

GENERAL NOTES

- STRUCTURAL DESIGN BASED ON THE NATIONAL BUILDING CODE OF CANADA 2010 EDITION.
 - IMPORTANCE CATEGORY: NORMAL
 - WIND LOAD: Q50 = 0.45 KPA
 - GROUND SNOW LOAD: SS = 2.2 KPA
 - ASSOCIATED RAIN LOAD: SR = 0.2 KPA
- SEISMIC SITE CLASSIFICATION: NOT APPLICABLE
- DO NOT SCALE DRAWINGS.
- DO NOT BACKFILL UNTIL GROUND FLOOR STRUCTURE IS IN PLACE AND LOWER LEVEL SLABS HAVE BEEN POURED AND CURED.
- ALL DIMENSIONS ARE TO BE VERIFIED WITH THE PROJECT DRAWINGS AND EXISTING SITE CONDITIONS PRIOR TO CONSTRUCTION.
- 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.

FOUNDATIONS

- A COPY OF THE GEOTECHNICAL REPORT COMMISSIONED BY THE OWNER IS AVAILABLE FOR REVIEW AT THE OFFICES OF THE ARCHITECT.
- NOTWITHSTANDING THE INFORMATION PROVIDED IN THE GEOTECHNICAL REPORT THE FOUNDATION AND GENERAL CONTRACTORS SHALL SATISFY THEMSELVES AS TO THE PREVAILING CONDITIONS AT THE SITE AS NO EXTRAS SHALL BE GRANTED SHOULD CONDITIONS DIFFER FROM THOSE INDICATED.
- ALL FRICTION PILES ARE DESIGNED WITH A ULS FACTOR OF 0.4 AND SKIN FRICTION VALUES OF 7.66 KPA AND 17.1 KPA FOR DEPTHS FROM 2.2 TO 6.1 METRES AND BELOW 6.1 METRES, RESPECTIVELY.
- FRICTION PILE REINFORCING TO BE MINIMUM 6000 MM LONG UNLESS NOTED IN PLANS; 10M RINGS AT 1200 MM ON-CENTRE AND 3-10M RINGS AT 6" ON-CENTRE AT TOP. EXTEND VERTICAL PILE REINFORCING 450 MM INTO BEAMS OR WALLS. PILE REINFORCING TO BE 5-10M FOR 400 DIAMETER PILES, 6-10M FOR 450 MM, 5-15M FOR 500 MM, 5-15M FOR 550 MM, 6-15M FOR 600 MM.
- PROVIDE 10 MIL POLYETHYLENE WRAPPED SONOTUBE PLASTIC TUBE, GREASED COMPLETELY ON INSIDE FOR TOP 1800 MM OF PILES INDICATED ON PLAN.

CAST-IN-PLACE CONCRETE

I CONCRETE

- ALL CONCRETE IS TO BE MANUFACTURED AND INSTALLED IN ACCORDANCE WITH THE LATEST EDITION OF CSA-A23.1-14 "CONCRETE MATERIALS AND METHODS OF CONCRETE CONSTRUCTION" AND CSA-A23.2-14 "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.
- 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 PROPERTIES SHALL BE AS FOLLOWS UNLESS NOTED OTHERWISE ON THE DRAWINGS.

PILES:

32 MPA MIN. AT 56 DAYS
CLASS OF EXPOSURE: S2
MAX 0.45 W/C
ENTRAINED AIR/CATEGORY: 2 (4% TO 7%)
CEMENT TYPE: HS
AGGREGATE: MAX. 20 MM
CURING TYPE: TYPE 1 - BASIC
SLUMP: MIN. 120 MM

PILE CAPS:

35 MPA MIN. AT 56 DAYS
CLASS OF EXPOSURE: S2
ENTRAINED AIR/CATEGORY: 2 (4% TO 7%)
CEMENT TYPE: HS
AGGREGATE: MAX. 20 MM
CURING TYPE: TYPE 1 - BASIC

EXTERIOR WALLS AND GRADE BEAMS:

25 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

EXTERIOR COLUMNS AND PIERS:

25 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

EXTERIOR STRUCTURAL SLABS:

35 MPA MIN. AT 28 DAYS
CLASS OF EXPOSURE: C1
ENTRAINED AIR/CATEGORY: 1 (5% TO 8%)
AGGREGATE: MAX. 20 MM
CURING TYPE: TYPE 2 - ADDITIONAL

