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Last Plotted: 2025-06-05 12:51:29 PM
FILENAME: Autodesk Docs\\JBP-AMEC (CAN) 60723990-FMAA QTA\\60723990-FMAA QTA-01-US-R23.rvt

GENERAL NOTES

- ALL DRAWINGS DIMENSIONS SHOWN ARE IN MILLIMETRES (mm) UNLESS NOTED OTHERWISE.
- THE LOCATION OF POLE LINES, CONDUITS, WATER MAIN, SEWERS AND OTHER UTILITIES ARE NOT NECESSARILY SHOWN ON THE CONTRACT DRAWINGS, AND WHERE SHOWN THE ACCURACY OF THE LOCATION OF SUCH UTILITIES AND STRUCTURES IS NOT GUARANTEED.
- BEFORE STARTING WORK THE CONTRACTOR SHALL INFORM THEMSELVES OF THE EXACT LOCATION OF ALL UTILITIES AND STRUCTURES AND SHALL ASSUME ALL LIABILITY FOR DAMAGE TO THEM.
- SAFEGUARD ALL EXISTING STRUCTURES, SERVICES AND UTILITIES WHICH WILL BE AFFECTED BY THE WORK OF THIS CONTRACT.
- EXISTING UTILITIES SHALL REMAIN OPERATIONAL THROUGHOUT CONSTRUCTION. FIELD VERIFY EXISTING UTILITIES PRIOR TO CONSTRUCTION.
- UTILITIES DAMAGED OR DISTURBED DURING CONSTRUCTION SHALL BE REPAIRED OR REPLACED AS DIRECTED BY THE RECORD ENGINEER AT THE CONTRACTORS EXPENSE.
- ALL WORK SHALL MEET THE MINIMUM STANDARDS AND FULL SPECIFICATIONS OF THE CONTRACT DOCUMENTS. THE NATIONAL BUILDING CODE OF CANADA 2020 (NBCC 2020) AND THE OCCUPATIONAL HEALTH AND SAFETY ACT (OHS) AND NATIONAL BUILDING CODE OF CANADA - ALBERTA EDITION 2019 (NBCAE).
- ORGANIC, OR UNSTABLE MATERIALS SHALL BE REMOVED AND DISPOSED OF OFF-SITE, AND THESE AREAS BACKFILLED WITH AN APPROVED GRANULAR MATERIAL, TO THE SATISFACTION OF THE RECORD ENGINEER.
- ALL DIMENSIONS SHALL BE VERIFIED IN THE FIELD BEFORE PROCEEDING WITH WORK AND ANY DISCREPANCIES REPORTED TO THE RECORD ENGINEER.
- ALL WORK SHALL CONFORM TO THE BEST PRACTICE OF EACH TRADE UNLESS SHOWN OR NOTED OTHERWISE. USE CONSTRUCTION DETAILS AND PRACTICES COMMON TO THE STANDARDS OF THE TRADE.
- DRAWINGS SHALL BE READ IN CONJUNCTION WITH SPECIFICATIONS.
- COORDINATE WITH EQUIPMENT SUPPLIER AND APPROPRIATE DISCIPLINE FOR SIZE AND LOCATION OF EQUIPMENT PADS AND ANCHOR BOLTS.
- FOR LOCATION OF EQUIPMENT BASES, SEE BUILDING MECHANICAL, ELECTRICAL, AND STRUCTURAL DRAWINGS. CARRY FLOOR FINISHES UP TO AND OVER EQUIPMENT BASES TO SUIT EQUIPMENT SUPPLIED.
- REFER TO MECHANICAL, AND ELECTRICAL DRAWINGS FOR ADDITIONAL WALL PENETRATIONS. PROVIDE LINTELS OVER ALL OPENINGS AS PER LINTEL SCHEDULE ON STRUCTURAL DRAWINGS.
- ALL OPENINGS THROUGH FIRE SEPARATION WALLS AND SLABS MUST BE APPROVED UNDERWRITERS LABORATORIES OF CANADA (ULC) RATED FIRE STOP AND ASSEMBLIES.
- ALL OPENINGS THROUGH EXTERIOR AND INTERIOR NON-RATED WALLS MUST BE PROPERLY SEALED AND CAULKED AND WITH METAL FLASHING (WHERE IT IS APPLICABLE) WITH APPROVED ASSEMBLIES UNLESS NOTED OTHERWISE.
- THE CONTRACTOR SHALL SUPPLY, REMOVE AND DESIGN ALL TEMPORARY BRACING AND FALSEWORK, EXCAVATION SUPPORT SYSTEMS AND DEWATERING NECESSARY TO UNDERTAKE THE WORK.
- DRAWINGS SHOW COMPLETED STRUCTURES ONLY. CONTRACTOR TO DESIGN AND PROVIDE TEMPORARY FALSEWORK AND BRACING FOR CONSTRUCTION LOADING CONDITIONS.
- CONTRACTOR TO PREPARE AND MAINTAIN A WORKING AS BUILT FULL SIZE 'REDLINE' MARKUP SET OF THE CONTRACT DRAWINGS. WORKING AS BUILT'S SHALL BE KEPT CURRENT ON A WEEKLY BASIS AND BE AVAILABLE ON THE JOB SITE AT ALL TIMES. THE 'REDLINE' SET SHALL DEPICT ALL CURRENT VARIATIONS/DEVIATIONS (INCLUDING, BUT NOT LIMITED TO THE FOLLOWING: ADDENDUMS, CHANGE ORDERS, FIELD ADJUSTMENTS, EXISTING AND NEW UTILITY LINES). MEASUREMENTS ARE TO BE SHOWN FOR ALL CHANGE OF DIRECTION POINTS AND ALL COMPONENTS. THESE SHALL BE SHOWN WITH TWO OFFSET DISTANCES TO PERMANENTLY FIXED FEATURES.

