

GENERAL

- THIS SET OF DRAWINGS IS INTENDED TO PROVIDE THE SUPPORT STRUCTURE FOR NEW MECHANICAL UNITS ON ROOF LEVEL AND THE STRENGTHENING FOR NEW OPENINGS ON CONCRETE SLAB OF SECOND FLOOR AND ROOF LEVELS.
- THIS SET OF DRAWINGS SHALL BE READ IN CONJUNCTION WITH THE STRUCTURAL SPECIFICATIONS AND WITH THE DRAWINGS AND SPECIFICATIONS FROM ALL OTHER CONSULTANTS. ANY DISCREPANCIES NOTED SHALL BE REPORTED IMMEDIATELY FOR CLARIFICATION.
- THIS SET OF DRAWINGS SHOWS THE COMPLETED STRUCTURE AND DOES NOT SHOW WORK WHICH MAY BE REQUIRED FOR SAFETY DURING CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR GENERAL SAFETY ON AND ABOUT THE JOB SITE DURING THE CONSTRUCTION PERIOD AND FOR DESIGN AND ERECTION OF ALL FALSEWORK, SHORING, BRACING ETC. TO ENSURE THE SAFETY OF ALL CONSTRUCTION TEMPORARY LOADS AND TO COMPLETE THE WORK. ALL TEMPORARY WORKS AND SHORING ETC. SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER REGISTERED IN BRITISH COLUMBIA. ADHERE STRICTLY TO ALL REQUIREMENTS OF THE WORKSAFE BRITISH COLUMBIA.
- ALL CODE REFERENCES ARE TO LATEST EDITIONS REFERENCED IN THE NATIONAL BUILDING CODE OF CANADA 2015.

FIELD REVIEW:

- DEPARTMENTAL REPRESENTATIVE THROUGH CWMM CONSULTING ENGINEERS PROVIDES FIELD REVIEW FOR THE WORK.
- ALL NON CONFORMING WORKS THAT REQUIRE REMEDIAL ACTION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. ANY EXTRA TIME OR COST INCURRED TO PWGSC IN RECTIFYING THE WORK SHALL BE BORNE BY THE CONTRACTOR IN ACCORDANCE WITH THE CONTRACT.
- ENSURE THAT WORK TO BE INSPECTED IS COMPLETE AT THE TIME OF INSPECTION AND IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. ADDITIONAL INSPECTIONS REQUIRED DUE TO INCOMPLETE WORK OF POORLY EXECUTED WORKS, AS JUDGED BY THE DEPARTMENTAL REPRESENTATIVE, AS WELL AS ADDITIONAL DESIGN OR REMEDIAL WORK CAUSED BY DEVIATIONS FROM THESE DRAWINGS, MAY BE CHARGED TO THE CONTRACTOR.
- A MINIMUM 48 HOURS NOTICE SHALL BE GIVEN TO THE DEPARTMENTAL REPRESENTATIVE BY THE CONTRACTOR FOR ANY INSPECTION TO BE CARRIED OUT.
- REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS FOR FIELD REVIEW.

SHOP DRAWINGS:

- DESIGNERS & MANUFACTURERS OF ALL STRUCTURAL ELEMENTS/COMPONENTS/CONNECTIONS SHALL SUBMIT COMPLETE SHOP DRAWINGS FOR REVIEW PRIOR TO FABRICATION. ALLOW MINIMUM TWO WEEKS FOR REVIEW. THIS SUBMISSION OR ITS REVIEW SHALL NOT RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITY FOR PROVIDING PROPER ENGINEERING DESIGN, METHODS, EQUIPMENT, WORKMANSHIP, SAFETY PRECAUTION AND PRIOR REVIEW OF THESE ELEMENTS. THE CONTRACTOR AND ITS SUBCONTRACTORS SHALL CONFIRM AND COORDINATE DIMENSIONS, LOCATIONS AND NUMBER OF THE STRUCTURAL ELEMENTS FOR WHICH SHOP DRAWINGS ARE TO BE PRODUCED.
- REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS FOR SHOP DRAWINGS.

NON-STRUCTURAL COMPONENTS:

- NON-STRUCTURAL COMPONENTS ARE NOT THE RESPONSIBILITY OF CWMM CONSULTING ENGINEERS LTD. SUCH COMPONENTS OF THE PROJECT ARE DESIGNED, DETAILED, SPECIFIED AND REVIEWED IN THE FIELD BY OTHERS. LETTERS OF CERTIFICATION OF ADEQUACY, INSTALLATION ETC. OF SUCH COMPONENTS ARE BY OTHERS.
- MANUFACTURERS OF NON-STRUCTURAL COMPONENTS WHICH AFFECT THE STRUCTURE SHALL SUBMIT SHOP DRAWINGS TO THE DEPARTMENTAL REPRESENTATIVE FOR REVIEW. THE SHOP DRAWINGS SHALL CLEARLY INDICATE LOADS IMPOSED ON THE STRUCTURE. REVIEW WILL BE LIMITED TO THE EFFECT OF THE COMPONENTS ON THE STRUCTURE.
- EXAMPLES OF NON-STRUCTURAL COMPONENTS INCLUDE, BUT ARE NOT LIMITED TO:
 - ARCHITECTURAL COMPONENTS SUCH AS HANDRAILS, GUARDRAILS, RAILINGS, FLAG POST, REMOVABLE CANOPIES, CEILINGS, VEHICLE PROTECTION SYSTEMS, ORNAMENTAL COMPONENTS, FALL-ARREST SYSTEMS, ETC.
 - BRICK AND BLOCK VENEERS, THEIR REINFORCING IF ANY AND TIES.
 - CURTAIN WALL SYSTEMS, CLADDING, SKYLIGHT, WINDOW MULLIONS, ETC.
 - SUPPORT AND BRACING OF MECHANICAL AND ELECTRICAL SYSTEMS AND EQUIPMENTS FOR GRAVITY, WIND AND SEISMIC LOADS.
 - NON-STRUCTURAL MASONRY.

