

GENERAL NOTES

- STRUCTURAL DESIGN BASED ON THE NATIONAL BUILDING CODE OF CANADA 2015 EDITION. ALL CODES AND STANDARDS SHALL BE THE EDITIONS DESIGNATED IN TABLE 1.3.1.2.
 - IMPORTANCE CATEGORY: POST DISASTER
 - WIND LOAD: $q_{50} = 0.40kPa$
 - GROUND SNOW LOAD: $S_g = 4.3 kPa$
 - ASSOCIATED RAIN LOAD: $S_r = 0.3 kPa$
- DO NOT SCALE DRAWINGS.
- 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 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 "CONCRETE MATERIALS AND METHODS OF CONCRETE CONSTRUCTION" AND CSA-A23.2 "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 NEWFOUNDLAND.
- 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 NEWFOUNDLAND.
- CONCRETE TESTING TO BE PERFORMED IN ACCORDANCE WITH CSA-A23.1. 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.

INTERIOR SLABS-ON-GRADE: 25 MPa MIN. AT 28 DAYS
CLASS OF EXPOSURE: N
ENTRAINED AIR/CATEGORY: NONE
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.

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

II REINFORCING STEEL

- ALL REINFORCING STEEL TO BE CSA-G30.18M-A92 GRADE 400R DEFORMED BARS.
- ALL REINFORCING IS TO BE DETAILED 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.
- REINFORCING STEEL COVER IS TO CONFORM TO CAN/CSA A23.3 "DESIGN OF CONCRETE STRUCTURES FOR BUILDINGS" AND AS FOLLOWS:

INTERIOR SLABS-ON-GRADE: 40 mm TOP 20 mm BOTTOM
EXPOSURE CLASS: N

- IN SLABS ON GRADE, BARS TO BE LAPPED WITH CLASS A TENSION SPLICES, EXCEPT AS NOTED.
- 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.
- ALL MISCELLANEOUS CONCRETE PADS AND CURBS ARE TO BE REINFORCED WITH A MINIMUM OF 10M AT 400 mm O/C EACH WAY, UNLESS NOTED.

III FORMWORK

- 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.

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 NEWFOUNDLAND WORKPLACE HEALTH AND SAFETY REGULATIONS.
- 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, ALL MASONRY/CONCRETE WALLS CONSTRUCTED, AND ALL HOLLOWCORE HAS BEEN ERECTED, JOINTS GROUTED, AND BEARING ENDS HAVE BEEN GROUTED AND CURED.
- STRUCTURAL STEEL TO CONFORM TO CSA-G40.21, "STRUCTURAL QUALITY STEELS" AND CSA-G40.20 "GENERAL REQUIREMENTS FOR ROLLED OR WELDED STRUCTURAL QUALITY STEEL", ASTM A572/A572M "STANDARD SPECIFICATION FOR HIGH-STRENGTH LOW-ALLOY COLUMBIUM-VANADIUM STRUCTURAL STEEL" OR ASTM A992/A992M "STANDARD SPECIFICATION FOR STRUCTURAL STEEL SHAPES".
- ALL ROLLED OR STEEL STRUCTURAL SECTIONS SHALL BE G40.21-350W, ASTM A992 OR ASTM A572 GRADE 50. 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, "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".
- STRUCTURAL STEEL SUPPLIER IS TO SUBMIT ENGINEERING DRAWINGS BEARING THE SEAL OF A PROFESSIONAL ENGINEER REGISTERED IN THE PROVINCE OF NEWFOUNDLAND 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 SUIT FABRICATION AND ERECTION PROCEDURES AND TOLERANCES.
- 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 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.
- ALL STRUCTURAL STEEL INDICATED AS GALVANIZED IS TO BE HOT DIP GALVANIZED IN ACCORDANCE WITH CAN/CSA-G164 "HOT DIP GALVANIZING OF IRREGULARLY SHAPED ARTICLES" WITH A MINIMUM GALVANIZED COATING OF 610 GRAMS PER SQUARE METRE OF SURFACE AREA.
- 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.
- FABRICATOR TO NOTIFY ENGINEER 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.
- ALL OPENINGS LARGER THAN 450 mm X 450 mm THROUGH STEEL 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. WHEN STEEL DECK CHANGES ITS FRAMING DIRECTION, USE L65 x 65 x 6.4 ANGLE TO SUPPORT EDGE.

