

GENERAL NOTES

1. THE STRUCTURAL DESIGN IS IN COMPLIANCE WITH THE REQUIREMENTS OF NBC 2010.
2. CITY OF WINNIPEG STANDARDS AND SPECIFICATIONS APPLY TO ALL WORK.
3. DO NOT SCALE DRAWINGS.
4. ALL DIMENSIONS MUST BE FIELD VERIFIED AND CONFIRMED ON-SITE BY THE CONTRACTOR.
5. REPORT DEVIATIONS IN FIELD CONDITIONS OR DESIGN DRAWINGS TO THE CONTRACT ADMINISTRATOR.
6. THE CONTRACTOR IS RESPONSIBLE FOR SURVEYING AND ESTABLISHING ALL WORK ELEVATIONS, LINES AND POINTS.
7. THE CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING AND LOCATING ALL UTILITIES AND SERVICES ON THE SITE.
8. PROTECT EXISTING SITE STRUCTURES, UTILITIES AND TREES DURING THE WORK.
9. PROVIDE SITE CLEAN-UP AT THE END OF THE WORK, TO THE SATISFACTION OF THE CONTRACT ADMINISTRATOR.

SLAB ON GRADE

1. PRIOR TO PLACING OF GRANULAR MATERIAL IN 6" LIFTS TO FORM THE UPPER SUBGRADE. CARE SHOULD BE TAKEN TO ENSURE THAT NO FROST IS PRESENT IN THE SOIL AND THAT BLACK ORGANIC SOIL IS REMOVED. AFTER PLACING THE GRANULAR SUBGRADE IT MUST BE COMPACTED WITH VIBRATORY COMPACTORS OR SIMILAR EQUIPMENT AND COMPACTION CARRIED OUT UNTIL THE DENSITY OF MATERIAL IS 98% OF ITS MAXIMUM DRY DENSITY.
2. CONTROL JOINTS IN THE SLAB-ON-GRADE SHALL BE SAWCUT WITHIN 24 TO 48 HOURS OF THE COMPLETION OF THE SLAB POUR. THE JOINTS SHALL BE MINIMUM 3/4" DEEP AND FILLED WITH AN APPROVED JOINT SEALANT. PROVIDE JOINTS AT MAXIMUM 12'-0" CENTRES IN EACH DIRECTION.
3. CONFORM TO THE FOLLOWING CITY OF WINNIPEG STANDARDS AND SPECIFICATIONS:
EARTHWORK AND GRADING - CW3170
SUB-GRADE, SUB-BASE AND BASE COURSE INSTALLATION - CW3110

FOUNDATIONS (C.I.P. CONCRETE PILES)

1. FOUNDATIONS SHALL BE CAST-IN-PLACE CONCRETE FRICTION PILES AS SHOWN ON DRAWINGS.
2. CONCRETE PILES HAVE BEEN DESIGNED FOR AN AVERAGE ALLOWABLE SKIN FRICTION VALUE OF 15 kPa.
3. INSTALLATION OF ALL CONCRETE PILES SHALL BE INSPECTED AND APPROVED PRIOR TO PLACEMENT OF CONCRETE.
4. THE PILING CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY THE EXISTENCE AND LOCATION OF ALL UNDERGROUND SERVICES IN PILING AREA WHETHER SHOWN OR NOT. EXPOSE ALL SERVICES CLOSE TO PILING AS REQUIRED.
5. PILES SHALL NOT BE MORE THAN 2" OUT OF POSITION LATERALLY AT THE TOP AND NOT MORE THAN 2% OUT OF PLUMB.
6. REINFORCE ALL PILES AS DETAILED ON THE DRAWINGS. REFER TO CONCRETE NOTES FOR CONCRETE REQUIREMENTS. INSTALL EACH PILE AS A CONTINUOUS POUR.
7. VIBRATE TOP 16'-0" OF CONCRETE IN ALL PILES.
8. SLEEVING WHERE REQUIRED SHALL BE INCLUDED IN THE PILING CONTRACT.

