SLS/ULS VALUES:

PITCHED ROOF:

FLAT ROOF:

CANOPY ROOF:

9.0m

D01-3 SEISMIC SYSTEM/LOADING DATA

• SEISMIC FORCE RESISTING SYSTEM (SFRS)

APPLICABLE CLAUSE(S): 27.11

CSA STANDARD: CAN/CSA S16-09 APPLICABLE CLAUSE(S): 27.1

CSA STANDARD: CAN/CSA A23.3-04

SEISMIC IMPORTANCE FACTOR: (2012 OBC CLAUSE 4.1.8.5)

APPLICABLE CLAUSE(S): 21

REFERENCE CITY: ALMONTE

RESPONSE SPECTRUM DATA:

Sa(0.2) = 0.55 Sa(0.5) = 0.27 Sa(1.0) = 0.13 Sa(2.0) = 0.042

CLASS 'C': (Fa=1.0:Fv=1.0)

= 0.55 = 0.55 = 0.27 = 0.13 = 0.042 = 0.021

■ <u>PGA</u>: 0.28

SFRS: DIAPHRAGMS & CONNECTIONS: (2012 OBC CLAUSE 4.1.8.15)

• <u>SITE CLASS</u>: THE NOTED SITE CLASSIFICATION FOR SEISMIC SITE RESPONSE AND SHEAR STRENGTH PARAMETERS INDICATED ARE AS

REPORTED IN THE GEOTECHNICAL REPORT

SFRS: SYSTEM FOUNDATIONS: (2012 OBC CLAUSE 4.1.8.16)

SNOW DRIFT @ PHASE 1

ULS=1.0 SLS=0.9

ULS=1.0

ROOFING DECK:

MECH./ELEC

ROOFING

CEILING: MECH./ELEC.

ROOFING:

STRUCTURE: DECK: MECH./ELEC.

STRUCTURE

150 CONC. ON 38 DECK:

SEISMIC: IE:

DEAD:

DEAD:

ULS=1.0 SLS=0.75

SNOW LOAD FACTORS:

Sr = 0.4 KPaCb = 0.8Cs = 1.0

2.4 kPa (+ DRIFT) U/N

5.35 KPa

2.4 kPa (+ DRIFT) U/N

2.4 kPa (+ DRIFT) U/N

8.9m

SNOW DRIFT @ PHASE 2

☐ FOR ANCHORED FOOTINGS

SFRS: SYSTEM & CONNECTIONS: (2012 OBC CLAUSE 4.1.8.9/4.1.8.10)
LATERAL LOAD RESISTING SYSTEM: CONVENTIONAL CONSTRUCTION STEEL MOMENT FRAME

FOR UNANCHORED FOOTINGS
CONFIRMATION: FOUNDATIONS HAVE BEEN DESIGNED TO RESIST THE LATERAL

<u>5% DAMPED SPECTRAL RESPONSE</u>
 <u>ACCELERATION VALUES FOR REFERENCE CITY:</u> (2012 OBC SUPPLEMENTARY STANDARD SB-1)

• DESIGN SPECTRAL RESPONSE ACCELERATION VALUES (DSRAV): (2012 OBC CLAUSE 4.1.8.4)

FORCES APPLIED TO THE SFRS IN ACCORDANCE WITH THE

□ A □ B ■ C □ D □ E □ F (SITE SPECIFIC SPECTRUM:)

2012 OBC INCLUDING ALL APPLICABLE AMPLIFICATION FACTORS.

S = Is [Ss(Cb*Cw*Cs*Ca) + Sr

SNOW DRIFT ON CANOPY

■ <u>SYSTEM RESTRICTION VALUE</u>: **I**eFaSa(0.2)= 0.55 ≥ 0.35 ■ YES D01-1 GENERAL INFORMATION 1. THE INFORMATION PRESENTED ON THESE DRAWINGS HAS BEEN DESIGNED AND ANALYZED IN ACCORDANCE WITH THE 2012 ONTARIO BUILDING CODE & 2010 NATIONAL BUILDING CODE OF CANADA. CONSTRUCTION IS TO BE PERFORMED IN ACCORDANCE WITH THIS AND ALL OTHER APPLICABLE CODES. EMPIRICAL PERIOD: (2012 OBC CLAUSE 4.1.8.11.(3) (a),(b)or(c) ■ 1.1CONCRETE STRUCTURE DESIGNED IN ACCORDANCE WITH CSA A23.3-04 (R2010) Ta(EMPIRICAL)NS = 0.196 sec Ta(EMPIRICAL)EW = 0.196 sec ■ 1.2STEEL STRUCTURE DESIGNED IN ACCORDANCE WITH CAN/CSA-S16-09 MODAL PERIOD: (2012 OBC CLAUSE 4.1.8.11.(3)(d) AND 4.1.8.3.(8)) ■ 1.3 WOOD STRUCTURE DESIGNED IN ACCORDANCE WITH CAN/CSA-086.1-05 Ta(MODAL)NS = 0.513 sec 1.4MASONRY STRUCTURE DESIGNED IN ACCORDANCE WITH CAN/CSA S304-1(06) Ta(MODAL)EW = 0.595 sec 2. GUARDRAILS/HANDRAILS SHALL BE DESIGNED AND CERTIFIED BY THE FABRICATOR'S PROFESSIONAL ENGINEER LICENSED DESIGN PERIODS/MODE & MOMENT FACTORS: (2012 OBC CLAUSE (4.1.8.11(5)) IN ONTARIO IN ACCORDANCE WITH LOADS PROVIDED IN (4.1.5.15, 3.4.6.4 AND 3.4.6.5 OF THE 2012 ONTARIO BUILDING CODE/2010 NATIONAL BUILDING CODE. STAMPED SHOP DRAWINGS TO BE SUBMITTED. IN ADDITION, GLASS IN GUARDS $\frac{3a(0.2)}{Sa(2.0)} = 13.1 \ge 8.0$ YES SHALL COMPLY WITH "SUPPLEMENTARY STANDARD SB-13". THE ROOF HAS BEEN DESIGNED FOR THE REQUIRED STORM WATER FLOW RESTRICTION IN ACCORDANCE WITH 2012 Ta(DESIGN)NS = 0.294 sec Mv = 1.0 J= 1.0 CONTRACTOR IS TO VERIFY/COORDINATE ALL DIMENSIONS/PENETRATIONS WITH ARCHITECTURAL/MECHANICAL/ELECTRICAL DRAWINGS PRIOR TO CONSTRUCTION. REPORT INCONSISTENCIES BEFORE ■ <u>DESIGN FUNDAMENTAL PERIOD BASED DSRAV:</u> (2012 OBC CLAUSE 4.1.8.11(2)) PROCEEDING WITH WORK. ANY OPENINGS NOT INDICATED ON STRUCTURAL DRAWINGS ARE TO BE APPROVED BY STRUCTURAL ENGINEER IN WRITING PRIOR TO CONSTRUCTION. S(Ta)NS = 0.462S(Ta)EW = 0.4625. CADD VERSIONS OF THE STRUCTURAL DRAWINGS SHALL BE MADE AVAILABLE TO THE CONTRACTOR UPON THE COMPLETION OF A RELEASE FORM INDEMNIFYING THE CONSULTANT FROM ANY ERRORS OR OMISSIONS ASSOCIATED ■ <u>IRREGULARITY REVIEW</u>: (2012 OBC CLAUSE 4.1.8.6) 1. VERTICAL STIFFNESS: 6. LADDERS SHALL BE DESIGNED AND CERTIFIED BY THE FABRICATOR'S PROFESSIONAL ENGINEER LICENSED IN ONTARIO IN ACCORDANCE WITH LOADS PROVIDED IN PART 4 AND PART 3 OF THE 2012 ONTARIO BUILDING CODE/2010 NATIONAL 3. VERTICAL GEOMETRIC: BUILDING CODE. STAMPED SHOP DRAWINGS TO BE SUBMITTED. 4. IN PLANE DISCONTINUITY: 5. OUT OF PLANE: STEEL STAIRS SHALL BE DESIGNED AND CERTIFIED BY THE FABRICATOR'S PROFESSIONAL ENGINEER LICENSED IN 6. WEAK STOREY: ONTARIO IN ACCORDANCE WITH LOADS PROVIDED IN PART 4 AND PART 3 OF THE 2012 ONTARIO BUILDING CODE/2010 NATIONAL BUILDING CODE. STAMPED SHOP DRAWINGS TO BE SUBMITTED. BEW = N/A FLEXIBLE DIAPHRAGM DEMOLITION DETAILS THAT AFFECT THE STRUCTURAL ELEMENTS HAVE BEEN REVIEWED IN ACCORDANCE WITH PARTS 2,4,10 AND 11 OF THE 2012 ONTARIO BUILDING CODE. WHERE REQUIRED, SUPPLEMENTARY/TEMPORARY/REMEDIAL CONCLUSION: BUILDING IS ■ REGULAR □ IRREGULAR DYNAMIC ANALYSIS: DYNAMIC PROCEDURE: METHOD: MODAL RESPONSE SPECTRUM INUMERICAL INTEGRATION TIME HISTORY INVA SEISMIC RESTRAINT OF ARCH/MECH/ELECT ELEMENTS NOT NOTED ON THE DRAWINGS ARE THE RESPONSIBILITY OF THE CONTRACTOR'S ENGINEER. RESTRAINT DETAILS ARE TO BE DEVELOPED IN ACCORDANCE WITH THE 2012 OBC/2010 NBC TORSIONAL ECCENTRICITY: \square ± 0.10 Dnx (4.1.8.11(10a), B \leq 1.7 EQUIV. STATIC FORCE PROCEDURE) CONTRACTOR'S ENGINEER IS RESPONSIBLE FOR THE DESIGN AND DETAILING OF SEISMIC RESTRAINTS AND ISOLATIONS **□** ± 0.10 Dnx (4.1.8.12(4a), B≥1.7) AS REQUIRED BY SPECIFICATIONS INCLUDING THE VERIFICATION THAT THE EXISTING/NEW STRUCTURE IS CAPABLE OF ± 0.05 Dnx (4.1.8.12(4b), B>1.7, 3-D DYNAMIC ANALYSIS) SAFELY SUPPORTING THE IMPOSED LOADS IN ACCORDANCE WITH THE 2012 OBC/2010 NBC. NO ELEMENTS MAY BE CONSTRUCTED WITHOUT WRITTEN CONFIRMATION OF THESE CONDITIONS BY CONTRACTOR'S ENGINEER. STRUCTURAL SEPARATION: ■ THE ADJACENT STRUCTURES HAVE BEEN SEPARATED IN ACCORDANCE WITH 4.1.8.14(1) OF 10. NO FOUNDATION ELEMENTS ARE TO BE CONSTRUCTED UNTIL WRITTEN APPROVAL OF THE BEARING SURFACES AND THE 2012 O.B.C. PRESSURES IS PROVIDED BY A GEOTECHNICAL ENGINEER THROUGH ON-SITE INVESTIGATION. FAILURE TO COMPLETE THIS WORK COULD RESULT IN THE REMOVAL/REINSTATEMENT OF ANY/ALL FOUNDATION ELEMENTS AT CONTRACTOR'S ■ N/A ■ <u>BUILDING WEIGHT FOR SEISMIC DESIGN</u>: W = 430 kN 11. NEW OPENINGS IN EXISTING/ERECTED CONCRETE/MASONRY ELEMENTS: REFER TO MECH/ARCH/ELECT DWGS FOR LAYOUTS. BASE SHEARS/MOMENTS: SCAN T&B OF SLAB/WALL PRIOR TO REMOVALS. MARK OUT OPENING POSITION ON T&B OF SLAB/E.S. OF WALL. VSTATIC = S(Ta)Mv**IE**W/(RdRo) = 0.237 * W = 100kN CONTACT ENGINEER FOR REVIEW OF SCANS/MARKS PRIOR TO COMMENCEMENT OF ANY DEMOLITION. NO WORK TO COMMENCE UNTIL RECEIVING WRITTEN APPROVAL FROM ENGINEER. PROVIDE ADEQUATE PROTECTION OF SURROUNDING AREAS DURING REMOVALS. STATIC MAXIMUM/MINIMUM VALUES: SAWCUT/CORE OUT OPENINGS AS REQUIRED. NORTH-SOUTH: (‡) DO NOT OVERCUT. ANY REQUIRED SUPPLEMENTAL STRENGTHENING/REINFORCING IS TO BE ERECTED PRIOR TO REMOVALS. $V_{MIN} = S(2.0)MV_{IEW}/(RdRo) = W * 0.026 = 12 kN$ 13. CONTRACTOR TO PROVIDE PRE-ENGINEERED SHORING AS REQUIRED TO ACCOMMODATE THE CONTRACTOR'S $V_{MAX} = \frac{2}{3}S(0.2)$ **IE**W/(RdRo) = W * 0.188 = 81 kN CONSTRUCTION ACTIVITIES AND TO PREVENT DAMAGE TO ANY ADJACENT PROPERTY. ALL CONSTRUCTION ACTIVITIES TO BE LIMITED TO THE LIMITS OF THE CONSTRUCTION SITE AND ALL DAMAGE TO EXISTING PROPERTIES MUST BE EAST-WEST: (\leftrightarrow) $V_{MIN} = S(2.0)MvIEW/(RdRo) = W * 0.026 = 12 kN$ 14. CONTRACTOR IS REQUIRED TO SUBMIT CONDUIT AND SLEEVING SHOP DRAWINGS FOR ALL $VMAX = \frac{2}{2}S(0.2)$ **IE**W/(RdRo) = W * 0.188 = 81 kN FLOORS/ROOFS/WALLS/COLUMNS PRIOR TO THE ERECTION/CONSTRUCTION/FABRICATION OF ANY OF THESE ELEMENTS. THE DRAWINGS ARE TO LOCATE/DIMENSION THE CLEAR SIZES OF OPENINGS/SLEEVES/CONDUITS IN PLAN (FLOORS/ROOFS/COLUMNS) AND ELEVATION (WALLS/BEAMS). THE COORDINATION OF THE VARIOUS DISCIPLINES/SUBTRADES TO ENSURE ALL ITEMS ARE CLEARLY INDICATED IS THE SOLE RESPONSIBILITY OF THE SEISMIC LOADS CONTRACTOR. DRAWINGS ARE TO BE SUBMITTED A MINIMUM OF 4 WEEKS PRIOR TO THE CONSTRUCTION OF THE EQUIVALENT STATIC (ES) DYNAMIC ANALYSIS (DYI) PROCEDURE (1) DESIGN (D) LOADS (2 (INITIAL SCALING FACTOR) D01-2 GRAVITY LOADS:

