GENERAL

1. THIS IS A METRIC PROJECT. UNLESS OTHERWISE NOTED, ALL DIMENSIONS ARE IN MILLIMETERS.
2. PROVIDE ALL MATERIAL AND LABOUR REQUIRED FOR COMPLETION OF THE WORK.
3. PRIOR TO CONSTRUCTION, REVIEW STRUCTURAL DRAWINGS IN CONJUNCTION WITH DRAWINGS PROVIDED BY ALL OTHER CONSULTANTS, AND WITH EXISTING CONDITIONS.
4. REPORT DISCREPANCIES TO THE DEPARTMENTAL REPRESENTITIVE BEFORE PROCEEDING WITH THE WORK.
5. VERIFY EXISTING DIMENSIONS AND CONDITIONS ON SITE PRIOR TO CONSTRUCTION.
6. DO NOT SCALE THESE DRAWINGS.
7. DRAWINGS SHOW COMPLETED STRUCTURE ONLY. THEY DO NOT SHOW TEMPORARY WORKS FOR WHICH THE CONTRACTOR IS RESPONSIBLE AND WHICH MAY BE REQUIRED FOR EXECUTION OF THE PROJECT. THE CONTRACTOR TO ESTABLISH CONSTRUCTION PROCEDURE AND SEQUENCE TO ENSURE SAFETY OF THE WHOLE STRUCTURE AND ALL ITS COMPONENTS DURING ERECTION.
8. MAKE ADEQUATE PROVISIONS FOR ALL LOADS ACTING ON THE STRUCTURE DURING ERECTION. PROVIDE TEMPORARY SHORING AND BRACING TO KEEP THE STRUCTURE PLUMB AND IN TRUE ALIGNMENT DURING CONSTRUCTION.
9. CONSTRUCTION LOADS ON COMPLETED STRUCTURE NOT TO EXCEED DESIGN LOADS INDICATED ON DRAWINGS. FULL DESIGN LOADS MAY ONLY BE APPLIED AFTER THE CONCRETE REACHES ITS DESIGN STRENGTH
10. NOTIFY THE DEPARMENTAL REPRESENTITIVE 5 DAYS PRIOR TO CONCRETE POURS, BACKFILLING, AND COVERING UP THE STRUCTURE WITH FINISHES. FOR FIELD REVIEWS TO ENSURE THE STRUCTURAL WORKS DETAILED ON THESE DRAWINGS ARE COMPLETED IN GENERAL CONFORMANCE WITH THE CONTRACT DOCUMENTS. THESE REVIEWS DO NOT REPLACE THE CONTRACTOR'S RESPONSIBILITY TO IMPLEMENT AND MAINTIAN A QUALITY CONTROL PROGRAM.

DESIGN CRITERIA

1. STRUCTURAL DESIGN IS IN ACCORDANCE WITH THE 2015 NATIONAL BUILDING CODE (NBC) SUPPLEMENTED BY THE 2015 NATIONAL BUILDING CODE OF CANADA STRUCTURAL COMMENTARY.
2. THE VALUES FOR CLIMATIC DATA USED IN THE DETERMINATION OF WIND AND SNOW DESIGN LOADS HAVE BEEN OBTAINED FROM THE NATIONAL BUILDING CODE. THE SEISMIC DESIGN DATA WAS COLLECTED FROM THE NATURAL RESOURSES CANADA (NRC) SEISMIC HAZARD CALCULATOR FOR THE PROPOSED NEW BUILDING LOCATION.
3. BASED ON THE USE AND OCCUPANCY, THE BUILDING IS DESIGNED TO THE REQUIREMENTS OF A NORMAL IMPORTANCE CATEGORY.
4. THE ROOF IS DESIGNED FOR A DEAD LOAD OF 1.0kPa. ALL THE FLOORS ARE DESIGNED FOR A TOTAL DEAD LOAD OF 1.25kPa.
5. THE FLOORS AND STAIRWAY ARE DESIGNED FOR A LIVE LOAD OF 4.8kPa.
6. SNOW: Ss = 1.8 kPa; Sr = 0.2 kPa; Is (ULS) = 1.25; Is (SLS) = 0.9
7. LATERAL LOADS IN THIS STRUCTURE ARE RESISTED BY SHEAR WALLS, AND ARE DETERMINED BASED ON THE WIND AND SEISMIC DATA BELOW.
8. WIND: q50 = 0.45 kPa; Iw (ULS) = 1.25; Iw (SLS) = 0.75
   TERRAIN TYPE: OPEN
   INTERNAL PRESSURE CATEGORY: 2
9. SEISMIC

   Sa (0.2) = 0.848 Rd = 3.0
   Sa (0.5) = 0.751 Ro = 1.7
   Sa(1.0) = 0.425 Ie = 1.0
   Sa(2.0) = 0.257 SITE CLASSIFICATION = E
   PGA = 0.369
   SEISMIC FORCE RESISTING SYSTEM (SFRS): WOOD SHEAR WALLS
   BASE SHEAR = 20 kN

