GENERAL NOTES:

1. DRAWING SHALL BE READ IN CONJUNCTION WITH CONTRACT DOCUMENTS. REFER TO CITY OF WINNIPEG BID OPPORTUNITY 748-2013.
2. REFER TO CITY OF WINNIPEG BID OPPORTUNITY SECTION B7 FOR SUBSTITUTES.

FOUNDATIONS (C.I.P. CONCRETE PILES):

1. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH THE CONTRACT DOCUMENTS AND THE PILING SPECIFICATION.
2. FOUNDATIONS SHALL BE CAST-IN-PLACE CONCRETE FRICTION PILES AS SHOWN ON DRAWINGS.
3. CONCRETE PILES HAVE BEEN DESIGNED USING ULTIMATE LIMIT STATES WITH A FACTORED SKIN FRICTION VALUE OF 18 kPa AS RECOMMENDED BY KGS GROUP IN THEIR REPORT DATED 2013/09/13.
4. INSTALLATION OF ALL CONCRETE PILES SHALL BE INSPECTED AND APPROVED BY A GEOTECHNICAL ENGINEER REGISTERED IN THE PROVINCE OF MANITOBA, PRIOR TO PLACEMENT OF CONCRETE.
5. 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.
6. PILES SHALL NOT BE MORE THAN 50mm OUT OF POSITION LATERALLY AT THE TOP AND NOT MORE THAN 2% OUT OF PLUMB.
7. REINFORCE ALL PILES AS DETAILED ON THE DRAWINGS. REFER TO CONCRETE NOTES FOR CONCRETE REQUIREMENTS. INSTALL EACH PILE AS A CONTINUOUS POUR.
8. VIBRATE TOP 4.5m OF CONCRETE IN ALL PILES.
9. SLEEVING WHERE REQUIRED SHALL BE INCLUDED IN THE PILING CONTRACT.

EXCAVATION & BACKFILL:

1. REMOVE ALL FILL MATERIALS, DELETERIOUS SOILS AND ORGANICS IN AREAS REQUIRING GRANULAR BASE MATERIALS. COMPACT SUBGRADE TO 95% STANDARD PROCTOR DENSITY. SUB-EXCAVATE AND REPAIR ALL AREA EXHIBITING UNSUITABLE DEFLECTIONS.
2. GRANULAR BASE TO BE PLACED ON GRADE SHALL BE COMPACTED TO 100% STANDARD PROCTOR DENSITY IN MAXIMUM 150mm LIFTS.
3. DO NOT COMPACT FROZEN BACKFILL OR PLACE ON FROZEN SUBGRADE.
4. SUB-GRADE, SUB-BASE AND BASE COURSE MATERIALS AND CONSTRUCTION METHODS SHALL BE AS PER CITY OF WINNIPEG SPECIFICATION CW3110, UNLESS NOTED.
5. SUBGRADE AND BASE COURSE INSTALLATION SHALL BE INSPECTED AND APPROVED BY THE CONTRACT ADMINISTRATOR.

REINFORCING STEEL:

1. REINFORCING STEEL TO BE NEW DEFORMED BILLET STEEL BARS CONFORMING TO CSA G30.18 (LATEST). GRADE TO BE 400 MPa.
2. REINFORCING STEEL SHALL BE CLEAN, FREE OF RUST, DIRT, LOOSE SCALE, OIL, GREASE OR ANY OTHER MATERIAL WHICH WOULD REDUCE BOND WITH THE CONCRETE.
3. WELDED STEEL WIRE FABRIC SHALL CONFORM TO ASTM A185 OR A497 (LATEST), 400 MPa MINIMUM GRADE IN FLAT SHEETS ONLY UNLESS APPROVED OTHERWISE.
4. SUBMIT SHOP DRAWINGS WHICH CLEARLY INDICATE BAR SIZES, SPACINGS, LOCATIONS & QUANTITIES OF REINFORCING STEEL, BENDING & CUTTING SCHEDULES, SUPPORTING & SPACING DEVICES, ETC. FOR REVIEW PRIOR TO FABRICATION. DETAIL, FABRICATE AND PLACE REINFORCING IN ACCORDANCE WITH CSA A23.1 (LATEST), CSA A23.3 (LATEST) AND ACI SP-66 (LATEST) UNLESS NOTED. LAP STEEL 36 BAR DIAMETERS (MINIMUM) UNLESS NOTED.
5. LAP BEAM AND STRUCTURAL SLAB TOP REINFORCING AT CENTER SPAN, AND BOTTOM STEEL AT SUPPORTS.
6. BEND ALL HORIZONTAL REINFORCING 305mm AROUND CORNERS OR PROVIDE ADDITIONAL 610mm X 610mm ANGLE BARS.
7. PROVIDE AT EACH FACE, 2-15M EXTRA BARS ALONG ALL SIDES, AND 2-15M DIAGONAL BARS AT ALL CORNERS OF OPENINGS UNLESS NOTED. PROJECT ALL BARS 610mm PAST CORNERS.
8. 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.
9. PROVIDE MINIMUM CONCRETE COVER FOR REINFORCING STEEL AS FOLLOWS:

