

GENERAL HEL-001

- 1. ALL DESIGN HAS BEEN COMPLETED IN ACCORDANCE WITH THE 2018 EDITION OF THE BRITISH COLUMBIA BUILDING CODE, INCLUDING ALL ADDENDA.
2. ALL CONSTRUCTION MUST BE IN ACCORDANCE WITH THE 2018 EDITION OF THE BRITISH COLUMBIA BUILDING CODE INCLUDING ALL ADDENDA, ALL REFERENCED CODES AND ALL FEDERAL AND MUNICIPAL REGULATIONS AND BY-LAWS.
3. ALL REFERENCED CODES AND STANDARDS SHALL BE AS REFERENCED IN THE 2018 EDITION OF THE BRITISH COLUMBIA BUILDING CODE.
4. DESIGN CRITERIA: kPa (psf)

Table with columns: DUNCAN, SNOW LOADS, WIND LOADS, SITE CLASS, SEISMIC LOADS, SPECTRAL ACCELERATION. Includes values for Ss, Sr, Is, Rd, Ro, le and various acceleration parameters.

- 5. THESE DRAWINGS INCLUDING DIMENSIONS SHALL BE READ IN CONJUNCTION WITH ALL OTHER PROJECT DRAWINGS AND SPECIFICATIONS.
6. THESE DRAWINGS SHOW THE COMPLETED STRUCTURE ONLY. PROVIDE TEMPORARY BRACING AND SHORING FOR THE CONSTRUCTION LOADING CONDITIONS AND STABILITY OF THE STRUCTURE DURING CONSTRUCTION.
7. THE CONTRACTOR SHALL RETAIN A PROFESSIONAL ENGINEER REGISTERED IN THE PROVINCE OF BRITISH COLUMBIA TO DESIGN AND TAKE RESPONSIBILITY FOR ANY TEMPORARY SHORING, BRACING OR OTHER DESIGNING REQUIRED TO COMPLETE CONSTRUCTION.
8. THE CONTRACTOR SHALL SUBMIT WRITTEN RECOMMENDATIONS FOR FLATWORK PERFORMED DURING COLD (BELOW +5°C) AND HOT (ABOVE +25°C) WEATHER.
9. UNDER NO CIRCUMSTANCES SHALL DRAWINGS BE SCALED.
10. CONTRACTOR AND ALL SUB-TRADES SHALL VERIFY ALL DIMENSIONS ON SITE PRIOR TO COMMENCING FABRICATION.

REFERENCE PUBLICATIONS HEL-002

THESE DRAWINGS REFER TO THE FOLLOWING PUBLICATIONS, AND WHERE SUCH REFERENCE IS MADE, IT SHALL BE TO THE EDITION LISTED BELOW, INCLUDING ALL AMENDMENTS PUBLISHED THERETO.

Table listing various standards and codes such as ACI SP-4-2005, ANSI/APA PRG 320-2012, ASTM A53/A53M-18, CSA B111-1974, etc.

SUBMITTALS HEL-003

- 1. WHERE SHOP DRAWINGS ARE REQUESTED IN THE GENERAL NOTES THE CONTRACTOR SHALL PROVIDE THEM IN EITHER HARD COPY OR DIGITAL FORMAT TO THE FOLLOWING REQUIREMENTS FOR THE ENGINEER'S REVIEW PRIOR TO FABRICATION.
2. IF HARD COPY FORMAT IS USED FIVE PAPER COPIES SHALL BE SUBMITTED, UNLESS NOTED OTHERWISE THEY SHALL BE SIGNED AND SEALED BY A SPECIALTY ENGINEER REGISTERED IN THE PROVINCE OF BRITISH COLUMBIA.
3. DRAWINGS NOT SEALED BY THE SPECIALTY ENGINEER SHALL BE ACCOMPANIED BY A LETTER WITH A DRAWING LIST IDENTIFYING ALL DRAWING NUMBERS, TITLES, MOST RECENT REVISION NUMBERS AND DATES.
4. IF A DIGITAL SUBMISSION IS MADE THE FILES SHALL BE IN PDF FORMAT ON A DISC OR TRANSMITTED VIA E-MAIL.
5. THE FOLLOWING SUBMISSIONS ARE REQUIRED FOR THIS PROJECT:
6. SHOP DRAWINGS WHICH ARE REQUIRED TO, BUT DO NOT HAVE THE APPROPRIATE ENGINEERS SEAL AND SIGNATURE WILL NOT BE REVIEWED.
7. SHOP DRAWINGS WILL BE REVIEWED ONLY FOR GENERAL COMPLIANCE WITH THE PROJECT DRAWINGS AND SPECIFICATIONS.
8. SHOP DRAWING SUBMISSIONS FOR THE WORK OF SPECIALTY ENGINEERS SHALL BE AS SET OUT IN THIS SECTION.