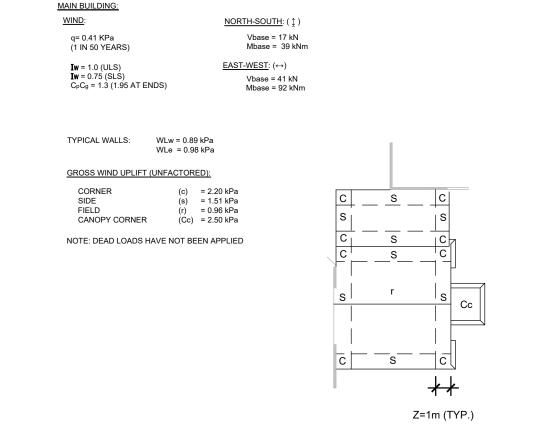
V _{ESNS} = W* 0188 = 81 kN M _{ESNS} = 250 kN•m	V _{DYINS} = 57.3 kN M _{DYINS} = 175 kN•m MPMR = 100%	V _{DNS} = 65 kN M _{DNS} = 200 kN•m
		NON-ORTHOGONAL EFFECTS HAVE BEEN CONSIDERED IN ACCORDANCE WITH 2012 OBC CLAUSE 4.1.8.8 (c) YES N/A
EAST-WEST: (↔)	EAST-WEST: (↔)	EAST-WEST: (↔)
Vesew = W* 0.188 = 81 kN Mesew = 250 kN•m	VDYIEW = 46.4 kN MDYIEW = 142 kN•m MPMR = 100%	VDEW = 65 kN MDEW = 200 kN•m NON-ORTHOGONAL EFFECTS HAVE BEEN CONSIDERED IN ACCORDANCE WITH 2012 OBC CLAUSE 4.1.8.8 (c) ■ YES ■ N/A
NOTES:		

5.F. = g · RdRo = g · 0.5128

DYNAMIC ANALYSIS PROCEDURE LOADS ARE BASED ON THE EVALUATION OF THE BUILDING WITH THE INITIAL SCALING FACTOR APPLIED. WHEN USED THESE ARE COMPARED TO THE STATIC FORCE VALUE IN ACCORDANCE

(2) DESIGN LOAD SHEAR VALUES ARE BASED ON THE EVALUATION OF VES AND VDYI IN ACCORDANCE WITH 4.1.8.12 (5),(6) AND (7) OF THE 2012 OBC. LOADS INDICATED SHOW THE DESIGN BASE SHEAR AND CORRESPONDING OVERTURNING MOMENT.

(3) N/A = NOT USED IN THE DESIGN OF THE BUILDING.



DO1 5 DECINITIONS

1.2.4 <u>WIND:</u>

D01-5 DEF	-INITIONS:		
THE FOLLOW	/ING ABBREVIATIONS HAVE BEEN USED IN T	HESE NOTES A	AND DRAWINGS:
@ ARCH. B BLL BUL CC CONT. CW EA. EE EF EL. ES EW FF H HDMR IF LL m	AT (SPACING c/c) ARCHITECTURAL BOTTOM BOTTOM LOWER LAYER BOTTOM UPPER LAYER CENTRE TO CENTRE CENTRE LINE CONTINUOUS CORE WALL EACH EACH EACH FACE ELEVATION EACH SIDE EACH WAY FAR FACE HORIZONTAL HEAVY DUTY GALVANIZED TRUSS TYPE MASONRY REINFORCEMENT INSIDE FACE LOWER LAYER METRES	mm MAX. MECH MIN. NF OF PCO PL SMR T TLL TUL TOPC TYP. U/N UL U/S V	MILLIMETRES MAXIMUM MECHANICAL MINIMUM NEAR FACE NOT TO SCALE OUTSIDE FACE PILE CUT-OFF PLATE STANDARD GALVANIZED LADDER MASONRY REINFORCEMENTS SHEARWALL TOP TOP LOWER LAYER TOP UPPER LAYER TOP OF PILE CAP TYPICAL UNLESS OTHERWISE NOTED UPPER LAYER UNDERSIDE VERTICAL

D01-6 SHOP DRAWINGS

- 1. SUBMIT SHOP DRAWINGS FOR ALL STRUCTURAL WORK AND ANY WORK AFFECTING THE STRUCTURE TO THE CONSTRUCTION ${\it MANAGER.}\ \ {\it OBTAIN}\ \ {\it ARCHITECT'S}\ \&\ ENGINEER'S\ APPROVAL\ BEFORE\ PROCEEDING\ WITH\ THE\ FABRICATION.$
- a) DRAWINGS FOR ANY TEMPORARY WORK. b) DRAWINGS FOR ANY STRUCTURAL PARTS DESIGNED BY THE CONTRACTOR'S FORCES INCLUDING EXTERIOR BUILDING

2. EACH OF THE FOLLOWING SHOP DRAWINGS MUST BEAR THE SIGNATURE AND STAMP OF A QUALIFIED PROFESSIONAL ENGINEER

- STRUCTURAL STEEL/JOISTS.
- 3. SHOP DRAWINGS MUST BE REVIEWED AND STAMPED REVIEWED BY THE CONTRACTOR BEFORE ISSUING TO THE ARCHITECT/ENGINEER. SHOP DRAWINGS NOT STAMPED BY THE CONTRACTOR WILL BE REJECTED. ANY DELAYS IN THE CONSTRUCTION SCHEDULE DUE TO NONCOMPLIANCE WITH THIS REQUIREMENT SHALL BE THE RESPONSIBILITY OF THE
- 4. SUBMIT STRUCTURAL STEEL, STEEL JOIST AND STEEL DECK SHOP DRAWINGS FOR STRUCTURAL ENGINEER'S REVIEW BEFORE FABRICATION. ALL SHOP DRAWINGS SHALL BEAR THE SEAL OF A REGISTERED PROFESSIONAL ENGINEER IN THE PROVINCE OF
- 5. SHOP DRAWINGS ARE REVIEWED FOR CONFORMANCE WITH THE GENERAL DESIGN CONCEPT. THIS REVIEW DOES NOT IMPLY APPROVAL OF THE DETAILED DESIGN OR QUANTITIES DESCRIBED IN THE SHOP DRAWINGS. THE RESPONSIBILITY FOR THE QUANTITIES AND DETAILED DESIGN OF THE MATERIALS AND COMPONENTS AS REQUIRED TO PROVIDE THE COMPLETE AND SATISFACTORY JOB DESCRIBED IN THE DESIGN DOCUMENTS REMAINS WITH THE CONTRACTOR.

D31) FOUNDATIONS:

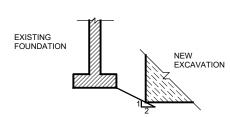
REPORT AUTHOR:

ALL FOOTINGS TO BEAR ON UNDISTURBED NATIVE MATERIAL WITH MINIMUM ALLOWABLE BEARING STRENGTHS AS NOTED AND AS APPROVED BY GEOTECHNICAL ENGINEER ON SITE. REFERENCE GEOTECHNICAL REPORT:

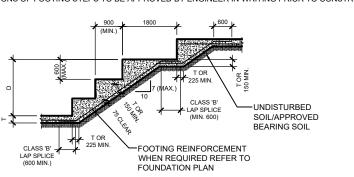
D31-2 EXCAVATION, FOUNDATIONS AND BACKFILL

- REFER TO GEOTECHNICAL REPORT BY
- 1. PRIOR TO ANY EXCAVATION, VERIFY LOCATION OF EXISTING SERVICES AND TAKE ALL NECESSARY MEASURES TO MAINTAIN SERVICES WHERE REQUIRED. NOTIFY OWNER AND ENGINEER IF ANY SERVICES NOT SHOWN ON PLAN OR OTHERWISE EXPECTED ARE ENCOUNTERED. DO NOT PROCEED FURTHER UNTIL DIRECTED.
- 2. CARE MUST BE TAKEN TO AVOID UNDERMINING EXISTING BUILDING FOUNDATIONS OR UNDERGROUND SERVICES.
- 3. PROTECT SUB-GRADE FROM FREEZING AND FROST ACTION AT ALL TIMES DURING CONSTRUCTION. 4. FOOTINGS MUST BEAR ON APPROVED BEARING SURFACES.
- 5. BACKFILL TO WITHIN 200mm OF UNDERSIDE OF SLAB WITH GRANULAR 'B' TYPE II IN LAYERS UP TO 12" THICK, COMPACTED TO
- MINIMUM 100% SPMDD OR AS PER GEOTECHNICAL REPORT.
- 6. FINAL 200mm UNDER SLAB TO BE GRANULAR 'A' COMPACTED TO MINIMUM 100% SPMDD OR AS PER GEOTECHNICAL REPORT.
- 7. RE-USE OF EXCAVATED GRANULAR MATERIAL IS SUBJECT TO APPROVAL OF GEOTECHNICAL

D31-3 PROTECT LATERAL STABILITY OF BEARING STRATA UNLESS NOTED: UNLESS OTHERWISE OUTLINED IN GEOTECTNICAL REPORT DO NOT EXCAVATE BELOW A LINE EXTENDING DOWNWARD FROM ANY BEARING STRATA AT A SLOPE OF 1 VERTICAL TO 2 HORIZONTAL. ADJUST FOOTING AND TRENCH ELEVATIONS TO MEET THIS REQUIREMENT (SEE DIAGRAM).



LOCATIONS OF FOOTING STEPS TO BE APPROVED BY ENGINEER IN WRITING PRIOR TO CONSTRUCTION.

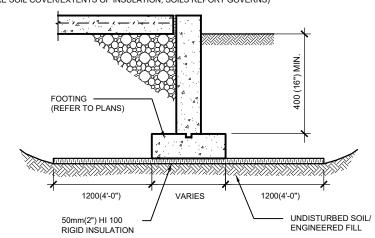


NOTES: MINIMUM LENGTH BETWEEN EVERY SET OF STEPS. 2. STEPPED FOOTINGS SHALL BE CAST AS A SINGLE UNIT. 3. 'T' DENOTES FOOTING THICKNESS.

D31-5 MINIMUM FROST COVER REQUIREMENTS: (NOTE: INCREASE DEPTHS AS REQUIRED BY GEOTECHNICAL REPORT/ENGINEER)

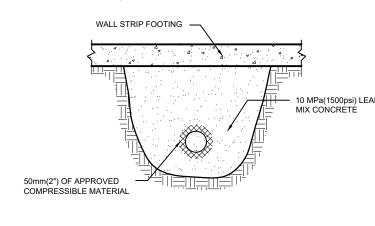
@ HEATED BUILDING (SNOW CLEARED): @ ISOLATED AREAS:

D31-6 ALTERNATE FROST COVER DETAIL (NOTE: ONLY TO BE USED AFTER WRITTEN APPROVAL BY ENGINEER/WHERE GEOTECHNICAL REPORT REQUIRES MORE SOIL COVER/EXTENTS OF INSULATION, SOILS REPORT GOVERNS)



D31-7 PIPE CROSING BELOW STRIP FOOTING:

WRITING PRIOR TO CONSTRUCTION. ENGINEER RESERVES THE RIGHT TO RELOCATE PIPES AS REQUIRED OR LOWER FOOTINGS TO SUIT.)