STRUCTURAL GENERAL NOTES

- READ STRUCTURAL DRAWINGS IN CONJUNCTION WITH OTHER DISCIPLINES AND SPECIFICATIONS. REPORT ANY DISCREPANCIES.
- ALL DIMENSIONS GIVEN ON THE STRUCTURAL DRAWINGS MUST BE CHECKED AGAINST THE OTHER DISCIPLINES DRAWINGS AND ANY INCONSISTENCIES REPORTED TO THE RECORD ENGINEER BEFORE PROCEEDING WITH THE WORK. STRUCTURAL DRAWINGS MUST NOT BE SCALED.
- SEE MECHANICAL AND ELECTRICAL DRAWINGS FOR SIZE AND LOCATION OF OPENINGS THROUGH STRUCTURAL ELEMENTS. OBTAIN APPROVAL FROM THE RECORD ENGINEER BEFORE INSTALLING OPENINGS OR SLEEVES NOT SHOWN ON THE STRUCTURAL DRAWINGS. SEE TYPICAL STANDARD DRAWINGS FOR REINFORCEMENT REQUIREMENTS AND LIMITATIONS ON SIZE AND SPACING OF OPENINGS.
- ALL PIPE PENETRATIONS THROUGH CONCRETE WALLS SHALL BE WATERTIGHT. EXTEND WATERPROOFING SYSTEM ON TO PIPES AND OTHER PENETRATIONS.
- COORDINATE WITH EACH DISCIPLINE'S DRAWINGS AND WITH EQUIPMENT SUPPLIERS SHOP DRAWINGS FOR SIZE AND LOCATIONS FOR EQUIPMENT, PIPING ETC.
- WHERE THE STRUCTURAL THICKNESS OF A SLAB VARIES OR WHERE THE TOP SURFACE OF A SLAB IS SHOWN SLOPED, MAINTAIN CONSTANT COVER TO THE REINFORCING STEEL. TOP REINFORCING STEEL SHALL FOLLOW THE SLOPE OF THE SLAB UNLESS SPECIFICALLY OTHERWISE NOTED. ALL DIMENSIONS AND ELEVATIONS SHOWN ON STRUCTURAL DRAWINGS ARE TO THE STRUCTURAL CONCRETE OR STEEL ONLY.
- ALL EMBEDDED ITEMS REQUIRED FOR MECHANICAL, ELECTRICAL AND INSTRUMENTATION SERVICES SHALL BE INCORPORATED INTO THE STRUCTURES. ELECTRICAL CONTRACTOR SHALL PROVIDE A DETAILED DRAWING SHOWING THE PROPOSED LOCATION AND SIZE OF CONDUITS IN CONCRETE SLABS FOR APPROVAL PRIOR TO PLACEMENT OF CONCRETE SLAB. CORING AND SAW CUTTING AFTER SLAB CONSTRUCTION WILL NOT BE PERMITTED.
- THE STRUCTURE IS DESIGNED TO RESIST DESIGN LOADS IN THE COMPLETED STAGE ONLY. ANY CONSTRUCTION LOADING IMPOSED ON THE PARTIALLY COMPLETED STRUCTURE, INCLUDING THE REMOVAL OF SUPPORT BRACING, SHORING AND FORM WORK FOR CONCRETE, REQUIRES VERIFICATION.
- CHAMFER ALL EXTERNAL CORNERS, VISIBLE AND ABOVE GRADE 20mm x 20mm UNLESS OTHERWISE SHOWN ON DRAWINGS.
- ALL LAP REINFORCING BARS SHALL BE AS PER STANDARD DETAILS UNLESS OTHERWISE NOTED.
- CONSTRUCTION JOINTS OTHER THAN THOSE SHOWN ON THE DRAWINGS WILL NOT BE PERMITTED WITHOUT APPROVAL OF THE ENGINEER. LOCATIONS AND DETAILS OF CONSTRUCTION JOINTS NOT SHOWN ON DRAWINGS SHALL BE SUBMITTED TO THE RECORD ENGINEER FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION.
- PROVIDE ADEQUATE MEANS OF DEWATERING TO ENSURE EXCAVATIONS ARE DRY AT ALL TIMES. PLACEMENT OF CONCRETE SHALL ONLY BE MADE IN DRY EXCAVATIONS. THE METHOD OF DEWATERING SHALL BE SUCH TO PREVENT SETTLEMENT OF AND DAMAGE TO ADJACENT STRUCTURES.
- SLEEVES, DUCTS, PIPES OR OTHER OPENINGS SHALL NOT PASS THROUGH BEAMS, COLUMNS, TANK WALLS OR TANK SLABS EXCEPT WHERE DETAILED ON THE DRAWINGS.