CONCRETE

1. CONFORM TO CSA A23.1 “CONCRETE MATERIALS AND METHODS OF CONCRETE CONSTRUCTION”.
2. CONCRETE IS SPECIFIED PER ALTERNATIVE 1 - PERFORMANCE SPECIFICATION, AS OUTLINED IN CAN/CSA A23.1. THE CONTRACTOR AND THE CONCRETE SUPPLIER TO MEET ALL CERTIFICATION, DOCUMENTATION, AND QUALITY CONTROL REQUIREMENTS.
3. CONCRETE TO BE NORMAL DENSITY (MIN. 2300 kg/m^3) UNLESS NOTED OTHERWISE.
4. CEMENT TO BE PORTLAND CEMENT TYPE GU, UNLESS NOTED OTHERWISE OR REQUIRED BY EXPOSURE CLASS. CEMENT TO CONFORM TO CSA A3000.
5. AGGREGATE TO CONFORM TO CSA A23.1 / A23.2. DO NOT USE RECYCLED CONCRETE AS AGGREGATE.
6. CONCRETE ADMIXTURES SHALL NOT CONTAIN CHLORIDES.
7. SUBMIT CONCRETE MIX DESIGNS TO DEPARTMENTAL REPRESENTATIVE FOR REVIEW BEFORE START OF WORK.
8. PERIMETER AND EXTERIOR CONCRETE CURB:
   - EXPOSURE CLASS: F2
   - MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS: 30 MPa
   - NOMINAL SIZE OF COARSE AGGREGATE: 20 (3/4”)
9. PROTECT CONCRETE FROM EXCESSIVE HEAT AND DRYING. USE HOT WEATHER CONCRETING METHODS IN ACCORDANCE WITH CAN/CSA-A23.1 WHENEVER THE OUTDOOR TEMPERATURE IS GREATER THAN 27°C.
10. PROTECT CONCRETE FROM FREEZING. USE COLD WEATHER CONCRETING METHODS IN ACCORDANCE WITH CAN/CSA-A23.1 WHENEVER OUTDOOR TEMPERATURE IS LESS THAN +5°C. ALL INSULATED COVERS, HEATERS, AND OTHER MATERIALS NEEDED TO PROTECT CONCRETE TO BE ON HAND PRIOR TO POUR. DELIVER CONCRETE AT A TEMPERATURE BETWEEN +15°C AND +27°C. ENSURE A MINIMUM CONCRETE TEMPERATURE OF 10° IS MAINTAINED THROUGHOUT THE CURING PERIOD (MINIMUM 3 DAYS).
11. FORMWORK DESIGN, MATERIAL, FABRICATION, AND ERECTION TO CONFORM TO CSA S269.1
12. FORMWORK MATERIAL TO BE NEW EXTERIOR PLYWOOD CONFORMING TO CSA O121, EXCEPT FOR ROUGH CONCRETE IN UNEXPOSED LOCATIONS (SUCH AS FOUNDATIONS) WHERE USED MATERIAL IS ACCEPTABLE.

CONCRETE REINFORCEMENT

1. CONFORM TO CSA A23.1 “CONCRETE MATERIALS AND METHODS OF CONCRETE CONSTRUCTION”.
2. REINFORCEMENT - DEFORMED BAR REINFORCEMENT CONFORMING TO CSA G30.18 GRADE 400R OR 400W.
3. ACCESSORIES, BAR SUPPORTS, AND TIES TO CONFORM TO REINFORCING STEEL INSTITUTE OF CANADA (RSIC) MANUAL OF STANDARD PRACTICE AND CSA A23.1 / A23.2.
4. ALL REBAR HOOKS TO BE STANDARD LENGTH 90° OR 180° HOOKS. REBAR LENGTHS LISTED ON DRAWINGS DO NOT INCLUDE THE HOOK LENGTH.
5. FIELD BENDING OF BARS IS NOT PERMITTED UNLESS INDICATED OR APPROVED BY DEPARTMENTAL REPRESENTIVE. APPROVED FIELD BENDING TO BE DONE WITHOUT THE USE OF HEAT, THROUGH APPLICATION OF SLOW AND STEADY PRESSURE. REPLACE BARS WITH CRACKS OR SPLITS.
6. ALL REINFORCING TO BE CLEAN, FREE OF LOOSE SCALE, OIL, DIRT, RUST, AND ANY OTHER FOREIGN COATING THAT AFFECT BONDING CAPACITY.
7. ALL REBAR LAP SPLICES TO BE COMPLETED AS PER THE GENERAL LAP SPLICE TABLE.
8. FOR CLASS F-1 AND F-2 CONCRETE, MINIMUM COVER TO BE 40 (1 1/2”).
9. INCREASE COVER WHERE REQUIRED TO MAINTAIN MINIMUM RATIO OF COVER TO NOMINAL BAR DIAMETER OF 1 FOR CLASS N, 1.5 FOR CLASSES F1 AND C1 (FOR MEMBRANE PROTECTED SLABS ONLY), AND 2 FOR CLASS C1 (ALL OTHER STRUCTURES).
10. ENSURE COVER TO REINFORCEMENT IS MAINTAINED DURING CONCRETE POUR.