EXTERIOR SLABS-ON-GRADE:

32 MPA MIN. AT 28 DAYS
CLASS OF EXPOSURE: C2
ENTRAINED AIR/CATEGORY: 1 (5% TO 8%)
AGGREGATE: MAX. 20 MM
CURING TYPE: TYPE 1 - BASIC

INTERIOR WALLS AND BEAMS:

25 MPA MIN. AT 28 DAYS
CLASS OF EXPOSURE: N
ENTRAINED AIR/CATEGORY: NONE (LESS THAN 3%)
AGGREGATE: MAX. 20 MM
CURING TYPE: TYPE 2 - ADDITIONAL

INTERIOR SLABS-ON-GRADE (DRIVE-IN BAY):

32 MPA MIN. AT 28 DAYS
CLASS OF EXPOSURE: C2
ENTRAINED AIR/CATEGORY: 1 (5% TO 8%)
AGGREGATE: MAX. 20 MM
CURING TYPE: TYPE 2 - ADDITIONAL

INTERIOR STRUCTURAL SLABS:

30 MPA MIN. AT 28 DAYS
CLASS OF EXPOSURE: N
ENTRAINED AIR/CATEGORY: NONE (LESS THAN 3%)
AGGREGATE: MAX. 20 MM
CURING TYPE: TYPE 2 - ADDITIONAL

MASONRY FILL:

20 MPA MIN. AT 28 DAYS
CLASS OF EXPOSURE: F-2 N
ENTRAINED AIR/CATEGORY: 2 NONE
AIR CONTENT: 4% TO 7% LESS THAN 3%
AGGREGATE: MAX. 20 MM 14 MM
SLUMP: 200 MM ± 40 MM

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.

- UNLESS NOTED OTHERWISE CONCRETE CURING TO CONFORM TO THE LATEST EDITION OF CSA-A23.1-14 AS FOLLOWS:
 - TYPE 1 - BASIC: 3 DAYS ≥ 10°C AND FOR A TIME NECESSARY TO ATTAIN 40% OF THE SPECIFIED STRENGTH.
 - TYPE 2 - ADDITIONAL: 7 DAYS ≥ 10°C AND FOR A TIME NECESSARY TO ATTAIN 70% OF THE SPECIFIED STRENGTH.
 - TYPE 3 - EXTENDED: 7 DAYS WET CURING ≥ 10°C.

- AIR ENTRAINING ADMIXTURES SHALL CONFORM TO THE REQUIREMENTS OF ASTM C260/C260M-10A "STANDARD SPECIFICATION FOR AIR ENTRAINING ADMIXTURES FOR CONCRETE". SUPERPLASTICIZING ADMIXTURES SHALL CONFORM TO ASTM C494/C494M "STANDARD SPECIFICATION FOR CHEMICAL ADMIXTURES FOR CONCRETE" OR ASTM C1017/C1017M "STANDARD SPECIFICATION FOR CHEMICAL ADMIXTURES FOR USE IN PRODUCING FLOWING CONCRETE" WHEN FLOWING CONCRETE IS APPLICABLE. AIR ENTRAINING ADMIXTURES TO HAVE A DURABILITY FACTOR GREATER THAN 75, WHEN TESTED TO ASTM STANDARDS C666/C666M PROCEDURE A. SPACING FACTOR FOR ANY AIR ENTRAINING ADMIXTURE MUST BE 0.17MM OR LESS WHEN TESTED IN ACCORDANCE WITH ASTM C457 "STANDARD TEST METHOD FOR MICROSCOPICAL DETERMINATION OF PARAMETERS OF THE AIR-VOID SYSTEM IN HARDENED CONCRETE".
- CONCRETE TOPPING INDICATED AS BONDED SHALL HAVE A TENSILE BOND STRENGTH BETWEEN THE TOPPING AND BASE COURSE CONCRETE OF NOT LESS THAN 0.9 MPA AT 28 DAYS WHEN TESTED IN ACCORDANCE WITH CSA A23.2-68 AT A FREQUENCY OF NOT LESS THAN ONE TEST PER 100 M² 1,000 SQ.FT. PRIOR TO CONSTRUCTION SUBMIT DOCUMENTATION DEMONSTRATING MINIMUM PERFORMANCE REQUIREMENT WILL BE MET.
- CONCRETE TO RECEIVE BONDED TOPPING SHALL BE INTENTIONALLY ROUGHENED TO ACHIEVE A SURFACE PROFILE OF ICR1-CSP6 OR GREATER.
- CONCRETE TOPPING INDICATED AS BONDED SHALL BE WET CURED FOR A MINIMUM OF 7 DAYS.