EXISTING STRUCTURES:

- PRIOR TO CONSTRUCTION THE CONTRACTOR SHALL VERIFY ALL RELEVANT DIMENSIONS TO AND OF EXISTING STRUCTURES. NOTIFY DEPARTMENTAL REPRESENTATIVE IMMEDIATELY IF DISCREPANCIES ARE NOTED.
- THE CONTRACTOR SHALL AT HIS OWN EXPENSE REPAIR AND MAKE GOOD ANY DAMAGE TO THE EXISTING STRUCTURE, EQUIPMENT AND FINISHES CAUSED BY THE CONSTRUCTION ACTIVITIES. REPAIRS SHALL BE TO THE SATISFACTION OF THE DEPARTMENTAL REPRESENTATIVE.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE TEMPORARY SUPPORT OF EXISTING STRUCTURES AND ANY ADJACENT EXISTING STRUCTURES DURING CONSTRUCTION.
- THE CONTRACTOR SHALL EXERCISE DUE CARE IN CARRYING OUT ANY ON SITE WELDING IF REQUIRED AND PROVIDE ADEQUATE PROTECTION TO PREVENT SPARKS FROM THE WELDING PROCESS TO FALL OFF. PROVIDE ADEQUATE FIRE PREVENTIVE AND PRECAUTIONARY MEASURES TO PROTECT THE EXISTING BUILDING MATERIALS AND TO PREVENT ANY FIRE HAZARDS.
- PRIOR TO INSTALLING OR CORING OF EXISTING STRUCTURES FOR PASSING OF ELECTRICAL / MECHANICAL CONDUCTS OR DUCTS, CONFIRM THE LOCATION AND SIZE OF THE DRILLING AND CORING WITH THE DEPARTMENTAL REPRESENTATIVE FOR ITS APPROVAL. SCAN THE AREA FOR REBARS SPACING AND LOCATION AND CONFIRM WITH DEPARTMENTAL REPRESENTATIVE PRIOR TO CORING / CUTTING OF THE AREA.
- REFER TO SPECIFICATIONS FOR REQUIREMENTS FOR POST-INSTALLED ANCHOR TO EXISTING STRUCTURES.

DESIGN LOADS:

- THIS STRUCTURE HAS BEEN DESIGNED FOR SNOW, WIND AND SEISMIC FORCES IN SUBSTANTIAL COMPLIANCE WITH THE PROVISIONS SET FORTH IN THE NATIONAL BUILDING CODE OF CANADA 2015. AND THE PART 4 STRUCTURE COMMENTARY L OF NBCC 2015.

GROUND SNOW: Ss = 2.0 kPa
RAIN LOAD: Sr = 0.3 kPa

IMPORTANCE FACTORS FOR SNOW
Is = 1.0 FOR STRENGTH
Is = 0.9 FOR SERVICEABILITY

WIND LOAD: PROBABILITY 1/10 = 0.34 kPa
PROBABILITY 1/50 = 0.44 kPa

IMPORTANCE FACTORS FOR WIND
Iw = 1.0 FOR STRENGTH
Iw = 0.75 FOR SERVICEABILITY

Sa(0.2)	Sa(0.5)	Sa(1.0)	Sa(2.0)	PGA	PGV
0.701	0.597	0.350	0.215	0.306	0.445

Ie = 1.0 FOR STRENGTH
Ie = 1.0 FOR SERVICEABILITY
(CLAUSE 4.1.8.13 FOR SERVICEABILITY)
Fa = 1.05 Sp = 3

SITE CLASS E

- LOAD COMBINATION FOR EXISTING STRUCTURE AS PER COMMENTARY L OF NBCC 2015: 1.11 x DEAD LOAD + 1.2 x SNOW LOAD (RELIABILITY 2)

MISCELLANEOUS STRUCTURAL STEEL

- REFER TO SPECIFICATIONS FOR STEEL GRADES, STEEL WORK, STEEL CONFORMANCE, DESIGN CODE REFERENCES AND OTHER REQUIREMENTS
- DRAWINGS FROM ALL CONSULTANTS SHALL BE EXAMINED FOR EXACT LOCATIONS, DIMENSIONS AND ELEVATIONS.
- CONFIRM ALL LOCATIONS, DIMENSIONS AND ELEVATIONS WITH ACTUAL SITE MEASUREMENTS BEFORE FABRICATION.
- WELDING SHALL BE PERFORMED BY CERTIFIED WELDERS. FABRICATION SHOPS SHALL BE APPROVED BY THE CANADIAN WELDING BUREAU TO CSA-W47.1 (DIVISION 1 OR 2). CERTIFICATIONS SHALL BE SUPPLIED TO THE DEPARTMENTAL REPRESENTATIVE UPON REQUEST.
- COST OF MATERIAL TESTS AND WELDING INSPECTIONS SHALL BE BORNE BY CONTRACTOR.
- REFER TO SPECIFICATIONS FOR GALVANIZING FOR STEEL MEMBERS EXPOSED AT THE EXTERIOR OF BUILDING.

WOOD PRODUCTS

- REFER TO SPECIFICATIONS FOR WOOD GRADES, CODE CONFORMANCE, AND OTHER REQUIREMENTS
- ALL PLATES AND SILLS BEARING ON CONCRETE SHALL BE PRESSURE-TREATED D-FIR OR BETTER.
- UNLESS NOTED OTHERWISE, ALL FASTENERS SHALL BE HOT DIPPED GALVANIZED STEEL OR STAINLESS STEEL.
- ALL WOOD PRODUCTS SHALL BE PRESSURE TREATED.

ABBREVIATIONS

A.BOLT	ANCHOR BOLT	L.V.	LENGTH VARIES
ALT.	ALTERNATE	LG.	LONG
ARCH.	ARCHITECTURAL	LL	LOW LEVEL
BLDG.	BUILDING	LLV	LONG LEG VERTICAL
BOT.	BOTTOM	LLH	LONG LEG HORIZONTAL
BTW.	BETWEEN	LONG.	LONGITUDINAL
C/C	CENTER TO CENTER	MAX.	MAXIMUM
C/W	COMPLETE WITH	MECH.	MECHANICAL
C.I.P.	CAST IN PLACE	MIN.	MINIMUM
CANT.	CANTILEVER	N/A	NOT AVAILABLE
CL.	CLEAR	N.S.	NEAR SIDE
COL.	COLUMN	N.STUD	NELSON STUD
CONC.	CONCRETE	N.T.S.	NOT TO SCALE
CONT.	CONTINUOUS	O/C	ON CENTRES
DL	DEAD LOAD	OPP.	OPPOSITE HAND
DN	DOWN	OWSJ	OPEN WEB STEEL JOIST
DO.	DITTO	P.C.	PRECAST CONCRETE
DP.	DEEP	PL	PLATE
DWG.	DRAWING	PLY.	PLYWOOD
E.W.	EACH WAY	PROJ.	PROJECTION
E.F.	EACH FACE	R/W	REINFORCED WITH
ELEC.	ELECTRICAL	R/C	REINFORCED CONCRETE
ELEV.	ELEVATION	S.O.G.	SLAB ON GRADE
EXIST.	EXISTING	SIM.	SIMILAR
EXT.	EXTERIOR	STAGG.	STAGGERED
FL	FLOOR	T&B	TOP AND BOTTOM
F.S.	FOOTING STEP	T&G	TONGUED & GROOVED
FDN.	FOUNDATION	T.O.C/S	TOP OF CONCRETE/STEEL
FTG.	FOOTING	THK.	THICK
G.L.	GRID LINE	TJ	TIE JOIST
GALV.	GALVANIZED	TRAN.	TRANSVERSE
H1E	HOOK ONE END	TYP.	TYPICAL
H2E	HOOK TWO ENDS	U/S	UNDERSIDE
HL	HIGH LEVEL	U.N.O.	UNLESS NOTED OTHERWISE
HORIZ.	HORIZONTAL	VERT.	VERTICAL
INT.	INTERIOR		

