

1-640M-M0006	CHLR-M640 MECHANICAL
1-640A-S0002	CHLR-M640 FENCING LAYOUT
1-640A-F0001-001	McPHILLIPS PUMPING STATION SITE PLAN
Q-Mcp-184	PUMP HOUSE MEZZANINE LEVEL PLAN
DRAWING NUMBER	REFERENCE DRAWINGS



GENERAL NOTES:

- THESE NOTES ARE TO BE READ IN CONJUNCTION WITH ALL OTHER PERTINENT CODES, SPECIFICATIONS, AND CONTRACT DOCUMENTS.
- BY COMMENCING THE WORK, THE CONTRACTOR ASSERTS EXPERTISE IN THE TYPE OF WORK INVOLVED, FAMILIARITY WITH ALL RELEVANT ASPECTS AND CHARACTERISTICS OF THE SITE, AND FULL AWARENESS OF THE EXTENT AND SCOPE OF WORK INVOLVED.
- DO NOT SCALE DRAWINGS.
- THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND ELEVATIONS SHOWN IN THE CONTRACT DOCUMENTS PRIOR TO COMMENCING CONSTRUCTION.
- MODIFY EXISTING WORK TO ACCOMMODATE NEW CONSTRUCTION AS REQUIRED AND AS APPROVED. OBTAIN THE CITY'S WRITTEN APPROVAL BEFORE PROCEEDING.
- VERIFY OPERATING WEIGHT AND LOCATION OF ALL NEW EQUIPMENT AND APPURTENANCES TO BE INSTALLED AND REPORT ANY DISCREPANCIES TO THE CONTRACT ADMINISTRATOR PRIOR TO COMMENCING CONSTRUCTION.
- LOCATE UNDERGROUND SERVICES PRIOR TO COMMENCING THE WORK AND PROTECT THEM AT ALL TIMES DURING CONSTRUCTION.
- THE CONTRACTOR SHALL FOLLOW CONSTRUCTION PRACTICE FOR COLD AND HOT WEATHER REQUIREMENTS IN ACCORDANCE WITH THE APPLICABLE MATERIAL STANDARD.
- STRUCTURAL DRAWINGS SHOWING COMPLETED STRUCTURES DO NOT INDICATE COMPONENTS WHICH MAY BE NECESSARY FOR SAFETY DURING CONSTRUCTION.
- THE CONTRACTOR SHALL PROVIDE FOR THE PROTECTION OF THE CITY'S PERSONNEL AND PROPERTY DURING CONSTRUCTION. THE METHOD OF PROTECTION MUST BE APPROVED BY THE CITY.
- THE PRIME CONTRACTOR IS RESPONSIBLE FOR SAFETY ON AND ABOUT THE JOB SITE DURING CONSTRUCTION AND SHALL COMPLY WITH ALL PROVINCIAL, FEDERAL, AND SITE-SPECIFIC WORKPLACE, SAFETY, AND HEALTH REGULATIONS.
- THE CONTRACTOR SHALL OBSERVE THE CITY'S REGULATIONS REGARDING FIRE PREVENTION, SAFETY AND SECURITY, AND PROVIDE ADEQUATE BARRICADES AND OTHER PROTECTION DEVICES AS REQUIRED.
- REFERENCE ELEVATION FOR TRUCK ENTRANCE SLAB IS 232.52M.

