GENERAL

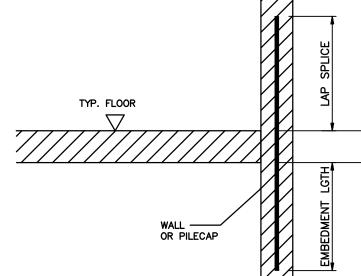
- 1. These notes are to be read in conjunction with the specifications
- 2. This building has been designed in accordance with the 2011 edition of
- 3. The contractor shall be responsible for the design and installation of all necessary shoring, bracing and formwork. Formwork for new construction shall be bridged over existing services. Procedure must be approved by
- 4. Errors in drawings and/or specifications and/or previously unknown existing conditions shall be brought to the attention of the engineer before proceeding with the work. During the tender stage, contractor shall request an interpretation of conflicts prior to tender. If no request is made, both provisions shall be presumed to be included in the tender and the engineer shall determine which provision governs, and the contractor shall perform the work at no additional cost to the owner.
- 5. Any unsound structural conditions observed or created during construction are to be reported to Engineer immediately.
- 6. Contractor shall review, stamp, sign and date all shop drawings prior to forwarding to architect and/or engineer. The engineer's review is to be for conformance with the design concept and general compliance with the relevant contract documents. The engineer's review does not relieve the contractor of the sole responsibility to review, check and coordinate the shop drawings prior to submission. The contractor remains solely responsible for errors and emissions associated with the preparation of shop drawings as they pertain to member sizes, details, dimensions, etc..
- 7. Coordinate size and location of all openings in structural members with trades involved. All openings not indicated on structural drawings to be approved by Engineer.
- 8. Refer to Architectural, Mechanical and Electrical drawings for small openings, sleeves, recesses, depressions, sumps, trenches, curbs, housekeeping pads, equipment bases, and slopes not indicated on the
- 9. Coordinate placement and location of items by subsequent trades.

10. Confirm the location of all sub-grade services prior to commencing site

- Relevant trades shall review prior to erection and/or installation.
- 11. Verify all dimensions and elevations with architectural drawings prior to construction. Any discrepancies to be reported to engineer immediately.
- 12. Do not backfill against structure until main floor is in place.
- 13. Do not exceed, during construction, design live loads shown on plans. Reduce as necessary until materials reach design strength.
- 14. Confirm all existing conditions prior to construction. Any discrepancies or conflicts to be reported to Engineer immediately.
- 15. Drawings indicate general and typical details of construction. Where conditions are not specifically shown, similar details of construction shall be used, subject to approval by the engineer.
- 16. Design loads as noted on plans are unfactored.

FOUNDATION

- 1. Foundation design is based on the foundation investigation soils report dated Oct.28. 2018 as prepared by M.Block & Assoc. Ensure that the requirements outlined in the report are read and understood prior to commencing with foundation work.
- 2. Remove all organic material from the building area as outlined in the aeotechnical report
- 3. Driven precast concrete piles shall be deigned based on a factored bearing resistance indicated in the geotechnical report.
- 4. Bearing surfaces to be inspected in the field by Professional Geotechnical Engineer registered in the province of Manitoba prior to placing concrete. Where required improve sub-grade as directed in writing by a Professional Geotechnical Engineer registered in the province of Manitoba
- 5. Unless otherwise shown on plans, foundation elements are to be centered under walls, grade beams, and columns.
- 6. Provide dowels from footings, grade beams, and pilecaps. Reinforcing to match all vertical reinforcing in walls and columns or as noted on
- 7. Foundation and retaining walls have been designed basses on the following soil data; $\gamma = 110$ lb/ft³, Ka = 0.60, Kp = 1.67
- 8. Foundation and retaining walls have been designed based on a surface surcharge load of 250 PSF
- 9. Foundation and retaining walls have been design assuming an effective drainage system is provided behind the walls.
- 10. Backfill material to be compacted to 98% of standard proctor maximum dry density in maximum 6" lifts.
- 11. Do not backfill behind foundation walls until the floor system or concrete slabs are in place and concrete has reached 28 day design strength.
- 12. Backfill walls below grade evenly on both sides ensuring that no portion of the fill is placed more than 24" above any other portion of the fill during backfillina



		V/	7	
	DOWEL SO	CHEDULE		
EMBEDMENT LE	ENGTHS:	LAP SPLICES:		
BAR	LENGTH	BAR	LENGTH	
10M	16"	10M	18"	
15M	24"	15M	30"	
20M	30"	20M	36"	
25M	42"	25M	44"	
30M	50"	30M	54"	
35M	58"	35M	62"	

POST-INSTALLED ANCHORS

1. Except where indicated on the drawings, post-installed anchors shall consist of the following anchor types:

a) Anchorage to concrete

i) Adhesive anchors for concrete use:

- (1) HILTI HIT-HY 200 safe set system with Hilti hit-z rod for fast cure applications (2) HILTI HIT-HY 200 safe set system with Hilti hollow drill bit
- system for fast cure applications (3) HILTI HIT-RE 500v3 safe set system with Hilti hollow drill bit for slow cure applications (4) HILTI HIT-RE 500v3 safe set system with Hilti Roughening
- Tool (HIT RT) with HAS-E threaded rod for slow cure applications (5) Steel anchor element shall be HILTI HIS—N internally
- threaded inserts, HILTI HAS-E continuously threaded rod, or continuously deformed steel rebar.
- ii) Medium duty mechanical anchors for concrete use: (1) HILTI KIWK HUS EZ and KIWK HUS EZ-I screw anchors (2) HILTI KWICK BOLT-TZ expansion anchors (3) HILTI KWIK BOLT 3 expansion anchors
- iii) Heavy duty mechanical anchors for concrete use: (1) HILTI HDA undercut anchors (2) HILTI HSL-3 expansion anchors

b)Rebar doweling into concrete

- i) Adhesive anchors for cracked and uncracked concrete use: (1) HILTI-HY 200 safe set system with HILTI hollow drill bit system with continuously deformed rebar (2) HILTI HIT-HY 500v3 safe set system with hollow drill bit
- with continuously deformed rebar (3) HILTI HIT-RE 500v3 safe set system with Hilti roughening tool (HIT RT) with continuously deformed rebar in diamond

c) Anchorage to solid grouted masonry

- i) Adhesive anchors use:
- (1) HILTI HIT—HY 70 masonry adhesive anchoring system (2) Steel anchor element shall be HILTI HAS-E continuously threaded rod or continuously deformed steel rebar

ii) Mechanical anchors use:

(1) HILTI KWIK HUS-EZ scew anchor (2) HILTI KWIK BOLT-3 expansion anchors

d) Anchorage to hollow / Multi-wythe masonry

- i) Adhesive anchors use:
- (1) HILTI HIT-HY 70 masonry adhesive anchoring system (2) Steel anchor element shall be HILTI HAS-E continuously
- threaded rod or continuously deformed steel rebar (3) The appropriate size screen tube shall be used per adhesive manufacturer's recommendation
- 2. Install anchors per the manufacturer instructions, as included in the anchor packaging.
- 3. The contractor shall arrange an anchor manufacturer's representative to provide onsite installation training for all of their anchoring products specified. The structural engineer of record must receive documented confirmation that all of the contractor's personnel who install anchors are trained prior to the commencement of installing

- 1. Concrete blocks to conform to CSA A165.1-04.
- 2. Masonry walls to be built with type "S" mortar having a minimum strength of 13 MPa @ 28 days. Mortar to be in accordance with CSA A179-04.
- 3. Use Dur-O-Wall (or equal) spaced vertically at 16" o/c.
- 4. Cold weather construction of masonry shall conform to the 2010 National Building Code of Canada, with adequate preheating of materials, hoarding and heating during construction and thereafter as specified. THE "TORCHING TECHNIQUE" WILL NOT BE PERMITTED UNDER ANY
- 5. Masonry contractor shall be responsible for temporary bracing of all masonry components until all related structural framing has been erected and completely installed.
- 6. Provide expansion joints at maximum of 20'-0" o/c unless noted otherwise. Submit drawing with locations of expansion joints for review prior to construction
- 7. Provide continuous bond beams with 2-15M bars bottom in concrete fill at top of all exterior walls, bearing walls or as indicated on drawings.
- 8. Inspection holes shall be left at the base of concrete filled
- 9. Masonry cores shall be filled in lifts not exceeding 10'-0".
- 10. Concrete blocks to be min. H/15/A/M unless noted.
- 11. Ensure masonry cores filled with concrete at expansion anchor locations.
- 12. All cores of elevator shaft to be filled solid with concrete.
- 13. Typical masonry lintels unless noted on drawings: spans up to 4'-0" - 8" U-block 2-15M cont. bottom 16" U-block
- 2-15M cont. bottom Provide minimum 8" bearing u/n at each end. 14. Brick ties to be 'FERO' block shear connectors spaced as
- Horizontal: 18" o/c Vertical: 1st row @ 8" from top & bottom 2nd row € 16" from top & bottom Balance @ 24" o/c
- 15. Provide minimum 4" x 4" x 5/16" angles for brick or stone support over recessed units in masonry walls for spans up to 4'-0". For larger spans refer to drawings.
- 16. All bonding coursing to be running bond unless noted

FALL ARREST ANCHORS

- 1. The following specifications are based upon requirements of the Manitoba Workplace Safety and Health Act (C.C.S.M. c. W210). Only specifications relevant to the design of fall arrest anchorage has been provided. Employers and workers must be familiar with and adhered to all requirements of the Manitoba Workplace Safety and Health Act Part 14: Fall Protection Systems.
- 2. During construction, temporary fall arrest anchors are the responsibility of the general contractor and must adhere to Manitoba Workplace Safety and Health Act regulations.
- 3. Where the anchorage system is used in conjunction with a suspended work platform, the system is to be designed, constructed and used in accordance with CAN/CSA Standard-Z91-02 Health and Safety for Suspended Equipment Operations and CAN/CSA-Z271-98 (R2004), Safety Code for Suspended Elevating Platforms. These requirements supersede the notes below.
- 4. Where the anchorage system is part of a horizontal lifeline system, arrangement of the horizontal lifeline system shall be confirmed with architectural and the building owner, in consultation with relevant trades and contractors likely to use the horizontal lifeline system.
- 5. Where the anchorage system is part of a horizontal lifeline system, the number of workers required to be attached to the horizontal lifeline system shall be confirmed with architectural and the building owner.
- 6. Where the anchorage system is part of a horizontal lifeline system, the supplier shall provide shop drawings and specifications indicating a. The arrangement of the system, including horizontal lifelines and the fixed anchorage support system,
- b. All components used as part of the system,
- c. The number of workers that can safely be attached to the system, and any restrictions as to combinations of workers that are permitted to be attached at different areas of the system at
- d. The maximum load capacity of the system
- 7. All specifications of the horizontal lifeline system of Item 6 above, shall be maintained by the building owner at the building and shall be readily accessible to all workers who may use the certified system.
- 8. Anchorage that is part of a horizontal lifeline system, along with the horizontal lifeline sytem, shall be certified by the manufacturer, or by an professional engineer registered in Manitoba.
- 9. Permanent fall arrest anchor locations are to be confirmed with architectural and included in relevant shop drawings
- 10. Permanent fall arrest anchor locations must have an ultimate capacity of 22.2 KN (5000lb) or greater in any direction. The anchorage systems are to bear the seal of a professional engineer registered in Manitoba.
- 11. The anchorage connections are to be designed by the steel/precast supplier in conjunction with the roof joist/plank supplier. For C.I.P. concrete roof systems the anchorage support will be designed by the E.O.R. upon submittal of an acceptable fall arrest anchor product or
- 12. The anchorage is to be rigid with a maximum deflection of 1 mm (0.04in) when a load of 10 KN (2,250 lb) is applied.
- 13. Anchorage shall be tested and certified by a professional engineer as having the required load capacity. The roof anchor shall be load tested 50% and 125% of the design load in the weakest direction. The displacement of the roof anchor is to be recorded at each load and after the load is released. Certification letter is to be provided to the building owner, general contractor, architect, and structural engineer-of-record for documentation.
- 14. The anchorage is to be re—certified by a professional engineer when re-roofing, or renovating (pertinent to the window cleaning system), or at periods not to exceed 10 years. Certification letters are to be provided to the building owner and included in the building's log book of
- 15. Anchorage is to be inspected annually by a qualified person and recorded into the building's log book of records. Any area of suspicion is to be reported to a professional engineer for review.

C-I-P CONCRETE PILES

1. Cast—in—place piles are designed for an assumed skin friction as shown in table below:

	SLS, psf	res. factor	Factored ULS,psf
8 ft - 32 ft	375	0.40	410

- 2. Concrete for cast-in-place piles shall be 32 MPa @ 28 days using Sulfate Resisting Type 50 cement, 1 1/2" maximum size agareaate, 3 1/2" slump and 3% to 5% air entrainment. Vibrate the top 10 feet of each pile.
- 3. Piles shall be no more than 2% out of plumb; and no more than 2" out of alignment.
- 4. Pile reinforcing shall extend a minimum of 2'-0" into pilecap or grade beam/wall.
- 5. Slab sub-base to be built up of 'C-Base' granular fill compacted to 95% Standard Proctor Density in maximum 8" lifts. Final lift to be 6" 'A-Base' granular fill compacted to 98% Standard Proctor Density. All compaction densities to be confirmed by an independent testing agency prior to placement of any concrete.
- 6. Provide full time inspection of piling by Geotechnical Engineer of

PRECAST PILES

- 2. Driven piles shall be standard hexagonal precast prestressed piles driven to refusal to develop the following capacities

- 3. Concrete design strength for precast piles is 40MPa @ 28 days with Sulfate Resisting Type 50 cement.
- 4. Prestressing strands shall be left protruding into pilecaps a minimum of 2'-0" after pile cut off unless noted otherwise.
- 5. Precast driven piles shall be designed in accordance with the latest edition of CSA 135.
- 6. Piles shall be no more than 2% out of plumb; and no more than 2" out of alianment.
- 7. Slab sub-base to be built up of 'C-Base' aranular fill compacted to 95% Standard Proctor Density in maximum 8" lifts. Final lift to be 6" 'A-Base' granular fill compacted to 98% Standard Proctor Density. All compaction densities to be confirmed by an independant testing agency prior to placement of any concrete.
- 8. Provide full time inspection of piling by Geotechnical Engineer of record.