SUBMITTALS (CONT.) HEL-003

- 9. THE QUALITY ASSURANCE FOR MATERIALS, FABRICATION AND INSTALLATION IS THE RESPONSIBILITY OF THE CONTRACTOR AND HIS SPECIALTY ENGINEER.
10. THE SPECIALTY ENGINEER OR HIS REPRESENTATIVE SHALL VISIT THE SITE AND REVIEW THE COMPLETED WORK DESIGNED AND DETAILED ON HIS SHOP DRAWINGS TO SATISFY HIMSELF THAT THE FINISHED COMPONENTS AND ASSEMBLIES ARE IN COMPLIANCE WITH THE ENGINEERED DESIGN.

FIELD REVIEWS HEL-005

- 1. THE CONTRACTOR SHALL PROVIDE THE ENGINEER WITH A MINIMUM OF 24 HOURS (1 WORKING DAY) ADVANCE NOTICE FOR FIELD REVIEWS.
2. THE FOLLOWING FIELD REVIEWS ARE CONSIDERED TO BE THE MINIMUM NUMBER OF STRUCTURAL FIELD REVIEWS REQUIRED FOR THE PROJECT:

CONCRETE: REINFORCING STEEL SHALL BE REVIEWED PRIOR TO PLACING CONCRETE. REINFORCING IN CONCRETE WALLS SHALL BE REVIEWED PRIOR TO "BUTTONING UP" WALL FORMS.

STEEL: STRUCTURAL STEEL SHALL BE REVIEWED AFTER THE MEMBERS HAVE BEEN FABRICATED AND ARE IN THEIR FINAL POSITION WITH ALL CONNECTIONS COMPLETE AND ALL BOLTS INSTALLED AND TIGHTENED.

CAST-IN-PLACE CONCRETE HEL-015

- 1. ALL CONCRETE WORK SHALL CONFORM TO THE REQUIREMENTS OF CSA A23.1 AND A23.2.
2. CONCRETE MIXES, AGGREGATES AND CEMENTITIOUS MATERIALS, INCLUDING PORTLAND CEMENT AND PORTLAND LIMESTONE CEMENT, SHALL CONFORM TO CAN/CSA A23.1 AND A23.2 AND CAN/CSA-A3000 AND SHALL HAVE THE FOLLOWING PROPERTIES BASED UPON PERFORMANCE CRITERIA PROPORTIONING:

Table with columns: CLASS, 28 DAY STRENGTH, EXPOSURE, CEMENT TYPE. Includes rows for FOOTINGS, EXT. SLAB ON GRADE.

- 3. PORTLAND LIMESTONE CEMENT (PLC) SHALL MEET THE REQUIREMENTS OF CSA A3000 FOR LIMESTONE CEMENTS.

- 4. CONCRETE TESTING SHALL BE CARRIED OUT BY THE CONTRACTOR AND PAID FOR BY THE OWNER AND SHALL BE IN ACCORDANCE WITH CAN/CSA A23.1 AND A23.2.
5. CHAMFER ALL EXPOSED EDGES OF CONCRETE WITH A 19mm (3/4") CHAMFER UNLESS NOTED OTHERWISE.

- 6. CONCRETE FINISHES SHALL BE IN ACCORDANCE WITH CAN/CSA A23.1 AND AS FOLLOWS UNLESS NOTED OTHERWISE:
EXTERIOR SLABS; BROOM FINISH

- 7. ALL CONCRETE CURING SHALL BE IN ACCORDANCE WITH CAN/CSA A23.1. SPECIAL PRECAUTIONS SHALL BE TAKEN PER CSA A23.1 FOR PLACING AND CURING CONCRETE AT OR ABOVE 27° C AND AT OR BELOW 5° C.

- 8. UNLESS NOTED OTHERWISE, OR REQUIRED FOR FIRE RESISTANCE RATING, ALL REINFORCING STEEL SHALL HAVE THE FOLLOWING CLEAR COVER DISTANCES:
CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH 75 mm (3")
EXTERIOR MEMBERS 40 mm (1.5")

- 9. CONTROL JOINTS SHALL BE PROVIDED IN BOTH DIRECTIONS IN ALL SLABS-ON-GRADE AT A MAXIMUM SPACING OF 3660mm (12'-0") FOR UNREINFORCED SLABS AND 6100mm (20'-0") FOR REINFORCED SLABS, UNLESS NOTED OTHERWISE ON DRAWINGS.