D03) CONCRETE

03-1 CONCRETE COVER (CLEAR TO REINFORCING)

LI/S FOOTINGS, PILE CAPS, GRADE BEAMS (AGAINST SOIL) FOOTINGS, PILE CAPS, GRADE BEAMS (SIDES & TOP) 40mm (1½")(TO STIRRUPS) COLUMNS 40mm (1½")(TO TIES) 40mm (1½")(TO TOP STEEL)

PROVIDE 32mm (11/4") COVER FOR BOTTOM STEEL FOR SLAB ABOVE 3HR, FIRE RATED AREAS. PROVIDE

D03-2 SLAB REINFORCING STEEL:

- SPACING OF BARS SHALL BE APPROXIMATELY UNIFORM WITHIN THE CORRESPONDING STRIPS. DO NOT ELIMINATE OR DISPLACE REINFORCEMENT TO ACCOMMODATE HARDWARE JE INSERTS CANNOT RE LOCATED AS SPECIFIED, OBTAIN APPROVAL OF ALL MODIFICATIONS FROM ENGINEER BEFORE THE PLACING OF CONCRETE.
- WHERE TENSION LAPS ARE SPECIFIED, LAP REINFORCING STEEL IN ACCORDANCE WITH THE REQUIREMENTS OF CAN3-A23.3, LATEST EDITION. ALL OTHER LAPS AND EMBEDMENT OF DOWELS SHALL BE 24 BAR DIAMETERS, BUT NOT LESS THAN 600mm IF NOT SPECIFIED OTHERWISE. WIRE MESH LAPS SHALL BE 150mm MINIMUM.

TYPICAL REBAR REQUIREMENTS:

- LAPS: AS ON DRAWINGS > 36 BAR DIA. ≥ 1.5 **6**d > 600mm(24")
- BAR DESIGNATION IN SLABS:

METRIC: 10-15M 6400/4100 T MEANS 10 BARS, SIZE 15M, TOP OF SLAB, 5-6400 LONG / 5-4100 LONG ALTERNATING (+ HOOK LENGTH FOR TOP BARS @ SLAB EDGES) IMPERIAL: 10-15M 150/086 MEANS 10 BARS, SIZE 15M, TOP OF SLAB, 5-15'-0" LONG / 5-8'-6" LONG ALTERNATING

PROVIDE HOOKS WHERE TOP BARS TERMINATE AT EDGES. PROVIDE HOOKS ON BOTTOM BARS WHERE NOTED AND AT ALL CANTILEVER ENDS.

D03-6 SLAB AND WALL OPENINGS:

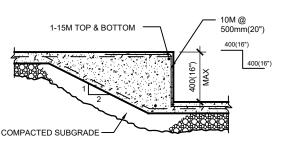
(+HOOK LENGTH FOR TOP BARS @ SLAB EDGES)

- DISPLACE BARS LATERALLY AT SLAB OPENINGS. <u>D O N O T C U T.</u> PLACE HALF OF DISPLACED BARS EACH SIDE OF OPENING AND INFILL BETWEEN WITH BARS OF MATCHING SIZE & SPACING
- 2. PROVIDE 1-15M TOP AND BOTTOM MINIMUM ADDITIONAL REINFORCEMENT AROUND SLAB OPENINGS 300x300 (12"x12") OR LARGER (UNLESS NOTED). EXTEND 24 BAR DIAMETER (600mm (24") MIN.) BEYOND CORNERS.
- 3. PROVIDE THE FOLLOWING MINIMUM ADDITIONAL REINFORCEMENT AROUND WALL OPENINGS 300x300 (12"x12") OR LARGER (UNLESS NOTED). EXTEND 24 BAR DIAMETER BEYOND CORNERS EACH WAY 200(8") WALLS: 1-20M 250(10") WALLS: 2-20M 300(12") OR THICKER WALLS: 2-20M
- 4. SEE ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS FOR ADDITIONAL OPENINGS TO THOSE INDICATED. 5. PROVIDE OPENINGS IN WALLS AND SLABS AS SHOWN ON STRUCTURAL DRAWINGS OR OTHERWISE REQUIRED BY VARIOUS TRADES. ENGINEER'S APPROVAL MUST BE OBTAINED FOR LOCATIONS AND SIZES OF OPENINGS NOT SHOWN ON STRUCTURAL DRAWINGS. ALL OPENINGS MUST BE FORMED BEFORE THE SLAB OR WALL IS POURED. DO
- 6. PROVIDE SLEEVES IN SLABS OR WALLS FOR MECHANICAL PIPING AND AVOID OPENINGS WHERE POSSIBLE. ENGINEER'S APPROVAL MUST BE OBTAINED FOR ANY CONCENTRATION OF SLEEVES IN COLUMN BAND AND AROUND COLUMN. SLEEVING DRAWINGS MUST BE SUBMITTED FOR APPROVAL MINIMUM OF TWO WEEKS PRIOR TO POURING

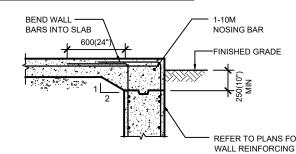
D03-7 MINIMUM WALL REINFORCING:

WALL	VERTICAL	HORIZONTAL	VERTICA
THICKNESS	BARS (.0025Ag)	BARS (.0025Ag)	EACH EN
150mm(6")	10M @ 250(10")	10M @ 250(10")	1-15M
200mm(8")	15M @ 400(16")	15M @ 400(16")	1-20M
250mm(10")	10M @ 300(12") EF	10M @ 300(12") EF	2-20M
300mm(12")	10M @ 250(10") EF	10M @ 250(10") EF	2-20M
350mm(14")	15M @ 450(18") EF	15M @ 450(18") EF	2-25M
400mm(16")	15M @ 400(16") EF	15M @ 400(16") EF	2-25M

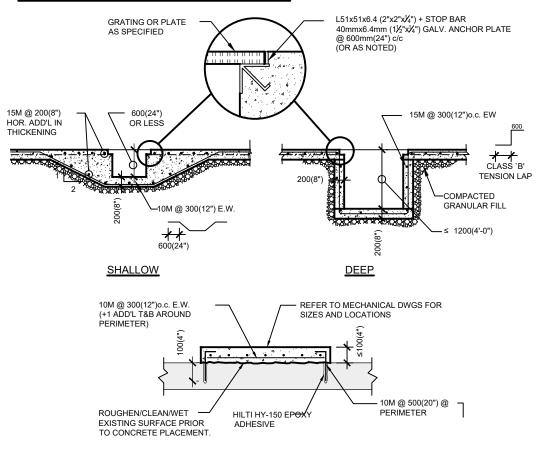
D03-9 SLAB ON GRADE ELEVATION CHANGE U/N:



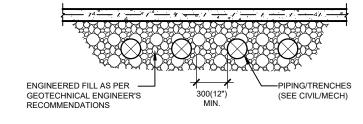
D03-10 SLAB ON GRADE AT DOORS



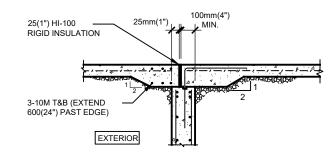
D03-11 PITS/TRENCHES, PADS AND CURBS U/N:



D03-13 UNDERSLAB/UNDERGROUND PIPING TRENCHES



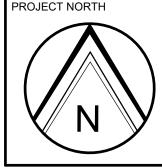
D03-14 EXTERIOR SLAB ON GRADE @ DOORS



ISSUED FOR TENDER 18/02/21 17/12/13 ISSUED FOR PERMIT DATE

The Contractor shall check and verify all dimensions on site. This drawing is not to be used for construction unless stamped and signed by the Engineer. Do not scale drawings. Copyright reserved. This drawing is the exclusive

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LINK BUILDING MILLS PHASE 3 EXPANSION

411 COUNTRY ST., ALMONTE, ON

RAWN:	A. NICHOLSON	DRAWING N
ESIGNED:	T. CAIN	
ATE:	DEC./2017	\sim SC
CALE:	N.T.S.	
ROJECT No:	17-0302	

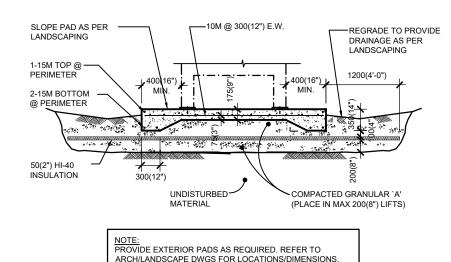
PROPORTION NORMAL DENSITY CONCRETE IN ACCORDANCE WITH CAN/CSA-A23.1, TO GIVE THE FOLLOWING QUALITY FOR

28 DAY		CLASS OF
STRENGTH	SLUMP	EXPOSURE
25 MPa(3600psi)	75mm(3")	N
32 MPa(4600psi)	75mm(3")	C-2
` ' '	` '	F-2
	. (.)	
		N
	` '	
	75mm(3")	C-2
35 MPa(5100psi)	75mm(3")	C-1
35 MPa(5100psi)	75mm(3")	C-1
	25 MPa(3600psi) 32 MPa(4600psi) 25 MPa(3600psi) 25 MPa(3600psi) REFER TO SCHEDULES 25 MPa(3600psi) REFER TO PLANS 32 MPa(4700psi) 35 MPa(5100psi)	STRENGTH SLUMP 25 MPa(3600psi) 75mm(3") 32 MPa(4600psi) 75mm(3") 25 MPa(3600psi) 75mm(3") REFER TO SCHEDULES 75mm(3") 25 MPa(3600psi) 75mm(3") REFER TO PLANS 75mm(3") 32 MPa(4700psi) 75mm(3") 35 MPa(5100psi) 75mm(3")

*OBTAIN THESE SLUMPS WITH AID OF SPECIFIED WATER REDUCING AGENT. *NOTE: ALL CONCRETE EXPOSED TO EXTERIOR CONDITIONS TO HAVE MINIMUM 6% AIR ENTRAINMENT. READY-MIXED CONCRETE AND CONCRETE PROPORTIONS SHALL BE IN ACCORDANCE WITH CSA A23.1, CLAUSE 12 AND AS

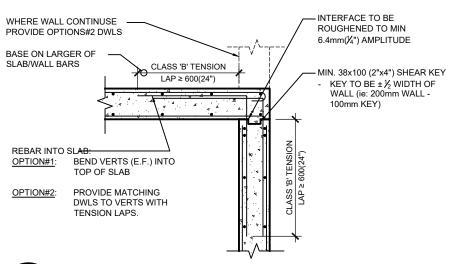
- 1. MINIMUM ALLOWABLE COMPRESSIVE STRENGTH SHALL BE 30 MPa(4400psi) AT 28 DAYS OF AGE, UNLESS OTHERWISE
- IF BLENDED NORMAL PORTLAND CEMENT/CEMENTITIOUS HYDRAULIC SLAG IS USED EXCEPT FOR FLOOR MIXES, SLAG CONTENT SHALL NOT BE MORE THAN 25% OF TOTAL MASS OF CEMENT. TOTAL VOLUME OF CEMENT IN CONCRETE
- FLOOR MIXES SHALL BE 100% NORMAL PORTLAND CEMENT 3. PROVIDE CERTIFICATION THAT MIX PROPORTIONS SELECTED WILL PRODUCE CONCRETE OF SPECIFIED QUALITY AND
- YIELD AND THAT STRENGTH WILL COMPLY WITH CAN/CSA-A23.1-M06. USE OF CALCIUM CHLORIDE NOT PERMITTED.
- 5. DO NOT CHANGE CONCRETE MIX WITHOUT PRIOR APPROVAL OF CONSULTANT. SHOULD CHANGE IN MATERIAL SOURCE BE PROPOSED, NEW MIX DESIGN TO BE APPROVED BY CONSULTANT

D03-18 EXTERIOR EQUIPMENT PADS

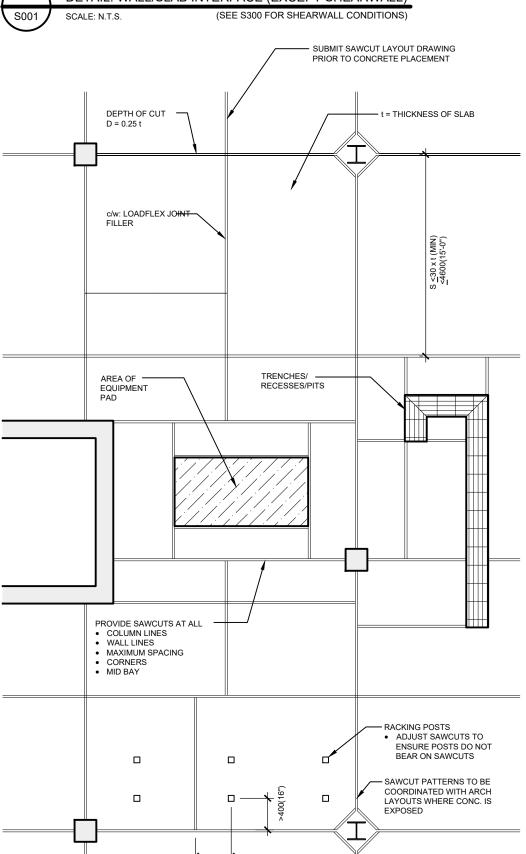


003-27 TYPICAL DETAILS:

DETAILS NOTED ARE TO BE READ IN CONJUNCTION WITH PLANS/SPECIFICATIONS. • DETAILS ARE APPLICABLE UNLESS OTHERWISE SHOWN ON DRAWINGS.



X \ DETAIL: WALL/SLAB INTERFACE (EXCEPT SHEARWALL



Y \ DETAIL: TYPICAL SAWCUT PATTERNS

D03-28 SLAB EDGE DETAILS: PARAPERTS/GLAZING U/N ON PLANS/SECTIONS:

S001 SCALE: N.T.S.