REINFORCING

- All bars to conform to CSA G30.18-09: 15M bars and larger to be grade 400 10M bars and supporting rods to be grade 300 or better
- All steel to be detailed in accordance with the current ACI Detailing Manual.
- Minimum clear cover to reinforcing refer to table below.

CLEAR CONC	RETE COVER TO R	EINFOR	CEMENT	
			EXPOSURE	CLASS
EXPOSURE CO	ONDITION	N	F-1, F-2 S-1, S-2, S-3	C-XL, C-1, C-2, C-3 A-1, A-2, A-3
Cast against and perrexposed to earth.	nanently	-	3"	3"
Beams, girders, colum ties/stirrups (except		1¼"	1½"	2¾"
Slabs, walls, joists, sh plates (except as not		34"	1½"	2¾"
Parkade suspended slabs	TOP BARS	-	_	1¾"
suspended sidbs	BOTTOM BARS	-	_	1¼"
Parkade slabs on grade and structural	TOP BARS	-	_	2¼"
slabs at grade	BOTTOM BARS	-	_	1½"
Parkade beams (to st	irrups)	_	_	1½"
Ratio of cover to nominal bar diameter			1.5	2.0
Ratio of cover to nominal maximum aggregate size			1.5	2.0
NOTE: THE LARGEST (OVER REQUIRED F	OR AN'	Y ONE ELEMENT SH	ALL GOVERN.

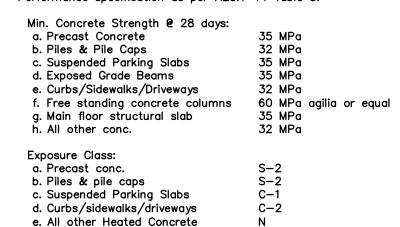
- 4. Reinforcement noted with "C" as C10M is to have a standard hook at one end. Length of bar indicated is exclusive of hook length.
- 5. Reinforcement noted with "E" as 10ME is to be epoxy-coated.
- 6. All reinforcing shall be held in place with proper accessories.

STANDARD EN	ND HC	OKS						
BAR SIZE	10M	15M	20M	25M	30M	35M	45M	55M
90° HOOK LENGTH	7"	10"	12"	16"	20"	26"	32"	41"
180° HOOK LENGTH	6"	7"	8"	12*	16"	22"	27"	35*

- 8. In concrete beams, bend horizontal reinforcing 24" around corners, or use extra corner bars 36" x 36"
- 9. All openings in concrete walls and/or slabs to have minimum 2-15M extra reinforcing all around, 1 each face, extend minimum 2'-0" past, plus additional 15M diagonal bars each face 1.5 times longer then shortest opening STEEL DECK & LIGHT GAUGE METAL FRAMING size or min. 20" and maximum 5'-0" in length at each corner unless noted otherwise. Maximum opening size 3'-0" wide; top of opening to be minimum 1. 2'-0" below top of wall elevation. For all openings greater than 3'-0" contact the Engineer for further instruction. Coordinate all openings with Architectural, Electrical and Mechanical drawings.
- 10. Do not cut reinforcing at openings where it can be spread continuously around opening.
- 11. All openings in grade beams to be confirmed by the Engineer.
- 12. Top steel in beams and concrete walls shall be lapped at centre span, bottom steel shall be lapped at support.
- 13. All reinforcing steel shall be cleaned of all dirt, grease and other deleterious materials prior to placing.
- 14. All reinforcing shall be new billet deformed bars.
- 15. Minimum reinforcing for equipment bases 10M @ 12" o/c each way. 16. All welded wire fabric shall be transported and delivered in flat sheets.
- 17. Reinforcing steel supplier to confer with contractor as to desired construction joint locations and supply dowels and bar lengths to accommodate these
- 18. Reinforcing steel supplier shall submit shop drawings for review of fabrication, sizes, dimensions, placement and splice locations.
- 19. Except as noted otherwise, provide dowels matching vertical or horizontal reinforcing at adjacent concrete members and/or elements.

CONCRETE

- Concrete work shall be in accordance with CSA A23.1-14 for Concrete Materials and Methods of Concrete Construction" including cold weather requirements when the temperature falls below 5°C.
- Fabrication and erection shall be in accordance with CAN/CSA A23.3-14 for "Design of Concrete Structures".
- Provide one set of concrete test cylinders in accordance with CSA A23.1-14 for every 50 m³ of concrete placed and a minimum of one set for each structural component.
- 4. Performance specification as per A23.1-14 Table 5:



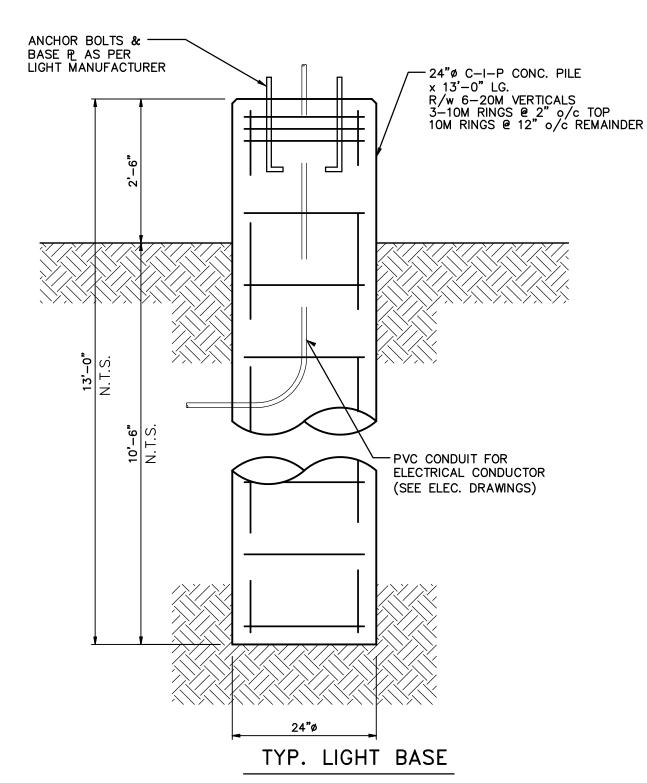
- b. Foundation Walls/ Grade Beams/ Pier/ etc. R-2 c. Interior slabs on around not exposed to freezing and thawing or de-icing salts
- water to cement materials ratio to minimize shrinkage.
- Walls, piers and columns shall be poured a minimum of 24 hours
- Provide concrete slab and floor finish classification overall F-number in accordance with Table 21, CSA A23.1-14.
- Provide dovetail anchor slots in concrete walls and columns where

10. All structural slabs framing into concrete walls or beams shall have a

- Where concrete beams frame into concrete walls or other concrete beams and are poured later, provide 1 1/2" chase (height and width to match beam).
- 13. Construction joint keys in grade beams and walls shall be formed at pile locations only.
- and beams to have continuous swellable hydrophilic waterstop sealant.

15. Construction joint keys in structural slabs to be formed at 1/3 span.

- Provide key width equal to half the thickness of the slab. Provide 15M dowels @ 24" o/c top & bottom.
- compound or caulking.
- column unless noted otherwise on drawings. 18. Slip joint all paving against structural members with 1/2"
- concrete slabs unless noted otherwise on drawings.
- 21. Engineer to be notified at least 48 hours in advance of all major
- 23. Where voidform is indicated on drawings use cardboard shearmat below structural slabs and low-density polystyrene below walls and gradebeams. 6" Voidform to be provided below all concrete subgrade elements, including all walls, gradebeams, structural slabs, pilecaps,
- cardboard, complete with moisture resistant treated paper faces, with sufficient strength to support the weight of wet concrete until initial
- 25. Exterior sidewalks to be 4" thick concrete on compacted granular fill reinforced with 10M @ 12" o/c each way mid depth. Provide tooled control joints @ maximum 5'-0" o/c and construction joints @ maximum 20'-0" o/c. Refer to Architectral for sidewalk locations
- Steel deck and light gauge metal framing to be designed in accordance with the latest issue of CSA 136-07 and CSA 136.1-07 to support the loads indicated on the drawings.
- Steel deck work to be performed in accordance with the latest edition of Canadian Sheet Steel Building Institute Standards for Roof and Floor
- Steel deck to be manufactured from ASTM A525 Grade A structural quality sheet steel; hot-dip galvanized to A25 wiped coat designation.
- Submit shop drawings sealed by a Professional Engineer registered in the Province of Manitoba, indicating decking plan, profiles, supports and design
- 5. Mechanically fasten side laps @ 12" o/c.
- 6. Fasten deck to support members with 3/4" fusion welds @ 12" o/c.
- Reinforce deck openings up to 18" square with L2" x 2" x 3/16" each side. Extend reinforcing angles a minimum of two flutes beyond opening each side.
- 8. All rooftop equipment shop drawings shall be submitted for review prior to commitment of steel deck shop drawing review. Indicate equipment weight, overall dimensions, and connection requirements on shop drawings.



SEE ARCH. & ELECT. FOR QUANTITY & LOCATION(S)

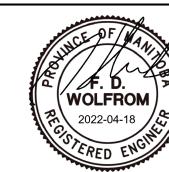
ENGINEERS
GEOSCIENTISTS

Certificate of Authorization

Wolfrom Engineering Ltd.

No. 1156

12 ISSUED FOR CONSTRUCTION-SUPERSTRUCTURE APR 18/22 FDW 11 ISSUED FOR PERMIT SEPT. 29/21 FDW 10 GENERAL REVISIONS AUG 05/21 FDW 9 GENERAL REVISIONS JULY 22/21 FDW 8 RE-ISSUED FOR FOUNDATION APR. 23/21 CHS 7 RE-ISSUED FOR CONSTRUCTION APR. 14/21 CHS 6 RE-ISSUED FOR CONSTRUCTION APR. 05/21 CHS 5 RE-ISSUED FOR CONSTRUCTION-FOUNDATION MAR. 23/21 CHS 4 ISSUED FOR CONSTRUCTION-FOUNDATION AUG.27/20 CHS 3 ISSUED FOR TENDER IUL.17/20 CHS 2 ISSUED FOR CONSTRUCTION MAR.30/20 CHS DEC.19/19 CHS 1 ISSUED FOR CONSTRUCTION-FOUNDATION Date: By



WOLFROM ENGINEERING LTD CONSULTING ENGINEERS 345 WARDLAW AVENUE WINNIPEG.CANADA R3L OL5 E-mail: danw@wolfromeng.com

Consultants: AFFINITY ARCHITECTURE Inc. Unit 200 - 4 Fort Street • Winnipeg, Manitoba R3C 1C4 Phone 204-982-6940 • Fax 204-453-4556 • info@affinityarch.com

FAIRWAY WOODS

PHASE III

Drawings and project manual, as instruments of service, are the

property of the architect, the copyright in the same being reserved to him. No reproduction may be made without the

permission of the architect, and when made must bear his

any discrepancies to the architect for adjustment, prior to

The contractor shall verify dimensions and data noted herein

with conditions on the site and is held responsible for reporting

name. All prints to be returned to the architect.

proceeding.

88 SNOW STREET WINNIPEG, MANITOBA

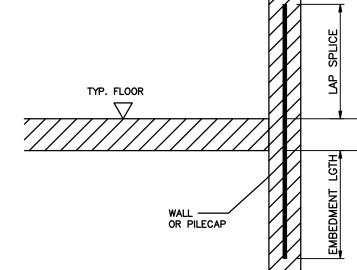
GENERAL NOTES

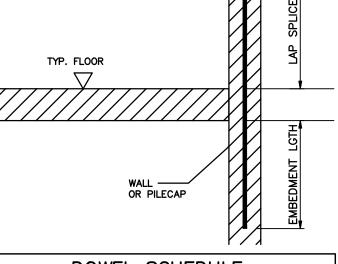
AND SCHEDULES

Drawn by: CHS Checked by: FDW

S-0.

Date: APRIL 2020 Project No.: W18021





- 1. Pile design loads with a minimum safety factor of 2.5.