II REINFORCING STEEL

- ALL REINFORCING STEEL TO BE CSA-G30.18M-09 GRADE 40R DEFORMED BARS EXCEPT COLUMN TIES AND BEAM STIRRUPS WHICH SHALL BE GRADE 40W STEEL. 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.
- WELDED STEEL WIRE MESH SHALL BE TO ASTM A185/A185M-07, 400 MPA YIELD, FLAT SHEETS ONLY.
- REINFORCING STEEL COVER IS TO CONFORM TO CAN/CSA A23.3-14 "DESIGN OF CONCRETE STRUCTURES FOR BUILDINGS" AND AS FOLLOWS:

EXTERIOR WALLS: 40 MM OUTSIDE FACE 20 MM INSIDE FACE.

INTERIOR WALLS: 20 MM EACH FACE

EXTERIOR COLUMNS AND PIERS: 60 MM TO TIES.

INTERIOR STRUCTURAL SLABS: 25 MM TOP 25 MM BOTTOM

EXTERIOR STRUCTURAL SLABS: 40 MM TOP 40 MM BOTTOM

GRADE BEAMS: 76 MM BOTTOM TO TIES 40 MM SIDES AND TOP TO TIES.

INTERIOR BEAMS: 30 MM BOTTOM TO TIES 30 MM SIDES AND TOP TO TIES.

PILES: 75 MM TO TIES.

INTERIOR SLABS-ON-GRADE: 40 MM TOP 20 MM BOTTOM

EXTERIOR SLABS-ON-GRADE: 40 MM TOP 40 MM BOTTOM

- IN WALLS AND GRADE BEAMS, BEND ALL TOP AND INTERMEDIATE HORIZONTAL STEEL 600 MM AROUND CORNERS, OR USE EXTRA L BARS 1200 MM LONG. ALL OPENINGS IN WALLS TO HAVE 2-15M EACH SIDE AND 2-25M OVER, EXCEPT AS NOTED.
- TOP STEEL IN BEAMS TO BE LAPPED AT CENTRE SPAN, BOTTOM STEEL TO BE BUTTED AT SUPPORT.
- ALL REINFORCING TO BE HELD IN PLACE, AND TIED BY THE USE OF PROPER ACCESSORIES, SUCH AS HI-CHAIRS, SPACERS, ETC. TO BE SUPPLIED BY THE REINFORCING STEEL FABRICATOR. HI-CHAIRS TO HAVE 4 LEGS AND TO BE STAPLED OR NAILED TO THE FORMWORK.
- ALL OPENINGS IN CAST-IN-PLACE CONCRETE FLATWORK TO BE TRIMMED WITH 2-15M ALL AROUND ON BOTH FACES, EXCEPT AS NOTED.
- FOR ALL STRUCTURAL SLABS A MINIMUM OF 50% OF THE BOTTOM STEEL SHALL BE CONTINUED A MINIMUM DISTANCE OF 150 MM INTO ALL SUPPORTING WALLS AND BEAMS. IF KEYS ARE USED AT JOINTS BETWEEN SLABS AND WALLS OR BEAMS, BOTTOM DOWELS EQUAL TO BOTTOM REINFORCEMENT OR 10M AT 300 MM O/C SHALL BE PROVIDED WHICHEVER IS GREATER.
- ALL MISCELLANEOUS CONCRETE PADS AND CURBS ARE TO BE REINFORCED WITH A MINIMUM OF 15M AT 400 MM O/C EACH WAY, UNLESS NOTED.
- WHEN CONCRETE BEAMS ARE CAST INTO A WALL CHASE, DOWELS SIZE AND NUMBER SAME AS BEAM REINFORCING ARE TO BE PROVIDED FROM WALL, UNLESS OTHERWISE SHOWN ON PLAN.