SUBMITTALS:

- THE CONTRACTOR SHALL SUBMIT SPECIFIED SHOP DRAWINGS TO THE CONTRACT ADMINISTRATOR FOR REVIEW. ALL SUBMISSIONS MUST BE IN UNITS APPROPRIATE TO THE APPLICABLE CONTRACT DOCUMENTS.
- THE CONTRACTOR SHALL SUBMIT A CONCRETE MIX DESIGN (INCLUDING ADDITIVES AND ADMIXTURES) THAT MEETS THE MINIMUM PERFORMANCE CRITERIA AS INDICATED IN THE CONTRACT DOCUMENTS.
- ORIGINAL, PURPOSE-SPECIFIC SHOP DRAWINGS SHALL BE SUBMITTED BY THE CONTRACTOR 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 QUALIFIED PROFESSIONAL ENGINEER LICENSED TO PRACTICE IN THE PROVINCE OF MANITOBA:
 - REINFORCING STEEL.
 - CONCRETE MIX DESIGN.
 - CHAIN LINK METAL FENCE.
- SHOP DRAWINGS NOT BEARING AN ENGINEER'S SEAL IN ACCORDANCE WITH THE ABOVE WILL BE MARKED 'REJECTED' AND RETURNED.
- 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.
 - EQUIPMENT OPERATING WEIGHTS AND LOADS.
- SHOP DRAWINGS NOT BEARING THE CONTRACTOR'S REVIEW STAMP AND SIGNATURE IN ACCORDANCE WITH THE ABOVE WILL BE MARKED 'NOT REVIEWED' AND RETURNED.
- 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'S RESPONSIBILITY FOR ERRORS AND OMISSIONS IN SUBMISSION IS NOT RELIEVED BY THE CONTRACT ADMINISTRATOR'S REVIEW OF SUBMITTALS.
- NO DELAY OR CLAIM WILL BE ALLOWED THAT ARISE BECAUSE OF DELAYS IN SUBMISSION, RE-SUBMISSION, AND REVIEW OF SHOP DRAWINGS.

DESIGN SPECIFICATIONS:

- NEW 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 (2015)
 - CONCRETE CODE CSA A23.1, A23.2, A23.3
 - STEEL CODE CSA S16 AND CSA G40.21-350W
 - ALL SPECIFICATIONS COMPLETE WITH ADDENDA AND CHANGE ORDERS.
 - DRAWINGS WITH THE LATEST REVISIONS AS THEY OCCUR.

DESIGN LOADS:

- LIVE LOAD: 4.8 KPA
- GROUND SNOW LOAD: IS (ULS) = 1.25, SS = 1.9 KPA, SR = 0.2 KPA.
- WIND LOAD: IW (ULS) = 1.25, Q (1/10) = 0.35 KPA, Q (1/50) = 0.45 KPA.
- EQUIPMENT ALLOWANCE: CONDENSER OPERATING WEIGHT = 900kg
AUTO TRANSFORMER OPERATING WEIGHT = 250kg

GEOTECHNICAL INFORMATION:

- SLAB ON GRADE FOUNDATION HAS BEEN DESIGNED AND SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE GEOTECHNICAL REPORT PREPARED BY SNC-LAVALIN INC., FOR PROJECT NO. 661472, DATED OCTOBER 23, 2019.

BEARING STRATUM CONDITION	SLS DESIGN BEARING VALUE	ULS DESIGN BEARING RESISTANCE VALUE
NATIVE CLAY TILL	160 kPa	250 kPa

- THE ULS RESISTANCE FACTOR FOR SHALLOW FOUNDATIONS IS 0.5.

EXCAVATION, BACKFILL, AND COMPACTION:

- THE CONTRACTOR SHALL REMOVE THE EXCAVATED MATERIAL FROM THE SITE AND DISPOSE OF IT IN AN APPROVED MANNER.
- EXCAVATE SUBGRADE TO A MINIMUM OF 300MM BELOW THE UNDERSIDE OF THE NEW SLAB. COMPACT SUBGRADE TO 98% STANDARD PROCTOR DENSITY. SOFT SPOTS AS DETERMINED BY PROPERLY QUALIFIED GEOTECHNICAL PERSONNEL SHALL BE EXCAVATED AND BACKFILLED WITH GRANULAR 'A' FILL COMPACTED TO 100% STANDARD PROCTOR DENSITY IN 100mm LIFTS.
- PROTECT EXCAVATION TO ENSURE BOTTOM OF EXCAVATION DOES NOT SOFTEN DUE TO EXCESS MOISTURE. SHRUBS, TREES, AND EXISTING CONSTRUCTION SHALL BE PROTECTED FROM DAMAGE. REMOVE EXISTING TREES AND SHRUBS IN AFFECTED AREA.
- GRANULAR 'A' FILL SHALL BE PLACED IN THE EXCAVATION IN LIFTS NOT EXCEEDING 150MM AND COMPACTED TO 100% STANDARD PROCTOR DENSITY.
- ALL BACKFILL SHALL BE COMPACTED USING MECHANICAL EQUIPMENT. NEAR THE EXTERIOR OF STRUCTURES, BACKFILL SHALL BE PLACED WITH SUFFICIENT ALLOWANCE FOR SETTLEMENT AND IN GENERAL, THE TOP SURFACE SHALL BE NEATLY GRADED.
- DO NOT PLACE BACKFILL ON FROZEN GROUND OR USE FROZEN MATERIAL.
- MAINTAIN OPTIMUM MOISTURE CONTENT TO PERMIT COMPACTION TO ATTAIN SPECIFIED DENSITIES. PROTECT BACKFILLED GRADE DURING AND AFTER COMPLETION OF BACKFILL OPERATION FROM SOFTENING DUE TO EXCESS MOISTURE.

CAST-IN-PLACE CONCRETE:

- CONCRETE: COMPRESSIVE STRENGTH = 35 MPA AT 28 DAYS, SLUMP = 80 +/- 20 MM, MAXIMUM AGGREGATE SIZE = 20 MM, ENTRAINED AIR = 5 +/- 1%, CEMENT = HS OR HSB SULPHATE RESISTANT.
- THE CONTRACTOR SHALL PROVIDE CERTIFICATION THAT THE MIX PROPORTIONS SELECTED WILL PRODUCE CONCRETE OF QUALITY AND STRENGTH AS SPECIFIED, AND WILL COMPLY WITH CSA A23.1 AND THE CONTRACT DOCUMENTS.
- THE CONTRACTOR SHALL PROVIDE CERTIFICATION THAT THE PLANT, EQUIPMENT, AND MATERIALS TO BE USED IN PRODUCING THE CONCRETE FOR THE WORK ARE IN ACCORDANCE WITH THE REQUIREMENTS OF CSA A23.1.
- ALL MATERIALS, TESTING, AND WORKMANSHIP (INCLUDING REQUIREMENTS FOR HEATING, COOLING, HOARDING, COLD WEATHER AND WARM WEATHER CONCRETING) SHALL CONFORM TO THE LATEST REVISIONS OF CSA A23.1 & CSA A23.2.
- BEFORE CONCRETE IS PLACED, THE CONTRACTOR SHALL VERIFY THE SIZE AND LOCATION OF ALL MECHANICAL OPENINGS, CURBS, AND SERVICES USING MECHANICAL, ELECTRICAL, AND VENDOR DRAWINGS. DRAWINGS SHALL BE EXAMINED FOR PROVISION OF ANCHOR BOLTS, PLATES, INSERTS, MOUNTS, BASES, ETC. THE CONTRACTOR SHALL NOTIFY THE CONTRACT ADMINISTRATOR OF ALL DISCREPANCIES.
- ADVISE THE CONTRACT ADMINISTRATOR AT LEAST 24 HOURS IN ADVANCE OF ANY CONCRETE POUR.
- DO NOT PLACE CONCRETE WITHOUT THE APPROVAL OF THE CONTRACT ADMINISTRATOR'S REPRESENTATIVE.
- PROVIDE STEEL TROWEL FINISH TO CSA A23.1 FOR THE TOP OF ALL CONCRETE.
- PROVIDE A 20MM X 20MM CHAMFER ON ALL EXPOSED CONCRETE EDGES.
- FORMS SHALL NOT BE STRIPPED UNTIL 75% OF THE SPECIFIED STRENGTH HAS BEEN REACHED.

