-LAVALIN INC. 148 Nature Park Way Winnipeg, MB, Canada R3P 0X7 204-786-8080				ENGINEER'S SEAL ORIGINAL DRAWING SEALED BY: R.C.BEAN SNC-LAVALIN INC 2012/02/12 REV.00		 THE CITY OF WINNIPEG WATER AND WASTE DEPARTMENT MONTCALM WASTEWATER PUMPING STATION 2011 UPGRADES FLOW METER CHAMBER STRUCTURAL GENERAL NOTES					
DESIGNED BY: R. BEAN		CHECKED BY: D. SIDHU		CITY DRAWING NUMBER 1-0164L-S0001		SHEET 001		REV. 01		SIZE A1	
DRAWN BY: L. GAO		APPROVED BY: C. REIMER		CONSULTANT NO.: 508042-0000-42DD-0001		SCALE: 1:1		RELEASED FOR CONSTRUCTION BY: K.R. ZUREK		DATE: 2011/10/21	
NO. REVISIONS		DATE		DESIGN		CHECK		NO.		DATE	