III FORMWORK

- SHEARMAT OR APPROVED CARDBOARD VOIDFORM WITH A MIN. DEPTH OF 200 MM SHALL BE USED AS THE BOTTOM FORM FOR STRUCTURAL SLABS AT GRADE, GRADE BEAMS, AND WALLS IN CONTACT WITH SOIL. SELECT AND INSTALL IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
- ACCESSORIES SUCH AS HI-CHAIRS, SPACERS, ETC. SHALL BE SUPPORTED BY PADS OF PLYWOOD OR TEMPERED HARDBOARD TO PREVENT PUNCTURING THE VOIDFORM.
- UNLESS NOTED OTHERWISE PROVIDE SLIP JOINT ALL PAVING OR CONCRETE SLABS ON GRADE AGAINST STRUCTURAL MEMBERS WITH 12 MM ASPHALT IMPREGNATED FIBREBOARD.
- ALL CONSTRUCTION JOINT KEYS ARE TO BE A MINIMUM OF 40 MM DEEP.
- ALL STRUCTURAL SLABS FRAMING INTO WALLS ARE TO HAVE A MINIMUM KEY OF 40 MM.
- ALL CONCRETE BEAMS FRAMING INTO CONCRETE WALLS ARE TO BE SUPPORTED BY A CHASE OF MINIMUM 100 MM DEPTH AND THE HEIGHT AND WIDTH OF THE BEAM.
- PLACE 10 MIL POLYETHYLENE UNDER ALL SLABS ON FILL AND OVER TOP OF VOIDFORM.
- PROVIDE 150 MM WIDE, RIBBED, PVC WATERSTOPS IN ALL HORIZONTAL AND VERTICAL CONSTRUCTION JOINTS IN ALL EXTERIOR WALLS BELOW GRADE AND PIT WALLS.

STRUCTURAL STEEL

- THE STRUCTURAL STEEL FABRICATOR'S ENGINEER SHALL BE RESPONSIBLE FOR LOCATING AND DESIGNING PROVISIONS FOR ALL TEMPORARY FALL PROTECTION SYSTEMS REQUIRED DURING CONSTRUCTION TO MEET MANITOBA WORKPLACE HEALTH AND SAFETY REGULATIONS.
- STRUCTURAL STEEL TO CONFORM TO CSA-G40.21, "STRUCTURAL QUALITY STEELS" AND CSA-G40.20 "GENERAL REQUIREMENTS FOR ROLLED OR WELDED STRUCTURAL QUALITY STEEL".
- ALL ROLLED OR STEEL STRUCTURAL SECTIONS SHALL BE G40.21-350W. ALL HOLLOW STRUCTURAL SECTIONS TO BE G40.21-350W CLASS C OR ASTM A500-C. ALL ANGLES, CHANNELS AND PLATES SHALL BE G40.21-300W.
- FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL BE PERFORMED IN ACCORDANCE WITH CSA S16-14, "DESIGN OF STEEL STRUCTURES".
- ALL WELDING SHALL CONFORM TO THE LATEST EDITION OF CSA W59, "WELDED STEEL CONSTRUCTION". FABRICATORS SHALL BE PROPERLY CERTIFIED IN ACCORDANCE WITH CSA W47.1, "CERTIFICATION OF COMPANIES FOR FUSION WELDING OF STEEL STRUCTURES".
- ALL BOLTED CONNECTIONS TO USE A325 HIGH STRENGTH BOLTS. MINIMUM CONNECTION SHALL CONSIST OF 2 BOLTS.
- ALL STRUCTURAL STEEL IS TO RECEIVE ONE COAT OF CISC/CPMA 1-73A QUICK DRYING SHOP PRIMER. STEEL IN CRAWLSPACES SHALL RECEIVE 2 COATS. STEEL TO BE CLEANED IN CONFORMANCE WITH SSPC-SP2. STEEL RECEIVING FINISH PAINTING TO HAVE ONE COAT OF CISC/CPMA 2-75 QUICK DRYING SHOP PRIMER. STEEL TO BE CLEANED IN CONFORMANCE WITH SSPC-SP7.
- STRUCTURAL STEEL SUPPLIER TO PROVIDE 40 MM X 5 MM MASONRY ANCHORS BY 400 MM LONG WITH 50 MM HOOK AT 800 MM O/C, ON ALL COLUMNS AND BEAMS IN CONTACT WITH MASONRY.
- NO HOLES PERMITTED IN TOP FLANGE OF BEAMS AT COLUMNS WHERE BEAMS ARE CONTINUOUS OVER COLUMNS.
- ALL BEAMS CONTINUOUS OVER COLUMNS ARE TO HAVE WEB STIFFENERS THE SAME SIZE AND ORIENTATION AS THE COLUMN BELOW, UNLESS OTHERWISE NOTED.
- ANCHOR BOLTS TO BE ASTM A307 GRADE C OR ASTM F1554 GRADE 36, WELDABLE, PROVIDED BY STEEL SUPPLIER AND SET BY THE GENERAL CONTRACTOR, WHERE ASTM F1554 GRADE 55 ANCHOR