STRUCTURAL STEEL

1. CONFORM TO CSA S16 “LIMIT STATES DESIGN OF STEEL STRUCTURES”.
2. FABRICATOR TO BE CERTIFIED BY THE CANADIAN WELDING BUREAU UNDER REQUIREMENTS OF CSA W47.1, DIVISION 1 OR 2, AND/OR CSA W55.3.
3. WELDERS TO BE CWB CERTIFIED. WELDING TO BE IN ACCORDANCE WITH CSA W59.
4. MATERIALS (TO CSA G40.21 UNLESS NOTED OTHERWISE):
   - WIDE FLANGE SECTIONS AND CHANNELS: GRADE 350W
   - PLATES, BARS AND ANGLES: GRADE 300W
   - HOLLOW STRUCTURAL SECTIONS (HSS): 350W CLASS “C” OR ASTM A1085 GRADE 50 (345 MPa)
   - BOLTS, NUTS AND WASHERS: ASTM F3125, GRADE A325
   - ANCHOR RODS: ASTM F1554 GRADE 36
   - SHOP PAINT: CISC/CPMA 1-73A
   - SHOP PRIMER PAINT: CISC/CPMA 2-75
   - HOT DIP GALVANIZING: ASTM A123/A123M
5. DO NOT CUT HOLES OR OTHERWISE MODIFY STRUCTURAL MEMBERS ON SITE.
6. DO NOT OVERSIZE ANCHOR ROD HOLES FOR SITE TOLERANCES. USE HOLE SIZES SUGGESTED IN THE CISC “HANDBOOK OF STEEL CONSTRUCTION”.
7. PROTECT COMBUSTIBLE MATERIALS AND FINISHES DURING WELDING OPERATIONS.
8. ALL STEEL LOCATED OUTSIDE THE BUILDING ENVELOPE'S VAPOUR BARRIER TO BE HOT DIPPED GALVANIZED.
9. PROVIDE VENT HOLES IN HSS SECTIONS WHERE REQUIRED FOR GALVANIZING PROCESS. MAXIMUM SIZE 16 (5/8”) DIAMETER.
10. SHOP DRAWINGS FOR STRUCTURAL STEEL, STEEL CONNECTIONS, AND STEEL JOISTS TO BE SIGNED AND SEALED BY A PROFESSIONAL ENGINEER RESPONSIBLE FOR THEIR DESIGN, RETAINED BY THE CONTRACTOR AND REGISTERED IN THE PLACE THE PROJECT IS LOCATED.
11. CONNECT BEAMS FOR THE FORCES SHOWN ON DRAWINGS USING THE CISC “HANDBOOK OF STEEL CONSTRUCTION”. IF NO FORCE IS INDICATED, CONNECT NON-COMPOSITE BEAMS FOR THE REACTION DUE TO MAXIMUM UNIFORMLY DISTRIBUTED LOAD CAPACITY OF THE BEAM IN BENDING, AND CONNECT COMPOSITE BEAMS FOR ONE AND A HALF TIMES THE REACTION DUE TO MAXIMUM UNIFORMLY DISTRIBUTED LOAD CAPACITY OF THE NON- COMPOSITE SECTION IN BENDING.
12. WHERE SLOTTED CONNECTIONS ARE SHOWN ON STRUCTURAL DRAWINGS, FINGER TIGHTEN BOLTS TO A SNUG FIT AND BURR THREADS TO PREVENT NUTS FROM WORKING LOOSE.
13. PREMIXED GROUT: NON-SHRINK, MINIMUM STRENGTH 40 MPa AT 28 DAYS.
14. INSTALL GROUT UNDER BASE PLATES AS SOON AS STEEL WORK IS COMPLETE, IN ACCORDANCE WITH MANUFACTURER'S DIRECTIONS. PROVIDE 100% CONTACT OVER GROUTED AREA. DO NOT APPLY ANY LOADS TO THE STEELWORK BEFORE GROUT ACHIEVES SUFFICIENT STRENGTH.