ACCESSORIES EMBEDDED IN CONCRETE:

- THE CONTRACTOR IS RESPONSIBLE FOR SUPPLYING, LOCATING AND PLACING ALL PLATES, ANCHOR BOLTS, INSERTS, DOWELS, SLEEVES AND OPENINGS. COORDINATE ACCESSORY PLACEMENT/REQUIREMENTS WITH THE SHOP DRAWINGS.
- ANCHOR BOLTS, INSERTS, SLEEVES DOWELS, ETC. SHALL BE SECURED IN POSITION BY MEANS OF TEMPLATES BEFORE CONCRETE IS PLACED.

REINFORCING STEEL

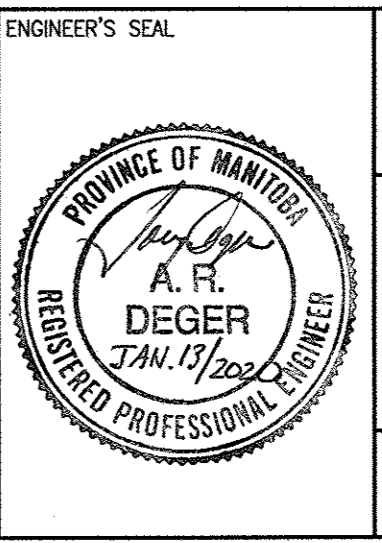
- ALL REINFORCING STEEL TO CONFORM TO CSA G30.18M, GRADE 400.
- ALL REINFORCING STEEL TO BE DETAILED IN ACCORDANCE WITH THE LATEST RSIC REINFORCING STEEL MANUAL OF STANDARD PRACTICE, CAN/CSA-A23.1 AND CAN/CSA-A23.3.
- CONCRETE CLEAR COVER (UNLESS NOTED OTHERWISE):

SLAB (BOTTOM)	75mm
SLAB (TOP)	38mm
- 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 UNLESS NOTED OTHERWISE.
- IF REINFORCING STEEL IS LAPPED, BOTTOM STEEL SHALL ONLY BE LAPPED OVER SUPPORTS, TOP STEEL SHALL ONLY BE LAPPED AT MID-SPAN.

SITE RESTORATION:

- THE CONTRACTOR SHALL RESTORE THE SITE IN ACCORDANCE WITH CITY OF WINNIPEG STANDARD CONSTRUCTION SPECIFICATIONS CW3540 AND CW3520 TO THE CITY'S APPROVAL.
- REGRADE IN ACCORDANCE WITH HISTORICAL DRAWING MCP-2.

		SNC-LAVALIN INC. 148 Nature Park Way Winnipeg, MB, Canada R3P 0X7 204-786-8080	
DESIGNED BY:	T. DEGER	CHECKED BY:	T. DEGER
DRAWN BY:	R. M. DIONISIO	APPROVED BY:	D. BECKER
SCALE:	AS NOTED	ISSUED FOR CONSTRUCTION BY:	A. WEISS
DATE:	2019/06/20	DATE:	2019/11/04
CONSULTANT NO.:	661472-0000-43DD-0001		
NO. REVISIONS	DATE	DESIGN CHECK	
01	ADDED UNDERGROUND SERVICES	2019/12/13	TD TD
00	ISSUED FOR TENDER AND CONSTRUCTION	2019/11/04	TD TD



THE CITY OF WINNIPEG
 WATER AND WASTE DEPARTMENT

MCPHILLIPS PUMPING STATION
 MAIN PUMPING STATION BUILDING
 STRUCTURAL
 CDR-M640 EQUIPMENT PAD
 PLAN, SECTION AND GENERAL NOTES

CITY DRAWING NUMBER	SHEET	REV.	SIZE
1-0640A-S0001	001	01	A1