DRAWING LIST (STRUCTURAL)	
S1	GENERAL NOTES
S2	FIRST FLOOR PLAN & DETAILS
S3	SECOND FLOOR PLAN & ROOF PLAN
S4	SECTIONS & DETAILS

Revision/	Description/Description	Date/Date
2	ISSUED FOR TENDER	2020.11.18
1	ISSUED FOR 99% SUBMISSION	2020.10.02
0	ISSUED FOR 99% REVIEW	2020.09.24

Client/client

CORRECTIONAL SERVICE CANADA

Project title/Titre du projet
ABBOTSFORD, BRITISH COLUMBIA
33344 KING ROAD
MATSQUI INSTITUTION BUILDING M2C
MATSQUI LIVING UNIT 5
UNDERSLAB SUPPLY
VENTING REPAIR

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PL

Designed by/Concept par

PL / J.L.

Drawn by/Dessiné par

BM

PWGSC Project Manager/Administrateur de Projets TPSGC

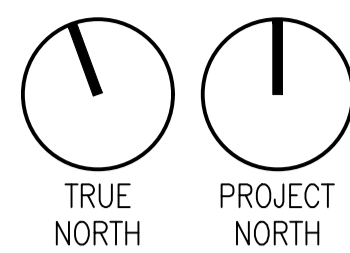
KEN WENDT

Regional Manager, Architectural and Engineering Services
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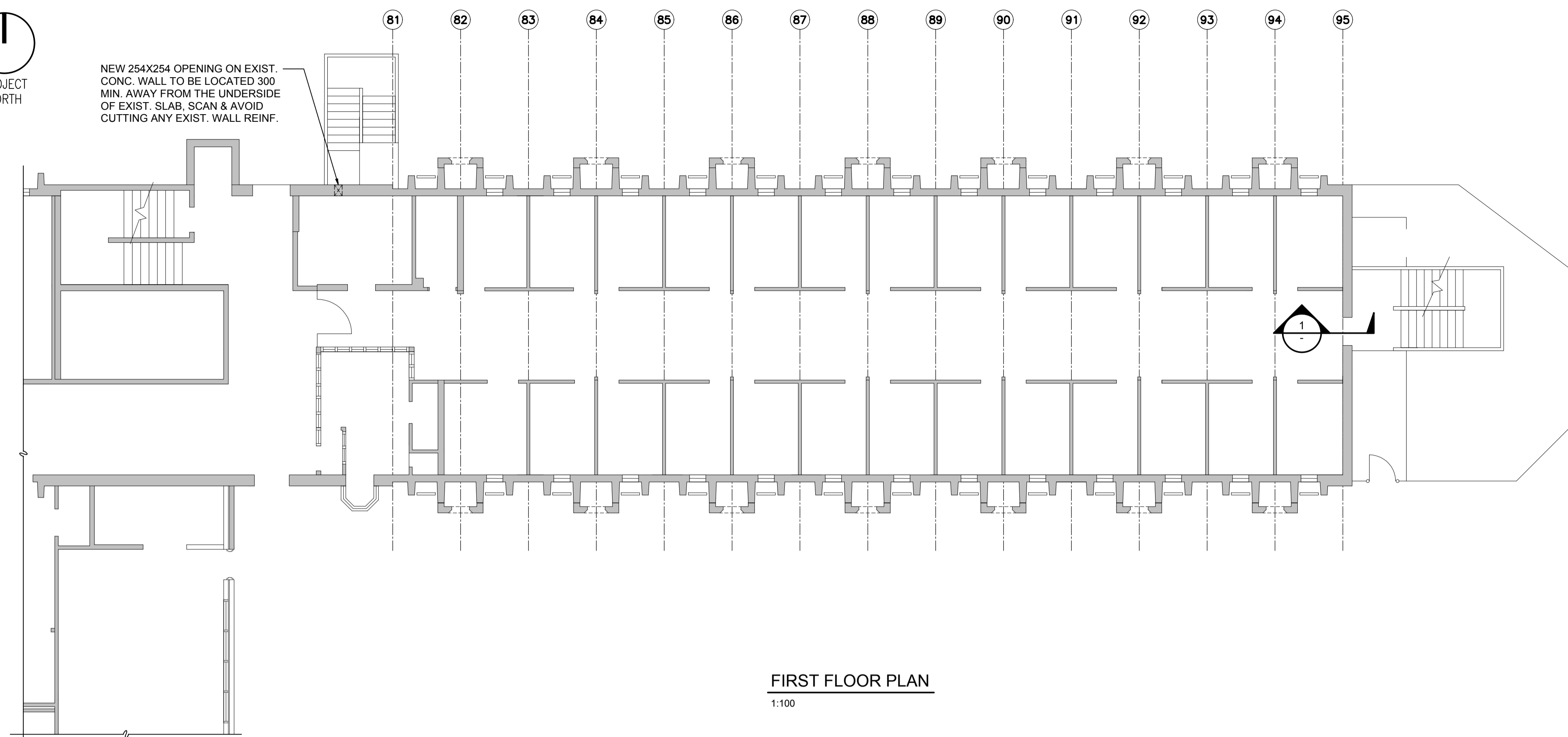
PREETIPAL PAUL