STRUCTURAL WOOD

1. CONFORM TO CSA O86 “ENGINEERING DESIGN IN WOOD”.
2. MATERIALS:
   - LUMBER: TO CSA 141; KILN DRIED; SPF NO. 2 OR BETTER; MOISTURE CONTENT MAX 19% UNLESS NOTED OTHERWISE ON DRAWINGS
   - PLYWOOD SHEATHING: TO CSA O121 DOUGLAS FIR
   - LAMINATED VENEER LUMBER (LVL): MINIMUM GRADE 2.0E, 3100Fb OR BETTER
   - NAILS: COMMON ROUND STEEL WIRE NAILS
   - WOOD BOLTS: ASTM A307, 15 DIAMETER UNLESS NOTED OTHERWISE
   - LAG SCREWS: ANSI/ASME B18.12.1 MACHINE THREADED
3. UNLESS NOTED OTHERWISE, ALL WOOD FRAMING DETAILS TO BE IN ACCORDANCE WITH PART 9 OF THE REFERENCED BUILDING CODE.
4. PROTECT ALL WOOD PRODUCTS FROM THE ELEMENTS AS REQUIRED TO MAINTAIN THEIR INTEGRITY.
5. PROVIDE ALL ERECTION BRACING REQUIRED TO KEEP THE STRUCTURE STABLE AND IN ALIGNMENT DURING CONSTRUCTION.
6. SUBSTITUTION OF COMMON NAILS WITH POWER DRIVEN NAILS OF THE SAME LENGTH AND DIAMETER IS ACCEPTABLE. SUBSTITUTION OF POWER DRIVEN NAILS OF SMALLER DIAMETER MUST BE APPROVED IN WRITING BY THE DEPARTMENTAL REPRESENTATIVE PRIOR TO USE. POWER DRIVEN NAILS NOT TO BE OVER-DRIVEN INTO WOOD OR SHEATHING.
7. ALL COMPONENTS OF BUILT UP MEMBERS TO BE CONTINUOUS FOR FULL SPAN. DO NOT SPLICE OR USE BUTT JOINTS.
8. WHERE STUDS ARE PLACED TOGETHER TO FORM BUILT-UP COLUMNS WITHIN A WALL (FASTENED TO SHEATHING AT MINIMUM 300 (12”) CENTRES), BUILT UP COLUMNS MAY BE FASTENED WITH COMMON NAILS. NAIL INDIVIDUAL STUDS TOGETHER WITH ROWS OF 3.25Ø (0.13”Ø) NAILS SPACED AT 225 (9”) CENTRES, END NAILS LOCATED 75 (3”) FROM BOTH ENDS, AS FOLLOWS:
   - 38x89 (2x4): STAGGER NAILS 25 (1”) FROM ALTERNATE STUD EDGES
   - 38x140 (2x6) AND 38x184 (2x8): PROVIDE TWO ROWS OF NAILS 50 (2”) FROM STUD EDGES
   - ALTERNATIVELY, BUILT-UP COLUMNS MAY BE FASTENED WITH 5.6Ø (0.22”Ø) SDW SCREWS BY SIMPSON STRONG-TIE, ARRANGED AS ABOVE. LENGTH OF SCREW TO PENETRATE OUTER PLY MINIMUM 20 (3/4”).
9. WHERE LVL / SAWN LUMBER MEMBERS ARE PLACED TOGETHER TO FORM BUILT-UP DROPPED BEAMS OR LIGHTLY LOADED FLUSH BEAMS, BEAMS MAY BE FASTENED WITH COMMON NAILS. NAIL INDIVIDUAL PLIES TOGETHER WITH 3.25Ø (0.13”Ø) NAILS SPACED @300 ALONG LENGTH OF BEAM AND 150 (6”) FROM EACH END, WITH ROWS CENTRED ON BEAM DEPTH, AS FOLLOWS UNLESS ALTERNATIVE CONNECTION IS SPECIFIED BY SUPPLIER:
   - 89 TO 185 (3-1/2” TO 7-1/4”) DEEP: 2 ROWS @50 (2”)
   - 235 TO 300 (9-1/4” TO 11-3/4”) DEEP: 3 ROWS @50 (2”)
   - 300 TO 400 (11-3/4” TO 15-3/4”) DEEP: 4 ROWS @50 (2”)
   - 400 TO 500 (15-3/4” TO 19-3/4”) DEEP: 4 ROWS @75 (3”)
   - ALTERNATIVELY, BUILT-UP BEAMS MAY BE FASTENED WITH 5.6Ø (0.22”Ø) SDW SCREWS BY SIMPSON STRONG TIE, ARRANGED AS ABOVE. LENGTH OF SCREW TO PENETRATE OUTER PLY MINIMUM 20 (3/4”).
10. CARRY ALL POSTS DOWN TO FOUNDATION. PROVIDE SOLID VERTICAL BLOCKING OF MATCHING SIZE OR LARGER AND IN LINE WITH POSTS AT FLOOR LEVELS TO ACT AS SQUASH BLOCKS IN THE FLOOR SYSTEM.
11. USE JOISTS HANGERS WHERE JOISTS FRAME INTO SIDES OF SUPPORTS.
12. FOR ENGINEERED FLOOR SYSTEMS, ALL RIM BOARD AND BLOCKING MATERIAL TO BE LSL/LVL, MINIMUM THICKNESS 44 (1-3/4”) UNLESS NOTED OTHERWISE ON DRAWINGS.
13. UNTREATED WOOD NOT TO BE IN DIRECT CONTACT WITH CONCRETE, PROVIDE FOAM GASKET BETWEEN WOOD AND CONCRETE, OR USE PRESSURE TREATED WOOD. REFER TO PLANS FOR ADDITIONAL REQUIREMENTS.
14. PREFABRICATED WOOD JOISTS: DESIGN TO THE REFERENCE BUILDING CODE FOR LOADS AND MAXIMUM DEFLECTIONS GIVEN IN CSA 086. DESIGN TO CONTROL VIBRATION PER CSA O86. SHOP DRAWINGS TO INCLUDE ENGINEERED DESIGNS, MATERIAL GRADES, LAYOUT DRAWINGS, BRACING DETAILS, BEARING DETAILS, ANCHORAGE DETAILS AND CONNECTION DETAILS BETWEEN JOISTS AND TO THEIR SUPPORTS. SHOP DRAWINGS (INCLUDING LAYOUTS) TO BE SIGNED AND SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE PROVINCE OF BRITISH COLUMBIA, PRIOR TO FABRICATION. SUPPLIER SHALL PROVIDED A SCHEDULE S-B & S-C TO THE ENGINEER OF RECORD IF REQUESTED.
15. PREFABRICATED WOOD TRUSSES: TO COMPLY WITH THE TRUSS PLATE INSTITUTE OF CANADA (TPIC) DESIGN SPECIFICATIONS. FABRICATOR TO BE A MEMBER OF THE CANADIAN WOOD TRUSS ASSOCIATION. DESIGN TO THE REFERENCE BUILDING CODE FOR LOADS AND MAXIMUM DEFLECTIONS GIVEN ON DRAWINGS. SHOP DRAWINGS TO INCLUDE ENGINEERED DESIGNS, MATERIAL GRADES, LAYOUT DRAWINGS, BEARING DETAILS, ANCHORAGE DETAILS AND CONNECTION DETAILS BETWEEN TRUSSES, AND TEMPORARY AND PERMANENT BRACING AND BRIDGING DETAILS AFFECTING THE STRUCTURAL CAPACITY OF THE TRUSSES. DESIGN TRUSSES TO SUPPORT ALL OVERBUILD FRAMING REQUIRED FOR ROOF GEOMETRY, DO NOT INTERRUPT ROOF SHEATHING TO ACCOMMODATE OVERBUILD FRAMING. VAULTED TRUSSES NOT TO RELY ON SUPPORTING STRUCTURE TO RESIST HORIZONTAL SPREADING OF TRUSS. SHOP DRAWINGS (INCLUDING LAYOUTS) TO BE SIGNED AND SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE PROVINCE OF BRITISH COLUMBIA, PRIOR TO FABRICATION. SUPPLIER SHALL PROVIDED A SCHEDULE S-B & S-C TO THE ENGINEER OF RECORD IF REQUESTED.

REINFORCING LAP SPLICES

BAR SIZE	VERTICAL LAP	HORIZONTAL LAP	HOOK LENGTH
10M	16" [430mm]	20" [500mm]	7" [180mm]
15M	24" [600mm]	32" [800mm]	10" [250mm]
20M	30" [750mm]	40" [1000mm]	12" [300mm]
25M	48" [1200mm]	60" [1550mm]	16" [400mm]
30M	57" [1450mm]	72" [1850mm]	24" [600mm]

HORIZONTAL WALL REINFORCING SHALL BE CONTINUOUS AROUND CORNERS AND HOOKED AT WALL INTERSECTIONS.
ADD 2-15M CONT AT TOPS AND ENDS OF WALLS. UNLESS OTHERWISE NOTED, HOOK AND LAP LENGTHS AS FOLLOWS:

POST-INSTALLED ANCHORS AND DOWELS

1. WHERE DRILLED CONCRETE ANCHORS (DCA) ARE NOTED ON DRAWINGS, PROVIDE HILTI KWIK BOLT - TZ EXPANSION ANCHORS. EFFECTIVE EMBEDMENT LENGTHS AS FOLLOWS:
   12 (1/2”) DIAMETER - 83 (3-1/4”) EMBEDMENT
   16 (5/8”) DIAMETER - 102 (4”) EMBEDMENT
   19 (3/4”) DIAMETER - 121 (4-3/4”) EMBEDMENT
2. WHERE ADHESIVE CONCRETE ANCHORS ARE NOTED ON DRAWINGS, PROVIDE HILTI HIT-HY200 ADHESIVE ANCHORING SYSTEM WITH HILTI HIT-Z ANCHOR RODS. EFFECTIVE EMBEDMENT LENGTHS AS FOLLOWS:
   12 (1/2”) DIAMETER - 114 (4-1/2”) EMBEDMENT
   16 (5/8”) DIAMETER - 143 (5-5/8”) EMBEDMENT
   19 (3/4”) DIAMETER - 171 (6-3/4”) EMBEDMENT
3. WHERE REBAR DOWELS ARE NOTED ON DRAWINGS, PROVIDE HILTI HIT-HY200 ADHESIVE ANCHORING SYSTEM INSTALLED USING HILTI SAFESET HOLLOW DRILL BIT TECHNOLOGY. EFFECTIVE EMBEDMENT LENGTHS AS FOLLOWS:
   12 (1/2”) DIAMETER - 114 (4-1/2”) EMBEDMENT
   16 (5/8”) DIAMETER - 143 (5-5/8”) EMBEDMENT
   19 (3/4”) DIAMETER - 171 (6-3/4”) EMBEDMENT
4. WHERE ANCHORS ARE INSTALLED OUTSIDE OF VAPOUR BARRIER, PROVIDE STAINLESS STEEL ANCHORS.
5. CONCRETE TO BE MINIMUM 28 DAYS OLD AT THE TIME OF ANCHOR INSTALLATION.
6. USE DRILLING AND INSTALLATION TOOLS AND PROCEDURES PER MANUFACTURERS' RECOMMENDATIONS.
7. DO NOT CUT REINFORCEMENT TO ACCOMMODATE DRILLED ANCHORS AND DOWELS.
8. A WHEN OBSTRUCTIONS PREVENT DRILLING HOLES IN SPECIFIED LOCATIONS TO THE REQUIRED DEPTH, RELOCATE AT NO EXTRA COST TO THE CONTRACT. OBTAIN WSP-S APPROVAL OF NEW LOCATIONS BEFORE DRILLING HOLES. FILL ALL ABANDONED HOLES WITH MIN. 30MPa GROUT. DO NOT TIGHTEN ANCHORS UNTIL GROUT IN ADJACENT ABANDONED HOLES REACHES 75% fc'.

ABBREVIATIONS:

ALT	-	ALTERNATE
A-ROD	-	ANCHOR ROD
BOT	-	BOTTOM
BLDG	-	BUILDING
BTWN	-	BETWEEN
CLR	-	CLEAR
CL	-	CENTER LINE
CONC	-	CONCRETE
CONT	-	CONTINUOUS
CP	-	COMPLETE PENETRATION WELD
C/W	-	COMPLETE WITH
DN	-	DOWN
DP	-	DEEP
DWG	-	DRAWING
EA	-	EACH
EE	-	EACH END
EF	-	EACH FACE
EL	-	ELEVATION
EMBED	-	EMBEDMENT
ES	-	EACH SIDE
EW	-	EACH WAY
EXT	-	EXTERIOR
FL	-	FLOOR
FND	-	FOUNDATION
FTG	-	FOOTING
GALV	-	GALVANIZED
GL	-	GRID LINE
HORIZ	-	HORIZONTAL
H1E	-	HOOK ONE END
H2E	-	HOOK BOTH ENDS
HD	-	HOLD DOWN
HDG	-	HOT DIPPED GALVANIZED
LG	-	LONG
LLH	-	LONG LEG HORIZONTAL
LLV	-	LONG LEG VERTICAL
NIC	-	NOT IN CONTRACT
NTS	-	NOT TO SCALE
OC	-	ON CENTER
OPP	-	OPPOSITE
PL	-	PLATE
PT	-	PRESSURE TREATED
REINF	-	REINFORCEMENT
REQ'D	-	REQUIRED
REV	-	REVISION
R/W	-	REINFORCE WITH
SIM	-	SIMILAR
SOG	-	SLAB ON GRADE
SS	-	STAINLESS STEEL
SST	-	SIMPSON STRONG TIE
STAGG	-	STAGGERED
STD	-	STANDARD
STIFF	-	STIFFENER
STL	-	STEEL
T&B	-	TOP AND BOTTOM
T&G	-	TONGUE AND GROOVE
T/O	-	TOP OF
TYP	-	TYPICAL
U-BAR	-	"U" SHAPED BAR
U/N, UNO	-	UNLESS NOTED OTHERWISE
U/S	-	UNDERSIDE
VERT	-	VERTICAL
WSP-S	-	WSP STRUCTURAL

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

REAL PROPERTY SERVICES
Pacific Region
SERVICES IMMOBILIERS
Région de Pacifique

wsp

JOB No. 201-09709-00

PROVINCE OF BRITISH COLUMBIA
G. LIANG
PROFESSIONAL ENGINEER
27199
DESIGNATED STRUCTURAL ENGINEER

2021-06-18

Revision/ Revision	Description/Description	Date/Date
3	REISSUED FOR TENDER	2021-06-18
2	ISSUED FOR TENDER	2021-01-28
1	ISSUED FOR 100% REVIEW	2021-01-15
0	ISSUED FOR 75% REVIEW	2020-12-18

Client/client

FISHERIES AND OCEANS, REAL PROPERTY, SAFETY AND SECURITY

VANCOUVER, BC
200-401 BURRARD ST.

Project title/Titre du projet

KITSILANO CCG SAR

WORKSHOP RECONSTRUCTION

KITSILANO, VANCOUVER B.C.