- 10. WATER STOPS SHALL BE INSTALLED WHERE INDICATED, WITH ALL JOINTS WELDED, IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS.
11. JOINT FILLER SHALL BE INSTALLED IN ALL EXPANSION AND CONSTRUCTION JOINTS.

- 12. EMBEDDED PLATES AND ANCHOR BOLTS FOR STRUCTURAL STEEL SHALL BE SECURELY TIED OR FASTENED IN PLACE PRIOR TO POURING CONCRETE.
13. JOINT FILLER SHALL BE INSTALLED IN ALL EXPANSION AND CONSTRUCTION JOINTS.

- 14. UNLESS NOTED OTHERWISE, OR REQUIRED FOR FIRE RESISTANCE RATING, ALL REINFORCING STEEL SHALL HAVE THE FOLLOWING CLEAR COVER DISTANCES:
CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH 75 mm (3")
EXTERIOR MEMBERS 40 mm (1.5")

REINFORCING STEEL HEL-014

- 1. REINFORCING STEEL SHALL BE DEFORMED STEEL 400 GRADE AND SHALL CONFORM TO CAN/CSA-G30.18
2. WELDABLE LOW ALLOY DEFORMED STEEL REINFORCING BARS, GRADE 400M, SHALL CONFORM TO CAN/CSA-G30.18.
3. WELDED WIRE FABRIC, DEFORMED, SHALL CONFORM TO ASTM 1064/1064M OR ASTM A497/A497M.
4. WELDING OF REINFORCING STEEL SHALL CONFORM TO CSA W186-M "WELDING OF REINFORCING BARS IN REINFORCED CONCRETE CONSTRUCTION".
5. ALL REINFORCING BARS SHALL BE TIED SECURELY TO PREVENT DISPLACEMENT.
6. UNLESS NOTED OTHERWISE ON PLANS, LAP LENGTHS FOR REINFORCING STEEL SHALL BE AS FOLLOWS:

Table: REINFORCING BAR LAP LENGTHS. Columns: CONCRETE MPa, BAR SIZE (10M, 15M, 20M, 25M, 30M, 35M). Rows: 20, 25, 30, 35, 40, 45.

- 7. NO SPLICES OTHER THAN THOSE NOTED ON THE DRAWINGS ARE PERMITTED WITHOUT WRITTEN PERMISSION FROM THE STRUCTURAL ENGINEER.
8. WHERE CONCRETE SURFACES ARE TO BE EXPOSED ONLY NON-CORROSIVE TYPE REINFORCING CHAIRS SHALL BE USED TO SUPPORT THE REINFORCING STEEL.
9. DOWELS ARE TO BE TIED IN PLACE PRIOR TO POURING CONCRETE - "WET DOWELING" OF ANY REINFORCING STEEL IS NOT PERMITTED WITHOUT THE WRITTEN APPROVAL OF THE STRUCTURAL ENGINEER.
10. HOOKS ON ALL TIES SHALL BE BENT AT LEAST 135° AND HAVE A MINIMUM LEG OF 6 TIMES THE BAR DIAMETER.
11. PROVIDE CORNER BARS TO MATCH HORIZONTAL WALL REINFORCEMENT.
12. ALL VERTICAL REINFORCING TO FOUNDATION WALLS AND PIERS SHALL HAVE A STANDARD HOOK AND BE EMBEDDED IN THE FOOTING.
13. ALL BARS SHALL BE BENT AT TEMPERATURES GREATER THAN 10°C.
14. NO BARS WHICH ARE PARTIALLY EMBEDDED IN CONCRETE SHALL BE FIELD BENT EXCEPT AS SHOWN ON THE DRAWINGS OR APPROVED IN WRITING BY THE PROJECT STRUCTURAL ENGINEER.