D04) MASONRY

D04-1 GENERAL

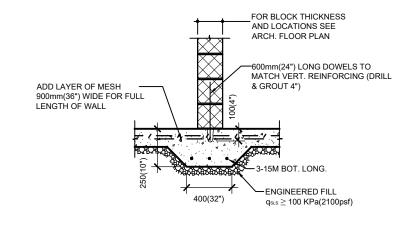
1. ALL MASONRY WORK SHALL COMPLY WITH CAN3-S304.1-06, CAN3-A370-M84 AND A371-M84 UNLESS OTHERWISE

WALL THICKNESS	LOAD BEARING	NON-LOADBEARI
140mm (6")	HORIZ. SMR @ 200(8") OR HDMR @ 400(16") VERT. 1-15M @ 800(32")	SMR @ 400(16") 1-10M @ 1200(48")
190mm (8")	HORIZ. HDMR @ 200(8") & 400(16") (ALTERNATE) VERT. 1-20M @ 1200(48")	HDMR @ 600(24") 1-15M @ 1200(48")
240mm (10")	HORIZ. HDMR @ 200(8") VERT. 2-15M @ 1200(48")	HDMR @ 400(16") 2-10M @ 1200(48")
290mm (12")	HORIZ. HDMR @ 200(8") VERT. 2-20M @ 1200(48")	HDMR @ 400(16") 2-15M @ 1200(48")

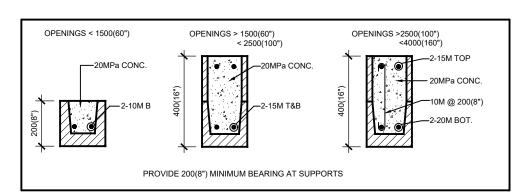
2. MINIMUM MASONRY REINFORCEMENT (UNLESS OTHERWISE NOTED):

- 3. VERTICAL BARS SHALL BE CONTINUOUS, LAPPED ONLY AT FLOORS, DOWELED INTO SUPPORTS AND GROUTED INTO CLEAR VERTICAL BLOCK CORES SEALED ALL AROUND WITH MORTAR, PROVIDE CLEAN-OUT PORT AT BOTTOM OF EACH GROUTED CORE. DO NOT CLOSE PORT OR PLACE GROUT UNTIL CORE AND STEEL HAVE BEEN INSPECTED. PROVIDE THREE GROUTED REINFORCED (20M) CORES AT EACH CORNER AND INTERSECTION (MIN.).
- 4. PROVIDE 1-20M IN 2-COURSE DEEP FULLY GROUTED HORIZONTAL BOND BEAM AT THE TOP OF ALL LOAD BEARING WALLS U/N.
- 5. PROVIDE APPROVED LATERAL SUPPORT TO TOP AND BOTTOM OF MASONRY PANELS AT GROUTED CORE LOCATIONS OR AT
- 800mm(6'-0") MAXIMUM SPACING WHERE NO VERTICAL REINFORCEMENT IS REQUIRED; ALSO AT SIDES OF MASONRY PANELS
- 6. COMPRESSIVE STRENGTH OF MATERIALS USED FOR LOAD BEARING AND PANEL WALLS SHALL BE IN EXCESS OF THE FOLLOWING VALUES: a) MASONRY UNITS - HOLLOW CONCRETE BLOCK
- SOLID CONCRETE BLOCK (GROSS AREA) 15 MPa (2200 psi) 7. TYPE 'S' MORTAR SHALL BE USED FOR MASONRY BELOW GRADE, MIN. STRENGTH fm = 12.4 MPa. (1800 psi)
- TYPE 'N' MORTAR SHALL BE USED ABOVE GRADE, MIN. STRENGTH fm = 5.2 MPa. (800 psi)
- 8. GROUT TO BE A MINIMUM OF 15 MPa (2900 psi) MIN. SLUMP OF 200mm (8").
- 9. MORTAR FOR EXPOSED MASONRY SHALL BE AIR ENTRAINED.
- 10 PROVIDE LINTELS FOR ALL OPENINGS AND/OR RECESSES IN MASONRY WALLS SHOWN ON THE ARCHITECTURAL OR STRUCTURAL DRAWINGS INCLUDING THOSE FOR MECHANICAL OR ELECTRICAL SERVICES OR EQUIPMENT. (SEE LINTEL SCHEDULE)
- 11. INTERSECTING OR ABUTTING WALLS SHALL BE BONDED ADEQUATELY TOGETHER.
- 12. PROVIDE MINIMUM 25mm(1") GROUT UNDER ALL WALL PLATES AND BASE PLATES.

D04-5 NON-LOADBEARING MASONRY WALL @ SLAB-ON-GRADE: H ≤ 5m(16'-0")



D04-6 MASONRY LINTELS FOR NON-LOADBEARING WALLS:



D04-7 LOOSE LINTEL SCHEDULE - 90mm(31/2") BRICK MASONRY

LOOSE LINTEL SCHEDULE

SPANS < 1800(72") L 102x90x7.9 (L4"x3\(\frac{1}{2}\)"x\(\frac{1}{2}\)februare 6

SPANS < 3000(120") L 152x102x10 (L6"x4"x3/6") PROVIDE LOOSE LINTELS ABOVE ALL MASONRY CLADDING OPENINGS U/N. ALL LOOSE LINTELS TO BE HOT DIPPED GALVANIZED U/N.

D05) STEEL

D05-1 STRUCTURAL STEEL:

STRUCTURAL STEEL SHALL COMPLY WITH CAN3-S16.1-01(06) UNLESS OTHERWISE NOTED.

APPLICABLE SPECIFICATION (UNLESS OTHERWISE NOTED) ROLLED SECTIONS G40.21M - 350W (CLASS C)

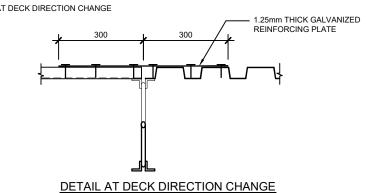
HSS (TUBE) SECTIONS A325 (BEARING TYPE)
A307 (UNLESS OTHERWISE NOTED IN BASEPLATE SCHEDULE) CONNECTION BOLTS ANCHOR BOLTS BRACE FRAME/BEARING PLATES

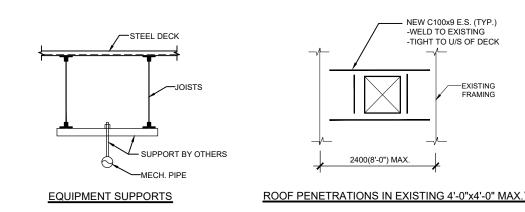
- 1. ALL STEEL WORK SHALL BE GIVEN ONE COAT OF APPROVED PRIMER.
- 2. FIELD AND SHOP CONNECTIONS SHALL BE WELDED OR HIGH TENSILE BOLTED (ASTM STANDARD A325). 3. WELDING SHALL CONFORM TO LATEST CSA SPECIFICATION W59 AND BE UNDERTAKEN BY A FABRICATOR
- APPROVED BY THE CANADIAN WELDING BUREAU TO THE REQUIREMENTS OF CSA SPECIFICATION W47.1. 4. ALL EXPOSED WELDS SHALL BE CONTINUOUS AND BE GROUND SMOOTH.
- 5. ALL EXTERIOR EXPOSED STRUCTURAL STEEL SHALL BE GALVANIZED OR PAINTED WITH APPROVED RUST
- 6. STRUCTURAL STEEL MEMBERS SHALL NOT BE SPLICED UNLESS APPROVED BY THE STRUCTURAL ENGINEER IN
- . WHERE STRUCTURAL STEEL MEMBERS SPECIFIED ON THE STRUCTURAL DRAWINGS ARE UNAVAILABLE TO THE CONTRACTOR. THE STRUCTURAL STEEL CONTRACTOR SHALL PROVIDE MEMBERS HAVING ALL SECTION PROPERTIES EQUAL TO OR BETTER THAN THAT OF THE SPECIFIED MEMBERS AT NO ADDITIONAL COST. CONTACT ENGINEER FOR ACCEPTANCE OF ANY AND ALL SUBSTITUTIONS.

1. ALL METAL DECK SHALL BE A MINIMUM OF 38mm(1 ½") DEEP, WITH DECK FLUTES AT 150mm(6") CENTRES, CONTINUOUS OVER AT LEAST THREE SPANS. AND SHALL BE FORMED FROM SHEET STEEL CONFORMING TO CSSBI 0M/12M/20M, MINIMUM GRADE `A', WITH A BASE STEEL NOMINAL THICKNESS SPECIFIED ON PLANS, AND A MINIMUM ZINC COATING DESIGNATION OF "WIPED COAT MINIMUM SIZES AS FOLLOWS (LI/N ON PLANS)

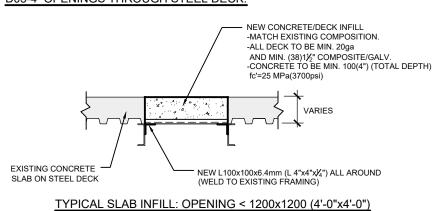
- ROOFS: 38x0.91 (1 1/2"x20 ga) FLOORS: 38x0.91 (1 1/2"x20 ga) COMPOSITE 2. DECK CONNECTIONS TO SUPPORTING STRUCTURE TO BE AS FOLLOWS (U/N ON PLANS): 20mm(¾")Ø FUSION WELDS @ 914/7 20mm(¾")Ø FUSION WELDS @ 300mm(12") TRANS
- 20mm(½")Ø FUSION WELDS @ 300mm(12") PERIMETER. SIDE LAP: BUTTON PUNCH @ 300mm(12") o.c.
- 3. ALL WELDS SHALL BE PRIME PAINTED BY DECK CONTRACTOR. 4. STEEL DECK CONTRACTOR TO REINFORCE ALL OPENINGS IN DECK 18" IN SIZE OR SMALLER.
- 5. ALL DECK CLOSURES SHALL BE SUPPLIED AND INSTALLED BY THE DECK CONTRACTOR. (PROVIDE DECK CLOSURES AT ALL AREAS WHERE DECK EDGES ARE WEAK).
- 6. WEDGE THE FLUTES OF THE STEEL ROOF DECK UNDER WOOD SLEEPERS CARRYING ROOF TOP UNITS (THIS SHALL ALSO APPLY TO ROOF TOP UNITS WITH METAL CURBS).
- 7. NO MECHANICAL OR ELECTRICAL EQUIPMENT/ACCESSORIES SHALL BE HUNG FROM THE STEEL DECK.
- 8. HANGERS FOR SUSPENSION OF CEILING ARE TO BE ATTACHED TO THE STEEL JOISTS. THESE MAY HOWEVER BE ATTACHED IN BETWEEN STEEL JOISTS TO THE SIDE OF THE DECK FLUTES AND BY LOOPING AND TYING AROUND, BUT ON NO ACCOUNT SHOULD THESE HANGERS BE PUNCHED THROUGH THE BOTTOM FLUTES.

9. DETAIL AT DECK DIRECTION CHANGE

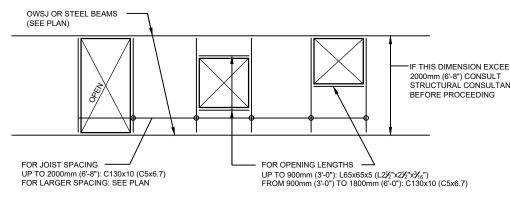




D05-4 OPENINGS THROUGH STEEL DECK:



D05-5 TYPICAL DETAILS FOR TRIMMING TO OPENINGS THROUGH STEEL ROOF DECK:



1. TOP OF ALL TRIMMING STEEL AT UNDERSIDE OF STEEL DECK UNLESS OTHERWISE NOTED.

- DRAWINGS. THE STRUCTURAL STEEL SUB-CONTRACTOR MUST CONFIRM ALL THESE DIMENSIONS AND SIZES WITH THE MECHANICAL CONTRACTOR.
- 3. OWSJ MUST BE DESIGNED FOR ADDITIONAL LOADS FROM MECHANICAL UNITS.
- 4. IF ACTUAL LOCATIONS OR DETAILS VARY FROM THOSE SHOWN, THE STRUCTURAL CONSULTANT MUST BE INFORMED AND INSTRUCTIONS RECEIVED BEFORE PROCEEDING WITH THE WORK.
- 5. THE STRUCTURAL STEEL SUB-CONTRACTOR IS TO SUBMIT ERECTION DRAWINGS TO THE MECHANICAL ENGINEER AND/OR CONTRACTOR FOR APPROVAL OF SIZE AND LOCATION OF OPENINGS FOR MECHANICAL UNITS.