REINFORCING STEEL

1. REINFORCING STEEL TO BE NEW DEFORMED BILLET STEEL BARS CONFORMING TO CAN/CSA G30.18-M92. GRADES TO BE: 400 MPa FOR 15M BARS AND LARGER; 300 MPa FOR 10M BARS.
2. WELDED STEEL WIRE FABRIC SHALL CONFORM TO CAN/CSA G30.5-M1983. 400 MPa MINIMUM GRADE IN FLAT SHEETS ONLY UNLESS APPROVED OTHERWISE.
3. REINFORCING STEEL SHALL BE CLEAN, FREE OF RUST, DIRT, LOOSE SCALE, OIL, GREASE OR ANY OTHER MATERIAL WHICH WOULD REDUCE BOND WITH THE CONCRETE.
4. TIE, SUPPORT AND SPACE ALL REINFORCING STEEL WITH PROPER APPROVED DEVICES DESIGNED FOR USE IN REINFORCED CONCRETE, TO PREVENT DISPLACEMENT OF REINFORCING AND ENSURE SPECIFIED CONCRETE COVER.

CONCRETE

1. CONCRETE MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH CAN/CSA-A23.1 (LATEST EDITION), SEE BELOW FOR MIX REQUIREMENTS.
2. CEMENT TYPE SHALL BE AS NOTED IN INDIVIDUAL MIX DESIGNS TO CAN/CSA-A5 (LATEST).
3. MIX WATER TO BE POTABLE. CALCIUM CHLORIDE SHALL NOT BE USED
4. ADMIXTURES SHALL NOT BE USED UNLESS SPECIFIED HEREIN OR APPROVED BY THE DESIGN ENGINEER. CALCIUM CHLORIDE SHALL NOT BE USED.
5. DESIGN, FABRICATE AND ERECT FORMWORK/SHORING IN ACCORDANCE WITH CAN/CSA-S269.3-M92. ALLOW SUFFICIENT CONCRETE CURING TIME PRIOR TO REMOVAL.
6. PLACE AND SECURE ALL EMBEDDED ANCHORS, WELD PLATES, SLEEVES, BUCKS, DOWELS, INSERTS, WATERSTOPS, ETC., PRIOR TO POURING CONCRETE. CO-ORDINATE WITH ALL TRADES.
7. LOCATE AND FABRICATE ALL CONSTRUCTION JOINTS, CONTROL JOINTS AND EXPANSION JOINTS AS DETAILED ON THE DRAWINGS. JOINTS NOT SHOWN SHALL BE APPROVED BY THE DESIGN ENGINEER PRIOR TO THE PLACEMENT OF CONCRETE.
8. CAST-IN-PLACE ANCHOR BOLTS SHALL MEET REQUIREMENTS OF OF ASTM A307.
9. EXPANSION ANCHORS SHALL BE HILTI OR APPROVED EQUAL, OR AS OTHERWISE NOTED, AND INSTALLED AS PER MANUFACTURER'S INSTRUCTIONS.
10. GROUT REINFORCING DOWELS WITH EPOXY GROUT, STERNSON TALYGROUT 100 OR EQUAL. GROUT BASE PLATES WITH STERNSON M-BED STANDARD OR EQUAL. PLACE AND CURE ALL GROUT WITHIN TEMPERATURE RANGE RECOMMENDED BY MANUFACTURER.
11. PROVIDE ADEQUATE COLD/HOT WEATHER PROTECTION AS REQUIRED DURING CURING PERIOD.
12. CONCRETE MIX DESIGNS