Drawing title/Titre du dessin

GENERAL NOTES

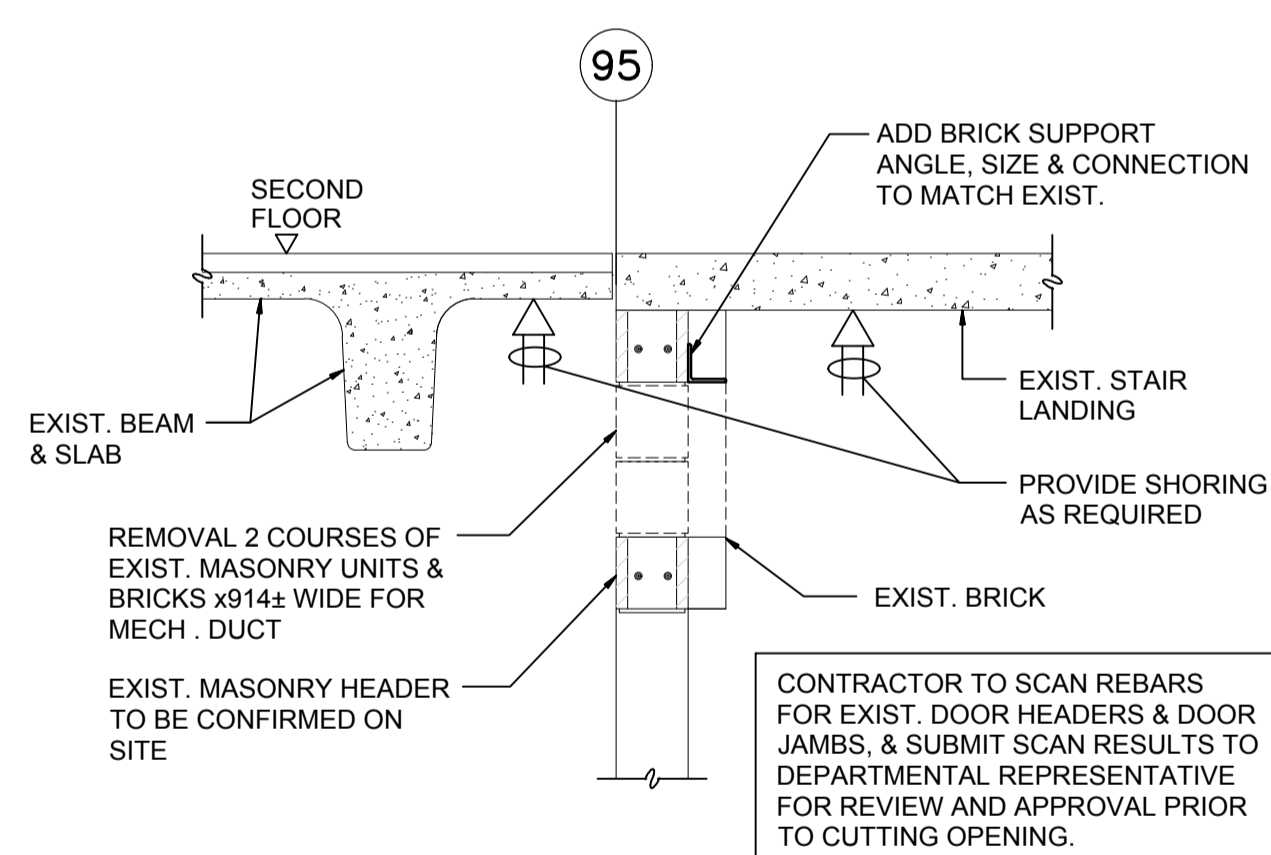


NEW 254X254 OPENING ON EXIST. CONC. WALL TO BE LOCATED 300 MIN. AWAY FROM THE UNDERSIDE OF EXIST. SLAB. SCAN & AVOID CUTTING ANY EXIST. WALL REINF.



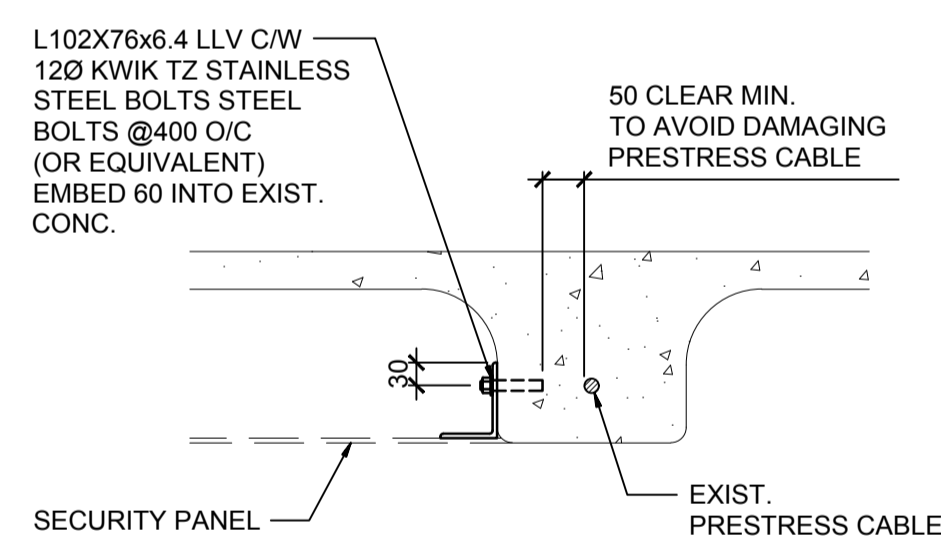
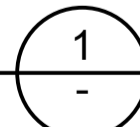
FIRST FLOOR PLAN

1:100



DETAIL FOR MASONRY OPENING FOR MECHANICAL DUCT

1:20



TYPICAL CONNECTION FOR SECURITY PANELS

PRIOR TO INSTALLATION OF ANY ANCHORS / SCREWS TO THE STEMS OF THE PRECAST ROOF OR FLOOR BEAMS, SCAN THE PRECAST STEMS FROM BOTH UNDERSIDE AND SIDE FACE TO IDENTIFY THE LOCATIONS OF EXISTING PRESTRESS STRANDS AND REINFORCEMENT. SUBMIT SCAN RESULTS TO DEPARTMENTAL REPRESENTATIVE FOR REVIEW AND APPROVAL PRIOR TO DRILLING. DURING INSTALLATION, AVOID CUTTING OF ANY PRESTRESSING STRANDS AND REINFORCEMENT IN THE BEAMS.