D06) <u>WOOD</u>

D06-1 GENERAL:

- 1. VERIFY ALL DIMENSIONS WITH ARCHITECTURAL DRAWINGS.
- 2. ALL WOOD FRAMING TO BE S.P.F. No.1 OR BETTER, SURFACE DRY AT 19% MOISTURE CONTENT.
- 3. WOOD TRUSSES, BRIDGING AND BRACING DESIGN SHALL CONFORM TO CAN/CSA 086.1-M04 FOR ENGINEERING DESIGN IN WOOD -LIMIT STATES DESIGN. DESIGN AND DETAIL ANCHORAGE FOR WIND UPLIFT FORCES IN ACCORDANCE WITH ONTARIO BUILDING CODE
- 4. MAXIMUM DEFLECTION UNDER TOTAL LOAD SHALL NOT EXCEED 1/240 OF THE SPAN; DEFLECTION SHALL NOT EXCEED 1/360 OF THE SPAN UNDER LIVE LOAD.
- 5. SAWN LUMBER SHALL CONFORM TO CAN/CSA 086.1-01(05) AND SHALL IDENTIFY LUMBER BY OFFICIAL GRADE MARKS (FIRE TREATED).
- 6. TRUSS SHOP DRAWINGS SHALL BE SINGLE SOURCE AND SHALL BE SIGNED AND STAMPED BY A REGISTERED PROFESSIONAL ENGINEER RESPONSIBLE FOR DESIGN AND LICENSED TO PRACTICE IN ONTARIO.
- 7. SUBMIT DESIGN BRIEFS AND SHOP DRAWINGS TO THE ENGINEER FOR REVIEW PRIOR TO FABRICATION OF THE TRUSSES. 8. HOIST TRUSSES INTO POSITION IN ACCORDANCE WITH DESIGN DRAWINGS.

9. PROVIDE TEMPORARY HORIZONTAL CROSS BRACINGS TO HOLD TRUSSES PLUMB AND IN SAFE CONDITION UNTIL PERMANENT

- BRACING IS INSTALLED. 10.INSTALL PERMANENT BRACING AND RELATED COMPONENTS PRIOR TO APPLICATION OF LOADS TO TRUSSES.
- 11.DO NOT CUT OR REMOVE ANY TRUSS MEMBER.
- 12.NAILS SHALL BE ZINC COATED CONFORMING TO CSA B111.

D06-2 WOOD FRAME:

- I. UNLESS NOTED OTHERWISE, JOISTS, TIMBER BEAMS, BUILT-UP BEAMS, BUILT-UP POSTS AND STUD FRAMING INCLUDING TOP AND BOTTOM PLATES SHALL BE KD SPF No.2 OR BETTER. SOLID WOOD POSTS SHALL BE D.Fir No. 1 2. THE USE OF FINGER JOINTED STUDS WILL NOT BE PERMITTED IN LOAD-BEARING WALLS.
- 3. UNLESS NOTED OTHERWISE, ALL FRAMING, BRIDGING, BLOCKING AND NAILING SHALL BE IN ACCORDANCE WITH PART 9 OF THE ONTARIO BUILDING CODE 2012. PROVIDE 38x38 (2"x2") BRIDGING AT 2100 (7FT) ON CENTRE FOR ALL SPANS GREATER THAN 3000 (10'-0"). WITH 13mm (½") GAP BETWEEN BRIDGING.
- 4. BUILT-UP BEAMS AND POSTS SHALL CONSIST OF MINIMUM 2 MEMBERS. MINIMUM LINTEL SHALL BE 1-89x241 (3 ½"x9 ½") LSL TIMBERSTRAND OR 2-38x235 (2-2"x10") UNLESS NOTED OTHERWISE.
- 5. LAMINATE STUDS SOLID BENEATH ALL BEAM-ENDS AND CARRY THROUGH TO CONCRETE FOUNDATION BELOW. UNLESS NOTED. BUILT-UP BEAMS SHALL MATCH NUMBER OF LAMINATIONS IN BUILT-UP MEMBER BEING SUPPORTED. FULLY BLOCK ALL JOIST SPACES
 BELOW POINT LOADS. TAKE CARE TO ENSURE BEAMS BEAR FULLY ON SUPPORTING MEMBERS. 6. INSTALL DOUBLE CRIPPLES UNDER LINTELS UNLESS NOTED OTHERWISE
- 7. JOISTS ARE MINIMUM 38x235 @ 400 (2x10 @ 16") ON CENTRE UNLESS NOTED OTHERWISE. INSTALL DOUBLE JOISTS UNDER PARALLEL 8. INTERIOR BEARING WALLS - UNLESS NOTED OTHERWISE:
- a) MINIMUM STUD REQUIREMENTS ARE AS FOLLOWS:
- 1ST FLOOR 38x89 @ 300 (2"x4" @ 12") o.c. OR 38x140 @ 400 (2"x6" @ 16") o.c.
- 2ND FLOOR 38x89 @ 400 (2"x4" @ 16") o.c. OR 38x140 @ 400 (2"x6" @ 16") o.c.
- b) ANCHOR STUD WALLS TO CONCRETE WITH 19mm@x250 (¾"@x10") ANCHOR BOLTS WITH 75mm (3") HOOK AT 1200 (4"-0") MAXIMUM AND AT 200mm (8") FROM END AND CORNER OF WALLS AND EDGE OF WINDOW/DOOR OPENINGS, UNLESS OTHERWISE NOTED. ALTERNATIVELY, CONTRACTOR MAY USE 19mmØ (¾"Ø) HILTI HY-200 ANCHORS WITH 200mm (8") EMBEDMENT.

REFER TO SHEAR WALL SCHEDULE ON PLAN FOR SPECIFIC SHEAR WALL REQUIREMENTS.

- 9. SHEAR WALLS AND EXTERIOR BEARING WALLS UNLESS NOTED OTHERWISE: a) SHEAR WALLS SHALL BE CONSTRUCTED WITH 16mm (5/8") PLYWOOD SHEETS ON WOOD STUDS. REFER TO NOTES ON WALL
- SHEATHING BELOW FOR NAILING AND BLOCKING REQUIREMENTS OF PLYWOOD.
- b) FASTEN BOTTOM WALL PLATE TO FLOOR SHEATHING WITH 80mm (3 ½") SPIKES AT 100 (4") ON CENTRE AND TO CONCRETE WITH 19ØX250 (½"ØX10") ANCHOR BOLTS COMPLETE WITH 65ØX6 (2½"ØX ½") PLATE WASHERS AT 600 (2'-0") ON CENTRE MAXIMUM AND AT 200mm (8") FROM END AND CORNER OF WALLS AND EDGE OF WINDOW/DOOR OPENINGS. ADD HOLD DOWN ANCHORS BY SIMPSON
- c) LAP WALL TOP PLATES 1200 (4'-0") AND CONNECT WITH 12-76mm (3") STAGGERED NAILS MINIMUM, UNLESS NOTED OTHERWISE ON
- 10. SHEATHING UNLESS NOTED OTHERWISE: ALL SHEATHING SHALL BE D.FIR PLYWOOD (DFP) EXTERIOR GRADE CONFORMING TO CSA-0121-M1978 (R2003). PLACE SHEETS WITH FACE GRAIN RUNNING PERPENDICULAR TO SUPPORTING MEMBERS. MINIMUM SHEATHING REQUIREMENTS SHALL BE AS FOLLOWS:
- 13mm 🖄") PLYWOOD FASTENED WITH 75mm (3") COMMON NAILS @ 100 (4") ON CENTRE AT SHEET EDGES AND @ 300 (12") ON CENTRE AT INTERMEDIATE STUDS. ALL UNSUPPORTED EDGES SHALL BE BLOCKED WITH 38x89 (2"x4") BLOCKING ON FLAT AND NÁILED AS
- UNLESS OTHERWISE APPROVED IN WRITING BY THE CONSULTANT, SHEAR WALLS WITH SHEET EDGE NAIL SPACING OF 76mm (3") o.c. OR LESS, AND WALLS WITH PLYWOOD EACH SIDE SHALL HAVE DOUBLE STUDS AND 38x140 (2"x6") BLOCK ON FLAT AT ALL SHEET EDGES. NAIL DOUBLE STUDS TOGETHER WITH 76mm (3") NAILS @ 50mm (2") STAGGERED OVER FULL HEIGHT. REFER TO SHEAR WALL SCHEDULE ON PLAN FOR ADDITIONAL SHEAR WALL REQUIREMENTS.
- NAIL GUN PRESSURE SHALL BE CAREFULLY SET SO THAT NAIL HEADS DO NOT CRUSH INTO THE PLYWOOD SHEET BY MORE THAN
- 16mm (¾") T&G PLYWOOD GLUE AND FASTEN WITH 65mm (2 ½") NAILS @ 150mm (6") ON CENTRE AT SHEET EDGES AND @ 250mm (10") o.c. AT INTERMEDIATE SUPPORTS. 19mm (¾") T&G PLYWOOD FASTEN WITH 65mm (2 ½") NAILS @ 150mm (6") ON CENTRE AT SHEET EDGES AND @ 250mm (10") o.c. AT INTERMEDIATE SUPPORTS.
- I1. UNLESS NOTED OTHERWISE, USE SIMPSON CONNECTORS WHERE REQUIRED. ALL NAIL HOLES IN CONNECTORS, INCLUDING STRAPS, TO BE FILLED WITH NAIL TYPE SPECIFIED BY THE HARDWARE SUPPLIER. USE JOIST HANGERS (MINIMUM 1000 LBS CAPACITY) OR FULLY NAILED PRESSURE BLOCK FOR ALL FLUSH FRAMING.
- 12. STEEL HARDWARE SHALL BE ASTM A36 OR BETTER AND BOLTS SHALL BE A307, HOT DIPPED GALVANIZED. ALL BOLTS AND LAG BOLTS BEARING AGAINST TIMBER SHALL HAVE STANDARD "CUT" (OVERSIZED) WASHERS UNO.
- 13. LAG BOLTS SHALL HAVE THREAD OVER MINIMUM HALF THE BOLT LENGTH, AND SHALL HAVE SHARP THREADS. DULL THREAD LAG BOLTS WITH INSUFFICIENT THREAD LENGTH WILL BE IMMEDIATELY REJECTED.
- 14. RE-TIGHTEN ALL ACCESSIBLE BOLTS WHERE TIMBER SHRINKAGE MAY HAVE OCCURRED AT END OF PROJECT. 15. ALL TIMBER SPECIFIED AS "TREATED" TO BE PRESSURE TREATED ACCORDING TO CSA-080 SERIES-97 (R2002) "WOOD PRESERVATION"
- WOOD ACCESSIBLE TO REGULAR USER CONTACT: THIS WOULD INCLUDE PLAY STRUCTURES, PLAY AREA DECKS, GUARDRAILS AND OTHER PRESERVED WOOD SURFACES THAT CAN BE TOUCHED BY THE USERS ON A REGULAR BASIS. TREAT USING ACQ OR AC VACUUM PRESSURE IMPREGNATION TO BE 0.4 pcf OR TO REFUSAL. WOOD NOT ACCESSIBLE TO REGULAR USER CONTACT: THIS WOULD INCLUDE STRUCTURES CONCEALED OR NOT COMMONLY ACCESSIBLE TO USER CONTACT SUCH AS WALL SILL PLATES, SLEEPERS, SOIL RETAINING STRUCTURES AND TRAFFIC DECKS. TREAT USING CCA VACUUM PRESSURE IMPREGNATION TO BE 0.4 pcf OR TO REFUSAL.

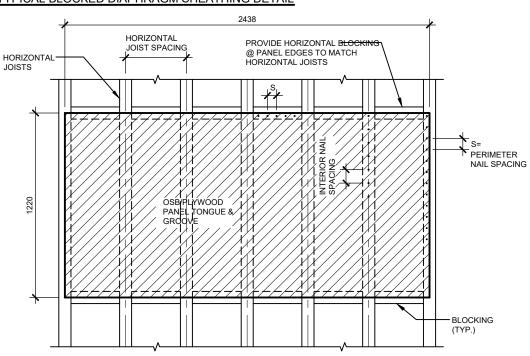
FIELD APPLY MATCHING PRESERVATION TO EQUIVALENT STANDARDS TO ALL AREAS CUT OR DRILLED.

D06-4 GLUED LAMINATED TIMBER - GLULAM (GL):

- 1. ALL GGLULAM MEMBERS SHALL BE DOUGLAS FIR 24F-E (24F-EX FOR CANTILEVER OR CONTINUOUS BEAMS) STRESS GRADE WITH QUALITY APPEARANCE GRADE. INDUSTRIAL APPEARANCE GRADE MAY BE USED WHERE BEAMS ARE TO BE CONCEALED. 2. GLULAM MANUFACTURER MUST QUALIFY UNDER CAN/CSA-O177-M89 (R2003)
- 3. SUBMIT 4 SETS OF SHOP DRAWINGS SHOWING ALL APPLICABLE DETAILS AND MATERIAL SPECIFICATIONS TO THE ENGINEER FOR REVIEW PRIOR TO FABRICATION. SHOP DRAWINGS SHALL BE ACCOMPANIED BY A CERTIFICATE OF CONFORMANCE TO MANUFACTURING
- 4. AFFIX AUTHORIZED LABEL TO ALL MEMBERS SUPPLIED. ALSO IDENTIFY EACH MEMBER WITH MARK NUMBER. 5. STORE GLULAM OFF THE GROUND WITH SPACER BLOCKS PLACED BETWEEN MEMBERS. KEEP WRAPPING ON THE MEMBERS UNTIL PERMANENT PROTECTION FROM THE WEATHER IS IN PLACE BUT CUT HOLES ON UNDERSIDE OF WRAPPING TO PREVENT THE
- ACCUMULATION OF CONDENSATION. 6. ALL PRESSURE TREATED GLULAM TO BE TREATED ACCORDING TO CAN/CSA-080 SERIES-97 (R2002) "WOOD PRESERVATION." ALL CUTTING AND DRILLING TO BE COMPLETED BEFORE THE TREATMENT. FIELD APPLY PRESERVATIVE TO EQUIVALENT STANDARD, TO ALL

D06-5 GLULAM RIVET CONNECTIONS:

1. 1. ALL GLULAM CONNECTIONS BY MANUFACTURER'S ENGINEER. SUBMIT STAMPED SHOP DRAWINGS FOR REVIEW.