CONSTRUCTION SAFETY REGULATIONS / SITE REQUIREMENTS

- ALL WORK SHALL BE IN ACCORDANCE WITH THE ALBERTA OCCUPATIONAL HEALTH AND SAFETY ACT AND REGULATIONS FOR CONSTRUCTION PROJECTS.

REFERENCE DESIGN CODES

- DESIGN LIVE LOADS ARE SHOWN ON INDIVIDUAL DRAWINGS. THE STRUCTURAL DESIGN IS BASED ON THE FOLLOWING CODES (AND ASSOCIATED REFERENCED CODES):
 - NATIONAL BUILDING CODE OF CANADA - ALBERTA EDITION 2019
 - CANADIAN STANDARDS ASSOCIATION (CSA) STANDARD A23.3 - CSA STANDARD S304.1
 - CSA STANDARD S16 - CSA STANDARD O86

DESIGN PARAMETERS

GROUND SNOW LOAD :	1.5 kPa
RAIN :	0.1 kPa
WIND PRESSURE :	(1/50) 0.35 kPa
IMPORTANCE FACTOR I :	NORMAL
EARTHQUAKE :	Sa(0.2) = 0.108 Sa(2.0) = 0.0242 Sa(0.5) = 0.102 Sa(5.0) = 0.00533 Sa(1.0) = 0.0557 Sa(10.0) = 0.00165 PGA = 0.0629 PGV = 0.0563

SITE CLASS = D

DESIGN PARAMETERS

CLADDING & CURTAIN WALL: NET WIND LOAD:	POSITIVE PRESSURE: 0.84 kPa (ULS) SUCTION: -0.85 kPa (ULS) POSITIVE PRESSURE: 0.63 kPa (SLs) SUCTION: -0.64 kPa (SLs)
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EXCAVATION AND BACKFILL