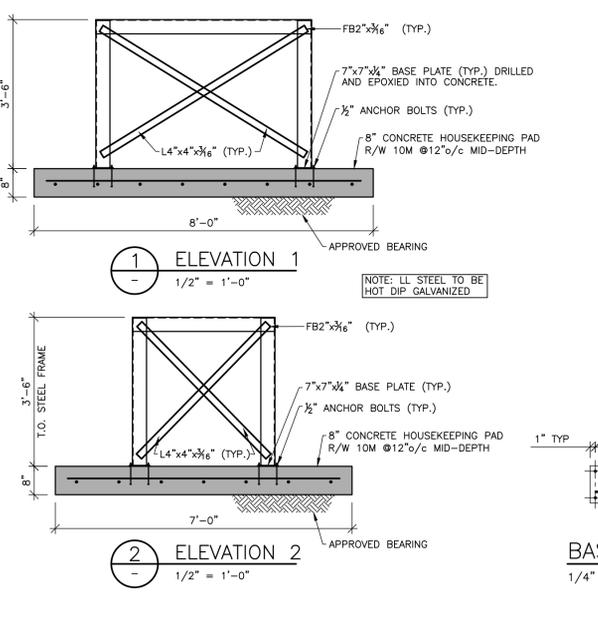
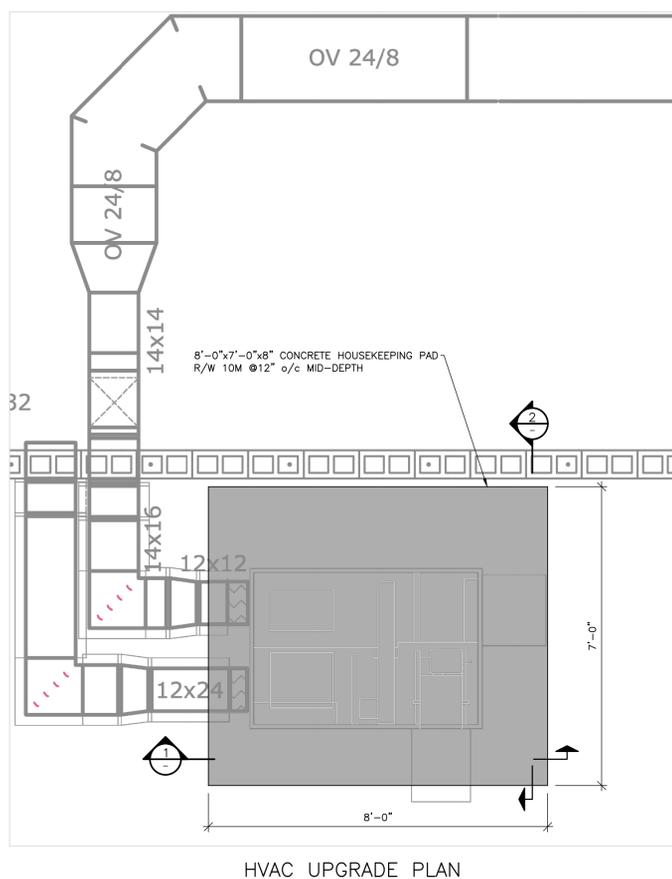
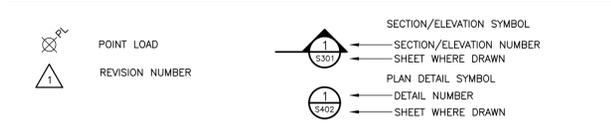
STRUCTURAL STEEL HEL-024