C.I.P. PILES AND PILE EXTENSIONS	28 DAY COMP. STRENGTH CEMENT W/C RATIO	35 MPa TYPE 50 0.50
AGGREGATE SIZE (MAX.)	3/4"	
ENTRAINED AIR	4%-6% SLUMP (MAX)	3 1/2" (±1/2")
SLABS (INTERIOR)	28 DAY COMP. STRENGTH CEMENT W/C RATIO	25 MPa TYPE 10 0.45
AGGREGATE SIZE (MAX.)	3/4"	
ENTRAINED AIR	4%-6%	
SLUMP (MAX.)	3 1/2" (±1/2")	

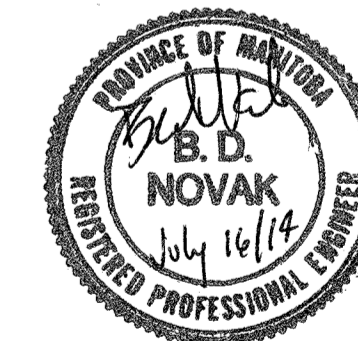
STRUCTURAL AND MISCELLANEOUS STEEL

1. STRUCTURAL AND MISCELLANEOUS STEEL FABRICATION AND ERECTION SHALL BE IN ACCORDANCE WITH CAN/CSA-S16.1-M89.
2. STRUCTURAL STEEL SHALL MEET THE REQUIREMENTS OF CAN/CSA-G40.20/G40.21-M92.

ROLLED SHAPES & PLATES	CSA G40 21-300W
HSS SECTIONS	CSA G40 21-350W
STANDARD PIPE	ASTM A53-285W
COLD FORMED STEEL	CSA S136-94
ANCHOR BOLTS (GALV.)	ASTM A307M
BOLTS, NUTS & WASHERS	ASTM A325M
WELDING ELECTRODES	CSA W48.1 M1980
3. WELDING SHALL BE IN ACCORDANCE WITH CSA W59-M1989, BY WELDERS CERTIFIED AND QUALIFIED IN ACCORDANCE WITH CSA W47.1-1983. ALL WELDS TO BE 1/4" UNLESS NOTED OTHERWISE.
4. SUBMIT SHOP DRAWINGS FOR BEAMS/COLUMNS/CONNECTIONS AND FLOOR DECK FOR REVIEW PRIOR TO FABRICATION.
5. FIELD CONNECTIONS SHALL BE BOLTED 20M DIAMETER A325 FRICTION TYPE BOLTS UNLESS NOTED OTHERWISE. BOLTS SHALL BE TORQUED IN ACCORDANCE WITH CAN/CSA S16.1-M89.
6. STRUCTURAL AND MISCELLANEOUS STEEL EMBEDDED IN CONCRETE SHALL BE HOT-DIPPED GALVANIZED TO MEET THE REQUIREMENTS OF CAN/CSA G164-M92.
7. NEW ASSEMBLIES SHALL BE SHOP FABRICATED TO THE FULLEST EXTENT POSSIBLE. FIELD WORK SHALL BE LIMITED TO INSTALLATIONS, REPAIRS AND TOUCH UPS UNLESS NOTED OTHERWISE.
8. SUBMIT SHOP DRAWINGS FOR ALL GUARDRAIL AND HANDRAIL COMPONENTS PRIOR TO FABRICATION.
9. STRUCTURAL STEEL COMPONENTS TO BE SHOP PRIMED.

No.	REVISION/DESCRIPTION	BY	DATE

SEAL



DRAWN	JAWIRCP	CHECKED	DESIGNED	APPROVED
DATE	2014.07.14	USER	APPROVAL	

THE CITY OF WINNIPEG
PLANNING, PROPERTY AND
DEVELOPMENT DEPARTMENT
MUNICIPAL ACCOMMODATIONS DIVISION
3-65 GARRY STREET, R3C 4K4

PROJECT
AMBULANCE STATION # 3
STRUCTURAL & OCCUPANCY UPGRADES
DESIGN OF STRUCTURAL UPGRADES
598 ST. MARY'S ROAD

SHEET TITLE
STRUCTURAL SPECIFICATION

SCALE	PROJECT No:	SHEET No:
AS SHOWN	2013-047	S4