- ALL EXCAVATION AND BACKFILL WORK TO BE IN ACCORDANCE WITH ACI 336.3R-14 AND THE RECOMMENDATIONS GIVEN IN ENGINEERING REPORT - "GEOTECHNICAL INVESTIGATION "PROPOSED CAR WASH FACILITY - FORT McMURRAY INTERNATIONAL AIRPORT" DATED FEBRUARY, 2019 BY WOOD, PLUS AMENDMENTS.
- EXCAVATE TO LINES AND LEVELS NECESSARY TO COMPLETE THE WORK. CONTROL EXCAVATIONS, GROUNDWATER AND RUNOFF SUCH THAT SITE SOILS ARE NOT SOFTENED. DETERMINE EXCAVATION SIDE SLOPES AS REQUIRED TO SUIT CONDITIONS.
- EXCAVATIONS SHALL BE INSPECTED BY THE RECORD ENGINEER DURING CONSTRUCTION TO CONFIRM THE SUBSURFACE PROFILE. RECORD ENGINEER TO BE FINAL AUTHORITY ON ALL SOIL EXCAVATION AND REPLACEMENT WORK.
- REFER TO THE SPECIFICATIONS FOR FILL TYPES AND COMPRESSIVE STRENGTHS.
- WHERE BACKFILL IS REQUIRED ON BOTH SIDES OF A WALL OR STRUCTURE, PLACE BACKFILL BOTH SIDES WITH A MAXIMUM ONE LIFT DIFFERENCE BETWEEN SIDES.
- ALL BACKFILL SHALL BE MECHANICALLY COMPACTED TO ACHIEVE MINIMUM SPMD% AS NOTED IN THE GEOTECHNICAL REPORT.
- EXTENS OF SUB-CUT AND SOIL REPLACEMENT TO BE MINIMUM 1500 BEYOND BUILDING EXTERIOR SLAB-ON-GRADE FOOTPRINT.

FOUNDATIONS

- FOUNDATION DESIGN IS BASED ON GEOTECHNICAL INVESTIGATION REPORT PREPARED BY AMEC FOSTER WHEELER ENVIRONMENT & INFRASTRUCTURE.
- GENERALLY STRUCTURE FOUNDATIONS ARE FOUND ON NATIVE SUBGRADE WITH FACTORED ULS BEARING PRESSURE OF 112.5 kPa.
- PROVIDE A 100mm THICK CONCRETE SLAB (WORKING SKIM SLAB) ON ALL EXCAVATED SLAB, UNLESS NOTED OTHERWISE.
- SUBGRADE CONDITIONS SHALL BE INSPECTED BY A GEOTECHNICAL ENGINEER.

CONCRETE

- PROVIDE CONCRETE AND PERFORM WORK IN ACCORDANCE WITH CSA-A23.1.
- ALL CONCRETE SHALL BE NORMAL-DENSITY WITH NORMAL-DENSITY FINE AND COARSE AGGREGATE AND BE PROPORTIONED TO MEET THE FOLLOWING REQUIREMENTS :

LOCATION	CSA EXP. CLASS	CEMENT TYPE	MINIMUM COMPRESSIVE STRENGTH (MPa)	MAX. AGG. (mm)	AIR CONT. (%)
FOUNDATION WALL AND FOOTING	C-1	GU	35 @ 28 DAYS	20	4 - 6
INTERIOR SLABS	N	GU	30 @ 28 DAYS	20	4 - 6
EXTERIOR SLAB, CAR WASH AREA	C-1	GU	35 @ 28 DAYS	20	4 - 6

- FLY ASH CONTENT SHALL CONTAIN MINIMUM 25% OF TOTAL CEMENTITIOUS MATERIALS FOR FLOOR SLABS, BEAMS, AND TOPPINGS, 40% FOR OTHER CONCRETE.
- ADMIXTURES CONTAINING CALCIUM CHLORIDE ARE NOT PERMITTED.
- SUPERPLASTICIZING ADMIXTURE IS PERMITTED TO ALLOW PUMPING OR IMPROVE SURFACE FINISHING OF CONCRETE.
- FOR FLOOR SLABS, DESIGN THE CONCRETE MIXTURE WITH AGGREGATE GRADING AND WATER-TO-CEMENTING MATERIALS RATIO THAT MINIMIZE SHRINKAGE.
- CONSTRUCTION JOINTS NOT INDICATED ON THE DRAWINGS SHALL BE LOCATED SO AS TO LEAST IMPAIR THE STRENGTH OF THE STRUCTURE. THE LOCATION OF THESE JOINTS SHALL BE SUBJECT TO THE PRIOR APPROVAL OF THE RECORD ENGINEER. JOINTS SHALL BE IN ACCORDANCE WITH CA/CSA-A23.1 OR AS INDICATED ON DRAWINGS OR DIRECTED BY THE RECORD ENGINEER.