Consultant Signature Only
--

Designed by/Concept par
GL

Drawn by/Dessine par
GM/CY

PWGSC Project Manager/Administrateur de Projets TPSGC
--

Regional Manager, Architectural and Engineering Services Gestionnaire régionale, Services d'architectural et de génie, TPSGC
PREETIPAL PAUL

Drawing title/Titre du dessin

GENERAL NOTES

Project No./No. du projet	Sheet/Feuille	Revision no./ La Révision no.
F521A-210639	S1.01 1 OF 3	3

PWGSC – A1 – 841X594

0 10 20 30 40 50 60 70 80 90 100mm

DM5XXXXXX

WOOD FRAMING LEGEND

WOOD BEAM

A = NO. OF PLYS IN BUILT-UP COL.
B = NOMINAL STUD DEPTH (6 = 2x6)
AB

A = NO. OF PLYS IN BUILT-UP COL.
B = NOMINAL STUD DEPTH (6 = 2x6)
XX = NO. OF CRIPPLES:
SC = SINGLE CRIPPLE
DC = DOUBLE CRIPPLE
TC = TRIPLE CRIPPLE
FH = FULL HEIGHT
AB XX

JOISTS

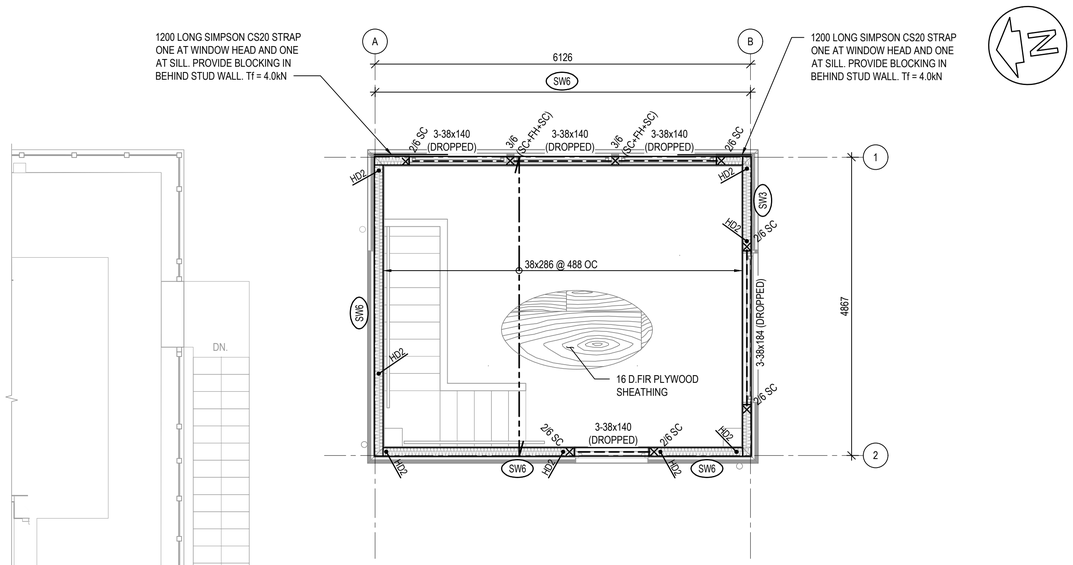
SW
SHEAR WALLS
(SEE SCHEDULE)

HD
HOLD DOWN
(SEE SCHEDULE)

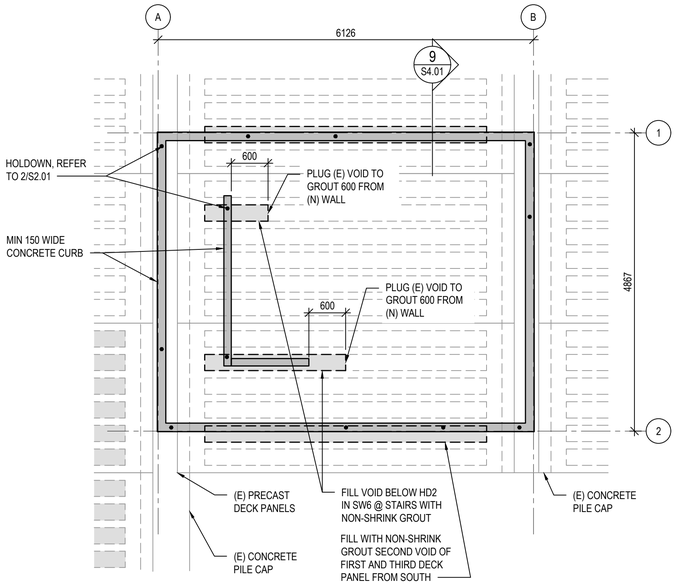
BEARING WALL:
38x140 @ 406 TYP

HOLD DOWN SCHEDULE			
MARK	**HOLD-DOWN**	**HD STUDS**	**ANCHORS**
HD1	HOLD DOWN CONNECTOR, 12kN OR SST LTTI31	2-PLY	SIMPSON 16Ø PAB (EMBED 200 INTO EXISTING CONC DECK)
HD2	CONT 16Ø ROD W/ TAKE-UP DEVICE, 39kN OR SST SR5	2-PLY ES	SIMPSON 16Ø PAB (EMBED 200 INTO EXISTING CONC DECK)
HD STUDS ARE IN ADDITION TO BEARING STUDS ON PLANS			