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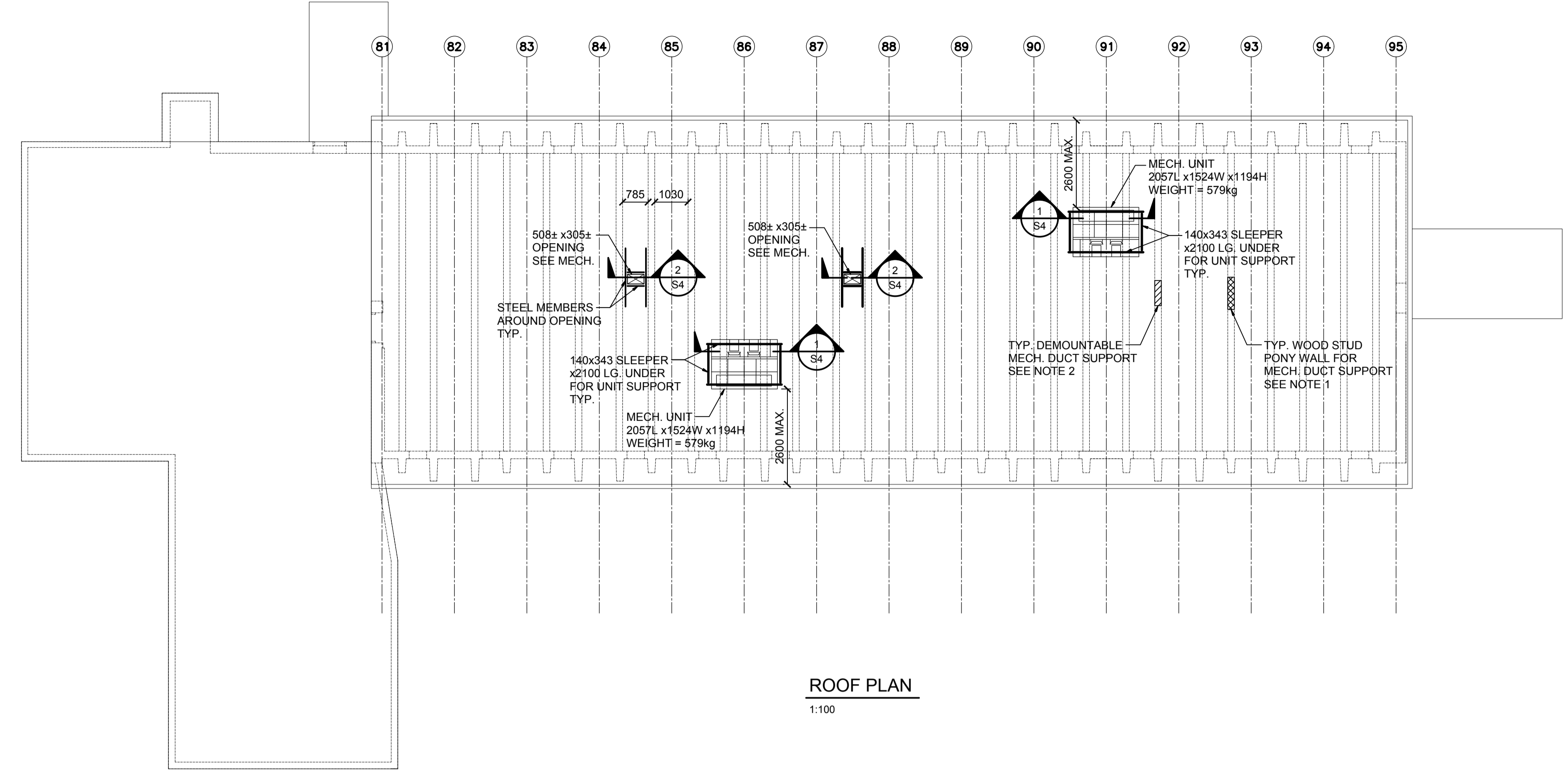
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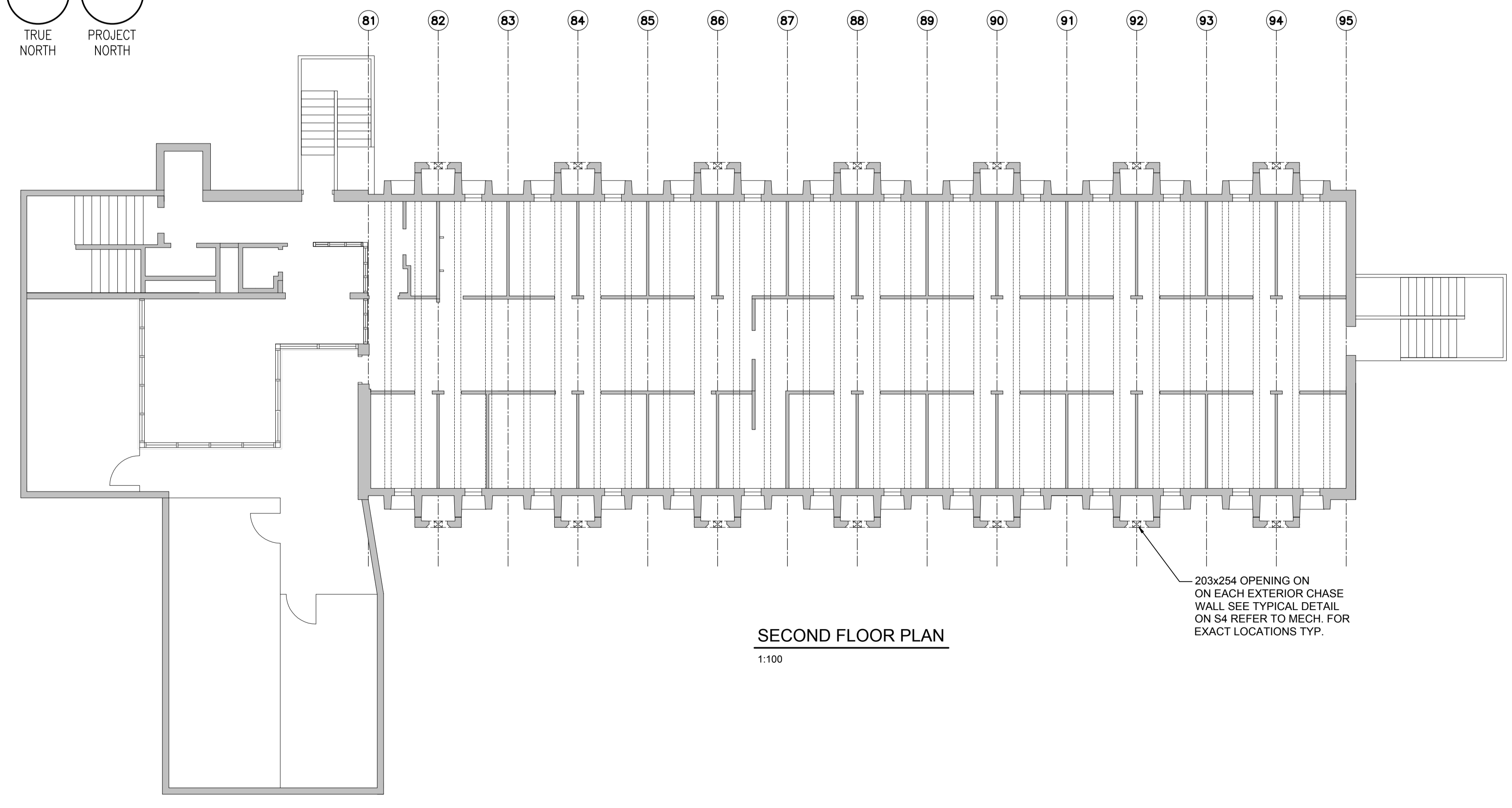
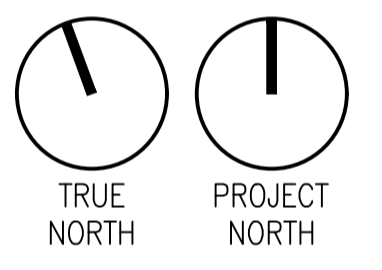
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**FIRST FLOOR PLAN
 & DETAILS**

