GENERAL REQUIREMENTS

GENERAL

1. THE CONTRACTOR MUST PERFORM ALL WORK IN ACCORDANCE WITH THE LATEST EDITION OF THE NATIONAL BUILDING CODE OF CANADA.

2. ALL REFERENCES TO CODES AND STANDARDS ARE TO BE CONSIDERED AS BEING FROM THE LATEST EDITION OF THE APPLICABLE CODE OR STANDARD.

3. THE CONTRACTOR SHALL EXAMINE ALL DRAWINGS AND CHECK ALL DIMENSIONS AGAINST SITE CONDITIONS. THE CONTRACTOR IS TO REPORT ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK.

4. THE CONTRACTOR AND ITS SUBCONTRACTOR(S) MUST CONSIDER THAT THE WORK DEPENDS ON SITE CONDITIONS. THEY ARE REQUIRED TO COMPLETE THE WORK IN KEEPING WITH THE PRACTICES OF THEIR TRADE.

5. ONLY THE MAIN OPENINGS ARE SHOWN ON THE DRAWINGS. COORDINATE ALL OPENINGS WITH THE DRAWINGS OF THE OTHER PROFESSIONALS. ADVISE THE STRUCTURAL ENGINEER OF ALL CHANGES OR ADDITIONAL DETAILS.

6. THE CONTRACTOR IS TO DESIGN, INSTALL AND MAINTAIN ALL TEMPORARY SUPPORTS AND BRACING AS REQUIRED FOR STABILITY AND SAFETY DURING CONSTRUCTION.

7. REFER TO ARCHITECTURAL DRAWINGS FOR SCOPE OF DEMOLITION.

SITE CONSTRUCTION

FOUNDATIONS

1. FOUNDATION DESIGN IS BASED ON AN ASSUMED ALLOWABLE BEARING PRESSURE OF 100 kPa. GEOTECHNICAL ENGINEER IS TO VERIFY SITE SOIL BEARING CAPACITY RIOR TO THE INSTALLATION OF NEW FOUNDATIONS.

2. PRIOR TO COMMENCING EXCAVATION WORK, THE CONTRACTOR MUST CHECK TO SEE WHETHER THERE ARE ANY UTILITIES IN THE VICINITY. THE CONTRACTOR IS RESPONSIBLE FOR REROUTING OR RELOCATING, WITH THE AUTHORIZATION OF THE AUTHORITIES CONCERNED, THE PIPES OR WIRING THAT INTERFERE WITH THE PERFORMANCE OF THE WORK.

3. PERFORM THE EXCAVATION WORK IN COMPLIANCE WITH THE RULES OF THE TRADE AND THE APPLICABLE SAFETY CODES.

4. ALL FOOTINGS SHALL EXTEND A MINIMUM OF 1.8m BELOW FINAL GRADE FOR FROST PROTECTION.

5. ALL FOOTINGS SHALL BE PLACED ON UNDISTURBED SOIL OR ON STRUCTURAL FILL APPROVED BY THE GEOTECHNICAL ENGINEER.

6. ALL FOUNDATIONS SHALL BE BACKFILLED ON ALL SIDES SIMULTANEOUSLY IN ORDER TO PREVENT ECCENTRIC LOADING. PROVIDE TEMPORARY BRACINGS TO WALL AS REQUIRED TO RECEIVE THRUST UNTIL BACKFILLED AND FLOOR SLABS ARE INSTALLED.

CONCRETE

CONCRETE FORMWORK

1. CONCRETE FORMWORK COMPLIANT WITH STANDARD CSA A23.1 AND CSA S269.3.

CONCRETE REINFORCEMENT

1. REINFORCING STEEL: BILLET STEEL, GRADE 400 MPA, DEFORMED BARS CONFORM TO CAN/CSA-G30.18.

2. WELDED STEEL MESH – IN FLAT SHEETS ONLY CONFORM TO CAN/CSA-G30.5.

3. THE REINFORCING STEEL DETAILS SHALL BE IN ACCORDANCE WITH THE REINFORCING STEEL INSTITUTE OF CANADA MANUAL AND CSA STANDARD A23.1.

4. CONCRETE COVER TO THE REINFORCING STEEL:
   A. CONCRETE PLACED DIRECTLY ON THE GROUND: 76mm
   B. CONCRETE IN CONTACT WITH THE GROUND AFTER THE FORMS HAVE BEEN REMOVED AND EXPOSURE TO INCLEMENT WEATHER : 50mm
   C. CONCRETE EXPOSED TO CHEMICAL PRODUCT FOR THE REMOVAL OF THE ICE (CHLORIDE): 50mm
   D. CONCRETE THAT IS NEITHER EXPOSED NOR IN CONTACT WITH THE GROUND: SLABS AND WALLS (10M TO 35M): 20mm
   E. SLABS ON GRADE: 25mm FROM THE TOP OF THE SLABS.