- BOLTS ARE USED. BOLTS TO BE WELDABLE GRADE STEEL.
- FABRICATOR TO NOTIFY DESIGNER OF RECORD OF ANY PROPOSED MEMBER SUBSTITUTIONS AND CHANGED CONNECTION DETAILS.
- THE STRUCTURAL STEEL SUPPLIER SHALL PROVIDE AND BE RESPONSIBLE FOR ALL HOLES IN STEEL SECTIONS REQUIRED BY OTHER TRADES. SECTION SHALL BE STRENGTHENED WHERE REQUIRED TO GUARANTEE THE ORIGINAL STRENGTH OF THE BEAM. ANY CUTTING OF STEEL AT THE JOB SITE SHALL BE DONE ONLY AS DIRECTED AND APPROVED BY THE ENGINEER.
- JOIST SEATS MAY BE BOLTED TO BEAM TOP FLANGES USING PAIRS OF 14.3 MM DIAMETER BOLT HOLES ORIENTED ACROSS THE FLANGE WIDTH. ALL HOLES MUST BE FILLED WITH 12.7 MM DIAMETER BOLTS.
- THE STRUCTURAL STEEL ERECTOR SHALL BE RESPONSIBLE FOR SUPPLYING AND ERECTING ALL TEMPORARY GUYING AND BRACING OF THE STEEL FRAMING TO PROVIDE STABILITY FOR THE STRUCTURE AS A WHOLE. THESE SHALL REMAIN IN PLACE UNTIL ALL STEEL DECKING IS ERECTED, WELDED IN PLACE AND ALL MASONRY/CONCRETE WALLS CONSTRUCTED.
- UNLESS NOTED OTHERWISE ON DRAWINGS PROVIDE L76 X 76 X 6.4 DIAPHRAGM CHORD ANGLE AROUND ENTIRE PERIMETER OF BUILDING.
- ALL DUCTS LARGER THAN 450 MM X 450 MM THROUGH ROOF DECK TO BE FRAMED WITH L76 X 76 X 6.4 ANGLES ALL AROUND, EXCEPT AS NOTED. SMALLER OPENINGS THROUGH STEEL DECK TO BE STIFFENED BY STEEL DECK SUPPLIER. WHERE STEEL DECK REVERSES ITS FRAMING DIRECTION, USE L65 X 65 X 6.4 ANGLE TO SUPPORT EDGE.
- STRUCTURAL STEEL SUPPLIER IS TO SUBMIT ENGINEERING DRAWINGS BEARING THE SEAL OF A PROFESSIONAL ENGINEER REGISTERED IN THE PROVINCE OF MANITOBA COVERING THE DESIGN OF CONNECTIONS, TO THE PROJECT DESIGN ENGINEER FOR REVIEW PRIOR TO FABRICATION. CONNECTION DESIGN TO INCLUDE FOR ALL ADJUSTABLE CONNECTIONS REQUIRED TO SUITE FABRICATION AND ERECTION PROCEDURES AND TOLERANCES.
- STRUCTURAL STEEL WHICH SUPPORTS ARCHITECTURAL FINISHES MUST BE DESIGNED TO BE SUFFICIENTLY ADJUSTABLE TO MEET REQUIRED INSTALLATION TOLERANCES. SEE ARCHITECTURAL FOR REQUIRED FINISH TOLERANCES.

MISCELLANEOUS METAL - STEEL STAIRS, LANDINGS AND GUARDRAILS

- STEEL STAIR, LANDING AND GUARDRAIL SUPPLIER IS TO SUBMIT ENGINEERING DRAWINGS BEARING THE SEAL OF A PROFESSIONAL ENGINEER REGISTERED IN THE PROVINCE OF MANITOBA FOR REVIEW BY THE DESIGNER OF RECORD, PRIOR TO FABRICATION. ENGINEERING SHOP DRAWINGS SHALL INCLUDE DESIGN LOADS, LAYOUT PLAN, CONNECTION DETAILS, AND ALL OTHER PERTINENT INFORMATION.
- STEEL STAIR, LANDING AND GUARDRAIL SUPPLIER/DESIGNER SHALL PROVIDE A FINAL INSPECTION AND A LETTER SEALED BY THE ENGINEER RESPONSIBLE FOR THE DESIGN, CERTIFYING THAT STAIRS, LANDINGS AND GUARDRAILS ARE CONSTRUCTED AND INSTALLED AS PER DESIGN ASSUMPTIONS AND INSTALLATION REQUIREMENTS.

