# **GENERAL NOTES**

- 1. STRUCTURAL DESIGN BASED ON THE MANITOBA BUILDING CODE 2011 EDITION.
  - A) IMPORTANCE CATEGORY: NORMAL
  - B) WIND LOAD: q50 = 0.41 kPa
  - C) GROUND SNOW LOAD: Ss = 1.9 kPa
  - D) ASSOCIATED RAIN LOAD: Sr = 0.2 kPa
- 2. SEISMIC SITE CLASSIFICATION: NOT APPLICABLE
- 3. DO NOT SCALE DRAWINGS.
- ALL DIMENSIONS ARE TO BE VERIFIED WITH THE PROJECT DRAWINGS AND EXISTING SITE CONDITIONS PRIOR TO CONSTRUCTION.
- 5. THESE STRUCTURAL DRAWINGS SHOW THE COMPLETED STRUCTURE AND DO NOT INDICATE ALL COMPONENTS NECESSARY FOR SAFETY DURING CONSTRUCTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR SAFETY ON AND AROUND THE JOBSITE DURING CONSTRUCTION INCLUDING BUT NOT LIMITED TO ALL TEMPORARY SHORING/BRACING.

### CAST-IN-PLACE CONCRETE

- I CONCRETE
- ALL CONCRETE IS TO BE MANUFACTURED AND INSTALLED IN ACCORDANCE WITH THE LATEST EDITION OF CSA-A23.1-09 "CONCRETE MATERIALS AND METHODS OF CONCRETE CONSTRUCTION" AND CSA-A23.2-09 "METHOD OF TEST FOR CONCRETE".
- PROVIDE CERTIFICATION THAT MIX PROPORTIONS SELECTED WILL PRODUCE CONCRETE OF QUALITY, YIELD AND STRENGTH AS SPECIFIED IN CONCRETE MIXES, AND WILL COMPLY WITH CSA-A23.1. CERTIFICATION LETTER TO BE SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE PROVINCE OF MANITOBA.
- 3. PROVIDE CERTIFICATION THAT PLANT, EQUIPMENT, AND MATERIALS TO BE USED IN CONCRETE COMPLY WITH REQUIREMENTS OF CSA-A23.1. CERTIFICATION LETTER TO BE SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE PROVINCE OF MANITOBA.
- CONCRETE TESTING TO BE PERFORMED IN ACCORDANCE WITH CSA-A23.1-09. MINIMUM ONE SET OF TESTS PER POUR. COST OF TESTING TO BE CARRIED BY THE CONTRACTOR.
- CONCRETE PROPERTIES SHALL BE AS FOLLOWS UNLESS NOTED OTHERWISE ON THE DRAWINGS.

EXTERIOR: 32 MPa MIN. AT 28 DAYS

CLASS OF EXPOSURE: F-2

ENTRAINED AIR/CATEGORY: 2 (4% TO 7%)

AGGREGATE MAX. 20 mm

**CURING TYPE: TYPE 2 - ADDITIONAL** 

UNLESS INDICATED OTHERWISE THE CONTRACTOR SHALL SPECIFY CONCRETE SLUMP APPROPRIATE WITH PLACEMENT METHODS AND SITE CONDITIONS. THE CONTRACTOR SPECIFIED SLUMP MUST BE SHOWN ON THE CERTIFICATION LETTER AND CONCRETE DELIVERY TICKET.

- 6. UNLESS NOTED OTHERWISE CONCRETE CURING TO CONFORM TO THE LATEST EDITION OF CSA-A23.1-09 AS FOLLOWS:
  - A) TYPE 1 BASIC: 3 DAYS  $\geq$ 10°C AND FOR A TIME NECESSARY TO ATTAIN 40% OF THE SPECIFIED STRENGTH.
  - TYPE 2 ADDITIONAL: 7 DAYS  $\geq$  10°C AND FOR A TIME NECESSARY TO ATTAIN 70% OF THE SPECIFIED STRENGTH.
  - C) TYPE 3 EXTENDED: 7 DAYS WET CURING > 10°C.
- 7. WHEN OUTSIDE TEMPERATURE IS THAN 4°C, CONCRETE TEMPERATURE MUST BE BETWEEN 10°C AND 21°C FOR THE CURING PERIOD.
- 8. WHEN HEAT REQUIRED FOR CURING IS BEING REMOVED, MAXIMUM TEMPERATURE CHANGE SHALL NOT EXCEED 2.5°C PER HOUR OR 27°C IN ANY 24 HOUR PERIOD.
- 9. EXPOSED CONCRETE TO HAVE SACK RUBBED FINISH.
- 10. ENSURE ALL HOLES ARE FILLED AND EDGES SMOOTH.
- 11. CONCRETE WITH OPEN FINISH, "BUG HOLES" OR DEFECTS IN APPEARANCE WILL NOT BE ACCEPTED.

#### II REINFORCING STEEL

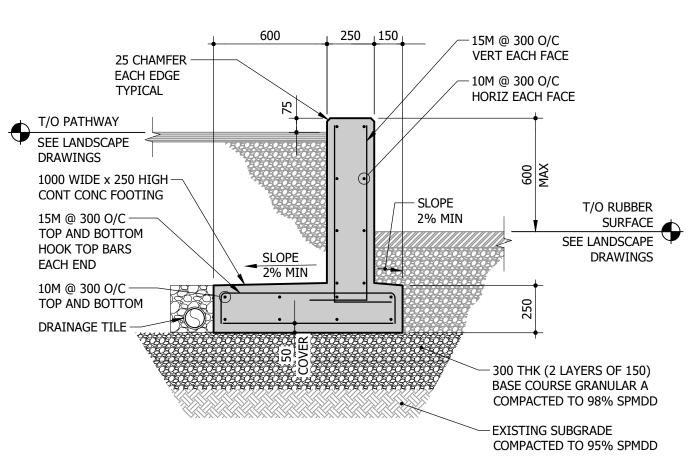
- 1. ALL REINFORCING STEEL TO BE CSA-G30.18M-M92 GRADE 400R DEFORMED BARS EXCEPT COLUMN TIES AND BEAM STIRRUPS WHICH SHALL BE GRADE 400W STEEL.
- 2. ALL REINFORCING IS TO BE DETAILED IN ACCORDANCE WITH THE LATEST EDITION OF THE REINFORCING STEEL INSTITUTE OF CANADA MANUAL OF STANDARD PRACTICE, EXCEPT OTHERWISE NOTED. ALL LAPPED SPLICES TO BE CLASS B SPLICES, UNLESS NOTED.
- 3. REINFORCING STEEL COVER IS TO CONFORM TO CAN/CSA A23.3-09 "DESIGN OF CONCRETE STRUCTURES FOR BUILDINGS" AND AS FOLLOWS:

**EXTERIOR SLABS-ON-GRADE:** 

EXPOSURE CLASS: F-2 40 mm 50 mm UNLESS NOTED BOTTOM

### SUBGRADE

 BASE COURSE GRANULAR A TO BE IN ACCORDANCE WITH CITY OF WINNIPEG SPECIFICATION CW 3110.



# CONCRETE RETAINING WALL DETAIL

1:20