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ROOF PLAN
1:100



SECOND FLOOR PLAN
1:100

- NOTES:
- WOOD STUD PONY WALLS ON ROOF FOR MECHANICAL DUCT SUPPORTS TO RESIST GRAVITY, LATERAL WIND/SEISMIC LOADS FROM BOTH DIRECTIONS AND ITS CONNECTIONS TO EXISTING CONCRETE ROOF STRUCTURAL MEMBERS SHALL BE RESPONSIBLE BY CONTRACTOR. SUBMIT SIGNED AND SEALED SHOP DRAWINGS FOR REVIEW AND APPROVAL. SEE ARCH. FOR EXACT LOCATIONS AND EXTENTS.
 - DE-MOUNTABLE SUPPORT FOR MECHANICAL DUCT ON EXIST. ROOF SHALL BE DESIGNED BY CONTRACTOR'S ENGINEERS. SUBMIT SIGNED AND SEALED SHOP DRAWINGS FOR REVIEW AND APPROVAL. SEE ARCH. FOR EXACT LOCATIONS AND EXTENTS.
 - WOOD STUD PONY WALLS ON ROOF FOR MECHANICAL DUCT SUPPORTS SHALL BE LOCATED AT THE RIB MEMBERS OF THE PRECAST ROOF STRUCTURAL BEAMS.
 - PRIOR TO INSTALLATION OF ANY ANCHORS / SCREWS TO THE STEMS OF THE PRECAST ROOF OR FLOOR BEAMS / PANELS, SCAN THE AREA TO AVOID CUTTING OF ANY REINFORCEMENT OR PRESTRESSING STRANDS IN THESE BEAMS / PANELS. SUBMIT SCAN RESULTS FOR REVIEW AND APPROVAL.
 - GRAVITY SUPPORTS AND SEISMIC / WIND RESTRAINTS OF MECHANICAL WORK AND ITS CONNECTIONS TO EXISTING CONCRETE MEMBERS SHALL BE RESPONSIBLE BY CONTRACTOR. SUBMIT SIGNED AND SEALED SHOP DRAWINGS FOR REVIEW AND APPROVAL.
 - CORING ON EXISTING MASONRY WALL FOR PIPES SHALL BE LIMITED TO 64 MM DIAMETER MAXIMUM. CORING ON EXISTING ROOF SLAB FOR PIPES SHALL BE LIMITED TO 75MM DIAMETER MAXIMUM. PROVIDE REBAR SCANNING ON THE MASONRY WALL AND ROOF SLAB PRIOR TO CORING AND SUBMIT SCAN RESULT FOR REVIEW. DO NOT CUT OR DAMAGE ANY REBARS DURING CORING.

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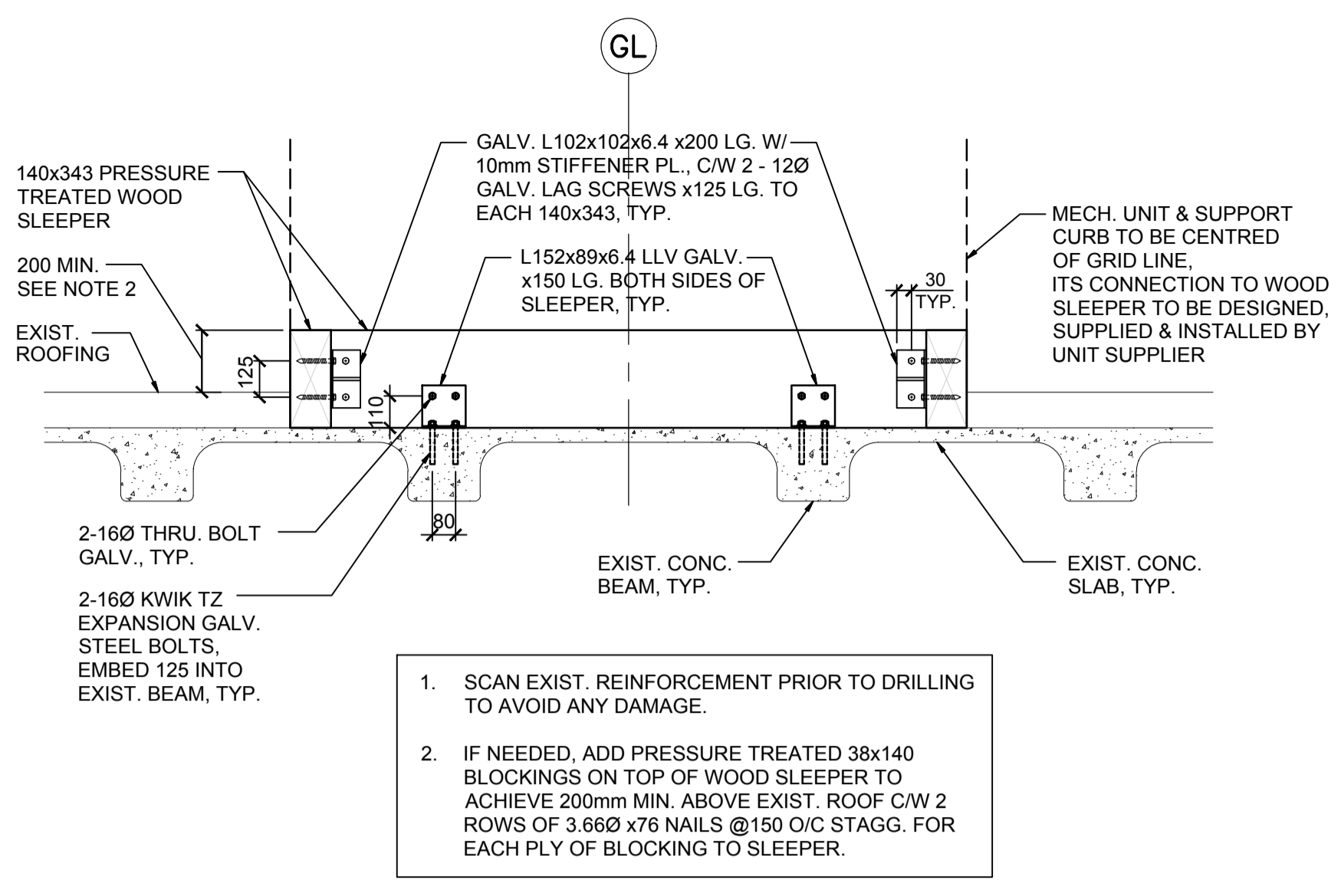
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PREETIPAL PAUL