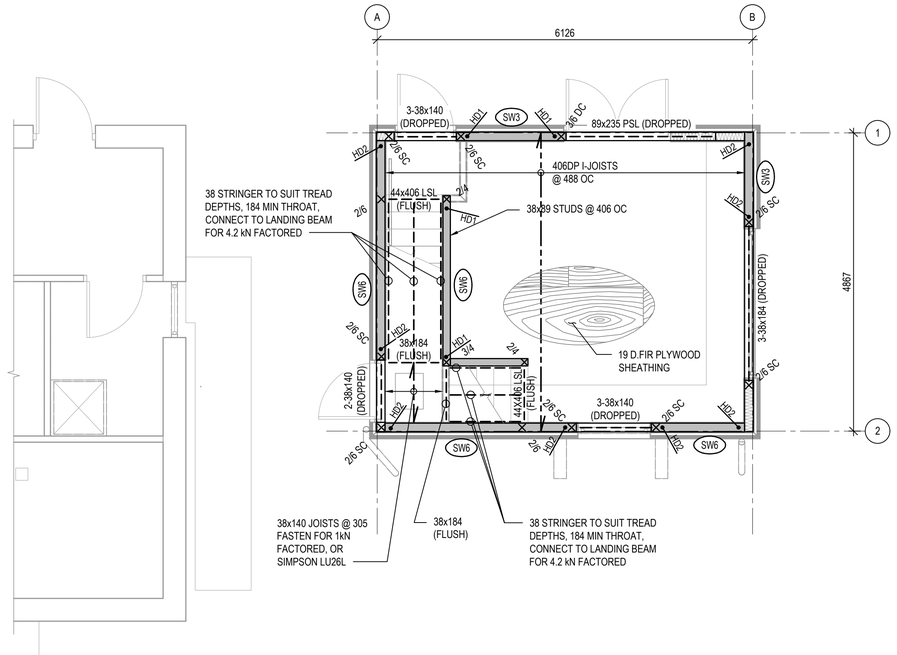
WOOD SHEAR WALL SCHEDULE										
MARK	**SHEATHING**	**NAIL SPACING**			**SHEAR CONNECTORS**	**ANCHOR RODS**		**FACTORED SHEAR RESISTANCE (kN/m)**	**SILL PLATE FASTENERS**	**REMARKS**
		EDGE	**INTERIOR**	**PLATE**		**SIZE**	**SPACING**			
SW3	12.5 SHEATHING	75	300	75	A35 @ 400	16Ø	900	6.3	6.4Øx100LG SCREWS @ 200 OC	3.25Øx64LG NAILS
SW6	12.5 SHEATHING	150	300	150	A35 @ 400	16Ø	1200	4.6	6.4Øx100LG SCREWS @ 200 OC	3.25Øx64LG NAILS
PROVIDE BLOCKING TO ALL PLYWOOD EDGES										



3 / S2.01 SECOND FLOOR WITH ROOF FRAMING
SCALE: 1:50



1 / S2.01 PLAN AT EXISTING WHARF
SCALE: 1:50



2 / S2.01 GROUND FLOOR WITH SECOND FLOOR FRAMING
SCALE: 1:50

PWGSC – A1 – 841X594

0 10 20 30 40 50 60 70 80 90 100mm

Public Works and Government Services Canada
Travaux publics et Services gouvernementaux Canada

REAL PROPERTY SERVICES
Pacific Region
SERVICES IMMOBILIERS
Région de Pacifique

wsp

JOB No. 201-09709-00

PROVINCE OF BRITISH COLUMBIA
G. LIANG
PROFESSIONAL ENGINEER
27199
DESIGNATED STRUCTURAL ENGINEER
2021-06-18

SCALE 1:50
0 1000 2000 3000
1000 SCALE IN MILLIMETRES

Revision/ Revision	Description/Description	Date/Date
3	REISSUED FOR TENDER	2021-06-18
2	ISSUED FOR TENDER	2021-01-28
1	ISSUED FOR 100% REVIEW	2021-01-15
0	ISSUED FOR 75% REVIEW	2020-12-18

Client/client

FISHERIES AND OCEANS, REAL PROPERTY, SAFETY AND SECURITY

VANCOUVER, BC
200-401 BURRARD ST.

Project title/Titre du projet

KITSILANO CCG SAR

WORKSHOP RECONSTRUCTION

KITSILANO, VANCOUVER B.C.

Consultant Signature Only
--

Designed by/Concept par
GL

Drawn by/Dessine par
GM/CY

PWGSC Project Manager/Administrateur de Projets TPSGC
--

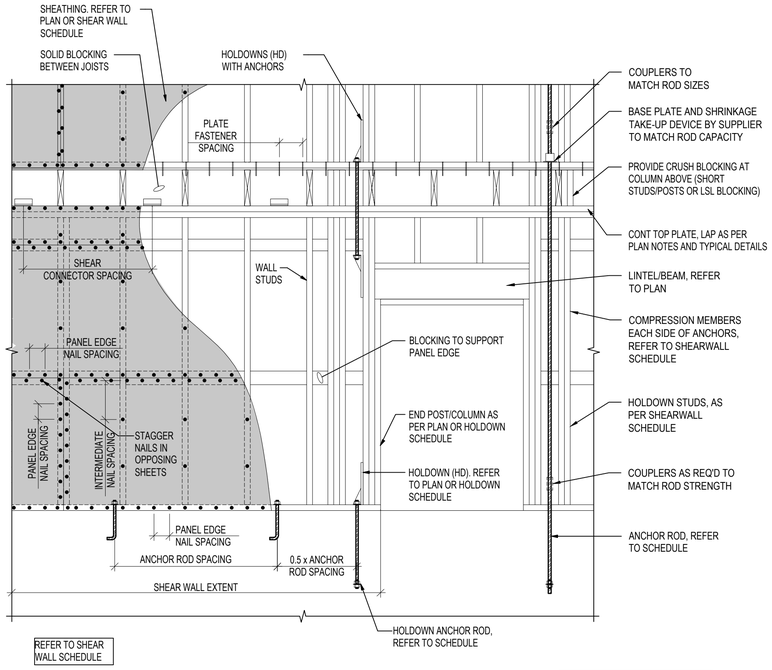
Regional Manager, Architectural and Engineering Services Gestionnaire régionale, Services d'architectural et de génie, TPSGC
PREETIPAL PAUL

Drawing title/Titre du dessin

FRAMING PLANS

Project No./No. du projet	Sheet/Feuille	Revision no./ La Révision no.
F521A-210639	S2.01 2 OF 3	3