STEEL JOISTS

- JOIST FABRICATOR TO CONSULT THE SUPPLEMENTS TO THE NATIONAL BUILDING CODE OF CANADA ON NON-UNIFORM SNOW LOADS.
- JOISTS ARE TO BE CAMBERED FOR THE GREATER OF: FULL DEAD LOAD DEFLECTION OR FOR NOMINAL CAMBER AS SPECIFIED IN CSA S16-14.
- ALL JOIST BRIDGING TO CONFORM WITH THE LATEST BUILDING CODE REQUIREMENTS, EXCEPT AS NOTED.
- JOISTS BEARING ON BEAMS TO REST ON THE MIDDLE THIRD OF THE FLANGE. JOISTS IN LINE TO BEAR END TO END ON THE SUPPORTING BEAMS WITH A MAXIMUM GAP OF 12 MM.
- JOIST SUPPLIER TO REFER TO MECHANICAL DRAWINGS FOR LOCATION AND WEIGHTS OF EQUIPMENT SUPPORTED BY JOISTS. JOISTS TO HAVE INTERNAL MEMBERS IN LINE WHERE REQUIRED BY MECHANICAL DUCTS.
- ALL STEEL JOISTS TO RECEIVE ONE COAT OF SHOP PRIMER CISC/CPMA 1-73A QUICK DRYING. JOISTS IN CRAWLSPACE TO HAVE 2 COATS. JOISTS TO BE CLEANED IN CONFORMANCE WITH SSPC-SP2. JOISTS RECEIVING FINISH PAINTING TO HAVE ONE COAT OF CISC/CPMA 2-75 QUICK DRYING SHOP PRIMER. STEEL TO BE CLEANED IN CONFORMANCE WITH SSPC-SP7.
- JOIST SUPPLIER IS TO SUBMIT ENGINEERING DRAWINGS BEARING THE SEAL OF A PROFESSIONAL ENGINEER REGISTERED IN THE PROVINCE OF MANITOBA TO THE PROJECT DESIGN ENGINEER FOR REVIEW PRIOR TO FABRICATION.
- JOISTS WHICH ARE RESISTANCE WELDED SHALL CONFORM TO CSA W55.2, "RESISTANCE WELDING PRACTICE" AND CSA-W55.3, "RESISTANCE WELDING QUALIFICATION CODE FOR FABRICATORS OF STRUCTURAL MEMBERS USED IN BUILDINGS".
- ALL COLUMNS TO BE STRUTTED BY JOISTS OR BEAMS, WHERE JOISTS DO NOT LINE UP WITH COLUMNS USE L76 X 76 X 6.4 ANGLE FROM COLUMN AT BOTTOM OF BEAM FLANGE TO ADJACENT JOIST TOP CHORD AT PANEL POINTS.
- ALL JOISTS LINING UP WITH COLUMNS ARE TO BE STRUT JOISTS, DESIGNED TO RESIST END MOMENTS AS INDICATED ON THE DRAWINGS.
- LIVE LOAD DEFLECTION CRITERIA SHALL BE L/360 UNLESS OTHERWISE NOTED.
- CONTRACTOR SHALL REPORT TO ENGINEER ANY EQUIPMENT LOADS TO BE SUPPORTED BY JOISTS NOT SHOWN ON DRAWINGS.
- REFER TO DRAWINGS FOR REQUIRED JOIST SEAT HEIGHT. 100 MM TYPICAL, 200 MM AT CANOPY.