Design based on resistance factor of 0.6

ULS and SLS Loads for Static, Vertically Driven Pre-Stressed Pre-Cast Concrete Piles Factored ULS capacities						
Pile Diameter SLS load Blows		Blows per 25mm of pile	Energy per blow	ф = 0.6		
mm	Inch	tons	penetration	foot*kips	tons	
305	12	65	5	30	75	
356	14	90	10	30	105	
406 16 115 1		15	30	135		

- Residential Concrete Exposure Class: a. Footings/ Columns/ Fireplaces/ Chimneys
- For floor slabs, design the concrete mix with aggregate grading and
- hefore slabs and beams
- 8. Unless noted otherwise, utilize Curing types that correlate with Class of exposure for Table 2, CSA A23.1-14
- minimum $1 \frac{1}{2}$ chase into supporting member x the height of the
- 12. The use of calcium chloride is not permitted.
- 14. Concrete cold joints below grade in exterior perimeter concrete walls
- 16. Saw cuts for slab on grade shall be 1" deep & 1/8" wide. Cutting to be done not sooner than 12 hours, and not later than 24 hours after the slab is poured. Cuts to be filled with approved bituminous
- 17. Saw cuts for slab to be spaced at maximum 20'-0" o/c unless noted otherwise on drawings. Provide diamond saw cuts around all
- impregnated fibreboard. 19. Provide minimum 6 mil poly vapour barrier below all slab on grade
- 20. Coordinate the location of all items embedded in concrete work with Architectural, Mechanical & Electrical drawings.
- 22. Refer to architectural drawings for concrete surfaces requiring architectural finishes.
- and pilasters unless noted otherwise. 24. For structural slabs at grade, plywood over biodegradable wax mat
- 26. Concrete slab at exterior refuse container to be 6" thick concrete on

compacted granular fill reinforced with 15M @ 12" o/c each way mid depth. Refer to Architectral for locations

STRUCTURAL STEEL

- 1. All 'W' and 'HSS' sections shall be in accordance with CAN/CSA G40.21-04 M350W, all other sections shall be in accordance with CAN/CSA G40.21-04 M300W.
- 2. All welding shall conform to CSA W59-03 (R2008); fabricators to be certified in accordance with CSA W47.1-09.
- 3. Fabrication and erection shall be in accordance with CAN/CSA S16-09, "Limit States Design of Steel Structures".
- 4. Unless noted otherwise, design connections for non-composite beams for factored moment shear force equal to 67% of the total beam load tabulated in the CISC handbook of steel construction.
- 5. Unless noted otherwise, design moment connections for non-composite beams for a factored moment equal to the full moment capacity of the smaller member joined.
- 6. Supply steel with properties noted in steel grades table below.

STEEL GRADES					
MEMBER TYPE	GRADE				
ROLLED W-SHAPES, TEES	CSA G40.21 350W OR ASTM A 992 GRADE 50				
WELDED WIDE FLANGE SECTIONS	CSA G40.21 350W				
HOLLOW STRUCTURAL SECTIONS	CSA G40.21 350W CLASS C				
OTHER STRUCTURAL SHAPES AND PLATES	CSA G40.21 350W				
BOLTS	ASTM A325				
ANCHOR RODS	ASTM F1554 GRADE 36				
HEADED STUD ANCHORS	ASTM A108				
THREADED RODS	ASTM A36				

- 7. Steel erector shall be responsible for supplying and erecting all temporary bracing to provide stability for the structure as a whole, until all related structural framing is erected and completely installed.
- 8. Fabricator shall notify the engineer of any proposed member substitutions or changed connection details.
- 9. Holes required in steel sections must be approved by the engineer.
- 10. Provide ¾"ø weep holes at top and bottom of all HSS columns.
- 11. All beams continuous over columns shall have 2 web stiffeners on each side, the same thickness as column unless noted, but not less than $\frac{3}{2}$ ".
- 12. No holes permitted in top of beams at columns where beams are continuous over columns, unless loss of section by holes is compensated by equal material area welded to side of flange.
- 13. All columns passing thru concrete shall have compressive material to isolate it from surrounding concrete.
- 14. All structural steel shall receive at least one coat primer to CISC/CPMA standard 1—73a 1975.
- 15. All exterior steel exposed to weather to be galvanized.
- 16. Use asphalt base paint (ClovaTar 22 coal tar epoxy or eq.) at columns below slab.
- 17. All high strength bolts to be in accordance with the latest edition of ASTM 14. <u>Erection Tolerances:</u> A325M.
- 18. Provide minimum of 2 bolts in bolted connections.
- 19. All bolted connections to use snug-tightened high-strength bolts unless
- 20. The shear capacity of all shear splices shall be at least equal to the shear capacity of the smaller beam, unless noted.
- 21. The steel supplier shall shop weld $1 \frac{1}{2}$ x $\frac{1}{8}$ masonry anchors to all steel members in contact with masonry walls. Maximum spacing of ties shall be 32" o/c unless noted.

22. Steel supplier is responsible for design and detailing of all structural steel

- connections not shown on drawings. 23. All miscellaneous steel not detailed on drawings, such as; stairs, railings, awnings and non-structural architectural steel shall be detailed by the
- steel supplier. 24. Anchor bolts shall be supplied by structural steel supplier & set by general contractor. General contractor to supply and install 1" non-shrink grout
- under all base plates unless noted. 25. All grout under bearing plates and base plates shall be non-metallic, non-shrink type with minimum 28 day compressive strength of 4500 PSI, installed in accordance with the specification and manufacture's
- recommendations. 26. Expansion anchors to be zinc-plated steel wedge type with the following design values in 30 MPa concrete:
- 3/4" ϕ 4000 lbs shear, 4000 lbs pull-out 27. All exposed portions of ledge angles and connections to be coated with

1/2" ϕ - 2000 lbs shear, 2000 lbs pull-out

- bituminous paint.
- 28. Provide 3" x 3" x 1/4" angle framing around all deck openings greater than 18" x 18" unless noted.
- 29. All steel beams supporting masonry walls to have minimum $\frac{3}{4}$ " \(\pi \times 12" long nelson studs welded to beam at 24" o/c unless noted otherwise on drawings.
- 30. Provide minimum S8x18.4 Elevator Hoist beam c/w end bearing connections unless noted otherwise.
- 31. Structural steel supplier shall submit shop drawings for review of fabrication, sizes, dimensions and placement. All connections not shown on drawings are to be sealed by a Professional Engineer registered in the Province of Manitoba.

MISCELLANEOUS METAL

- Refer to architectural drawings for miscellaneous metal details.
- 2. All steel shall conform to CSA G40.21-04
- 3. Welded rebar anchors to be grade 300 weldable.
- All exposed miscellaneous metal to be reviewed for architectural appearance as per AISC. Specification for Architecturally Exposed Structural Steel.

STRUCTURAL LIGHT GAUGE STEEL FRAMING

- Supply and install LG (light gauge) steel framing where indicated on structural and architectural drawings.
- Framing steel members shall meet the requirements of CAN/CSA-S136-01, North America Specification for the Design of Cold—Formed Steel Structural Members, with a minimum yield strength of 33 ksi for design thicknesses less than or equal to 0.0451" and 50 ksi for design thicknesses greater than or equal to 0.0566". All steel to be minimum 20 Ga (0.033") unless noted otherwise.
- 3. Size of framing member to be sufficient to carry weight of finishing materials (minimum 10psf) plus a horizontal wind load as per external cladding notes or a vertical snow load as per plans.
- 4. Provide lapped connections and fasten with minimum 3- #12 TEK
- Support horizontal and vertical members at max. 4'-0" o/c. use clip angles to structural steel framing, concrete, or masonry. Secure with $\S^n \phi$ bolt or other approved fastener. Wire hangers are permitted where adequate lateral bracing is used.
- 6. Submit 4 sets of shop drawings to the engineer and obtain approval prior to fabrication. Show all sizes, connection details, and material specifications. Work and design to conform to CAN S136. External cladding.
- Design external cladding/walls to carry the following unfactored wind pressures and sections:
 - Pressure 25 psf 20 to 39 ft. 28 psf 39 to 66 ft. 66 to 98 ft. 35 psf 98 to 114 ft. 36 psf 144 to 210 ft. 210 to 279 ft.
- 8. Maximum deflection for the above wind loads not to exceed L/360(L/720 when used as backup for brick veneer). Minimum 18 gauge for all studs in veneer back walls.
- Stone pilaster framing to be self—supporting and braced to withstand wind and seismic forces.
- 10. Minimum 2 screws required per connection.
- 11. Steel studs to have bridging channel at 4'-0" o/c maximum.
- 12. No coring or cutting of steel studs unless approved by engineer.
- 13. Use no. 10-16 metal screws for non-load bearing stud
- Plumb: $\frac{1}{4}$ " Spacing: $\frac{1}{8}$ " Stud to Web Gap: $\frac{1}{4}$ "
- 15. Double stud at side for all interior openings up to 4'-0" width.
- 16. Specifications for stud or track size and thickness: 600 S 162 - 54
- (a) (b) (c) (d) (a) Member depth in 1/100ths inches
- Thus 600 means 600/100 = 6"
- (b) Style: S = Stud or joist sections
 - T = Track sections U = Channel sections
 - F = Furring channel sections
- Flange width in 1/100ths inches Thus 162 means 162/100 = 1.62
- Designations thickness in 1/1000ths inches Thus 54 means 54/1000 = 0.054"

STRUCTURAL ALUMINUM

- All structural aluminum components shall be in accordance with CAN/CSA-S157-05/S157.1-05 (R2010)
- All welding shall conform to W59.2-M1991 (R2008); fabricators to be certified in accordance with the latest edition of CSA
- Fabrication and erection shall be in accordance with the latest edition CAN/CSA-S157-05/S157.1-05 (R2010), "Strength Design in Aluminum".
- Aluminum erector shall be responsible for supplying and erecting all temporary bracing to provide stability for the structure as a whole, until all related structural framing is erected and completely installed.
- Fabricator shall notify the engineer of any proposed member substitutions or changed connection details.
- Holes required in aluminum sections must be approved by the
- All beams continuous over columns shall have 2 web stiffeners on each side, the same thickness as column unless noted, but not
- 8. No holes permitted in top of beams at columns where beams are continuous over columns, unless loss of section by holes is compensated by equal material area welded to side of flange.

The shear capacity of all shear splices shall be at least equal to

- the shear capacity of the smaller beam, unless noted.
- 10. Aluminum supplier is responsible for design and detailing of all structural aluminum connections not shown on drawings.
- 11. Structural aluminum supplier shall submit shop drawings for review of fabrication, sizes, dimensions and placement. All connections not shown on drawings are to be sealed by a Professional Engineer registered in the Province of Manitoba.

STEEL STUDS:

- 1. Studs are designed in accordance with the requirements of the National Building Code of Canada and the latest edition of CAN/CSA-S136-01 Cold Formed Steel Structural Members.
- 2. Stud steel to meet the requirements of ASTM A446 Standard Specification for sheet steel, zinc coated (galvanized by the hot process.
- 3. Grades are as follows:
- Grade A, 33 ksi (228 mPa) min. yield, for 0.048" (1.22mm) material and thinner - Grade D, 50 ksi (345 mPa) min. yield, for 0.060" (1.52mm) material and thicker
- 4. All screws shall be manufactured by "Grabber Construction Products" All screws shall be as follows:
- "Grabber Construction Products" Waterhead Drivall Self Drilling -#8 & #10 Kwik-Pro Self Drilling (PWH-Phillips Waterhead) **-#8 & #10**
- -#14 Hex Head Drivall Self Drillina -6mm $(\frac{1}{4})^{\circ}$ -14 Hex Washer Head (HWH) Self Drilling Note: All screws to be Installed in accordance with manufactures specifications.
- 5. All power actuated fasteners supplied by Hilti. Install in accordance with manufactures
- 6. Provide 18 ga. Internal bridging complete with clip angle at max 1220MM (4'-0") on centre.
- 7. Provide 14ga slip track at top af all where required to accommodate vertical deflection, see typical double top track detail or alternate detail.
- 8. Location of stud walls as per architectural and structural drawings.
- 9. Design loads are as follows: -Wind Load q $\binom{1}{50}$ = 0.45 kPa (9.40 psf)

1'-0"

B.PL DETAIL

AT INT. COLUMN

O/FACE STUD -

HSS 6x6

W/ 3/4"x6"x20"

4-1"ø A.BOLTS

BASE PLATE

x 18" LG

W/ 1 1/4"x12"x16"

BASE PLATE

x 18" LG

4-1"ø A.BOLTS

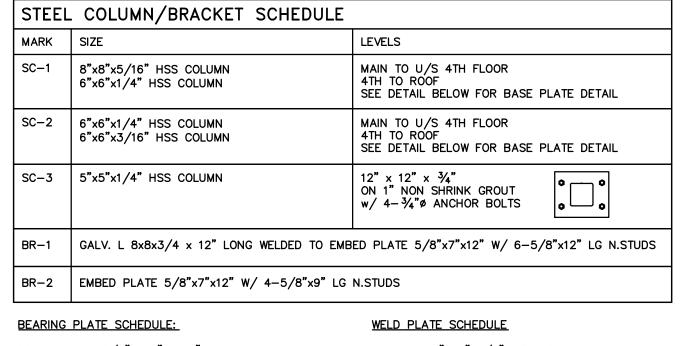
= O/FACE CONC.

STEEL SUPPLIER TO USE L-SHAPE AT CORNERS OR

B.PL DETAIL AT EXT. WALL

OFFSET PLATE

- 10. Drawings are to be read in conjunction with architectural & structural dwgs. Any discrepancies shall be reported to engineer.
- 11. Rough opening dimensions of door & window openings to be confirmed with Architectural/Structural dwas.



BP-1: PL. $3/4" \times 8" \times 10"$

WP-1: 8"x20"x3/4" WELD PL. C/W 8-3/4"ø x6" LG. N.STUDS

3-3/4"ø x 8" LG N.STUDS

WP-2: 8"x12"x3/4" WELD PL. C/W 4-3/4"ø x6" LG. N.STUDS

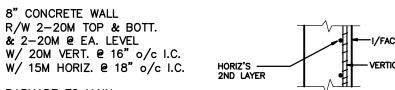
CONCRETE WALL SCHEDULE: TYP. U/NOTED PARKADE EXTERIOR WALL:

10" CONCRETE WALL R/W 2-25M TOP & BOTT.