C.I.P. PILES	75mm
PILECAPS	75mm
GRADE BEAMS (SIDES)	38mm
GRADE BEAMS (BOTTOM)	64mm
SLAB-ON-GRADE (TOP)	50mm
SLAB-ON-GRADE (BOTTOM)	75mm
STRUCTURAL SLAB (TOP & BOTTOM)	25mm

CONCRETE:

1. CONCRETE MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH CSA A23.1 (LATEST). SEE BELOW FOR MIX REQUIREMENTS.
2. ADMIXTURES SHALL NOT BE USED UNLESS SPECIFIED HEREIN OR APPROVED BY THE CONTRACT ADMINISTRATOR. CALCIUM CHLORIDE SHALL NOT BE USED.
3. MIX WATER SHALL BE POTABLE.
4. DESIGN, FABRICATE AND ERECT FORMWORK/SHORING IN ACCORDANCE WITH CAN/CSA-S269.3 (LATEST). ALLOW SUFFICIENT CONCRETE CURING TIME PRIOR TO REMOVAL.
5. CONCRETE FINISHING SHALL MEET THE REQUIREMENTS OF CSA A23.1 (LATEST).
6. FORM RELEASE AGENT SHALL BE BIODEGRADEABLE, NON-STAINING AND NON-VOLATILE.
7. PROVIDE ADEQUATE COLD/HOT WEATHER PROTECTION AS REQUIRED DURING CURING PERIOD.
8. PLACE AND SECURE ALL EMBEDDED ANCHORS, WELD PLATES, SLEEVES, BUCKS, DOWELS, INSERTS, WATERSTOPS, ETC., PRIOR TO PLACING CONCRETE. CO-ORDINATE WITH ALL TRADES FOR EMBEDDING OF ALL OTHER, CONDUIT, SERVICES, BLOCKING, ETC.
9. LOCATE AND FABRICATE ALL CONSTRUCTION JOINTS, CONTROL JOINTS AND EXPANSION JOINTS AS DETAILED ON THE DRAWINGS. JOINTS NOT SHOWN SHALL BE APPROVED BY THE CONTRACT ADMINISTRATOR PRIOR TO THE PLACEMENT OF CONCRETE.
10. ALL EXPOSED CORNERS TO HAVE 25mm CHAMFER FILLET UNLESS NOTED.
11. CAST-IN-PLACE ANCHOR BOLTS SHALL MEET REQUIREMENTS OF ASTM A307 (LATEST).
12. EXPANSION ANCHORS SHALL BE HILTI KWIK-BOLTS OR APPROVED EQUAL IN ACCORDANCE WITH B7, UNLESS NOTED. INSTALL AS PER MANUFACTURER'S INSTRUCTIONS.
13. ADHESIVE ANCHORS SHALL BE HILTI HY200 HAS RODS OR APPROVED EQUAL IN ACCORDANCE WITH B7, UNLESS NOTED. INSTALL AS PER MANUFACTURER'S INSTRUCTIONS.
14. GROUT REINFORCING DOWELS WITH EPOXY GROUT HILTI HIT-HY200 MAX, OR APPROVED EQUAL IN ACCORDANCE WITH B7. GROUT BASE PLATES WITH NON-SHRINK GROUT SIKA M-BED STANDARD, OR APPROVED EQUAL IN ACCORDANCE WITH B7. PLACE AND CURE ALL GROUT WITHIN TEMPERATURE RANGE RECOMMENDED BY MANUFACTURER.
15. BONDING AGENTS SHALL BE USED TO ADHERE NEW CONCRETE TO EXISTING CONCRETE OR STEEL. ACCEPTABLE PRODUCT: SIKADUR 32 HI-MOD (EPOXY), OR APPROVED EQUAL IN ACCORDANCE WITH B7.
16. THE CONCRETE SUPPLIER SHALL BE CERTIFIED TO MEET THE REQUIREMENTS OF CSA.A23.1.
17. THE CONCRETE SUPPLIER SHALL SUBMIT CONCRETE MIX DATA SUBMISSION FORMS FOR EACH TYPE OF CONCRETE SPECIFIED FOR REVIEW PRIOR TO BATCHING ANY CONCRETE.
18. VOID FORM TO BE CARDBOARD TYPE. REFER TO SPECIFICATIONS.