- 1. ALL STEEL WORK SHALL BE IN ACCORDANCE WITH CSA-S16 AND THE REVIEWED SHOP DRAWINGS.
2. THE STEEL FABRICATOR SHALL SUBMIT SHOP DRAWINGS AS SPECIFIED UNDER 'SUBMITTALS' TO THE PROJECT ENGINEER FOR REVIEW PRIOR TO FABRICATION.
3. A COPY OF THE FABRICATOR'S CANADIAN WELDING BUREAU CERTIFICATES SHALL BE INCLUDED WITH THE SHOP DRAWING SUBMISSION.
4. ALL WELDING SHALL BE IN ACCORDANCE WITH CSA W59 AND SHALL BE PERFORMED BY FABRICATORS "FULLY APPROVED" BY THE CANADIAN WELDING BUREAU UNDER CSA W55.3.
5. ALL WELDING ELECTRODES SHALL CONFORM TO CSA W48.
6. JOINTS THAT ARE TO BE WELDED SHALL BE KEPT FREE OF ALL FOREIGN MATTER INCLUDING PAINT, PRIMER OR OTHER COATINGS WHICH COULD BE DETRIMENTAL TO ACHIEVING A SOUND WELDMENT.
7. CONNECTIONS NOT DETAILED ON THE STRUCTURAL DRAWINGS SHALL BE DESIGNED FOR THE LOADS INDICATED ON THE DRAWINGS.
8. CONNECTIONS DETAILED ON THESE STRUCTURAL DRAWINGS SHALL BE FABRICATED AND ERRECTED AS SHOWN.
9. FABRICATOR SHALL INCREASE WELD SIZES TO ACCOMMODATE SLOT WIDTHS SO THAT LEG SIZE AS SPECIFIED IS FULLY ON STEEL CONNECTION ELEMENT.
10. BOLTS AND ANCHOR RODS SHALL BE LONG ENOUGH THAT THE END OF THE BOLT OR ROD IS OUTSIDE THE FACE OF THE NUT.
11. ALL BOLTS WITH OVERSIZED BOLT HOLES SHALL BE SLIP CRITICAL.
12. SECONDARY STRUCTURAL ELEMENTS ARE TO BE DETAILED SUCH THAT THEY DO NOT IMPOSE DIRECT LOAD TRANSFER TO THE SFRS (SEISMIC FORCE RESISTING SYSTEM) WITHOUT THE APPROVAL OF THE ENGINEER OF RECORD.
13. ALL WELDED, HEADED STUDS, AND WELDED DEFORMED BAR ANCHORS SHALL BE INSTALLED AS PER THE MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS IN ACCORDANCE WITH CSA W55.3.
14. DO NOT FIELD BURN BASE PLATE HOLES OR CONNECTION BOLT HOLES UNLESS APPROVED IN WRITING BY THE ENGINEER.
15. IF ANCHOR BOLTS ARE MISPLACED OR BOLT HOLES MISALIGNED, INFORM THE ENGINEER.
16. EXCEPT PARTS OF MEMBERS TO BE EMBEDDED IN CONCRETE OR GALVANIZED OR UNLESS NOTED OTHERWISE ON THE DRAWINGS, ALL STEEL WORK SHALL BE SHOP PRIMED.
17. ALL EXTERIOR STEEL WORK AND STEEL PROTRUDING THROUGH THE BUILDING ENVELOPE SHALL BE HOT DIP GALVANIZED.
18. GROUT UNDER BASE PLATES TO BE NON-SHRINK 48 MPa (7000 psi) AT 28 DAYS.
19. PROVIDE STRUCTURAL STEEL TO CSA G40.20-04/G40.21-04 OR ASTM A992 WITH THE FOLLOWING GRADES:
PIPE RAILINGS 240W (35W) TO ASTM A53
WIDE FLANGE BEAMS AND COLUMNS 350W (50W) OR ASTM A992/A992M OR ASTM A913/A913M GRADE 50
CHANNELS AND ANGLES 300W (44W)
HSS SECTIONS 350W (50W) CLASS 'C' OR ASTM 1085
MISCELLANEOUS STEEL PLATES 300W (44W)
20. BOLT SIZING SHALL BE AS NOTED ON DRAWINGS AND DETAILS.
21. WHEN ASTM 490/490M BOLTS ARE USED, THEY SHALL HAVE A ZINC/ALUMINUM COATING MEETING THE REQUIREMENTS OF ASTM F1136 GRADE 3.
22. THREADED ROD SHALL BE TO ASTM F1554 GRADE 36 (36 ksi YIELD STRENGTH)
23. ALL PERIMETER DECK ANGLES REQUIRED TO BE CONTINUOUS AND FUNCTION AS PART OF THE ASSOCIATED DIAPHRAGM.
24. THE CONTRACTOR SHALL PROVIDE TEMPORARY BRACING DURING CONSTRUCTION.
25. THE CONTRACTOR SHALL PROVIDE SEAL WELDED CLOSURE PLATES AT ALL OPEN ENDS OF EXTERIOR HSS COLUMNS.
26. THE ARCHITECT IS RESPONSIBLE FOR ENSURING ADEQUATE FIRE PROTECTION FOR ALL STRUCTURAL STEEL IN ACCORDANCE WITH CAN/ULC-S101.

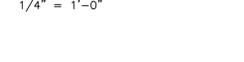
LIST OF ABBREVIATIONS

Table listing abbreviations and their meanings: ALT --- ALTERNATE, ARCH --- ARCHITECTURAL, B/S --- BOTH SIDES, B/L --- BOTTOM LOWER LAYER, etc.

SYMBOLS LEGEND



BASE PLATE DETAIL



ISSUES table with columns: No., DATE, ISSUED FOR. Row 01: 2020.03.20, TENDER.

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GENERAL NOTES, HVAC UPGRADE PLAN, AND ELEVATIONS

Table with columns: DESIGNED, DESIGN REVIEW, DRAFTED, DRAFTING REVIEW, PROJECT No., CLIENT DRAWING No., SCALE, PERMIT No., HEL DRAWING No., REVISION. Includes values like S01 and 01.