& 2-25M @ EA. LEVEL W/ 20M VERT. @ 12" o/c I/FACE

20M VERT. @ 12" o/c x 8'-0" LG O/FACE CENTERED ON FLOOR LEVEL P1 W/ 15M HORIZ. @ 16" o/c I/FACE [2ND LAYER] 6-15M @ 16" o/c HORIZ. O/FACE CENTERED ON FLOOR LEVEL P-1

PARKADE INTERIOR WALL: 8" CONCRETE WALL



ELEVATOR WALLS:

STAIRWELLS:

PARKADE TO MAIN: WALL SECTION 9.25" CONCRETE WALL R/W 2-20M TOP & BOTT. & 2-20M @ EA. LEVEL W/ 15M @ 12" o/c E.WAY I.C. 3-25M VERT. 4 CORNERS LEVEL 100-300 2-25M VERT. 4 CORNERS LEVEL 300-400 2-20M VERT. 4 CORNERS LEVEL 400-ROOF MAIN TO ROOF: 9.25" CONCRETE WALL R/W 2-20M TOP & BOTT. & 2-20M @ EA. LEVEL R/W 15M VERT. @ 16" o/c I.C 10M HORIZ. @ 16" o/c I.C.

3-25M VERT. 4 CORNERS LEVEL 100-300 2-25M VERT. 4 CORNERS LEVEL 300-400 2-20M VERT. 4 CORNERS LEVEL 400-ROOF PARKADE TO MAIN:

9.25" CONCRETE WALL R/W 2-20M TOP & BOTT. & 2-20M @ EA. LEVEL W/ 15M @ 12" o/c E.WAY I.C. MAIN TO ROOF: 9.25" CONCRETE WALL R/W 2-20M TOP & BOTT. & 2-20M @ EA. LEVEL W/ 15M VERT. @ 16" o/c I.C. 10M @ HORIZ. 16" o/c I.C.

CONCRETE GRADE BEAM SCHEDULE:

8"x24" CONC. GRADE BEAM R/W 2-20M TOP & BOTT. 10M STIRRUPS @ 12" o/c ON 6" VOID FORM

GB-2: 10"x30" CONC. GRADE BEAM R/W 2-25M TOP & BOTT. 10M STIRRUPS @ 12" o/c ON 6" VOID FORM

CONCRETE LINTEL SCHEDULE:

CL-1: MIN. 12" DEEP LINTEL R/W 2-20M TOP & BOTT. 10M STRPS @ 9" o/c

EXTEND REINF. MIN. 2'-0" BEYOND OPNG. CL-2: MIN. 12" DEEP LINTEL R/W 2-25M TOP & BOTT.

10M STRPS @ 9" o/c EXTEND REINF. MIN. 2'-6" BEYOND OPNG. CL-3: MIN. 20" DEEP LINTEL

R/W 2-20M TOP & BOTT. 15M STRPS @ 9" o/c EXTEND REINF. MIN. 2'-0" BEYOND OPNG. W/ 2-25M VERT. EA. END

CANOPY BEAM SCHEDULE

BC-1: C6x8.2 BC-2: C6x10.5

BC-3: W6x15

BC-4: W6x25

STEEL STUD OPENING TRACK THICKNESS SCHEDULE (FACTORED WIND PRESSURE = 1.72 kPa OR LESS)						
MAX. OPENING WIDTH(S)	LOCATION	SIZE				
S ≤ 71" [S ≤ 1803]	тор/вотт.	600T200-43(33)				
71" < S ≤ 99" [1803 < S ≤ 2515]	тор/вотт.	600T200-54(50)				
99" < S ≤ 115" [2515 < S ≤ 2921]	тор/вотт.	600T200-68(50)				
115" < S ≤ 146" [2921 < S ≤ 3708]	тор/вотт.	600T200-97(50)				

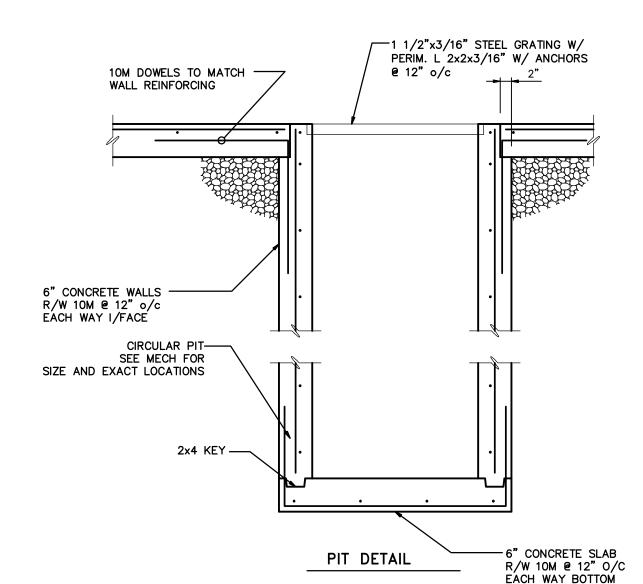
NOTE: THE TOP AND BOTTOM TRACK OF THE LBSSW WILL ALWAYS BE A 600T200-

(PER THICKNESS SHOWN IN THE STANDARD WALL DESIGN SCHEDULE)

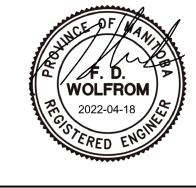
EXTEND COLUMN REINFORCING MINIMUM 18" CONCRETE BEAMS

CHAMFER AS PER ARCHITECTURAL

CON	ICRETE COLUMN	N SCHEDULE				
MARK	SIZE	REINFORCING				
		VERTICAL	TIES	CONCRETE	LEVELS	CONCRETE COVER
CC-1	12" × 24"	8-20M	2-10M @ 12" o/c IN PAIRS	60 MPa AGILIA	BASEMENT TO L100	60mm
CC-2	CW THICKNESS x WIDTH TO SUIT	PARKADE TO 4TH: 6-25M 4TH TO ROOF: 4-20M	10M € 16" o/c	AS PER CONC. NOTES	BASEMENT TO L100	AS PER CONC NOTES
CC-3	CW THICKNESS x WIDTH TO SUIT	PARKADE TO 3RD: 6-20M 3RD TO ROOF: 4-15M	10M € 16" o/c	AS PER CONC. NOTES	BASEMENT TO L100	AS PER CONC NOTES
CC-4						



12	ISSUED FOR CONSTRUCTION-SUPERSTRUCTURE	APR. 18/22	FI
11	ISSUED FOR PERMIT	SEPT. 29/21	FI
10	GENERAL REVISIONS	AUG 05/21	FI
9	GENERAL REVISIONS	JULY 22/21	FI
8	RE-ISSUED FOR FOUNDATION	APR. 23/21	C
7	RE-ISSUED FOR CONSTRUCTION	APR. 14/21	C
6	RE-ISSUED FOR CONSTRUCTION	APR. 05/21	C
5	RE-ISSUED FOR CONSTRUCTION-FOUNDATION	MAR. 23/21	C
4	ISSUED FOR CONSTRUCTION-FOUNDATION	AUG.27/20	C
3	ISSUED FOR TENDER	JUL.17/20	C
2	ISSUED FOR CONSTRUCTION	MAR.30/20	C
1	ISSUED FOR CONSTRUCTION-FOUNDATION	DEC.19/19	C
No	.: Revision:	Date:	В





Consultants:



Drawings and project manual, as instruments of service, are the property of the architect, the copyright in the same being reserved to him. No reproduction may be made without the permission of the architect, and when made must bear his name. All prints to be returned to the architect. The contractor shall verify dimensions and data noted herein with conditions on the site and is held responsible for reporting any discrepancies to the architect for adjustment, prior to proceeding.

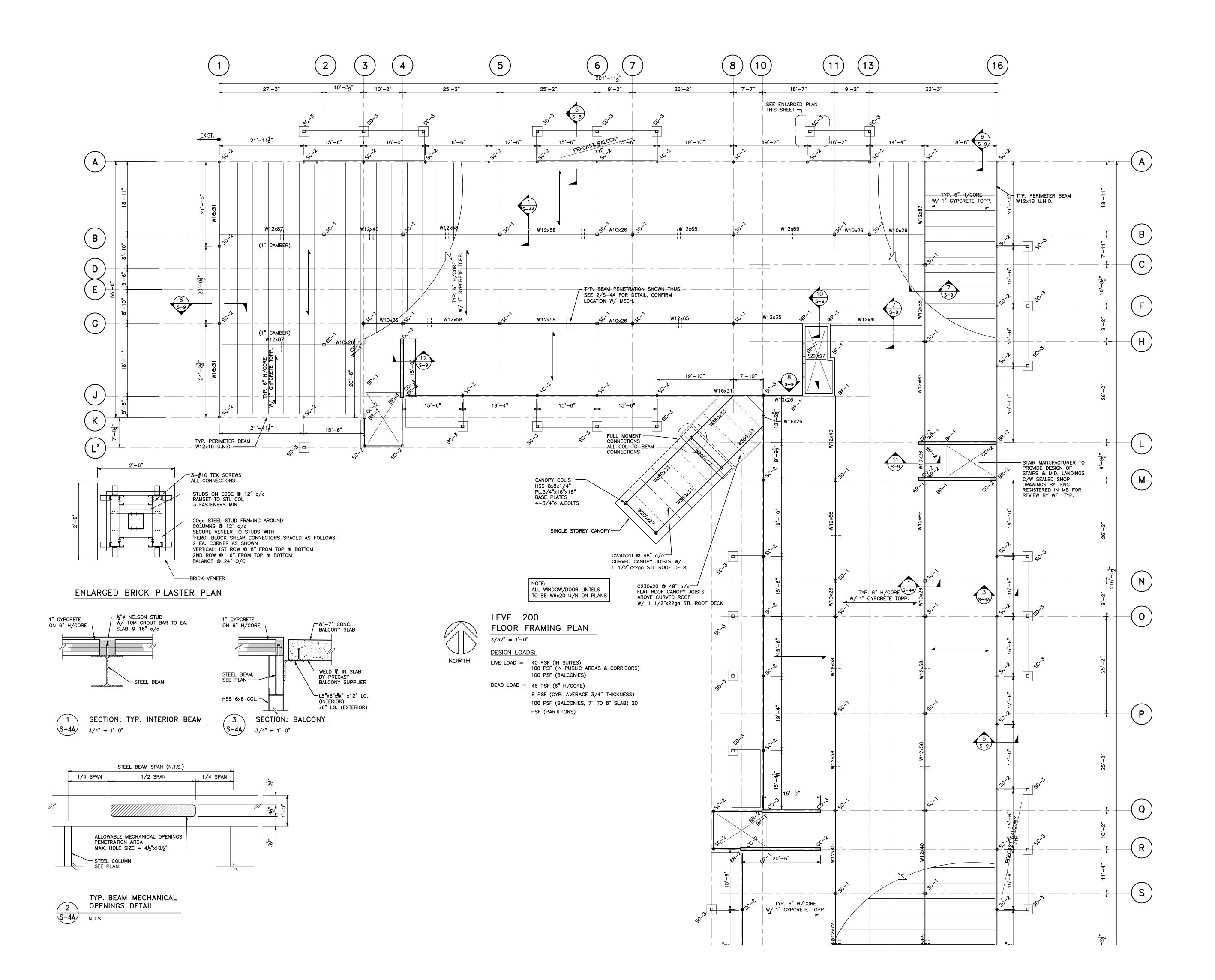
FAIRWAY WOODS PHASE III

88 SNOW STREET WINNIPEG, MANITOBA

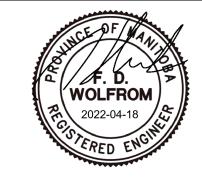
GENERAL NOTES AND SCHEDULES

Drawn by: CHS Checked by: FDW

Date: APRIL 2020 Project No.: W18021



14 ISSUED FOR CONSTRUCTION-SUPERSTRUCTURE APR. 18/22 FDW 13 H/CORE FRAMING REVISIONS 12 ISSUED FOR PERMIT 11 GENERAL REVISIONS 10 GENERAL REVISIONS 9 CANAM FRAMING REVISIONS 8 RE-ISSUED FOR FOUNDATION 7 RE-ISSUED FOR CONSTRUCTION 6 RE-ISSUED FOR CONSTRUCTION 5 RE-ISSUED FOR CONSTRUCTION-FOUNDATION MAR. 23/21 CHS 4 ISSUED FOR CONSTRUCTION-FOUNDATION AUG.27/20 CHS 3 ISSUED FOR TENDER JUL.17/20 CHS 2 ISSUED FOR CONSTRUCTION MAR.30/20 CHS DEC.19/19 CHS 1 ISSUED FOR CONSTRUCTION-FOUNDATION



WOLFROM ENGINEERING LTD

CONSULTING ENGINEERS
345 WARDLAW AVENUE
WINNIPEG,CANADA R3L 0L5
(204)452-0041 FAX: 284-8680
E-mail: danw@wolfromeng.com

Consultants:



Drawings and project manual, as instruments of service, are the property of the architect, the copyright in the same being reserved to him. No reproduction may be made without the permission of the architect, and when made must bear his name. All prints to be returned to the architect.

The contractor shall verify dimensions and data noted herein with conditions on the site and is held responsible for reporting any discrepancies to the architect for adjustment, prior to proceeding.