Drawing title/Titre du dessin
**SECOND FLOOR PLAN
& ROOF PLAN**

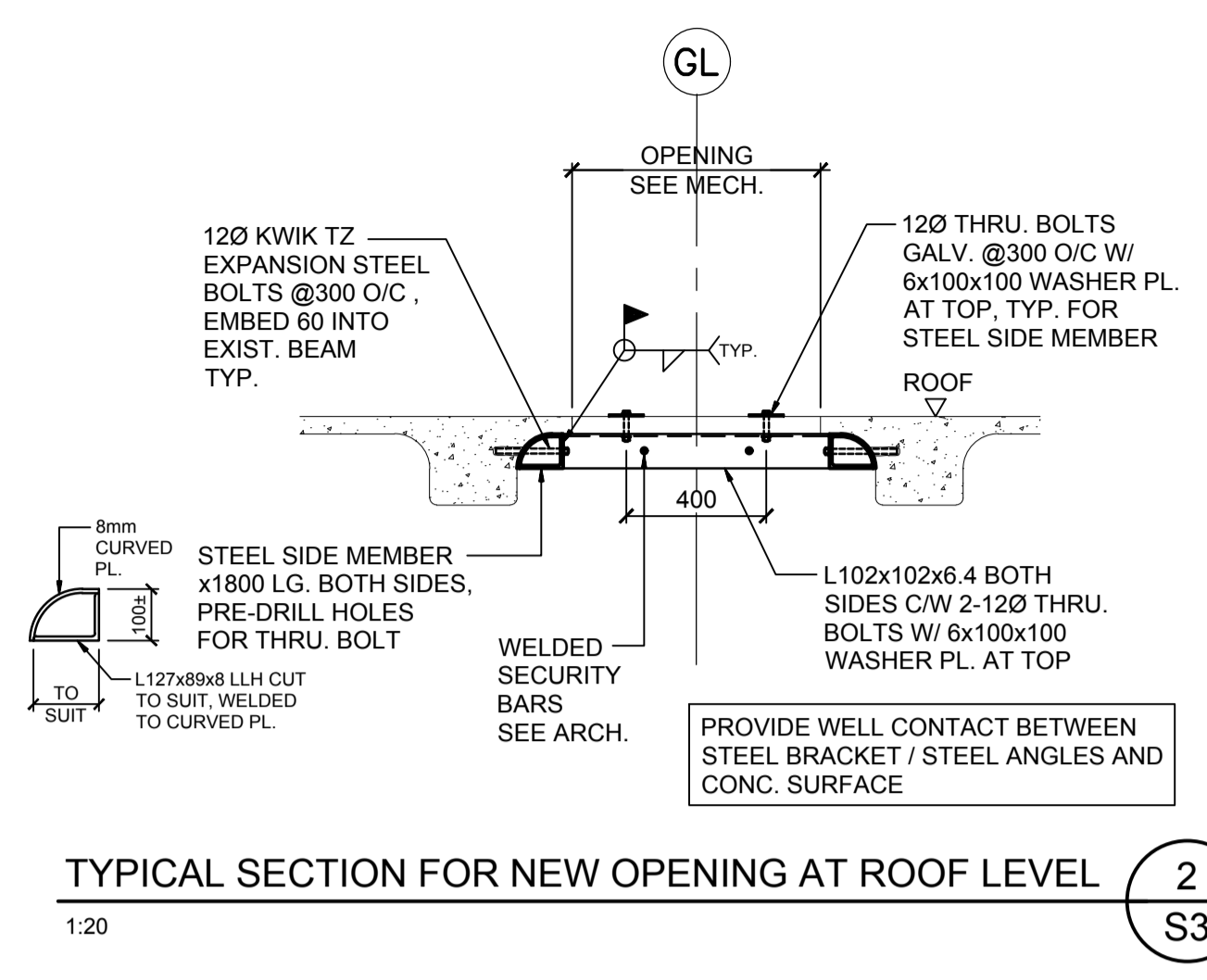
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Revision no./La Révision no.
2