DETAIL: WALL DOUBLE TOP PLATE SPLICES AND NAILING (TYPICAL)

MEMBER SIZE TO MATCH STUD WAL 4800 (MIN.)

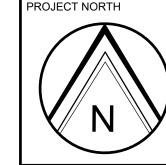
NOTE:

ALL PANEL EDGES SHALL BE SUPPORTED BY 38x89 ON FLAT (TYPICAL).

ISSUED FOR TENDER 18/02/21 17/12/13 ISSUED FOR PERMIT DATE

The Contractor shall check and verify all dimensions on site. This drawing is not to be used for construction unless stamped and signed by the Engineer. Do not scale drawings. Copyright reserved. This drawing is the exclusive

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LINK BUILDING MILLS PHASE 3 EXPANSION

411 COUNTRY ST., ALMONTE, ON

DRAWN:	A. NICHOLSON	DRAWING No.
DESIGNED:	T. CAIN	
DATE:	DEC./2017	\Box SC
SCALE:	N.T.S.	
PROJECT No:	17-0302	

	JOIST SCHEDULE		
MARK	NOTES		
J1 38x235 @ 400 o.c. SPF #1/2 PRESSURE TREATED			
W000	JOINT MOTES		

WOOD I-JOIST NOTES:

-) WOOD I-JOIST DENOTES PRE-ENGINEERED WOOD JOIST. PRODUCTS MAY INCLUDE I-JOISTS, WOOD WEB OPEN JOISTS, WOOD CHORD/METAL WEB OPEN JOISTS. DEPTHS TO REMAIN AS NOTED. SPACING MAY BE REDUCED TO SUIT. ALL MECHANICAL PENETRATIONS IN WEBS TO BE COORDINATED WITH FABRICATOR (BY CONTRACTOR) PRIOR TO SUBMISSION OF SHOP DRAWINGS. SIZES & SPACINGS OF HOLES SHOULD BE NOTED/REINFORCED AS REQUIRED. REFER TO MECH. DWGS FOR LAYOUTS.
- 3) JOIST SUPPLIER TO DESIGN/DETAIL/CERTIFY ALL ANCHORAGES, CLIPS, HANGERS, BRIDGING, CONNECTORS, ETC. RELATED TO THE ERECTION/CAPACITY OF JOISTS
- 4) PROVIDE SOLID BLOCKING AT ALL JOIST ENDS AS REQUIRED BY THE MANUFACTURER, AT SHEAR WALL LOCATIONS, TO ENSURE CONSISTENT FRANSFER OF COMPRESSIVE FORCES BETWEEN THE WALLS & FLOORS, AT ALL POST/COLUMN LOCATIONS AND CONCENTRATED LOADS, INCLUDING SIMPSON STRONG TIE HOLD DOWN ANCHORS.

WOOD BEAM/LINTEL SCHEDULE		
MARK	SIZE	NOTES
WB1	175x418	D.FIR-L 24f-E GLULAM TOPS OF BEAMS TO PITCH/SLOPE TO SUIT ROOF PROFILE

- 1. PROVIDE MIN. TRIPLE BUILT-UP STUDS TO MATCH WALL THICKNESS EACH SIDE OF OPENINGS U/N OTHERWISE.
- 2. FLOOR DENOTES LEVEL BELOW WHICH LINTELS OCCUR. 3. SPAN NOTED INDICATES CLEAR SIZE OF OPENING. ADD'L LENGTH TO BE PROVIDED TO ALL LINTELS TO SUIT BEARING REQUIREMENTS.
- 4. ALL LINTELS TO BE PROVIDED WITH MINIMUM 38mm (1½") BEARING E.E. U/N IN SCHEDULE. 5. SHEATHING TO BE FASTENED TO LINTELS WITH AT LEAST 2 RUNS OF FASTENERS TO THE EXTERIOR FACE OF THE LINTEL AND AT LEAST A
 SINGLE ROW TO THE TOP PLATES AND STUDS. FASTENERS TO CONFORM TO
 TABLE 9.23.3.5 OF 2012 OBC.
- 6. PROVIDE PLYWOOD BETWEEN PLIES OF LINTEL AS REQUIRED TO FUR LINTEL TO FULL WIDTH OF WALL STUDS.
- 7. LINTELS TO BE FASTENED TOGETHER AS FOLLOWS: 64mm(2½")x3.25mm(0.13") Ø NAILS @ 450 (18") o.c. TOP AND BOTTOM + ADD'L PAIR @ 100mm (4") FROM ENDS.
- 8. THIS LINTEL SCHEDULE IS ONLY APPLICABLE TO THOSE OPENINGS THAT ALIGNED WITH OPENINGS ABOVE AND BELOW. WHERE OPENINGS DO NOT ALIGN, REFER TO PLANS FOR WOOD BEAM NOTATION.
-). ALL LINTELS TO BE TOP LOADED U/N OTHERWISE.

		ATE SCHEDULE: OREY BUILDINGS
MARK	SIZE (LxWxT)	NOTES
B P _1	300x300x25	4-25Ø SEISMIC HEADED ANCHORS B E 38 98 91 116 184
B P_ 2	325x325x25	4-25Ø SEISMIC HEADED ANCHORS (8) (E) (750 25 38 148 38 750 (9) (101) 224
B P_ 3	325x325x25	4-25Ø SEISMIC HEADED ANCHORS 750 B 38 25 38 186 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
B P _4	375x375x30 (B IS SIM - MIRRORED)	5-25Ø SEISMIC HEADED ANCHORS (E) 750

38 38 25

- I. LENGTH OF ANCHORS IS EMBEDMENT LENGTH. FABRICATOR TO PROVIDE ADDITIONAL LENGTH AS REQUIRED FOR THREADS/NUTS/TOLERANCES, ETC.
- 2. ALL ANCHORS TO BE CAST-IN (CONCRETE) OR GROUTED INTO PLACE (MASONRY). 3. PROVIDE MIN. 25(1") THICK GROUT BED BELOW BASE PLATE U/N.
- 4. SEISMIC HEADED ANCHORS: FOLLOWING OUTLINES MINIMUM WASHER PLATE (c/w: NUT ABOVE/BELOW PLATE-TACK WELD NUT TO PLATE) SIZES FOR

BOLT ENDS.	
16mmØ: 52x52x16mm	(5/8"Ø: 2"x2"x5/8")
19mmØ: 63x63x16mm	(3/4"Ø: 21/2"x21/2"x5/8")
25mmØ: 76x76x20mm	(1"Ø: 3"x3"x¾")
28mmØ: 82x82x20mm	(11/8"Ø: 31/4"x31/4"x3/4")
32mmØ: 89x89x20mm	(11/4"Ø: 31/2"x31/2"x3/4")
38mmØ: 102x102x20mm	(1½"Ø: 4"x4"x¾")

. ANCHOR BOLT EMBEDMENT LENGTHS HAVE BEEN DEVELOPED IN ACCORDANCE WITH CAN/CSA A23.3-04 CLAUSES 7.1.4, ANNEX D, 12.2, AND 21.2.7. DEPTHS ARE BASED ON MINIMUM EMBEDMENTS AND THE DEVELOPMENT OF THE PIER REINFORCING STEEL IN TENSION ABOVE THE CONE OF FAILURE CREATED BY THE BOLT HEAD.

	STEEL COLUMN SCHEDULE		
MARK	SIZE	NOTES	
C1	HSS 152x152x13		
	NOTES: 1. REFER TO PLANS FOR ELEVATIONS AND ORIENTATIONS.		

PIER SCHEDULE		R SCHEDULE
MARK	SIZE	REINFORCING
P1	600x600	12 - 20M VERT. + DOWELS 3 -10M TIES @ 300 o.c.

2. ALL HSS COLUMNS TO BE CLASS 'C'.

1. TOPS OF INTERIOR/EXTERIOR PIERS TO BE @ 300(12") BELOW THE UNDERSIDE OF THE SLAB ON GRADE.

2. PIER DIMENSIONS ARE TO BE CENTRED ON SUPPORTED COLUMNS (U.N.O.).

INCREASE CONCRETE SIZE TO SUIT FOUNDATION WALL OFFSETS. 3. VERTICAL BARS IN PIERS MAY BE LAPPED WITH COMPRESSION LAPS WHERE NO BRACE/MOMENT FRAMES ARE PRESENT. WHERE BRACE/MOMENT FRAMES ARE PRESENT VERTICAL BARS ARE TO EXTEND TO FULL HEIGHT ABOVE FOOTING TO TOP OF PIERS (NO LAPS ARE PERMITTED UNLESS APPROVED BE ENGINEER IN WRITING). CLASS 'B' TENSION LAPS (MIN. 1.5 Id) MAY BE USED WHERE HEIGHT OF PIER EXCEEDS 2400(8'-0").

BEA	BEARING PLATE SCHEDULE (ON CONCRETE)			
MARK	SIZE	REINFORCING		
₿₽ A	200x180x16mm	2-16mmØ HEADED ANCHORS (50x50x10 END PLATE)		

38 38

1. PROVIDE 25mm GROUT BED BELOW BEARING PLATES

2. ANCHORS TO BE WELDED AT u/s PLATE 3. CAST PLATE/BOLTS IN CONCRETE (LEAVE 25mm FOR GROUT).

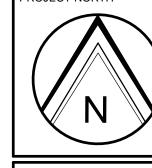
FOOTING SCHEDULE			
MARK	SIZE (LxWxT)	NOTES	
F1	1200x1200x300	15M @ 250 B.E.W.	
		Q _{SLS} ≥ 300 kPa	
		Q ∪∟s ≥ 500 kPa	
F2	1000x1200x300	15M @ 250 B.E.W.	
		Q s∟s ≥ 300 kPa	
		Q _{ULS} ≥ 500 kPa	
F3	600x300 DP	3-15M BOT. CONT.	
		Q s∟s ≥ 300 kPa	
		Quis ≥ 500 kPa	
F4	750x300 DP	4-15M BOT. CONT.	
		Q _{sLs} ≥ 300 kPa Q _{ULS} ≥ 500 kPa	

- ALL FOOTINGS TO BEAR ON SUITABLE BEARING STRATA AS APPROVED BY GEOTECHNICAL ENGINEER/IN ACCORDANCE WITH GEOTECHNICAL REPORT WITH MINIMUM BEARING PRESSURES NOTED IN TABLE.
- PROVIDE MINIMUM 1500(5'-0") FROST COVER TO ALL FOOTINGS EXPOSED TO EXTERIOR CONDITIONS U/N ON DRAWINGS/GEOTECHNICAL REPORT. CONCRETE STRENGTH: fc' = 25 MPa(3600psi) U/N.
- TOPS OF INTERIOR FOOTINGS/WALLS/PIERS TO BE A MINIMUM OF 300(12") BELOW THE TOP OF THE SLAB ON GRADE. STEP DOWN INTERIOR FOOTINGS TO EXTERIOR FOOTINGS AS REQUIRED. FINAL BEARING ELEVATIONS TO BE BASED ON GEOTECHNICAL REPORT DATA U/N.
- 5. FOOTING AND BOTTOM OF WALL ELEVATIONS TO BE ESTABLISHED FROM PLANS AND GEOTECHNICAL REPORT. WALLS/COLUMNS ARE TO BE TERMINATED SUCH THAT THEY ARE FOUNDED ON SUITABLE BEARING STRATA (WITH APPROPRIATE FROST COVER) APPROVED BY
- GEOTECHNICAL ENGINEER ON SITE. REFER ALSO TO GEOTECHNICAL REPORT. 5. FOOTINGS ARE TO BE LOWERED AS REQUIRED IN THE AREAS OF PITS/SHAFTS @ FOUNDATION LEVEL SUCH THAT THE U/S OF THE PIT /SHAFT IS AT THE TOP OF THE FOOTING. CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF ELEVATIONS/STEPS IN FOOTINGS. CONTRACTOR IS REQUIRED TO PREPARE FOOTING ELEVATION DRAWINGS PRIOR TO EXCAVATION.