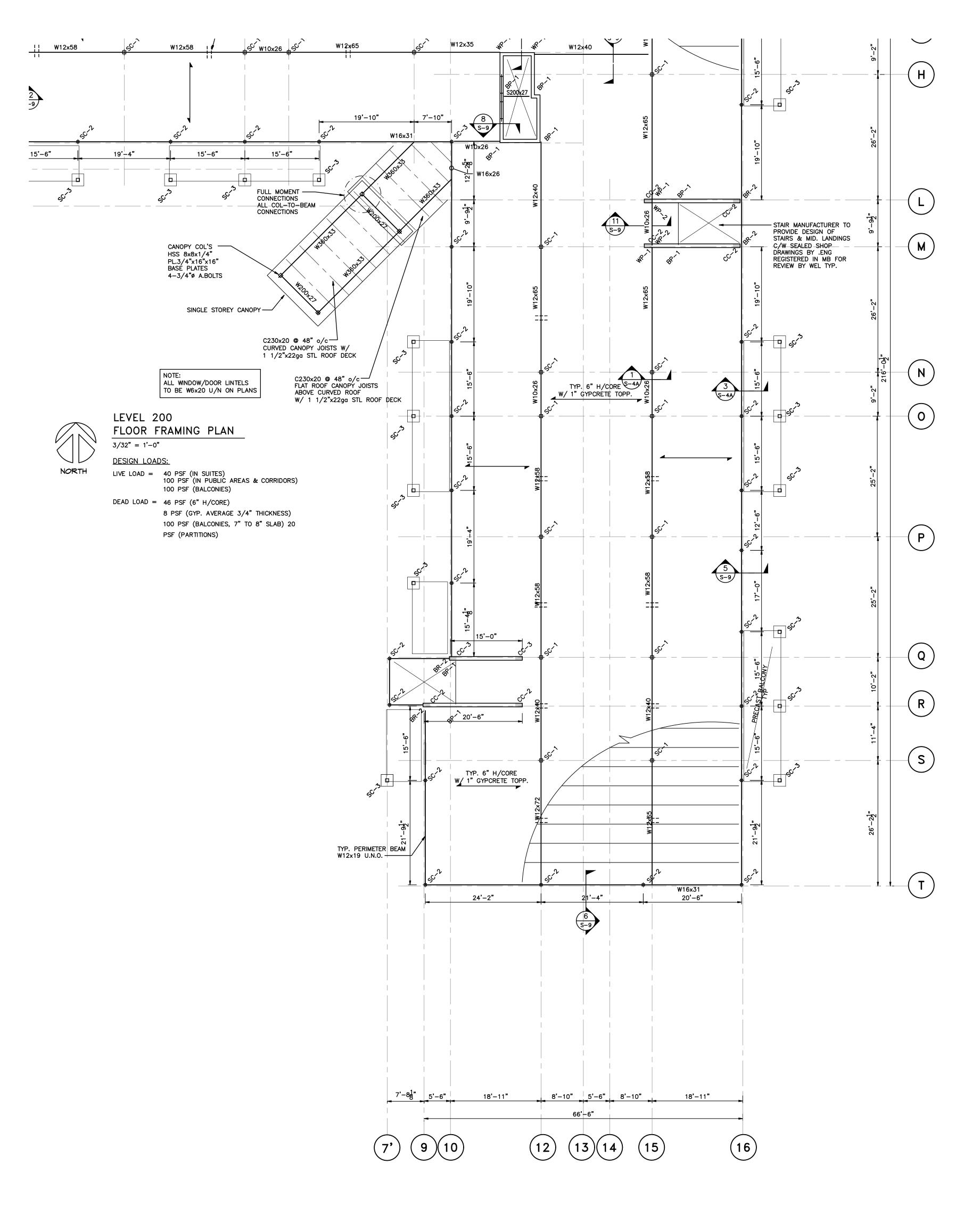
FAIRWAY WOODS PHASE III

88 SNOW STREET WINNIPEG, MANITOBA

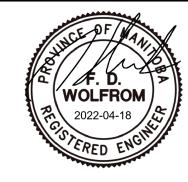
> LEVEL 200 FLOOR FRAMING PLAN

Drawn by: CHS Checked by: FDW

S-4A



14 ISSUED FOR CONSTRUCTION-SUPERSTRUCTURE APR. 18/22 FDW 13 H/CORE FRAMING REVISIONS JAN. 14/22 FDW 12 ISSUED FOR PERMIT SEPT. 29/21 FDW 11 GENERAL REVISIONS AUG 05/21 FDW MAY 20/21 CHS 10 GENERAL REVISIONS 9 CANAM FRAMING REVISIONS APR. 26/21 CHS 8 RE-ISSUED FOR FOUNDATION APR. 23/21 CHS 7 RE-ISSUED FOR CONSTRUCTION APR. 14/21 CHS 6 RE-ISSUED FOR CONSTRUCTION APR. 05/21 CHS 5 RE-ISSUED FOR CONSTRUCTION-FOUNDATION MAR. 23/21 CHS 4 ISSUED FOR CONSTRUCTION-FOUNDATION AUG.27/20 CHS 3 ISSUED FOR TENDER JUL.17/20 CHS 2 ISSUED FOR CONSTRUCTION MAR.30/20 CHS 1 ISSUED FOR CONSTRUCTION-FOUNDATION DEC.19/19 CHS No.: Revision:



WOLFROM ENGINEERING LTD CONSULTING ENGINEERS 345 WARDLAW AVENUE WINNIPEG, CANADA R3L 0L5 (204)452-0041 FAX: 284-8680 E-mail: danw@wolfromeng.com

Consultar



Drawings and project manual, as instruments of service, are the property of the architect, the copyright in the same being reserved to him. No reproduction may be made without the permission of the architect, and when made must bear his name. All prints to be returned to the architect.

The contractor shall verify dimensions and data noted herein with conditions on the site and is held responsible for reporting any discrepancies to the architect for adjustment, prior to proceeding.

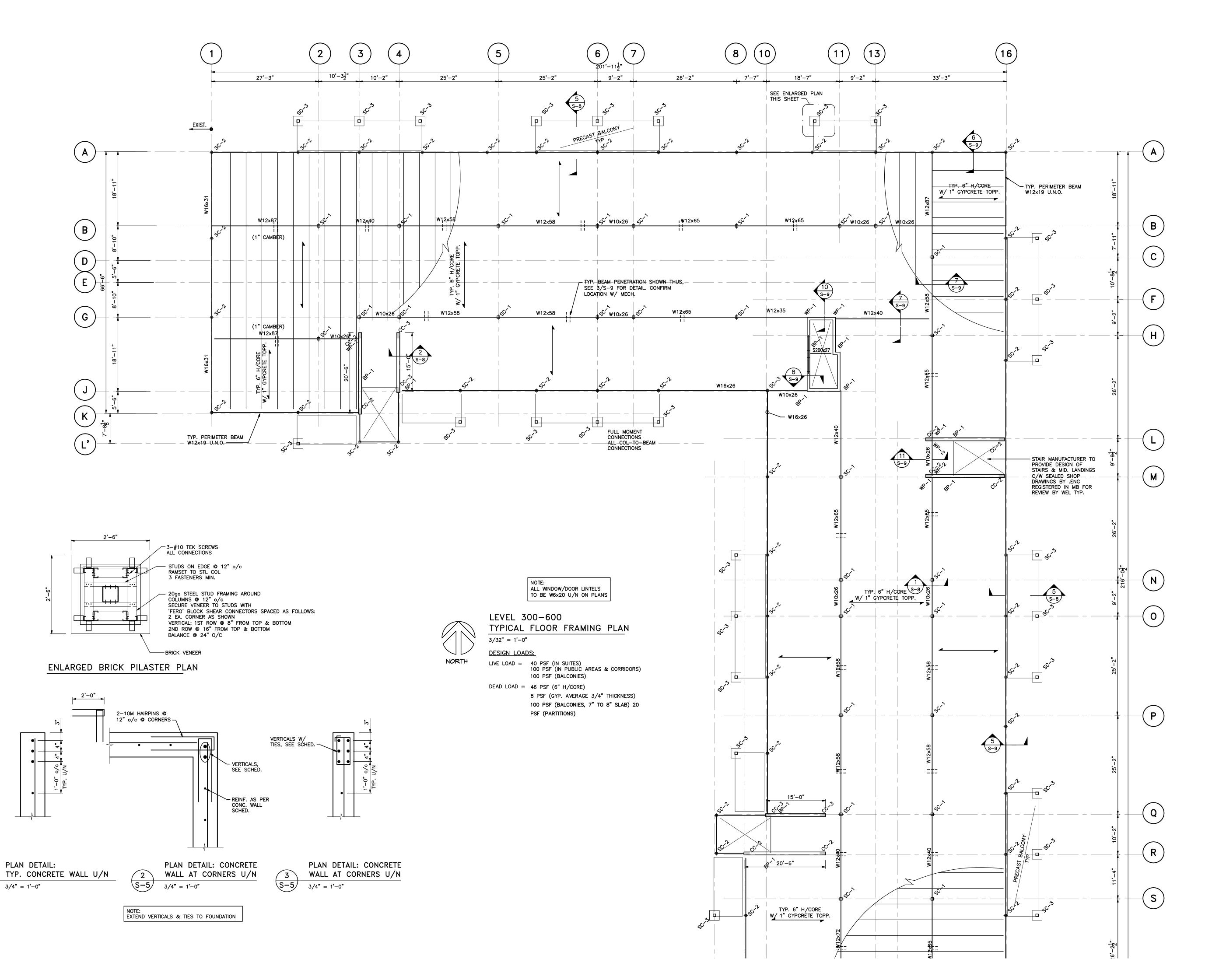
FAIRWAY WOODS PHASE III

88 SNOW STREET WINNIPEG, MANITOBA

> LEVEL 200 FLOOR FRAMING PLAN

Drawn by: CHS Checked by: FDW

S-4B



14 ISSUED FOR CONSTRUCTION-SUPERSTRUCTURE APR. 18/22 FDW 13 H/CORE FRAMING REVISIONS 12 ISSUED FOR PERMIT SEPT. 29/21 FDW 11 GENERAL REVISIONS 10 GENERAL REVISIONS MAY 20/21 CHS 9 CANAM FRAMING REVISIONS 8 RE-ISSUED FOR FOUNDATION 7 RE-ISSUED FOR CONSTRUCTION 6 RE-ISSUED FOR CONSTRUCTION 5 RE-ISSUED FOR CONSTRUCTION-FOUNDATION MAR. 23/21 CHS 4 ISSUED FOR CONSTRUCTION-FOUNDATION AUG.27/20 CHS 3 ISSUED FOR TENDER JUL.17/20 CHS 2 ISSUED FOR CONSTRUCTION MAR.30/20 CHS 1 ISSUED FOR CONSTRUCTION-FOUNDATION DEC.19/19 CHS



WOLFROM ENGINEERING LTD

CONSULTING ENGINEERS
345 WARDLAW AVENUE
WINNIPEG,CANADA R3L 0L5
(204)452-0041 FAX: 284-8680
E-mail: danw@wolfromeng.com

Consultants:



Drawings and project manual, as instruments of service, are the property of the architect, the copyright in the same being reserved to him. No reproduction may be made without the permission of the architect, and when made must bear his name. All prints to be returned to the architect.

The contractor shall verify dimensions and data noted herein with conditions on the site and is held responsible for reporting any discrepancies to the architect for adjustment, prior to proceeding.

FAIRWAY WOODS PHASE III

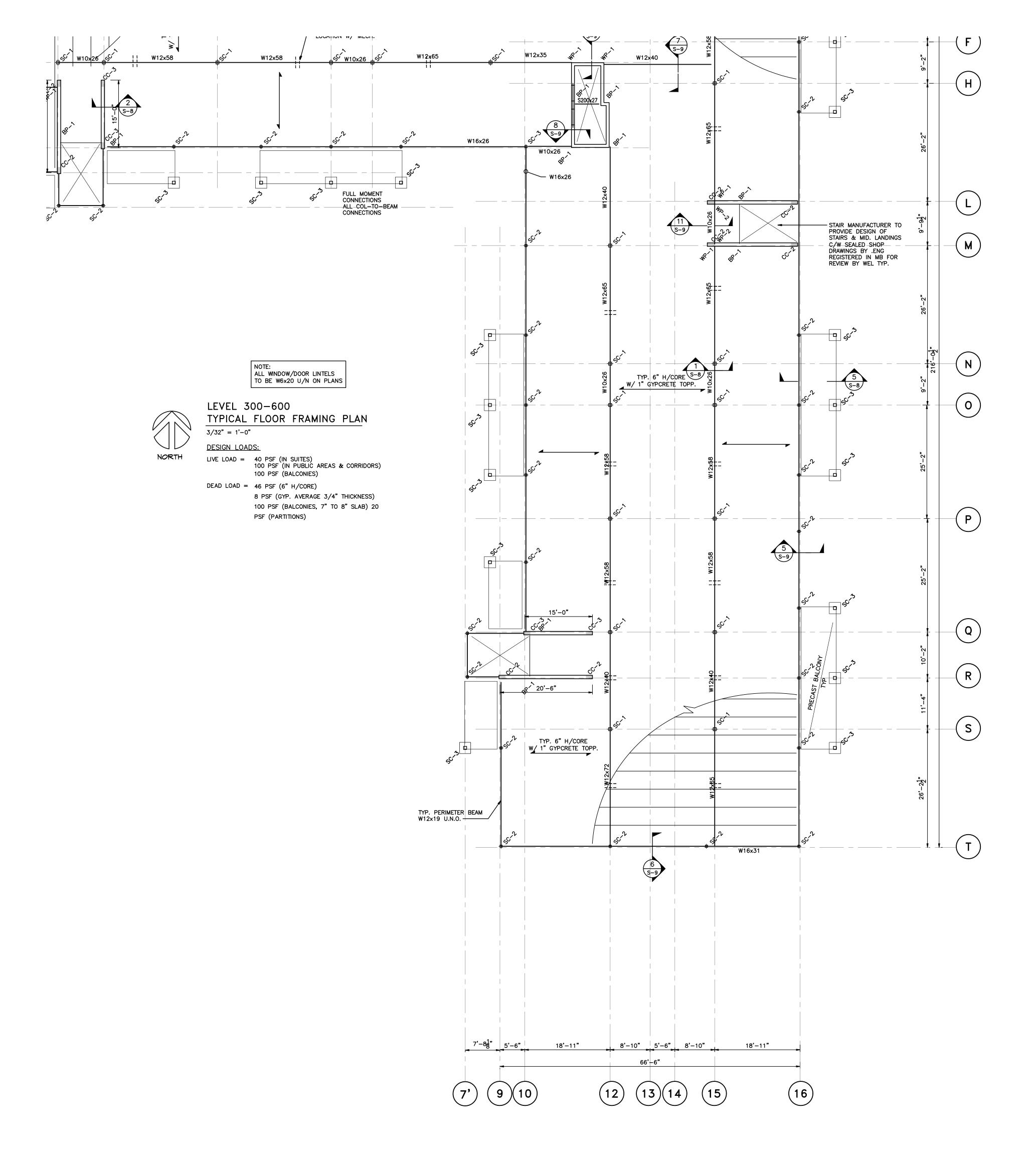
88 SNOW STREET WINNIPEG, MANITOBA

LEVEL 300-600 TYPICAL FLOOR

FRAMING PLAN

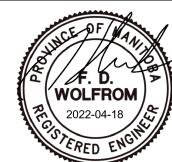
Drawn by: CHS Checked by: FDW

S-5A



100 PSF (BALCONIES, 7" TO 8" SLAB) 20 PSF (PARTITIONS)

14 ISSUED FOR CONSTRUCTION-SUPERSTRUCTURE APR. 18/22 FDW 13 H/CORE FRAMING REVISIONS 12 ISSUED FOR PERMIT SEPT. 29/21 FDW 11 GENERAL REVISIONS 10 GENERAL REVISIONS MAY 20/21 CHS 9 CANAM FRAMING REVISIONS 8 RE-ISSUED FOR FOUNDATION APR. 23/21 CHS 7 RE-ISSUED FOR CONSTRUCTION APR. 14/21 CHS 6 RE-ISSUED FOR CONSTRUCTION 5 RE-ISSUED FOR CONSTRUCTION-FOUNDATION MAR. 23/21 CHS 4 ISSUED FOR CONSTRUCTION-FOUNDATION AUG.27/20 CHS 3 ISSUED FOR TENDER JUL.17/20 CHS 2 ISSUED FOR CONSTRUCTION MAR.30/20 CHS 1 ISSUED FOR CONSTRUCTION-FOUNDATION DEC.19/19 CHS No.: Revision:



WOLFROM ENGINEERING LTD CONSULTING ENGINEERS 345 WARDLAW AVENUE WINNIPEG,CANADA R3L 0L5 (204)452-0041 FAX: 284-8680 E-mail: danw@wolfromeng.com

Consultar



Drawings and project manual, as instruments of service, are the property of the architect, the copyright in the same being reserved to him. No reproduction may be made without the permission of the architect, and when made must bear his name. All prints to be returned to the architect.

The contractor shall verify dimensions and data noted herein with conditions on the site and is held responsible for reporting any discrepancies to the architect for adjustment, prior to proceeding.

FAIRWAY WOODS PHASE III

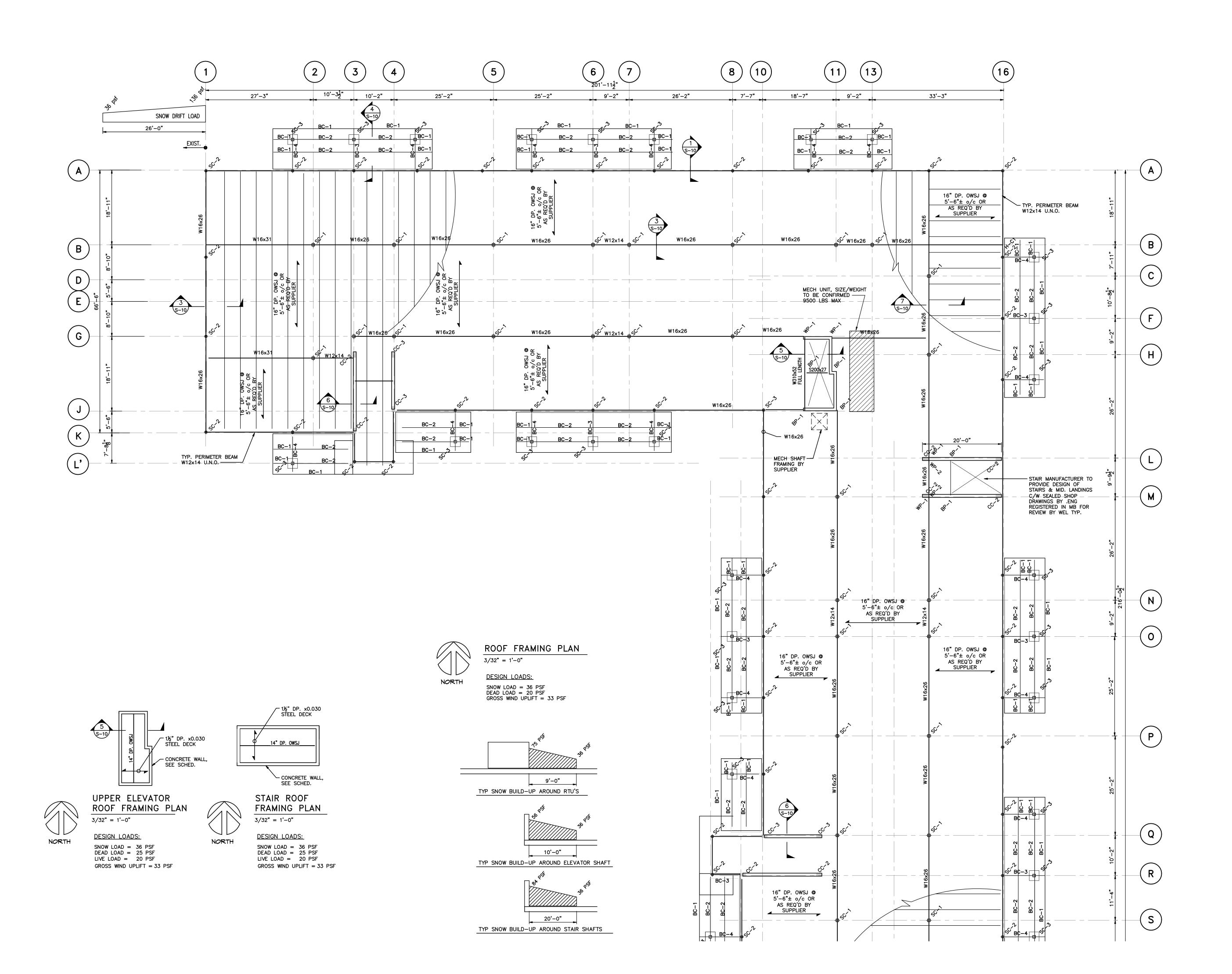
88 SNOW STREET

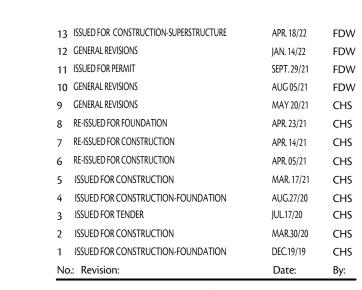
WINNIPEG, MANITOBA

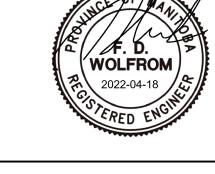
LEVEL 300-600 TYPICAL FLOOR FRAMING PLAN

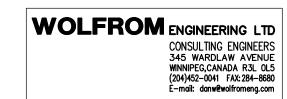
Drawn by: CHS Checked by: FDW

S-5B









Consultants:



Drawings and project manual, as instruments of service, are the property of the architect, the copyright in the same being reserved to him. No reproduction may be made without the permission of the architect, and when made must bear his name. All prints to be returned to the architect.

The contractor shall verify dimensions and data noted herein with conditions on the site and is held responsible for reporting any discrepancies to the architect for adjustment, prior to proceeding.

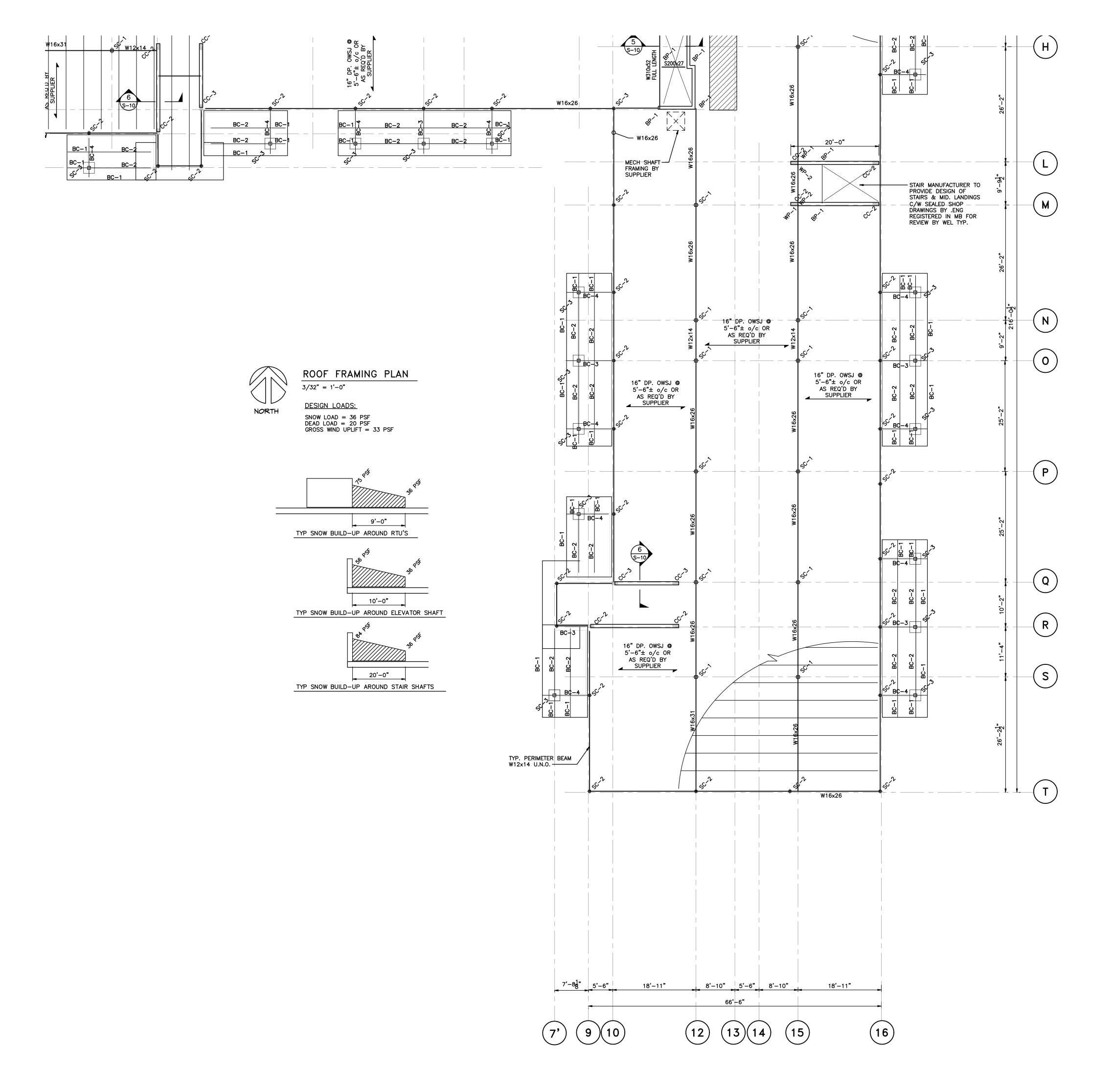
FAIRWAY WOODS PHASE III

88 SNOW STREET WINNIPEG, MANITOBA

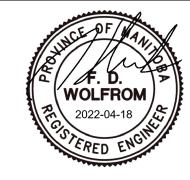
> ROOF FRAMING PLAN

Drawn by: CHS Checked by: FDW

S-6A









Consultants:



Drawings and project manual, as instruments of service, are the property of the architect, the copyright in the same being reserved to him. No reproduction may be made without the permission of the architect, and when made must bear his name. All prints to be returned to the architect.

The contractor shall verify dimensions and data noted herein with conditions on the site and is held responsible for reporting any discrepancies to the architect for adjustment, prior to proceeding.