CONCRETE MIX DESIGNS:

CONCRETE MIX DESIGN SHALL BE PROPORTIONED TO MEET THE FOLLOWING PERFORMANCE REQUIREMENTS:

C.I.P. PILES, PILE CAPS, FOOTINGS & RAFT SLABS:

EXPOSURE CLASS	S-2
MIN. 56 DAY COMP. STRENGTH	32 MPa
CEMENT TYPE	HS
MAX. W/C RATIO	0.45
MAX. AGGREGATE SIZE	20mm
ENTRAINED AIR CONTENT	4%-7%

GRADE BEAMS, FOUNDATION WALLS & PIERS:

EXPOSURE CLASS	S-2
MIN. 56 DAY COMP. STRENGTH	32 MPa
CEMENT TYPE	HS
MAX. W/C RATIO	0.45
MAX. AGGREGATE SIZE	20mm
ENTRAINED AIR CONTENT	4%-7%

EXTERIOR SLABS (NON-STRUCTURAL):

EXPOSURE CLASS	C-2
MIN. 28 DAY COMP. STRENGTH	32 MPa
CEMENT TYPE	GU
MAX. W/C RATIO	0.45
MAX. AGGREGATE SIZE	20mm
ENTRAINED AIR CONTENT	5%-8%

INTERIOR CONCRETE, ALL SLABS, WALLS, BEAMS & COLUMNS:

EXPOSURE CLASS	N
MIN. 28 DAY COMP. STRENGTH	30 MPa
CEMENT TYPE	GU
MAX. W/C RATIO	0.45
MAX. AGGREGATE SIZE	20mm
ENTRAINED AIR CONTENT	N/A

UNIT MASONRY:

1. MASONRY UNITS SHALL BE MANUFACTURED IN ACCORDANCE WITH CAN/CSA A165.1 (LATEST). CONSTRUCT MASONRY IN ACCORDANCE WITH CAN/CSA A371 (LATEST). CONNECTORS SHALL BE IN ACCORDANCE WITH CAN/CSA A370 (LATEST).
2. ALL CONCRETE MASONRY TO BE AS NOTED AND DETAILED. NORMAL WEIGHT HOLLOW, LOADBEARING UNITS SHALL BE H/20/A/M. REFER TO ARCHITECTURAL DRAWINGS FOR AESTHETIC, CORE AND AGGREGATE REQUIREMENTS.
3. MORTAR SHALL BE TYPE 'S' AND MANUFACTURED TO CAN/CSA A179 (LATEST), ADMIXTURES SHALL NOT BE USED WITHOUT WRITTEN APPROVAL FROM THE CONTRACT ADMINISTRATOR.
4. GROUT IN-FILL SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 12.5 MPa AT 28 DAYS BY CYLINDER TEST AS PER CAN/CSA A179 (LATEST); MAXIMUM AGGREGATE SIZE 10mm; SLUMP 100mm (HORIZONTAL IN-FILL) 200mm (VERTICAL IN-FILL), AIR 1%-3%.
5. PROVIDE CLEAN-OUTS AT BOTTOM OF ALL FILLED CORE LIFTS. REMOVE ALL MORTAR FLASH AND DROPPINGS FROM CORES PRIOR TO IN-FILLING. VIBRATE OR TAMP ALL GROUT FILL. LIFTS SHALL NOT EXCEED 2000mm UNLESS APPROVED BY DESIGN ENGINEER.
6. PROVIDE 3.89mm (9 GA.) LADDER TYPE 'DUR-O-WAL' (OR EQUAL IN ACCORDANCE WITH B7) HORIZONTAL JOINT REINFORCEMENT AT EVERY SECOND COURSE. EXTERIOR WALL/VENEER REINFORCEMENT TO BE HOT-DIPPED GALVANIZED. MINIMUM JOINT REINF'G. LAP 150mm. DISCONTINUE JOINT REINF'G. AT CONTROL JOINTS. SEE DRAWING NOTES AND DETAILS FOR ADDITIONAL CORE/COURSE REINF'G.
7. UNLESS NOTED OTHERWISE, PROVIDE VERTICAL CONTROL JOINTS AT 6000mm O/C MAX. FOR EXTERIOR WALLS AND AT 12000mm O/C MAX. FOR INTERIOR WALLS. SEE NOTES AND DETAILS FOR CONSTRUCTION. LOCATIONS TO BE APPROVED.
8. INSTALL ALL BLOCK IN RUNNING BOND PATTERN. TOOL ALL MORTAR JOINTS CONCAVE.
9. MASONRY CONTRACTOR SHALL BE RESPONSIBLE FOR DESIGN, SUPPLY AND ERECTION OF ALL TEMPORARY GUYING AND BRACING REQUIRED TO STABILIZE MASONRY WALLS. BRACING SHALL REMAIN IN PLACE UNTIL AFTER STEEL DECKING/PLYWOOD ROOF SHEATHING HAVE BEEN INSTALLED.
10. PROVIDE 'MC1' MASONRY COLUMNS AT EACH SIDE OF ALL DOORS, OPENINGS, BUILDING CORNERS, WALL INTERSECTIONS, AT BOTH SIDES OF CONTROL JOINTS AND AT MAXIMUM 800mm O/C IN LOAD BEARING WALLS.

MARK	MASONRY COLUMNS
MC1	1 BLOCK CORE FILLED WITH CONC. 1-15M VERTICAL C/W MATCHING DOWELS FROM FLOOR STRUCTURE

MARK	MASONRY LINTELS
ML1	200mm DEEP U/BLOCK FILLED WITH CONC. 2-15M BOTTOM CONTINUOUS BEAR ON MC1 EACH END
ML2	400mm DEEP U/BLOCK FILLED WITH CONC. 2-15M BOTTOM CONTINUOUS BEAR ON MC1 EACH END

FALL ARREST ANCHOR NOTES:

1. FINAL ROOF ANCHOR AND HORIZONTAL LIFELINE DESIGN BY ANCHOR MANUFACTURER.
   - ACCEPTABLE MANUFACTURER: THALER METAL INDUSTRIES LTD. OR APPROVED EQUAL IN ACCORDANCE WITH B7.
2. FALL ARREST ANCHOR SYSTEMS TO BE DESIGNED IN ACCORDANCE WITH THE FOLLOWING:
   - MANITOBA REGULATION 217/2006 - WORKPLACE SAFETY AND HEALTH REGULATION;
   - CAN/CSA Z259.13 (LATEST) - FLEXIBLE HORIZONTAL LIFELINE SYSTEMS;
   - CAN/CSA Z259.16 (LATEST) - DESIGN OF ACTIVE FALL PROTECTION SYSTEMS.
3. ANCHOR POSTS: URETHANE INSULATED HOLLOW STEEL POST WITH GALVANIZED FINISH.
4. FASTENERS: STAINLESS STEEL
5. PROVIDE ALL REQUIRED ROOF FLASHINGS AND FASTENERS.
6. FALL ARREST ANCHOR SUPPLIER SHALL SUBMIT SHOP DRAWINGS BEARING THE SEAL OF A PROFESSIONAL ENGINEER REGISTERED IN THE PROVINCE OF MANITOBA TO THE CONTRACT ADMINISTRATOR FOR APPROVAL PRIOR TO FABRICATION OF ANY COMPONENTS. SHOP DRAWINGS TO INCLUDE:
   - ANCHOR AND HORIZONTAL LIFELINE LAYOUT PLAN, SECTIONS AND DETAILS;
   - ANCHOR SPECIFICATIONS;
   - INSTALLATION INSTRUCTIONS;
   - ROOF PENETRATION DETAILS AND RELATED ACCESSORIES;
   - DESIGN LOADS.
7. MANUFACTURER TO PROVIDE CERTIFICATION OF INSTALLED ANCHORS AND HORIZONTAL LIFELINE SYSTEM PRIOR TO USE.
8. DESIGN OF FALL ARREST ANCHOR CONNECTION TO GLULAM BY GLULAM SUPPLIER. COORDINATE WITH FALL ARREST ANCHOR FABRICATOR.