2	18/02/21	ISSUED FOR TENDER		
1	17/12/13	ISSUED FOR PERMIT		
No.	DATE	REVISIONS I		
DDC	PROJECT NORTH STAMP			
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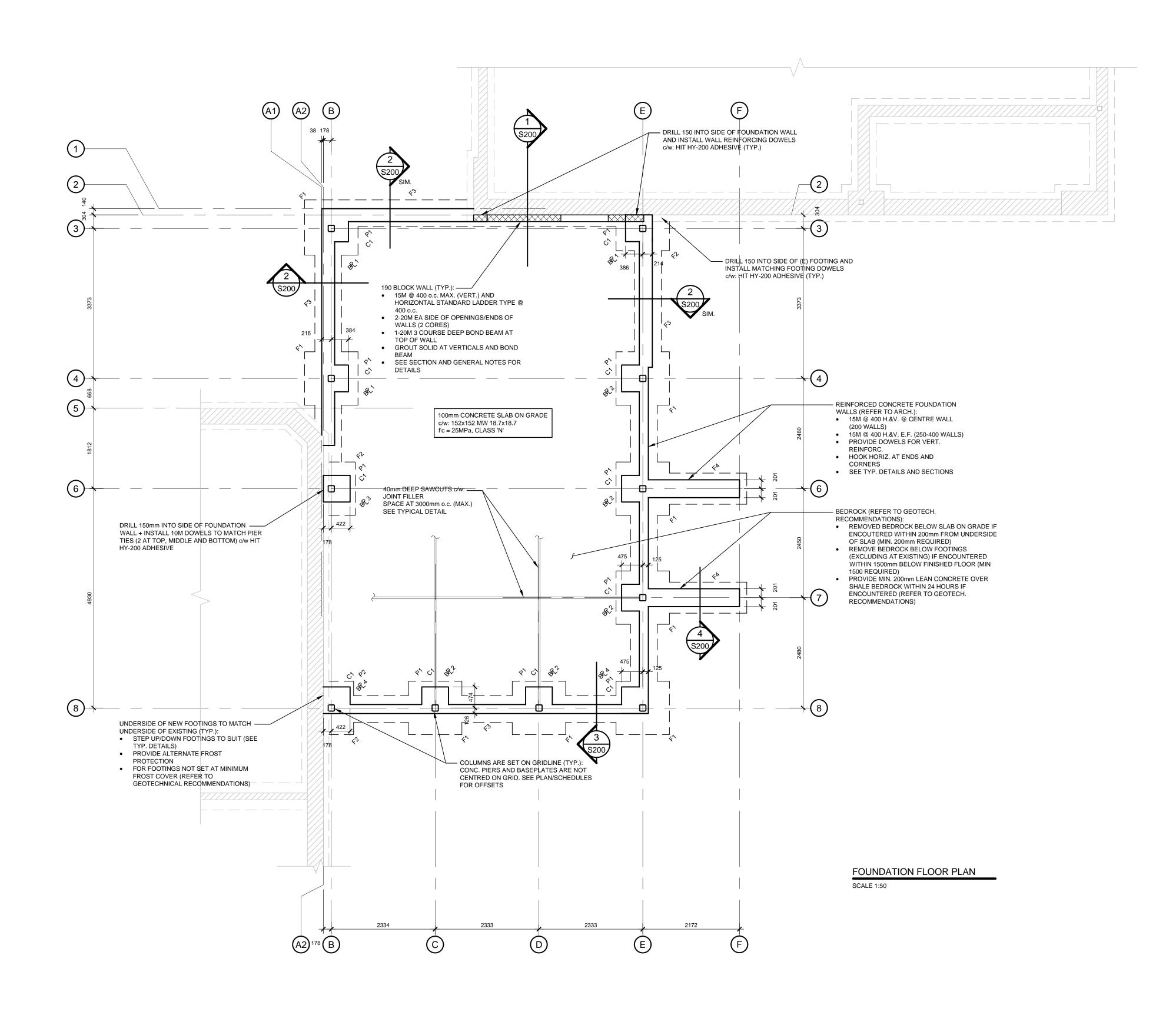




LINK BUILDING MILLS PHASE 3 EXPANSION

411 COUNTRY ST., ALMONTE, ON

AWN:	A. NICHOLSON	DRAWING I
SIGNED:	T. CAIN	
TE:	DEC./2017	SI
ALE:	N.T.S.	
OJECT No:	17-0302	



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No.	DATE	REVISIONS	BY



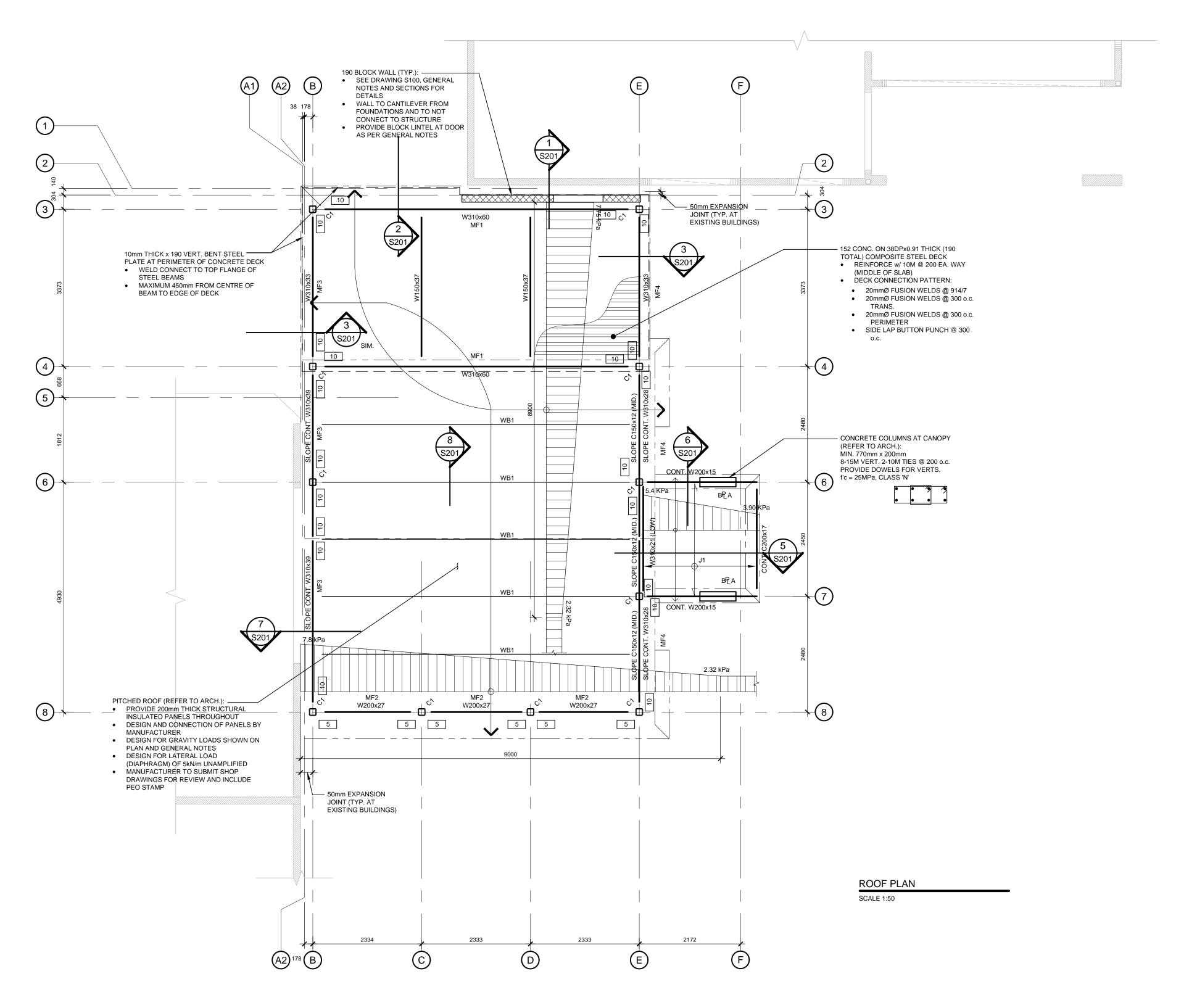


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411 COUNTRY ST., ALMONTE, ON

FOUNDATION FLOOR
PLAN

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ESIGNED:	T. CAIN		-Feb-
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ROOF NOTES:

LOADS IN MOMENT FRAMES.

SEE ELEVATIONS ON \$300 FOR CONFIGURATION/DESIGN

DENOTES SEISMIC LOADS IN DIAPHRAGM CHORDS
(FOR CONNECTION DESIGN). FORCES GIVEN HAVE
NOT BEEN AMPLIFIED BY RD. LOAD ARE IN kN.
(LOADS CAN BE POSITIVE OR NEGATIVE)

DENOTES MOMENT/SHEAR CONNECTION
REFER TO PLANS FOR LOCATIONS AND DESIGN

DECK CONNECTION PATTERN ROOF:

20mmØ FUSION WELDS @ 914/ 7

20mmØ FUSION WELDS @ 300mm o.c. TRANS
 20mmØ FUSION WELDS @ 300mm o.c. PERIMETER
 SIDE LAP BUTTON PUNCH @ 300mm o.c.

ALL COMPOSITE STEEL DECK TO BE REINFORCED w/ 10M @ 200 EACH WAY (152mm CONC. ON 38mm DP STEEL DECK (190mm TOTAL))

ROOF T.&G DIAPHRAGM SHEATHING (BLOCKED DIAPHRAGM):
16mm T.&G. PLYWOOD (EXTERIOR GRADE FOR ROOF)

16mm 1.&G. PLYWOOD (EXTERIOR GRADE FOR ROOF)
NAILED WITH 64mm x 3.25mmØ COMMON WIRE NAILS
@ 150mm o.c. @ PANEL EDGE
@ 300mm o.c. AT PANEL POINTS
64mmx3.25mmØ COMMON WIRE NAILS @ 150mm o.c. AT

DIAPHRAGM BOUNDARIES

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ROOF PLAN

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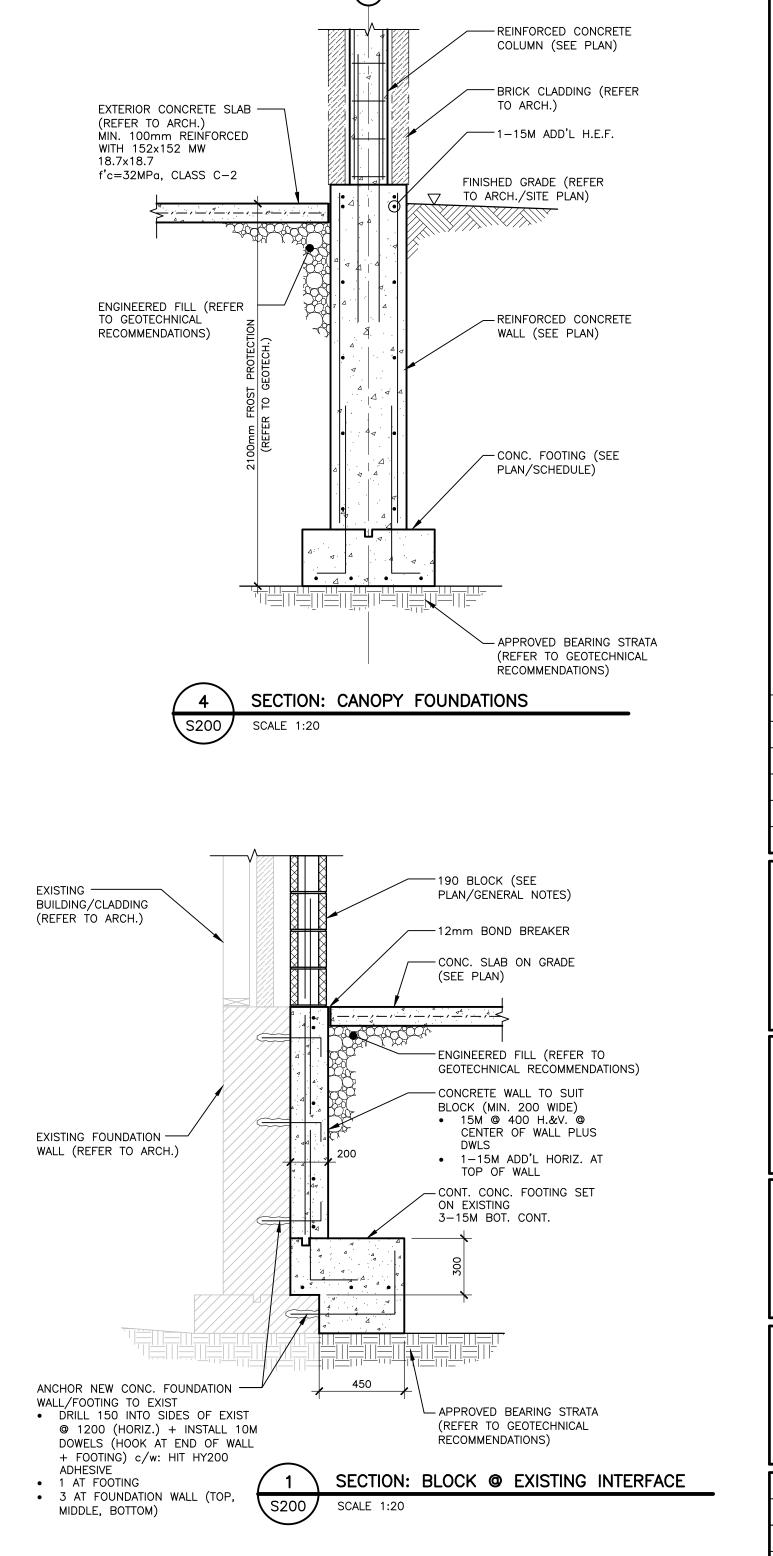
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- STEEL COLUMN BEYOND

(SEE PLAN/SCHEDULE)

----12mm BOND BREAKER

—— CONC. SLAB ON GRADE

-ENGINEERED FILL (REFER TO

REINFORCED CONCRETE

FOUNDATION WALL (SEE

CONC. FOOTING (SEE PLAN/SCHEDULE)

- APPROVED BEARING STRATA

(REFER TO GEOTECHNICAL

RECOMMENDATIONS)

SECTION: TYP. FOUNDATION @ BRICK

SCALE 1:20

PLAN/REFER TO ARCH.)