CAST-IN-PLACE CONCRETE

1. CONCRETE WORKS TO BE IN ACCORDANCE WITH CAN/CSA-A23.1-04 AND CAN/CSA-A23.3, LATEST REVISIONS.

2. CONCRETE CHARACTERISTICS:
   A. MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS:
      EXTERIOR FOUNDATION WALL & FOOTINGS: 30MPa
      INTERIOR FOOTINGS & PIERS: 30MPa
      INTERIOR SLAB-ON-GRADE: 20MPa
      EXTERIOR SLABS: 32MPa
   B. TYPE 10 PORTLAND CEMENT
   C. AGGREGATES: 20mm MAXIMUM
   D. SLUMP: 76mm ±20mm.
   E. AIR CONTENT: 5 TO 8% FOR ALL CONCRETE EXPOSED TO INCLEMENT WEATHER AND/OR TO CHEMICAL PRODUCT FOR THE REMOVAL OF THE ICE (CHLORIDE).

3. CONCRETE EXPOSURE CLASS:
   EXTERIOR FOUNDATION WALLS & FOOTINGS: F2
   INTERIOR FOOTINGS & PIERS: N
   INTERIOR SLAB-ON GRADE: N
   EXTERIOR SLABS: C2

3. SUBMIT ALL CONCRETE MIX TO THE LABORATORY FOR APPROVAL.

4. ALL CONCRETE TESTING SHALL CONFORM TO CSA A23.2

5. CONCRETE TESTING IS TO BE PERFORMED BY A PRIVATE LABORATORY RETAINED BY THE OWNER AND IS TO BE COMPLIANT WITH THE STANDARDIZED CSA CURING PROCEDURE. THE LABORATORY MUST COLLECT A SET OF THREE (3) CYLINDERS PER 75 C.M. OF CONCRETE INSTALLED (TO BE COORDINATED WITH THE ENGINEER).

6. NO WATER IS TO BE ADDED TO THE CONCRETE, EITHER ON SITE OR IN THE CONCRETE MIXER. CONCRETE WHICH HAS SETTLED FOR MORE THAN 2 HOURS IN THE CONCRETE MIXER MUST BE REJECTED.

7. FORMWORK IS NOT TO BE REMOVED UNTIL THE CONCRETE HAS OBTAINED SUFFICIENT STRENGTH TO SUSTAIN ALL LOADING.

STRUCTURAL STEEL NOTES

1. STEEL WORKS IN ACCORDANCE WITH THE LATEST ADDITION OF CAN/CSA – S16.1.

2. STEEL DECK IN ACCORDANCE WITH THE LATEST ADDITION OF CAN/CSA – S136.

3. STEEL JOISTS TO CAN/CSA S16.1, CLAUSE 16.

4. WELDING IN ACCORDANCE WITH CSA STANDARD W59-LATEST EDITION. THE CONTRACTOR SHALL BE CERTIFIED UNDER REQUIREMENTS OF CSA STANDARD W47.1. WELDING ELECTRODES TO CSA STANDARD W48.1

5. STEEL GRADES:

W-BEAMS	= 350W
STEEL DECK	= 230 MPa YIELD
STEEL JOISTS	= TO CAN/CSA G40.20/G40.21
ANCHOR BOLTS	= TO ASTM A307
CONNECTION BOLTS	= TO ASTM A325
CHANNELS, ANGLES, PLATES	= 300W
HSS	= 345 Ma (A500 GRADE C)

6. DESIGN DETAILS AND CONNECTIONS IN ACCORDANCE WITH THE REQUIREMENTS OF CAN/CSA S16 AND CAN/CSA-S136.

7. UNLESS OTHERWISE INDICATED ON THE DRAWINGS, ALL SHOP CONNECTIONS ARE WELDED AND ON-SITE CONNECTIONS ARE BOLTED.

8. UNLESS OTHERWISE INDICATED, USE BOLTS 19mm IN DIAMETER WITH A MINIMUM OF TWO (2) BOLTS PER CONNECTION.

9. UNLESS NOTED OTHERWISE ON THE PLANS, OR IF THE GEOMETRY GENERATES HIGHER FORCES, DESIGN ALL CONNECTIONS FOR THESE MINIMUM FORCES:
   BEAMS: 50% OF THE SHEAR OF A UNIFORM LOADING CORRESPONDING TO THE FLEXURAL CAPACITY OF THE BEAM.
   FOR COMPOSITE BEAMS, CONSIDER A 100% COMPOSITE ACTION.
   BRACING: FORCES SHOWN ON THE PLANS.