CONCRETE FORMWORK

- FORM WORK: CONFORM TO CAN/CSA0S269.3.
- VOID FORM MATERIALS:
 - TYPE 'A' EXPANDED POLYSTYRENE COMPRESSIBLE FILL MATERIAL.
- REFER TO ARCHITECTURAL DRAWINGS FOR CHAMFERS ON CORNERS OF GRADE BEAMS. USE 20x20mm FORMED CHAMFERS ON EXPOSED CORNERS UNLESS CHAMFERS OF OTHER SIZES ARE SHOWN ON THE DRAWINGS.

CONCRETE REINFORCEMENT

- REINFORCING STEEL SHALL BE BILLET STEEL CONFORMING TO CSA-G30.18 GRADE 400.
- WELDABLE REINFORCING BARS SHALL CONFORM TO CSA-G30.18 GRADE 400W. WELDING OF REINFORCING STEEL SHALL CONFORM TO CSA-W186.
- REINFORCING STEEL SHALL BE DETAILED IN ACCORDANCE WITH THE LATEST EDITION OF THE AMERICAN CONCRETE INSTITUTE (ACI) DETAILING MANUAL OR THE REINFORCING STEEL INSTITUTE OF CANADA DETAILING MANUAL.
- 90° HOOKS AND 180° HOOKS WHERE SHOWN SHALL BE DETAILED AS STANDARD HOOKS UNLESS NOTED OTHERWISE.
- CONCRETE COVER TO REINFORCING STEEL SHALL CONFORM TO THE MOST STRINGENT REQUIREMENT LISTED BELOW UNLESS NOTED OTHERWISE:

CONCRETE CAST AGAINST EARTH OR WORK SLAB	75mm
MAIN FLOOR TOP BARS BOTTOM BARS	40mm 60mm
CONCRETE CAST IN FORMS RATIO OF COVER TO NOMINAL BAR DIAMETER	60mm

- BENDING, CUTTING AND PLACING OF REINFORCING STEEL SHALL CONFORM TO CAN/CSA A23.1 AND CAN/CSA A23.3.
- UNLESS NOTED OTHERWISE, PROVIDE DOWELS OF THE SAME SIZE, NUMBER AND SPACING WHERE REINFORCING IS SPLICED.
- SUBMIT TO THE RECORD ENGINEER FOR REVIEW THE LOCATION OF ALL CONSTRUCTION JOINTS NOT SHOWN ON THE DRAWINGS.
- HORIZONTAL CONSTRUCTION JOINTS SHALL NOT BE MADE IN BEAMS UNLESS SHOWN ON THE DRAWINGS.
- SUBMIT TO THE RECORD ENGINEER FOR REVIEW THE LOCATIONS OF ALL SLEEVES AND OPENINGS NOT SHOWN ON THE DRAWINGS. THE RECORD ENGINEER WILL PROVIDE STRUCTURAL DETAILS AS REQUIRED FOR SLEEVES AND OPENINGS.
- SLEEVES SHALL NOT BE PLACED HORIZONTALLY ALONG OR VERTICALLY THROUGH BEAMS UNLESS AUTHORIZED BY THE RECORD ENGINEER.
- HORIZONTAL CONSTRUCTION JOINTS IN FOUNDATION WALLS ARE NOT PERMITTED EXCEPT WHERE SHOWN ON DRAWINGS OR WHERE AUTHORIZED BY THE RECORD ENGINEER.
- REINFORCING STEEL BAR LAPS SHALL BE CLASS B TENSION SPLICES PER ACI250M-01 UNLESS NOTED OTHERWISE.

CLASS B TENSION SPLICE FOR 30 MPa CONCRETE STRENGTH			
BAR SIZE	BOTTOM BARS	TOP BARS	INTEGRITY STEEL
10M	460	590	460
15M	680	890	680
20M	910	1180	910
25M	1400	1820	1400
30M	1680	2180	1680

CLASS B TENSION SPLICE FOR 35 MPa CONCRETE STRENGTH			
BAR SIZE	BOTTOM BARS	TOP BARS	INTEGRITY STEEL
10M	420	550	420
15M	630	820	630
20M	840	1090	840
25M	1300	1680	1300
30M	1550	2020	1550

- NOTES:
- TOP BAR LENGTHS ARE APPLICABLE TO HORIZONTAL BARS WITH MORE THAN 300mm OF CONCRETE PLACED BENEATH THE BAR.