STRUCTURAL AND MISCELLANEOUS STEEL:

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

ROLLED W-SHAPES	CSA G40.21-350W
ROLLED SHAPES & PLATES	CSA G40.21-300W
HSS SECTIONS	CSA G40.21-350W CLASS C H
STANDARD PIPE	ASTM A53
COLD FORMED STEEL	CSA S136
ANCHOR BOLTS (GALV.)	ASTM A307
BOLTS, NUTS, & WASHERS	ASTM A325
WELDING ELECTRODES	CSA W48.1

3. WELDING SHALL BE IN ACCORDANCE WITH CSA W59 (LATEST), BY WELDERS CERTIFIED AND QUALIFIED IN ACCORDANCE WITH CSA W47.1 (LATEST). ALL WELDS TO BE 6mm UNLESS NOTED OTHERWISE.
4. FIELD CONNECTIONS SHALL BE BOLTED 19mm DIAMETER A325 BEARING TYPE UNLESS NOTED OTHERWISE. BOLTS SHALL BE TIGHTENED IN ACCORDANCE WITH CSA S16 (LATEST).
5. STRUCTURAL AND MISCELLANEOUS STEEL SHALL BE FINISHED AS INDICATED BELOW, UNLESS OTHERWISE NOTED, OR APPROVED EQUAL.:

   INTERIOR STEEL (COMMERCIAL)
   - SURFACE PREP. TO SP2 (HAND TOOL CLEANING)
   - ONE COAT QUICK DRYING PRIMER TO CISC/CPMA 2-75
   -FINISH PAINTING: REFER TO ARCHITECTURAL
6. COLOUR OF STRUCTURAL AND MISCELLANEOUS STEEL SHALL BE AS FOLLOWS:

   - STRUCTURAL STEEL - NEUTRAL GREY.
7. FIELD TOUCH-UP WITH ZINC-RICH COATING, TO MATCH GALVANIZED STEEL. ACCEPTABLE PRODUCT: ZINGA, GAL-VIZ OR APPROVED EQUAL.
8. PAINTED SURFACES OF EXISTING STEEL SHALL BE GROUND SMOOTH TO BARE METAL PRIOR TO FIELD WELDING.
9. STRUCTURAL STEEL SUPPLIER TO PROVIDE 38x4.8 GALVANIZED MASONRY ANCHORS AT A MAXIMUM OF 800mm O/C ON ALL COLUMNS AND BEAMS IN CONTACT WITH MASONRY UNLESS NOTED OTHERWISE.
10. THE STRUCTURAL STEEL ERECTOR 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.
11. NO HOLES PERMITTED IN TOP FLANGE OF BEAMS AT COLUMNS WHERE BEAMS ARE CONTINUOUS OVER COLUMNS.
12. ALL BEAMS CONTINUOUS OVER COLUMNS ARE TO HAVE WEB STIFFENERS THE SAME SIZE AND ORIENTATION AS THE COLUMN BELOW, UNLESS OTHERWISE NOTED.
13. FABRICATOR TO NOTIFY THE CONTRACT ADMINISTRATOR OF ANY PROPOSED MEMBER SUBSTITUTIONS AND CHANGED CONNECTION DETAILS.
14. 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 CONTRACT ADMINISTRATOR.
15. VERTICAL DIAGONAL BRACING CONNECTIONS SHALL BE CONCENTRIC AND DESIGNED FOR THE FACTORED TENSION & COMPRESSION FORCES SHOWN ON THE DRAWINGS.
16. VERTICAL BRACING WORKING POINTS SHALL BE AT THE INTERSECTION OF CENTRELINE OF BEAMS AND CENTRELINE OF COLUMNS UNLESS NOTED OTHERWISE.
17. DESIGN CONNECTIONS TO SUPPORT REACTION FROM MAXIMUM UNIFORMLY DISTRIBUTED LOAD THAT CAN BE SAFELY SUPPORTED BY A LATERALLY SUPPORTED BEAM IN BENDING, PROVIDED NO POINT LOADS ACT ON THE BEAM, WHEN SHEARS ARE NOT INDICATED.
18. STEEL FABRICATOR IS RESPONSIBLE FOR THE DESIGN OF INTERIOR STEEL STAIRS AND LADDER. SUBMIT SHOP DRAWINGS BEARING THE SEAL OF A PROFESSIONAL ENGINEER REGISTERED IN THE PROVINCE OF MANITOBA FOR REVIEW PRIOR TO FABRICATION.
19. STRUCTURAL STEEL SUPPLIER IS TO SUBMIT ENGINEERING DRAWINGS BEARING THE SEAL OF A PROFESSIONAL ENGINEER REGISTERED IN THE PROVINCE MANITOBA COVERING THE DESIGN OF CONNECTIONS TO THE CONTRACT ADMINISTRATOR FOR REVIEW PRIOR TO FABRICATION. CONNECTION DESIGN TO INCLUDE FOR ALL ADJUSTABLE CONNECTIONS REQUIRED TO SUITE FABRICATION AND ERECTION PROCEDURES AND TOLERANCES.