10. THE STRUCTURAL STEEL MANUFACTURER IS RESPONSIBLE FOR THE DESIGN OF ALL CONNECTIONS. DRAWINGS SHOWING ASSEMBLIES, COMPONENTS AND CONNECTIONS ARE TO BE SUBMITTED FOR REVIEW. THE DRAWINGS SHALL BE STAMPED AND SIGNED BY A PROFESSIONAL ENGINEER REGISTERED IN THE PROVINCE OF PRINCE EDWARD ISLAND FOR THE CURRENT YEAR.

11. ALL STEEL FRAME MEMBERS TO BE CONCEALED IN FINISHED CONSTRUCTION ARE TO BE PAINTED WITH A SHOP COAT OF PRIMER TO THE REQUIREMENTS OF CISC/CPMA 1-73A STANDARDS. PREPARATION AND APPLICATION TO THE MANUFACTURER'S RECOMMENDATIONS (TOUCH-UPS ON SITE).

12. ALL EXPOSED STEEL FRAME MEMBERS TO BE EXPOSED IN FINISHED CONSTRUCTION AND TO RECEIVE FINISH PAINT (BY OTHERS) ARE TO BE PAINTED WITH A SHOP COAT OF PRIMER TO THE REQUIREMENT OF CISC/CPMA 2-75 STANDARDS IN COLOR GRAY OR RED AS SELECTED BY THE ARCHITECT. PREPARATION AND APPLICATION TO THE MANUFACTURER'S RECOMMENDATIONS (TOUCH-UPS ON SITE).

13. GALVANIZATION: PRIMER RICH IN ZINC, AS PER CAN/CSA-G164. MINIMUM 600 g/m2.

14. TOUCH-UPS FOR GALVANIZED SURFACES: PRIMER RICH IN ZINC, AS PER STANDARD ONGC-1-GP-181a.

15. FALSE WORK IN ACCORDANCE WITH CSA STANDARD S269.1.

16. THE STEEL ERECTOR SHALL BE RESPONSIBLE FOR SUPPLYING, ERECTING AND REMOVING ALL TEMPORARY WIND BRACING AS REQUIRED, PRIOR TO THE PLACING OF THE ROOF DECK.

17. ALL JOISTS SHALL BE CHECKED FOR ALL CONCENTRATED LOADS.

18. CAMBER JOISTS FOR 50% OF DEAD LOAD (OR MAXIMUM 0.6 kPa). NO CAMBER FOR JOIST ADJACENT TO WALLS.

19. STEEL FABRICATOR SHALL PROVIDE FOR AND FRAME ALL DECK OPENINGS, AS REQUIRED (PER TYP. DETAILS). CO-ORDINATE WITH MECH., ELECT. AND ARCHITECTURAL DRAWINGS.

20. FOR ROOF UNITS, CO-ORDINATE WITH MECHANICAL DRAWINGS. DESIGN JOISTS TO SUPPORT THESE UNITS.

STEEL DECK NOTES

1. THE ROOF AND FLOOR DECKS ARE DESIGNED FOR DIAPHRAGM ACTION. CARE SHALL BE TAKEN WITH WELDING AND SHALL BE AS FOLLOWS:
   TRANSVERSE WELDS:
   19mmø PUDDLE WELDS @ 300mm c/c.
   LONGITUDINAL WELDS:
   SHALL BE PROVIDED @ 900mm c/c
   (TO ALL PERIMETER SUPPORTS)
   SIDE LAPS:
   BUTTON PUNCHED @ 450mm c/c.

DECK ALTERNATE FASTENING:

1. THE ALTERNATIVE FASTENING MODE FOR ROOF STEEL DECK IS WITH HILTI FASTENERS X-EDNK22-THQ12, XEDN19-THQ12 OR ENPK FOR ROOF TOP FLANGE SECTIONS BETWEEN 3-8mm OR APPROVED EQUAL.

2. FOR TOP FLANGE THICKER THAN 8mm, USE THE ENP2 FASTENER.

3. DESIGN ALTERNATIVE FASTENINGS SO THEY MEET OR EXCEED WELDED FASTENER REQUIREMENTS AS OUTLINED IN THE DRAWINGS.

4. INSTALLERS TO BE TRAINED AND CERTIFIED BY THE MANUFACTURER'S REPRESENTATIVE.

5. LOCATE FASTENERS SO THAT CLEARANCE TO EDGE OF STEEL OR TO END OF DECKING PANELS OR TO THE SIDE OF DECK TROUGHS MEET MANUFACTURER'S STANDARD.