METAL DECK

- ROOF DECK SHALL BE 38 MM DEEP PROFILE, 0.76MM WITH RIB SPACING OF 152 MM.
- DECK SHALL BE MINIMUM GRADE A WITH A MINIMUM GALVANNEAL ZINC COATING TO Z75.
- DECK SHALL BE ARC SPOT WELDED TO BEARING SUPPORTS AT 300 MM O/C. WELDS SHALL BE 20 MM DIAMETER.
- SIDE LAPS SHALL BE MECHANICALLY FASTENED (BUTTON-PUNCHED) AT 600 MM ON-CENTRE.
- DECK SUPPLIER SHALL REINFORCE OPENINGS OVER 150 MM TO 300 MM ACROSS THE FLUTES WITH MINIMUM L65 X 65 X 6.4 EACH SIDE OF OPENING PERPENDICULAR TO FLUTES. ANGLE SHALL BE WELDED TO AT LEAST TWO FLUTES ON EACH SIDE OF OPENING.
- DECK SUPPLIER SHALL REINFORCE OPENINGS OVER 300 MM TO 450 MM ACROSS THE FLUTES WITH SUITABLE REINFORCEMENT BASED ON A STRUCTURAL ANALYSIS OF THE LOADS INVOLVED.
- TOUCH UP DECK WITH ZINC RICH PAINT WHERE ZINC COATING HAS BEEN BURNED BY WELDING.

MASONRY

- CONCRETE BLOCKS TO CONFORM TO CSA-A165-14 SERIES "STANDARDS FOR CONCRETE MASONRY UNITS".
 - STANDARD HOLLOW MASONRY UNITS SHALL BE H/2100/A/M.
 - STANDARD SOLID MASONRY UNITS SHALL BE SF/2100/A/M.
 - LIGHTWEIGHT HOLLOW MASONRY UNITS SHALL BE H/2100/C/M.
 - LIGHTWEIGHT SOLID MASONRY UNITS SHALL BE SF/2100/C/M. (COMPRESSIVE STRENGTH IS BASED ON NET AREA).
- EXTERIOR AND LOAD BEARING WALLS ARE TO BE BUILT WITH TYPE 'S' MORTAR HAVING A MINIMUM STRENGTH OF 12 MPA AT 28 DAYS. INTERIOR MASONRY NON-LOAD BEARING WALLS MAY BE BUILT WITH TYPE 'N' MORTAR HAVING A COMPRESSIVE STRENGTH OF 5 MPA AT 28 DAYS. MORTAR SHALL CONFORM TO CSA A179-14, "MORTAR AND NON-SHRINK GROUT FOR UNIT MASONRY".
- USE DUR-O-WAL OR EQUAL EVERY SECOND COURSE. EVERY COURSE FOR STACK BOND.
- THE TOP COURSE OF ALL BLOCK WALLS IS TO BE A 'U' BLOCK WITH 2-10M CONTINUOUS CENTRE AND FILLED WITH 20 MPA CONCRETE UNLESS NOTED ON PLAN.
- ALL MASONRY WALLS TO BE PROPERLY BRACED UNTIL STRUCTURE IS CLOSED IN AND WALL PERMANENTLY SUPPORTED.
- ALL BLOCK WALLS RECEIVING BEAMS TO HAVE 2 COURSES HIGH, 400 MM LONG FILLED WITH 20 MPA CONCRETE UNLESS NOTED ON DRAWINGS.
- MASONRY TIES AND ANCHORS SHALL BE DESIGNED IN CONFORMANCE WITH CSA-A370-14, "CONNECTORS FOR MASONRY". DESIGN WIND PRESSURE FOR TIES IN EXTERIOR WALLS SHALL BE 0.8 KPA.
- DOOR LINTELS IN BLOCK WALLS SHALL BE AS FOLLOWS UNLESS NOTED ON DRAWINGS:

UP TO 1200 MM 200 MM HIGH 'U' BLOCK
20 MPA CONCRETE FILL
2-10M BOTTOM

1200 MM TO 2400 MM 400 MM HIGH 'U' BLOCK
20 MPA CONCRETE FILL
2-15M BOTTOM



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DO NOT SCALE DRAWINGS

Revision/	Description/Description	Date/Date
A	ISSUED FOR CONSTRUCTION	2018/11/02

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Client/client
PUBLIC WORKS AND GOVERNMENT SERVICES AGENCY

Project title/Titre du projet
EMERSON, MANITOBA
HIGHWAY 75, UNITED STATES BORDER
EXPANSION AND REDEVELOPMENT OF THE EMERSON PORT OF ENTRY

Approved by/Approve par
KJP

Designed by/Concept par
JAL/KJP

Drawn by/Designe par
JLP/MPP

PWSSC Project Manager/Administrateur de Projets TPSSC
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Client/client

Drawing title/Titre du dessin
GENERAL NOTES

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