OPEN WEB STEEL JOISTS (O.W.S.J.):

1. O.W.S.J. SHALL BE DESIGNED BY OTHERS. FABRICATE AND ERECT IN ACCORDANCE WITH THE REQUIREMENTS OF CSA S16 (LATEST). DESIGN FOR LOADS SHOWN ON DRAWINGS. THE SIZE, WEIGHT AND LOCATION OF ALL MECHANICAL EQUIPMENT SHALL BE CO-ORDINATED WITH THE MECHANICAL CONTRACTOR. DESIGN SHALL INCLUDE ALL BRIDGING, BRACING, REINFORCING, ETC. AS REQUIRED.
2. SHOP DRAWINGS INDICATING SIZES, LENGTHS, SLOPES, SPACING, CAMBER, LOADING CRITERIA, CONNECTIONS, ETC, SHALL BE SUBMITTED BEARING THE SEAL OF A PROFESSIONAL ENGINEER REGISTERED IN THE PROVINCE OF MANITOBA FOR REVIEW AND APPROVAL PRIOR TO FABRICATION.
3. MANUFACTURE ALL O.W.S.J. WITH CAMBER TO OFFSET DEAD LOAD DEFLECTION.
4. DEFLECTION DUE TO LIVE LOADS SHALL NOT EXCEED SPAN/360 UNLESS NOTED OTHERWISE.
5. PROVIDE 75x75x7.9mm ANGLE FRAMING BETWEEN O.W.S.J. AND AROUND ALL SIDES OF DECK OPENINGS LARGER THAN 305mm DIA. UNLESS NOTED.
6. O.W.S.J. SHALL NOT BE FIELD MODIFIED IN ANY WAY WITHOUT WRITTEN CONSENT OF THE MANUFACTURER AND THE CONTRACT ADMINISTRATOR.
7. SHIP, STORE, HANDLE AND INSTALL O.W.S.J. AND RELATED COMPONENTS IN STRICT ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS.
8. SURFACE PREP TO 'SP2' AND PRIME WITH NEUTRAL GREY PRIMER UNLESS NOTED. REFER TO ARCHITECTURAL FOR FINISH PAINT REQUIREMENTS.

STEEL DECK:

1. FABRICATE STEEL DECK IN ACCORDANCE WITH ASTM A653M WITH A ZF75 GALVANEAL (INTERIOR), Z275 GALVANIZED (EXTERIOR) ZINC COATING.
2. INSTALL IN ACCORDANCE WITH CSA S136 (LATEST) AND MANUFACTURER'S INSTRUCTIONS.
3. FASTEN DECKING TO STRUCTURAL STEEL WITH 19mm DIAMETER FUSION WELDS AT 300mm O/C ALONG ALL SUPPORTS. CLINCH ALL SIDE SEAMS AT 300mm O/C.
4. FASTEN DECKING TO STRUCTURAL GLULAM WITH #12 SCREWS AT 150mm O/C ALONG ALL SUPPORTS. CLINCH ALL SIDE SEAMS AT 300mm O/C.
5. FLOOR DECK TO BE 38mm DEEP X 0.76mm (22 GA.) THICK, COMPOSITE.
6. ROOF DECK TO BE 38mm DEEP X 0.76mm (22 GA.) THICK, ACOUSTIC.