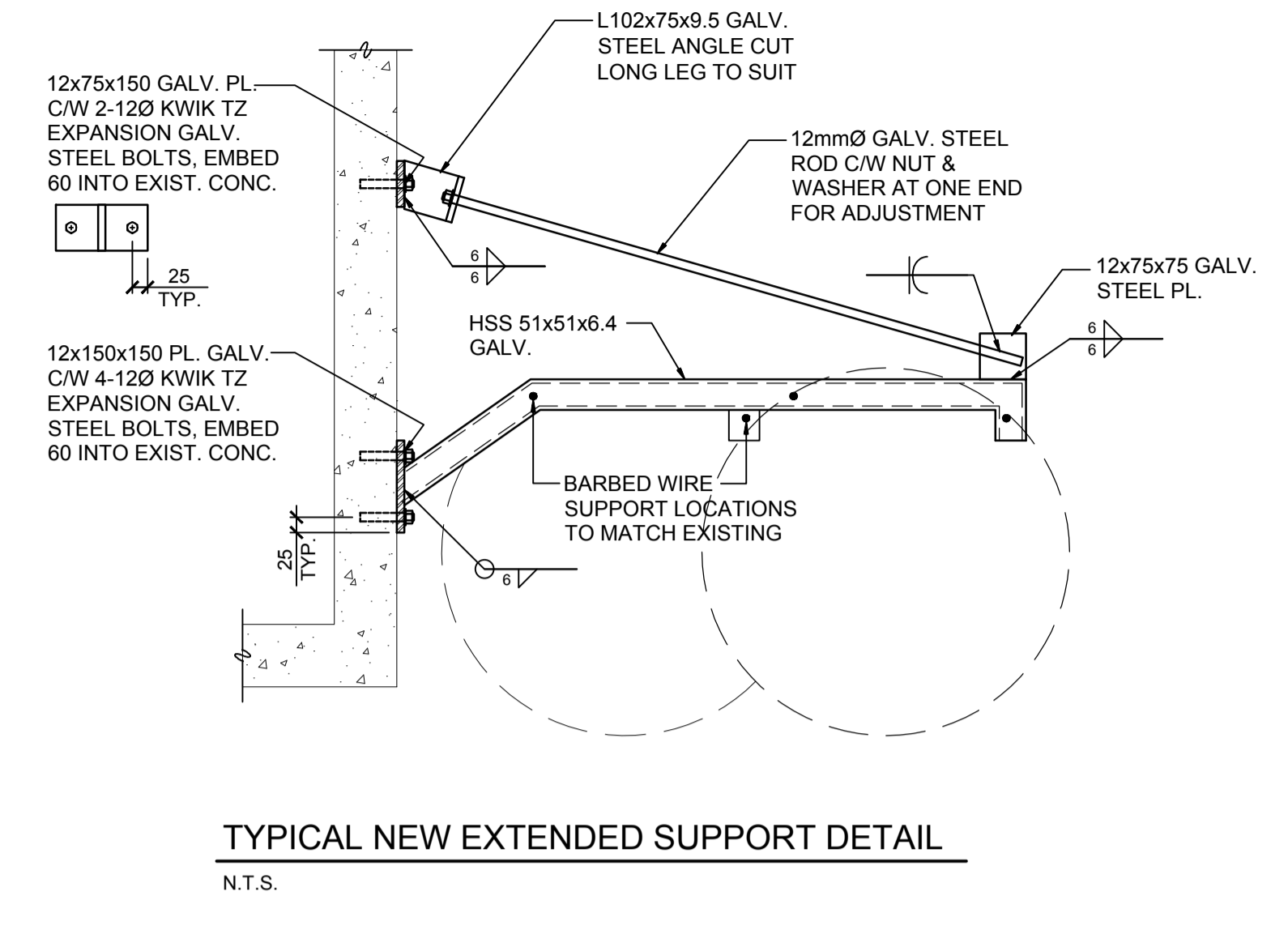


1. SCAN EXIST. REINFORCEMENT PRIOR TO DRILLING TO AVOID ANY DAMAGE.
2. IF NEEDED, ADD PRESSURE TREATED 38x140 BLOCKINGS ON TOP OF WOOD SLEEPER TO ACHIEVE 200mm MIN. ABOVE EXIST. ROOF C/W 2 ROWS OF 3.660 x76 NAILS @150 O/C STAGG. FOR EACH PLY OF BLOCKING TO SLEEPER.

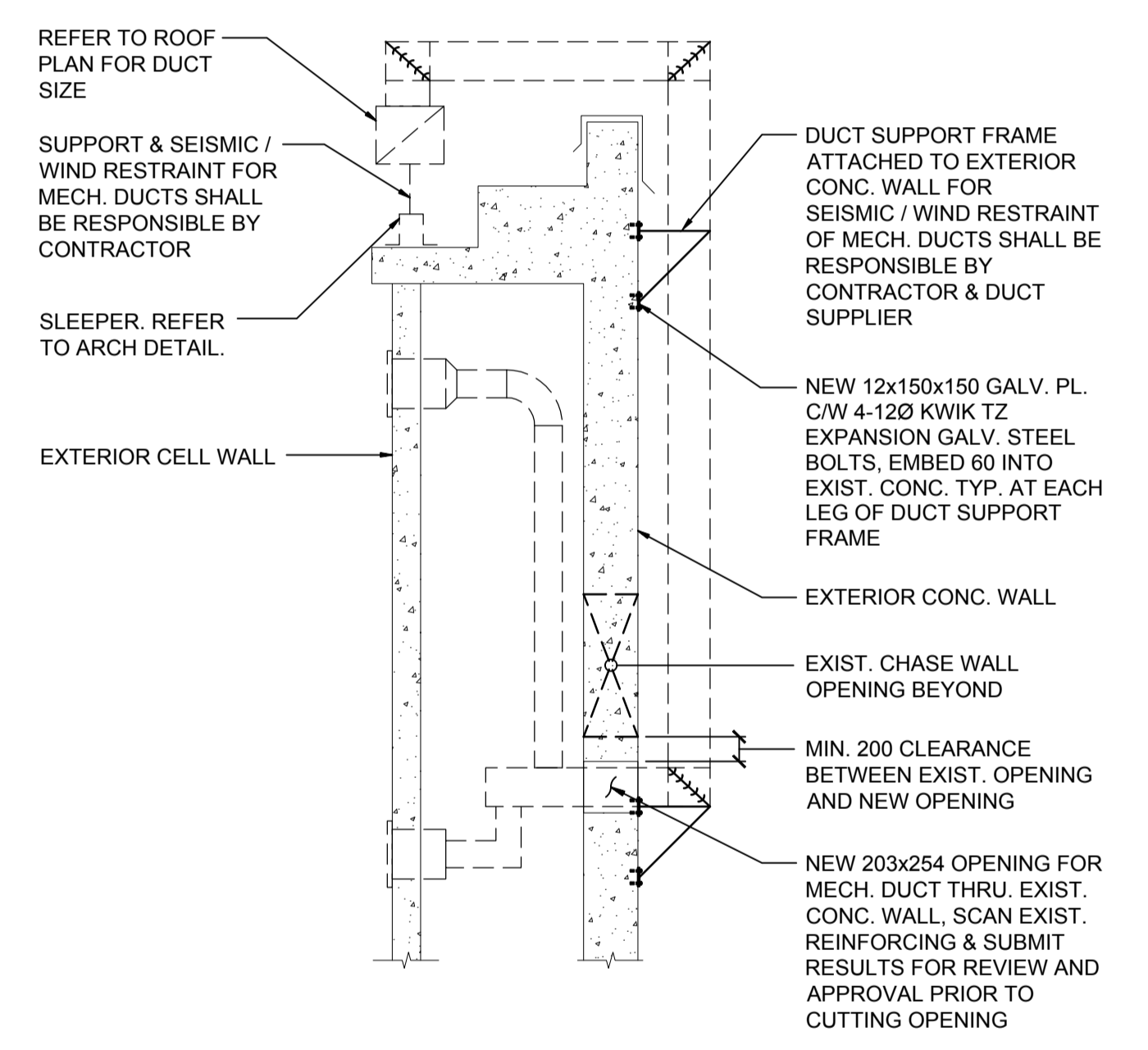
TYPICAL SECTION FOR MECHANICAL UNIT SUPPORT 1 S3
1:20



TYPICAL SECTION FOR NEW OPENING AT ROOF LEVEL 2 S3
1:20



TYPICAL NEW EXTENDED SUPPORT DETAIL N.T.S.



TYPICAL DETAIL FOR DUCT EXTERIOR SUPPORT N.T.S.

- NOTES:
1. ALL ANCHORS CAN BE SUBSTITUTED BY EQUIVALENT PRODUCTS SUBMIT TO DEPARTMENTAL REPRESENTATIVES FOR APPROVAL.
 2. ALL STEEL COMPONENTS AND FASTENERS EXPOSED AT EXTERIOR OF BUILDING SHALL BE HOT DIP GLAV. TO 610 g / m²

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