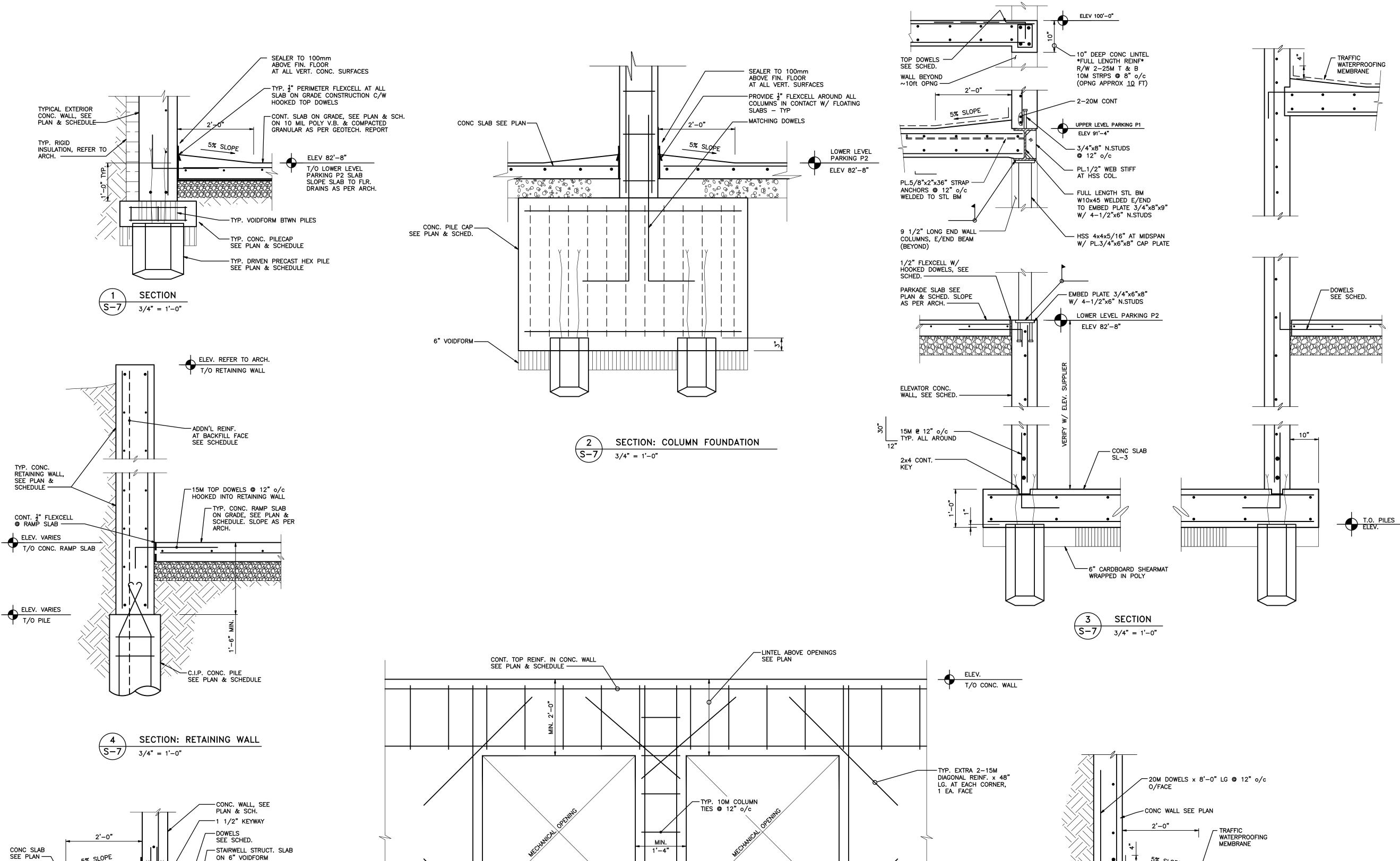
FAIRWAY WOODS PHASE III

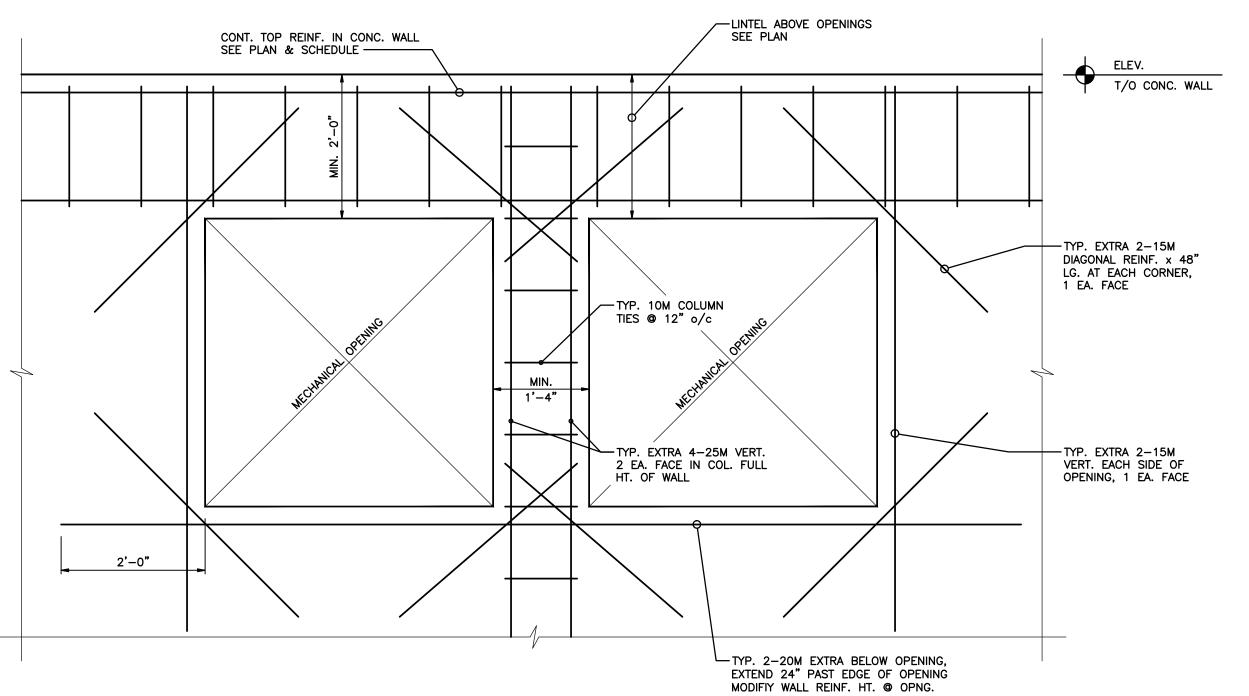
88 SNOW STREET WINNIPEG, MANITOBA

ROOF FRAMING PLAN

Drawn by: CHS Checked by: FDW

S-6B





TYPICAL MECHANICAL OPENING THROUGH CONCRETE WALL 3/4" = 1'-0"

VERIFY LOCATIONS AND OPENING SIZES WITH MECH. DWGS.

- STAIRWELL STRUCT. SLAB

TYP. CONC. PILECAP SEE PLAN & SCHEDULE

TYP. VOIDFORM BTWN PILES

SEE PLAN & SCHEDULE

TYP. DRIVEN PRECAST HEX PILE

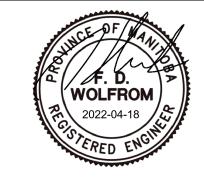
ON 6" VOIDFORM SEE PLAN & SCH.

5% SLOPE

SECTION

3/4" = 1'-0"

11 ISSUED FOR CONSTRUCTION-SUPERSTRUCTURE APR. 18/22 FDW 10 ISSUED FOR PERMIT SEPT. 29/21 FDW 9 GENERAL REVISIONS 8 RE-ISSUED FOR FOUNDATION APR. 23/21 CHS 7 RE-ISSUED FOR CONSTRUCTION APR. 14/21 CHS 6 RE-ISSUED FOR CONSTRUCTION 5 RE-ISSUED FOR CONSTRUCTION-FOUNDATION MAR. 23/21 CHS AUG.27/20 CHS 4 ISSUED FOR CONSTRUCTION-FOUNDATION 3 ISSUED FOR TENDER JUL.17/20 CHS 2 ISSUED FOR CONSTRUCTION MAR.30/20 CHS DEC.19/19 CHS 1 ISSUED FOR CONSTRUCTION-FOUNDATION No.: Revision:



WOLFROM ENGINEERING LTD CONSULTING ENGINEERS
345 WARDLAW AVENUE
WINNIPEG,CANADA R3L 0L5
(204)452-0041 FAX: 284-8680
E-mail: danw@wolfromeng.com

Consultants:

5% SLOPE

└─TOP DOWELS

SECTION AT EXT. WALL

3/4" = 1'-0"

MIN. 1 ½" CONT BRG

UPPER LEVEL PARKING P1

SLOPE SLAB TO FLR.

DRAINS AS PER ARCH.

ELEV. 91'-4"



Drawings and project manual, as instruments of service, are the property of the architect, the copyright in the same being reserved to him. No reproduction may be made without the permission of the architect, and when made must bear his name. All prints to be returned to the architect. The contractor shall verify dimensions and data noted herein with conditions on the site and is held responsible for reporting any discrepancies to the architect for adjustment, prior to proceeding.

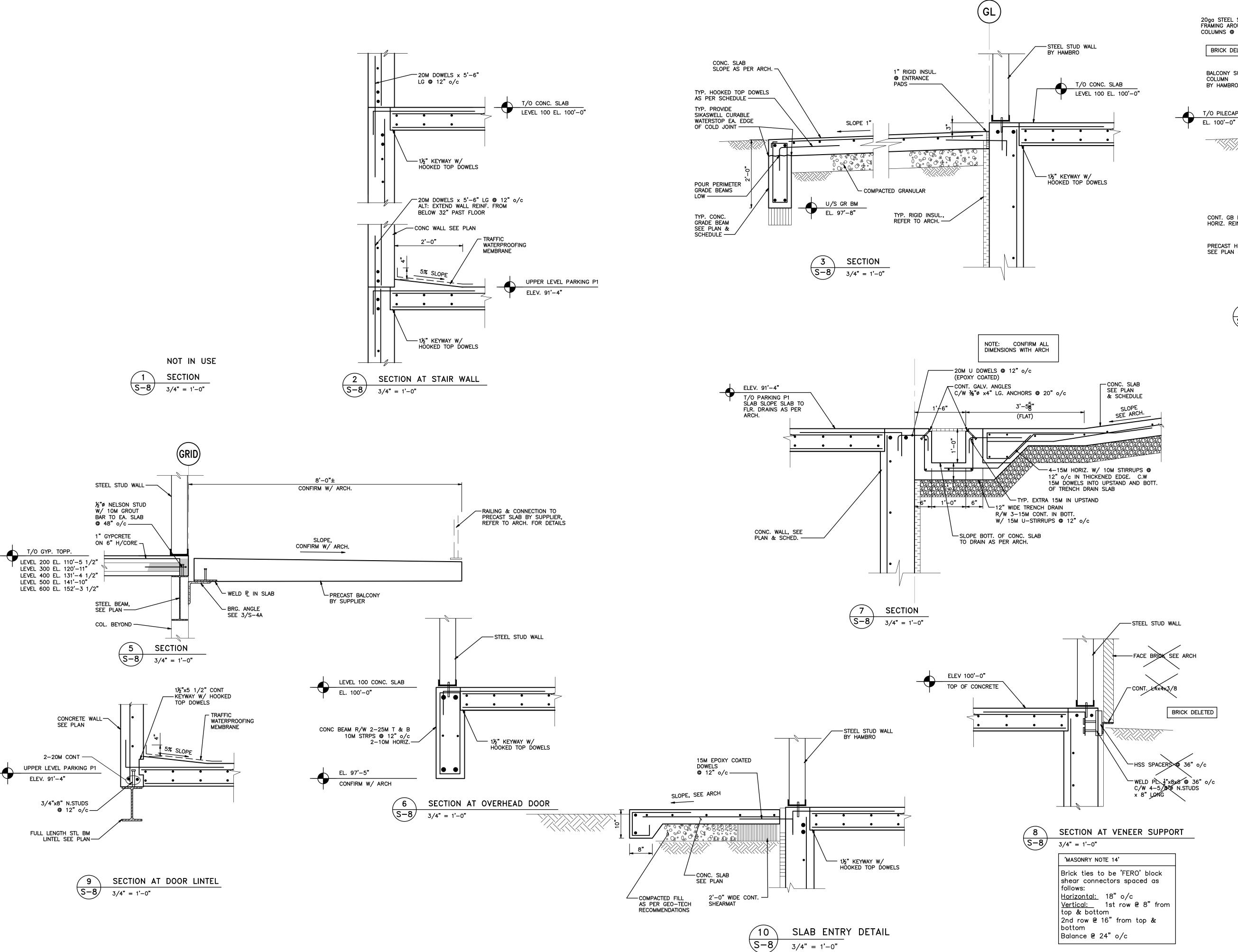
FAIRWAY WOODS PHASE III

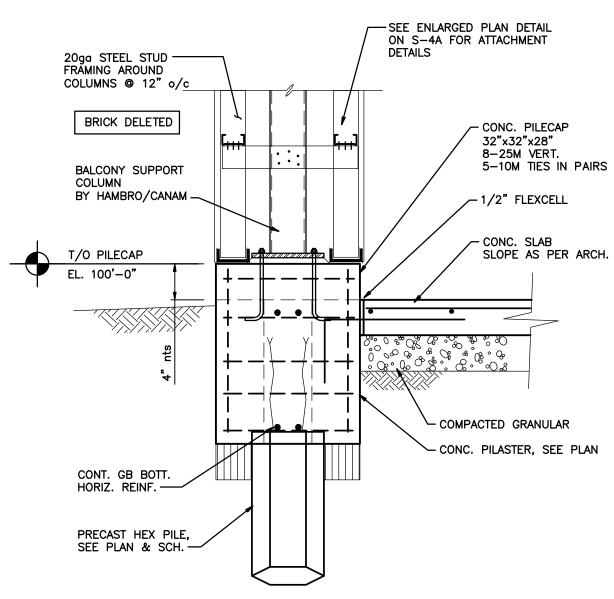
88 SNOW STREET WINNIPEG, MANITOBA

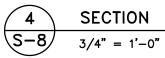
> SECTIONS AND DETAILS

Drawn by: CHS Checked by: FDW

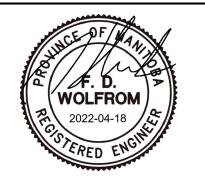
S-7







11 ISSUED FOR CONSTRUCTION-SUPERSTRUCTURE APR. 18/22 FDW 10 ISSUED FOR PERMIT SEPT. 29/21 FDW 9 GENERAL REVISIONS 8 RE-ISSUED FOR FOUNDATION APR. 23/21 CHS 7 RE-ISSUED FOR CONSTRUCTION APR. 14/21 CHS 6 RE-ISSUED FOR CONSTRUCTION 5 RE-ISSUED FOR CONSTRUCTION-FOUNDATION MAR. 23/21 CHS 4 ISSUED FOR CONSTRUCTION-FOUNDATION AUG.27/20 CHS 3 ISSUED FOR TENDER JUL.17/20 CHS 2 ISSUED FOR CONSTRUCTION MAR.30/20 CHS DEC.19/19 CHS 1 ISSUED FOR CONSTRUCTION-FOUNDATION



WOLFROM ENGINEERING LTD

CONSULTING ENGINEERS
345 WARDLAW AVENUE
WINNIPEG, CANADA R3L 0L5
(204)452-0041 FAX: 284-8680
E-mail: danw@wolfromeng.com

Consultants:



Drawings and project manual, as instruments of service, are the property of the architect, the copyright in the same being reserved to him. No reproduction may be made without the permission of the architect, and when made must bear his name. All prints to be returned to the architect.