STEEL STUD FRAMING (WIND BEARING):

GENERAL

1. INSTALL ALL FRAMING PLUMB, LEVEL, AND SQUARE.
2. PROVIDE WOOD AND/OR METAL BLOCKING/BACKING AT ALL TOILET PARTITIONS, CABINETWORK, PLUMBING FIXTURES, LOCKERS, ETC., AND ANY LOCATION WHERE OTHER TRADES REQUIRE SOLID BACKING. COORDINATE WITH ARCHITECTURAL.

EXTERIOR WALL FRAMING

3. EXTERIOR WALL AND PARAPET STEEL STUDS, TRACK, FURRING BARS, ETC. TO BE SECTIONS ROLL FORMED FROM Z-275 HOT-DIPPED GALVANIZED SHEET STEEL TO ASTM C955. STEEL STUD SIZES AS FOLLOWS:
   - GYMNASIUM WALLS & BRICK VENEER BACK-UP WALLS:
     - 600S 125-54 @ 16" O/C MAXIMUM SPAN OF 4.25M
   - OTHER EXTERIOR WALLS:
     - 600S 162-68 @ 16" O/C MAXIMUM SPAN OF 5.0M
4. PROVIDE LONG-LEGGED DOUBLE TOP TRACKS AT TOP OF ALL FULL STOREY FRAMING (TYPICAL BETWEEN WINDOW OPENINGS) TO ALLOW FOR 6mm DEFLECTION AT EACH STOREY.
5. FASTEN ALL EXTERIOR WALL FRAMING TO CONCRETE FLOORS AND STRUCTURAL STEEL FRAMING WITH APPROVED 6mm DIA. (MINIMUM) RUST-PROOF FASTENERS @ 406mm O/C.
6. PROVIDE HORIZONTAL BRIDGING AT 1.5M ON CENTRE MAXIMUM.

GLUE LAMINATED (GLULAM) BEAMS:

1. ALL GLULAM BEAMS SHALL BE MANUFACTURED IN ACCORDANCE WITH CSA 0122 AT A GLULAM MANUFACTURING PLANT CERTIFIED IN ACCORDANCE WITH CSA 0177.
2. LUMBER USED IN GLULAMS TO BE D. FIR-L. STRESS GRADE OF LUMBER TO BE 24f-EX MINIMUM. APPEARANCE GRADE TO BE QUALITY GRADE
3. GLUE SHALL BE WATERPROOF RESORCINOL TYPE.
4. SITE DRILLING AND/OR CUTTING OF GLULAMS SHALL BE MINIMIZED WHEREVER POSSIBLE. ALL DRILLING AND/OR CUTTING SHALL BE DONE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND SHALL NOT COMPROMISE MEMBER PERFORMANCE. OBTAIN APPROVAL FROM CONTRACT ADMINISTRATOR PRIOR TO DRILLING AND/OR CUTTING.
5. CONNECTIONS SHALL BE NEAT AND SQUARE PROVIDING FULL SURFACE CONTACT BETWEEN MEMBERS AND CONNECTION HARDWARE. SHIM AS REQUIRED. DESIGN CONNECTIONS TO SUPPORT FACTORED LOADS AS SHOWN OF THE DRAWINGS.
6. PROVIDE EACH GLULAM MEMBER WITH A WEATHERTIGHT PROTECTIVE COVERING, INSTALLED AT THE FACTORY, AND REMOVED AS REQUIRED DURING ERECTION.
7. SUBMIT SHOP DRAWINGS BEARING THE SEAL OF A PROFESSIONAL ENGINEER REGISTERED IN THE PROVINCE OF MANITOBA TO THE CONTRACT ADMINISTRATOR FOR APPROVAL PRIOR TO FABRICATION OF ANY COMPONENTS.
8. GLULAM TO STEEL CONNECTIONS TO BE DESIGNED AND DETAILED BY GLULAM FABRICATOR AND SUPPLIED BY STEEL FABRICATOR.

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490 KEENLEYSIDE, WINNIPEG, MB

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