METAL DECK

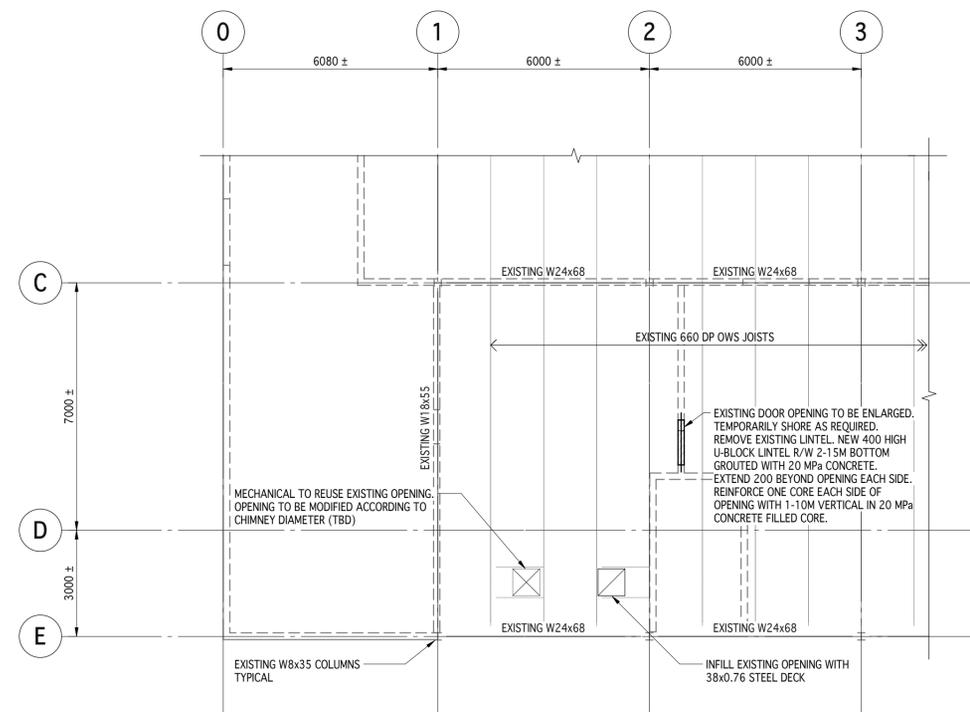
- ROOF DECK SHALL BE 38 mm DEEP PROFILE, 0.76 mm, WITH RIB SPACING OF 150 mm.
- DECK SHALL BE MINIMUM GRADE A WITH A MINIMUM GALVANIZED ZINC COATING TO Z275.
- DECK SHALL BE ARC SPOT WELDED TO BEARING SUPPORTS AT 300 mm O/C. WELDS SHALL BE 20 mm DIAMETER.
- SIDE LAPS SHALL BE MECHANICALLY FASTENED (BUTTON-PUNCHED) AT 600 mm ON-CENTRE.
- DECK FASTENING USING POWDER-ACTUATED DRIVE PINS TO STRUCTURAL MEMBERS AND SIDELAP SCREWS MAY BE PROPOSED AS AN ALTERNATE TO PUDDLE WELDS AND BUTTON-PUNCHING. DECK SUPPLIER TO PROVIDE SEALED SHOP DRAWING INDICATING DETAILS OF PROPOSED SYSTEM, INCLUDING MANUFACTURER, TYPE, SIZE & SPACING OF DRIVE PINS AND SCREWS; DIAPHRAGM SHEAR CAPACITY; AND DIAPHRAGM STIFFNESS, FOR REVIEW AND ACCEPTANCE BY PROJECT ENGINEER PRIOR TO CONSTRUCTION. IF ACCEPTED FOR USE, DECK INSTALLER TO PROVIDE WRITTEN CONFIRMATION THAT INSTALLERS ARE CERTIFIED BY THE DRIVE PIN SYSTEM MANUFACTURER FOR THE PROPER INSTALLATION OF THE SELECTED SYSTEM.
- 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 UP 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-A165.1 SERIES "CONCRETE BLOCK MASONRY UNITS".
 - STANDARD HOLLOW MASONRY UNITS SHALL BE H/15/A/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, "MORTAR AND GROUT FOR UNIT MASONRY".
- USE DUR-O-WAL OR EQUAL EVERY SECOND COURSE UNLESS NOTED OTHERWISE. EVERY COURSE FOR STACK BOND.
- 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.
- LINTELS IN NON-LOADBEARING BLOCK WALLS SHALL BE AS FOLLOWS UNLESS NOTED ON DRAWINGS:

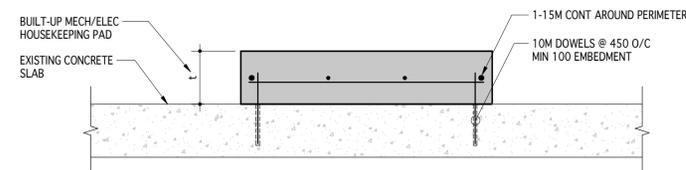
UP TO 1200 mm 200 mm HIGH 'U' BLOCK
20 MPa CONCRETE FILL
2-10M BOTTOM

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



PARTIAL ROOF FRAMING PLAN

1 : 100

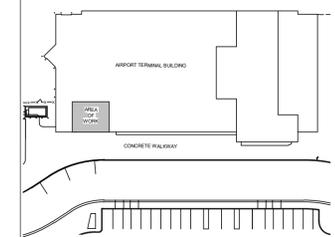


PAD THICKNESS "t"	REINFORCEMENT
150mm	10M @ 300 O/C EACH WAY
100mm	10M @ 400 O/C EACH WAY

SEE MECHANICAL/ELECTRICAL DRAWINGS FOR HOUSEKEEPING PAD SIZES AND LOCATIONS

A HOUSEKEEPING PAD DETAIL

1 : 10



PROVINCE OF NEWFOUNDLAND AND LABRADOR
ENGINEERING PERMIT
G0324
Crosier Kilgour & Partners Ltd.
Signature of Member Number (Member-in-Responsible Charge)



1 ISSUED FOR CONSTRUCTION 2022-05-17

revisions	date
project	project

Wabush - ATB Boiler Upgrade

Wabush Airport Terminal Building (ATB)

drawing dessin

PARTIAL ROOF FRAMING PLAN

designed conçu

BF

drawn dessiné

KGT

approved approuvé

BF

Tender Soumission

PSPC Project Manager Administrateur de projets TPSGC

project no. no. du project

R111141.001

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