The contractor shall verify dimensions and data noted herein with conditions on the site and is held responsible for reporting any discrepancies to the architect for adjustment, prior to proceeding.

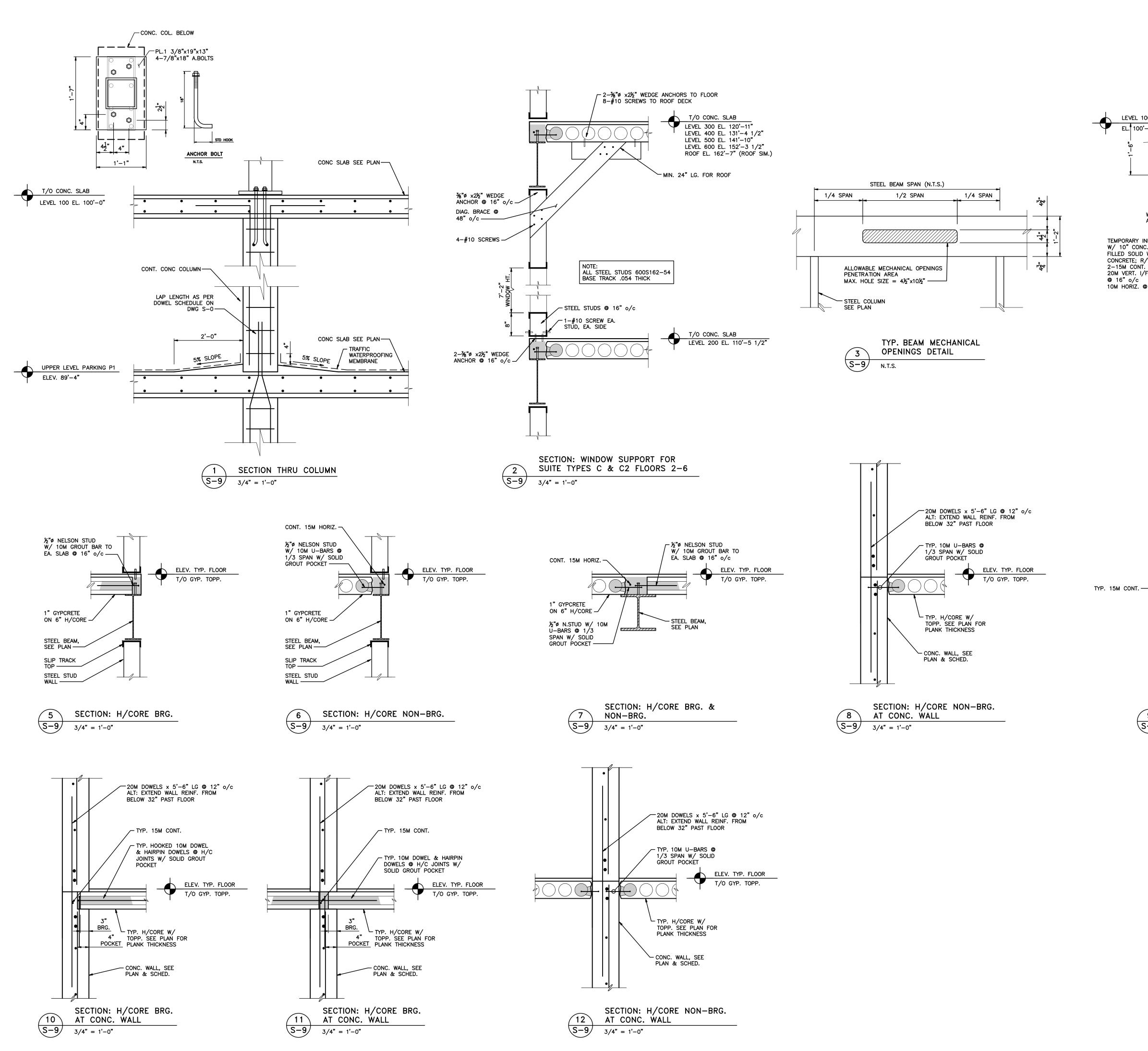
FAIRWAY WOODS PHASE III

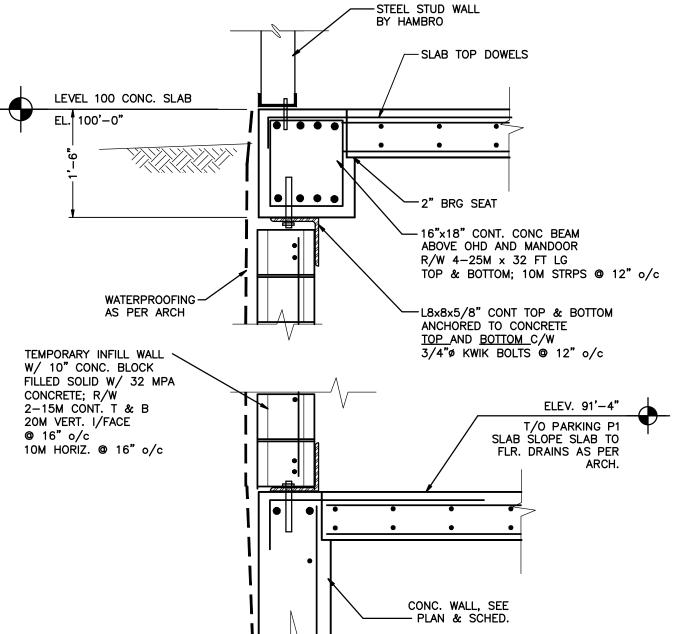
88 SNOW STREET WINNIPEG, MANITOBA

SECTIONS AND DETAILS

Drawn by: CHS Checked by: FDW

5-





FUTURE OHD OPENING TEMP. INFILL WALL 3/4" = 1'-0"

-20M DOWELS x 5'-6" LG @ 12" o/c ALT: EXTEND WALL REINF. FROM

/ TYP. HOOKED 10M DOWEL & HAIRPIN

DOWELS @ H/C JOINTS W/ SOLID

ELEV. TYP. FLOOR

T/O GYP. TOPP.

BELOW 32" PAST FLOOR

GROUT POCKET

TYP. H/CORE W/
4" TOPP. SEE PLAN FOR
POCKET PLANK THICKNESS

- CONC. WALL, SEE PLAN & SCHED.

SECTION: H/CORE BRG.

AT CONC. WALL

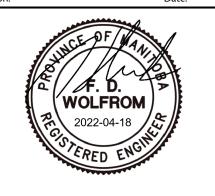
3/4" = 1'-0"

NOTE: DETAIL ALSO APPLICABLE TO MANDOOR INFILL

APR. 18/22 FDW 10 GENERAL REVISIONS AUG 05/21 FDW 9 GENERAL REVISIONS MAY 20/21 CHS 8 RE-ISSUED FOR FOUNDATION 7 RE-ISSUED FOR CONSTRUCTION APR. 14/21 CHS 6 RE-ISSUED FOR CONSTRUCTION 5 RE-ISSUED FOR CONSTRUCTION-FOUNDATION MAR. 23/21 CHS 4 ISSUED FOR CONSTRUCTION-FOUNDATION AUG.27/20 CHS 3 ISSUED FOR TENDER JUL.17/20 CHS 2 ISSUED FOR CONSTRUCTION MAR.30/20 CHS

12 ISSUED FOR CONSTRUCTION-SUPERSTRUCTURE

1 ISSUED FOR CONSTRUCTION-FOUNDATION



DEC.19/19 CHS

WOLFROM ENGINEERING LTD CONSULTING ENGINEERS
345 WARDLAW AVENUE
WINNIPEG,CANADA R3L 0L5
(204)452-0041 FAX: 284-8680
E-mail: danw@wolfromeng.com

Consultants:



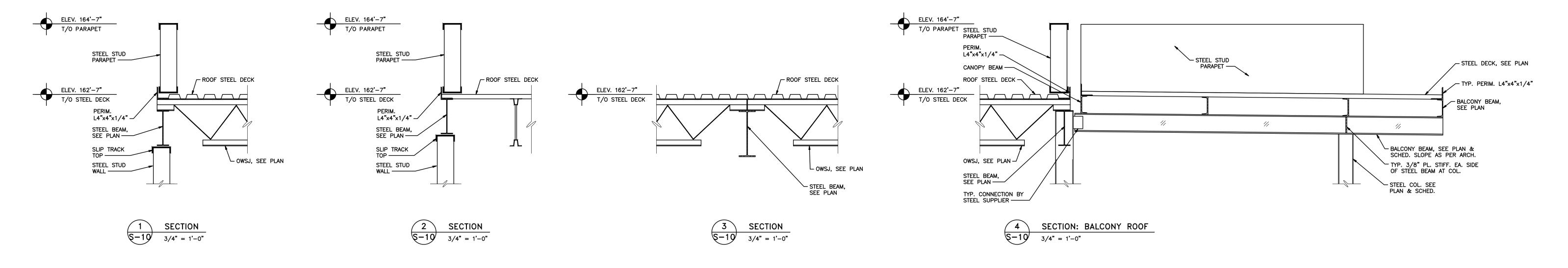
Drawings and project manual, as instruments of service, are the property of the architect, the copyright in the same being reserved to him. No reproduction may be made without the permission of the architect, and when made must bear his name. All prints to be returned to the architect. The contractor shall verify dimensions and data noted herein with conditions on the site and is held responsible for reporting any discrepancies to the architect for adjustment, prior to proceeding.

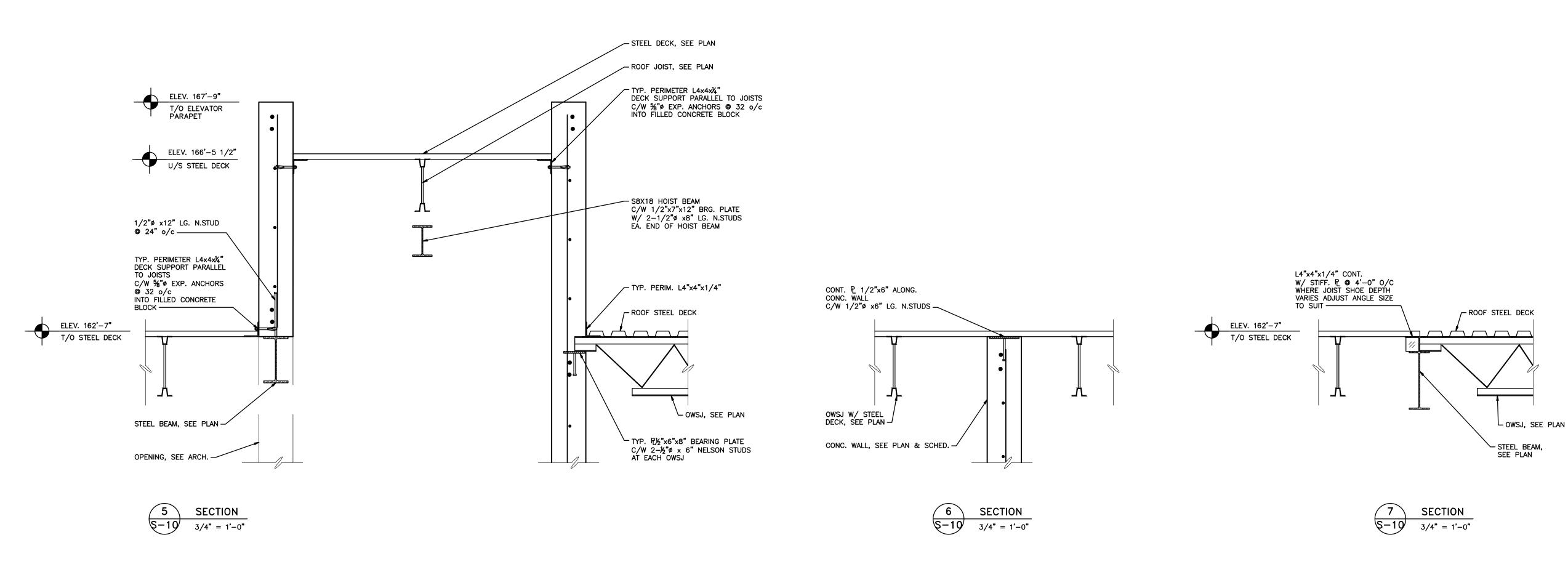
FAIRWAY WOODS PHASE III

88 SNOW STREET WINNIPEG, MANITOBA

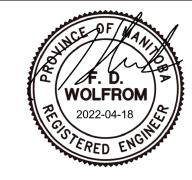
> SECTIONS AND DETAILS

Drawn by: CHS Checked by: FDW









WOLFROM ENGINEERING LTD

CONSULTING ENGINEERS
345 WARDLAW AVENUE
WINNIPEG,CANADA R3L 0L5
(204)452-0041 FAX: 284-8680
E-mail: danw@wolfromeng.com

Consultar



Drawings and project manual, as instruments of service, are the property of the architect, the copyright in the same being reserved to him. No reproduction may be made without the permission of the architect, and when made must bear his name. All prints to be returned to the architect.

The contractor shall verify dimensions and data noted herein with conditions on the site and is held responsible for reporting any discrepancies to the architect for adjustment, prior to proceeding.

FAIRWAY WOODS PHASE III

88 SNOW STREET WINNIPEG, MANITOBA

SECTIONS AND DETAILS

Drawn by: CHS Checked by: FDW

S-10