6. ENSURE NAIL HEAD STAND-OFFS MUST MEET MANUFACTURER'S REQUIREMENTS. NAIL HEAD STAND-OFFS SHOULD BE BETWEEN THE RANGE TOLERANCE OF THE NO-GO-GAUGE INSPECTION CARD.

7. SUBMIT SHOP DRAWING SHOWING DECK PLACEMENT, PROFILE, DIMENSIONS, BASE STEEL THICKNESS, TYPE, SPACING, METALLIC COATING DESIGNATION, CONNECTIONS TO SUPPORTS AND SPACING, PROJECTIONS, OPENINGS, REINFORCEMENT DETAILS AND ACCESSORIES. EACH DRAWING SUBMITTED SHALL BEAR THE SIGNATURE AND STAMP OF QUALIFIED PROFESSIONAL ENGINEER REGISTERED IN THE PROVINCE OF P.E.I.

8. INSPECTION AND CERTIFICATE OF PROPER INSTALLATION TO BE PROVIDED BY MANUFACTURER'S REPRESENTATIVE.

STRUCTURAL DESIGN CRITERIA

1. THIS STRUCTURE HAS BEEN DESIGNED FOR LOADS IN ACCORDANCE WITH THE NATIONAL BUILDING CODE OF CANADA 2010 (NORMAL IMPORTANCE REQUIREMENTS).

2. WIND DESIGN:
   THE LATERAL FORCE RESISTING SYSTEM CONSISTS OF CONCENTRIC BRACED FRAMES DESIGNED FOR THE FOLLOWING LOADS:
   q50 = 0.54kPa (DESIGN FOR STRENGTH)
   q10 = 0.41kPa (DESIGN FOR DEFLECTION)
   Iw = 1.15 (ULS)
   Iw = 0.75 (SLS)
   Ce = VARIES WITH HEIGHT
   (EXPOSED SITE CONDITION)
   Cpi = -0.45 AND 0.3
   Cgl = 2.0

3. SNOW LOAD:
   Ss = 4.3 kPa
   Sr = 0.3 kPa
   Cw = 1.0
   Is = 1.0 (ULS)
   Is = 0.9 (SLS)
   Cb = 0.8

4. SEISMIC FORCES DO NOT GOVERN LATERAL DESIGN.

MASONRY NOTES

1. ALL MASONRY SHALL CONFORM TO NATIONAL BUILDING COLD, LATEST EDITION AND CSA STANDARDS 304.1 "MASONRY DESIGN FOR BUILDINGS (LIMIT STATES DESIGN)", LATEST EDITION.

2. ALL CONCRETE MASONRY UNITS SHALL CONFORM TO CSA STANDARDS 165 SERIES EXCEPT WHERE OTHERWISE SPECIFIED. PROVIDE MASONRY BLOCK WITH MINIMUM COMPRESSIVE STRENGTH OF 15 MPa.

3. PROVIDE HEAVY-DUTY TRUSS BLOCK LOCK REINFORCING AT 400mm c/c HORIZONTAL AS PER SPECIFICATION.

4. ALL CONCRETE GROUT SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS OF 20 MPa, MAX. AGGREGATE SIZE 10mm, SLUMP 150mm.

5. ALL MORTAR JOINTS TO BE 10mm.

6. ALL MASONRY MORTAR ON EXTERIOR REINFORCED WALLS SHALL BE TYPE "S", TO CSA A179, LATEST EDITION.

7. ALL MASONRY WALLS TO BE REINFORCED AS SHOWN ON THE DRAWINGS. SEE "REINFORCED CONCRETE NOTES" FOR REINFORCING SPECIFICATION.

Public Works and Government Services Canada / Travaux Publics et Services gouvernementaux Canada

prime consultant:
ARCHITECTURE | 49

WSP

REGISTERED PROFESSIONAL ENGINEER
pegnl
TODD PUDDICOME
SIGNATURE
3/30/2017
DATE
NEWFOUNDLAND & LABRADOR

PROVINCE OF NEWFOUNDLAND AND LABRADOR
pegnl
PERMIT HOLDER
CLASS "A"
This Permit Allows
WSP CANADA INC.
Member in Responsible Charge:
WADE ENGLE, P.Eng. No. 05242
To practice Professional Engineering in Newfoundland and Labrador.
Permit No. as issued by PEGNL 10075
which is valid for the year 2017

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project / projet

WABUSH ATB RENOVATION

WABUSH AIRPORT
WABUSH, NL

drawing / dessin

CONSTRUCTION NOTES

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drawn D. BEAMAN / dessiné
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approved / approuvé
date
Tender / Soumission
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