GEOTECHNICAL RECOMMENDATIONS)

(SEE PLAN)

- STEEL COLUMN BEYOND

(SEE PLAN/SCHEDULE)

----12mm BOND BREAKER

— CONC. SLAB ON GRADE

- REINFORCED CONCRETE

FOUNDATION WALL (SEE

PLAN/REFER TO ARCH.)

CONC. FOOTING (SEE PLAN/SCHEDULE)

— APPROVED BEARING STRATA

(REFER TO GEOTECHNICAL

RECOMMENDATIONS)

SECTION: TYP. FOUNDATION @ GLAZING

ENGINEERED FILL (REFER TO GEOTECHNICAL RECOMMENDATIONS)

(SEE PLAN)

BRICK/CLADDING

(REFER TO ARCH.)

1-15M ADD'L H.E.F.

FINISHED GRADE (REFER TO ARCH./SITE PLAN)

GLAZING (REFER TO

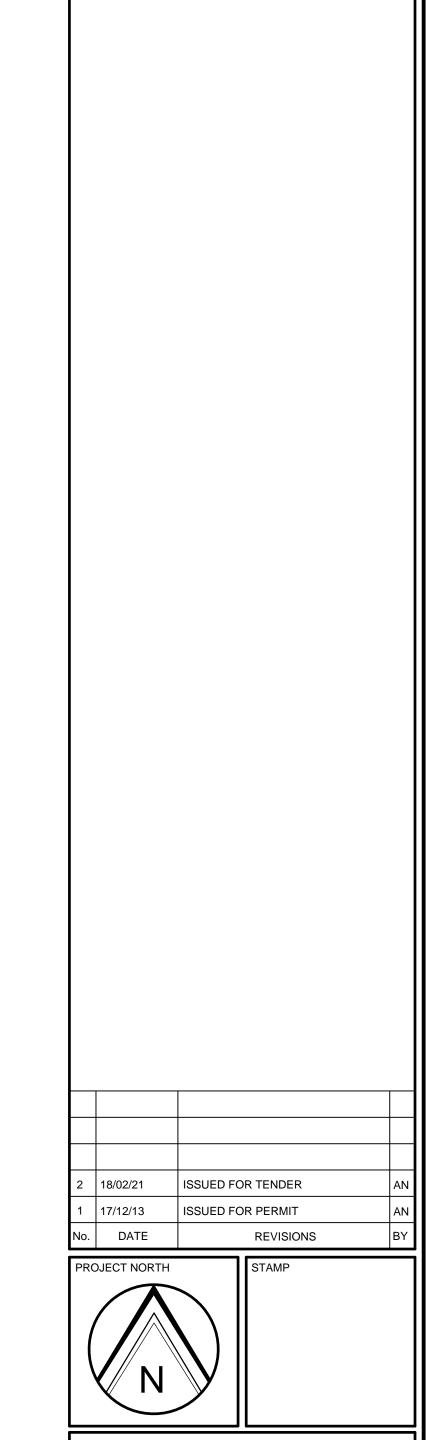
1-15M ADD'L HORIZ.

FINISHED GRADE (REFER

TO ARCH./SITE PLAN)

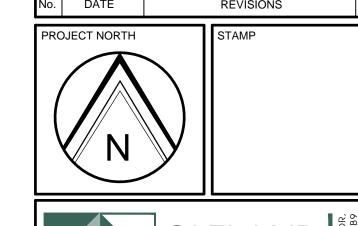
SCALE 1:20

ARCH.)



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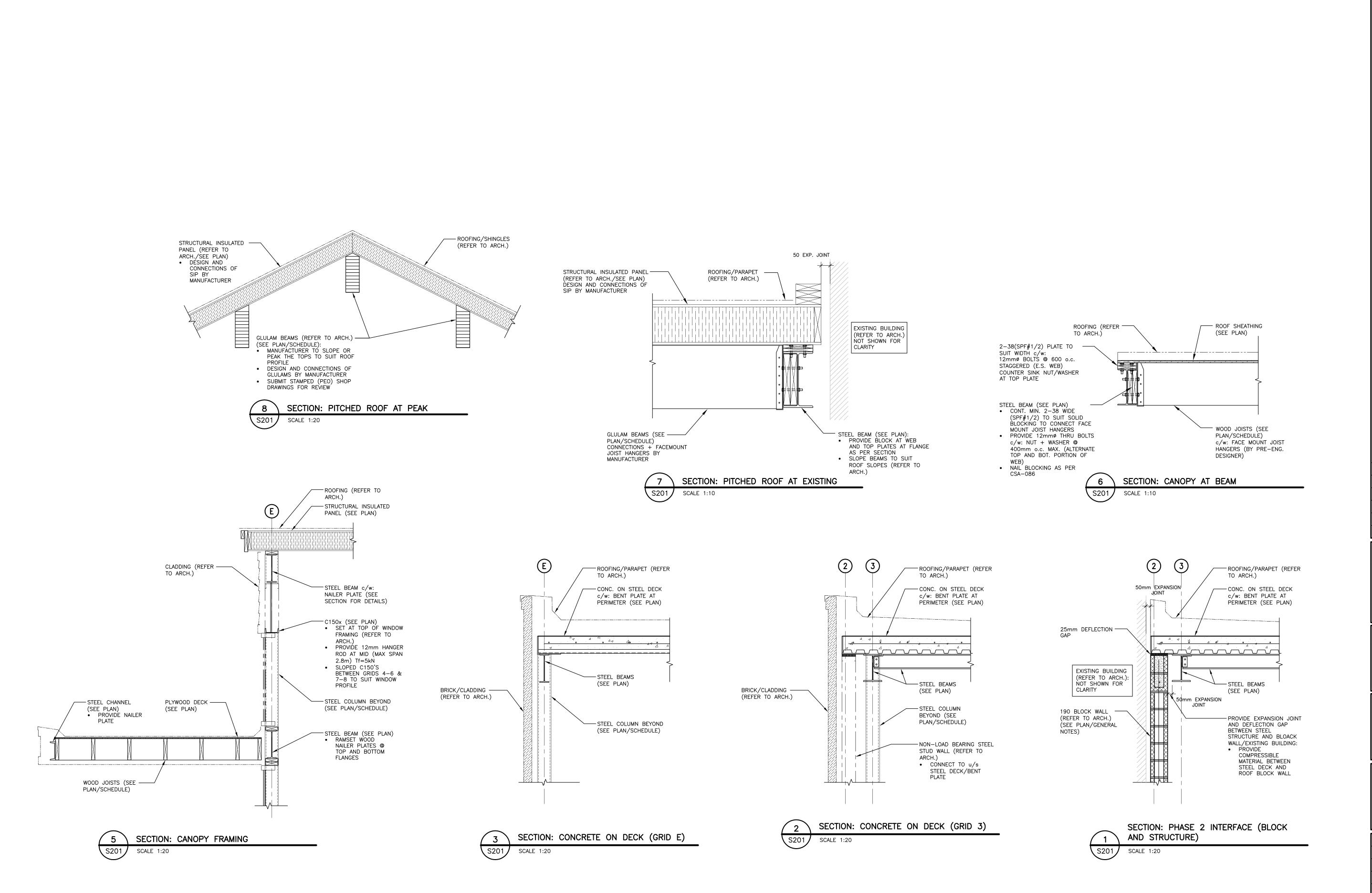


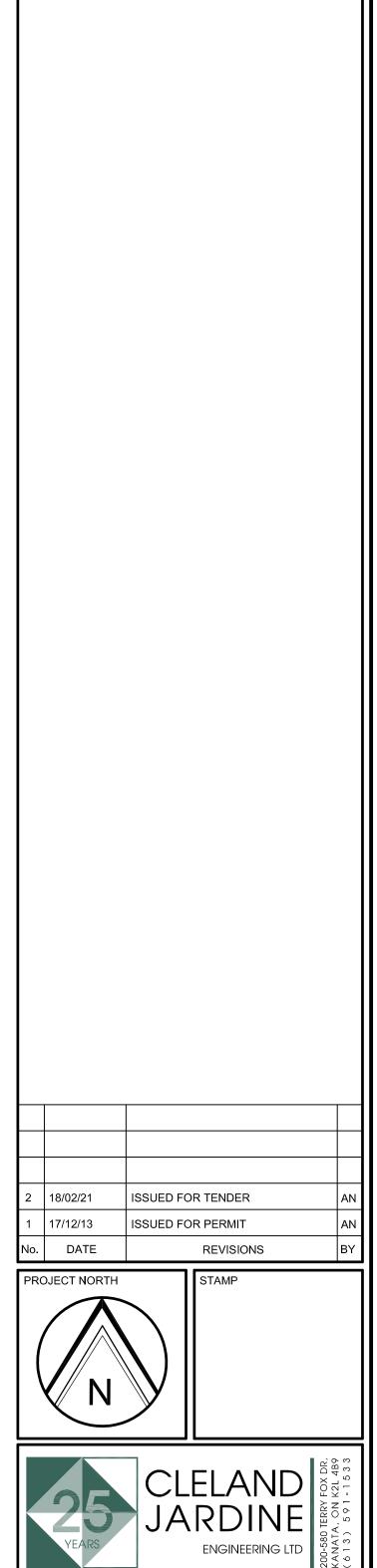
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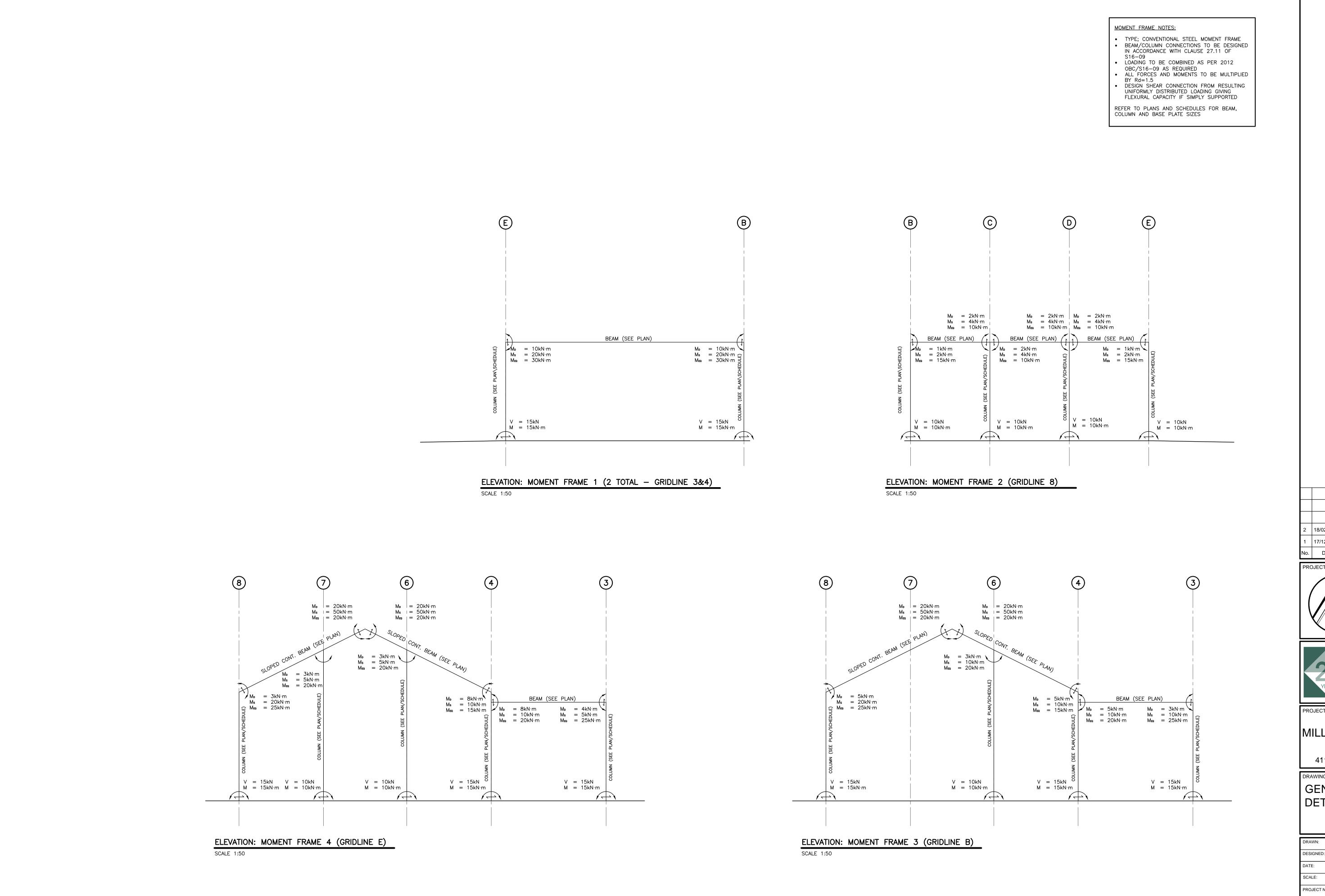
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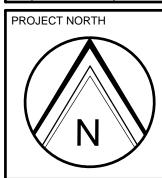
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