DM5XXXXXX



1 S4.01 TYPICAL GROUND FLOOR SHEARWALL

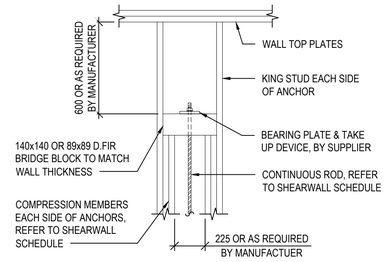
SCALE: NTS

CONTRACTOR TO SUBMIT SHOP DRWINGS SHOWING HOLDOWN ASSEMBLY PRIOR TO FABRICATION / INSTALLATION

DIAPHRAGM NAILING SHEDULE					
LOCATION	PLYWOOD	INTERMEDIATE	PANEL EDGES	BOUNDARY	BLOCKING
ROOF	SEE PLAN	300 OC	150 OC	150 OC	UN-BLOCKED
FLOOR	SEE PLAN	300 OC	150 OC	150 OC	UN-BLOCKED
NAILS TO BE 3.66Ø x 64LG					

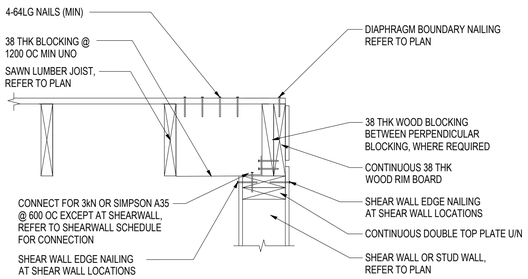
2 S4.01 DIAPHRAGM NAILING

SCALE: NTS



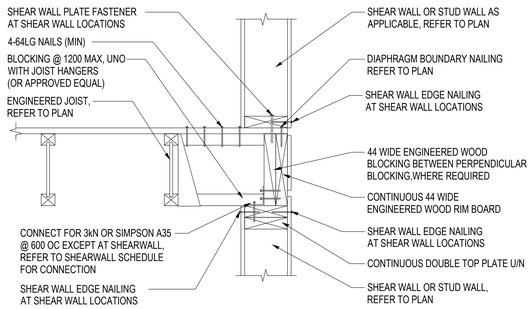
3 S4.01 TYPICAL TOP CONNECTION AT CONTINUOUS ROD

SCALE: 1:20



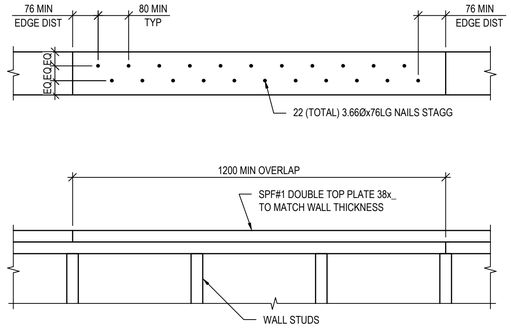
4 S4.01 ROOF JOIST PARALLEL TO EXTERIOR WALL

SCALE: NTS



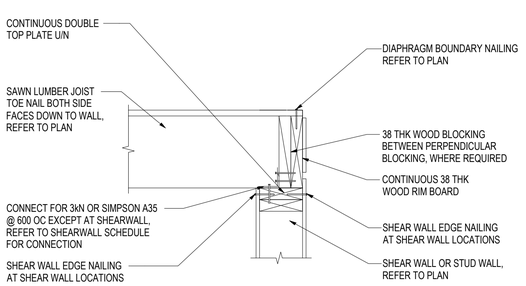
6 S4.01 JOIST PARALLEL TO EXTERIOR WALL

SCALE: NTS



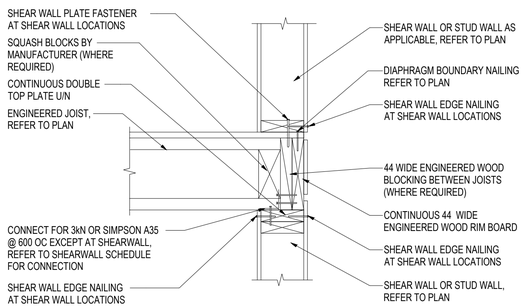
8 S4.01 TYP TOP PLATE JOINT (UNO)

SCALE: 1:10



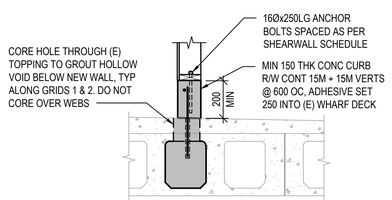
5 S4.01 ROOF JOIST PERPENDICULAR TO EXTERIOR WALL

SCALE: NTS



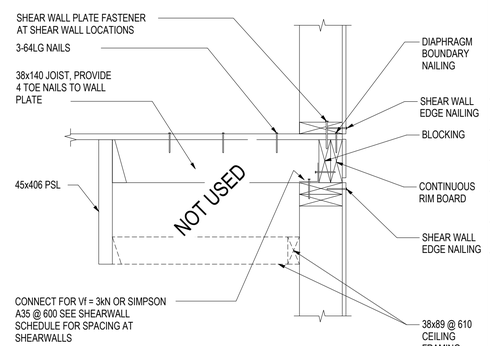
7 S4.01 JOIST PERPENDICULAR TO EXTERIOR WALL

SCALE: NTS



9 S4.01 SECTION

SCALE: 1:20



10 S4.01 SECTION

SCALE: NTS

PWGSC – A1 – 841X594

0 10 20 30 40 50 60 70 80 90 100mm

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2021-06-18

SCALE 1:20
0 500 1000
500 SCALE IN MILLIMETRES

SCALE 1:10
0 200 400 600
200 SCALE IN MILLIMETRES

Revision/ Revision	Description/Description	Date/Date
3	REISSUED FOR TENDER	2021-06-18
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TYPICAL DETAILS

Project No./No. du projet	Sheet/Feuille	Revision no./ La Révision no.
F521A-210639	S4.01 3 OF 3	3

DM5XXXXXX