SLAB ON GRADE

- SEE PLAN AND RELEVANT DETAILS.
- FOLLOW GEOTECHNICAL ENGINEERING REPORT RECOMMENDATIONS FOR SUBGRADE PREPARATION. REFER TO THE REPORT REFERENCED IN THE EXCAVATION AND BACKFILL NOTES.
- ALL CLAY FILL SHALL BE PLACED ON THE "WET SIDE OF OPTIMUM" (AT A MOISTURE CONTENT AT 2% OVER OPTIMUM MOISTURE CONTENT) DURING COMPACTION.
- EXPOSED SUBGRADE SHALL BE PROTECTED FROM FREEZING OR EXCESSIVE DRYING AND WETTING. SHOULD THE MOISTURE CONTENT OF THE SUBGRADE BE DEEMED SUB-OPTIMAL, PERFORM MOISTURE RECONDITIONING AND RE-COMPACTION TO THE SATISFACTION OF THE RECORD ENGINEER.
- PROVIDE 100 THICK VOID FORM AND 300mm THICK COMPACTED GRAVEL BASE UNDER EXTERIOR SLAB ON GRADE.
- PRIOR TO PLACING GRANULAR FILL MATERIALS, PROOF-ROLL EXISTING SUBGRADE TO IDENTIFY INCONSISTENCIES OR SOFT AREAS. PROCEED WITH GRANULAR PLACEMENT ONLY AFTER THESE AREAS HAVE BEEN RE-WORKED AND COMPACTED TO THE SATISFACTION OF THE RECORD ENGINEER.
- THE TRENCHING AND PLACING OF UNDERSLAB UTILITIES SHALL NOT COMMENCE UNTIL THE COMPACTION OF SUBGRADE MATERIAL HAS BEEN INSPECTED, APPROVED AND VERIFIED BY THE RECORD ENGINEER. PROVIDE APPROVED CONVENTIONAL BEDDING SAND OR EQUAL AS UTILITY BASE MATERIAL.
- DO NOT POUR CONCRETE UNTIL ALL ELECTRICAL AND MECHANICAL CONDUITS, PIPING OR OTHER EMBEDDED SERVICES ARE INSTALLED, AND VERIFIED.
- MAINTAIN SLAB THICKNESS INDICATED ON THE DRAWINGS IN ALL CASES.
- CONDUIT OR PIPE SIZE OUTSIDE DIAMETER (OD) SHALL NOT EXCEED 30 PERCENT OF SLAB THICKNESS AND SHALL BE PLACED BETWEEN TOP AND BOTTOM REINFORCING, UNLESS SPECIFICALLY DETAILED OTHERWISE. CONCENTRATION OF CONDUITS OR PIPES SHALL BE AVOIDED EXCEPT WHERE DETAILED OPENINGS ARE PROVIDED.
- PROVIDE SLEEVES FOR PLUMBING AND ELECTRICAL OPENINGS IN CONCRETE BEFORE PLACING. CORING THROUGH CONCRETE IS NOT PERMITTED EXCEPT WHERE SHOWN. NOTIFY THE STRUCTURAL ENGINEER IN ADVANCE OF CONDITIONS NOT SHOWN ON THE DRAWINGS.
- CURE AND PROTECT ALL CONCRETE IMMEDIATELY AFTER PLACEMENT IN ACCORDANCE WITH CSA A23.1.
- APPLY SURFACE SEALERS AS SOON AS POSSIBLE AFTER THE FINAL TROWEL.
- AGREE TO LOCATIONS OF CONSTRUCTION JOINTS WITH RECORD ENGINEER PRIOR TO CONSTRUCTION.

STRUCTURAL STEEL

- THE CONTRACTOR SHALL FIELD CHECK AND VERIFY ALL CONDITIONS AND MEASUREMENTS AT THE SITE AND REPORT TO THE RECORD ENGINEER ANY DISCREPANCIES OR UNSATISFACTORY CONDITIONS WHICH MAY ADVERSELY AFFECT THE PROPER COMPLETION OF THE WORK BEFORE PROCEEDING WITH THE WORK.
- DESIGN LOADS FOR EACH PORTION OF THE STRUCTURE ARE SHOWN. DO NOT EXCEED THESE LOADS DURING CONSTRUCTION OR PROVIDE ADDITIONAL SUPPORT AS REQUIRED.
- ALL SHOP CONNECTIONS SHALL BE WELDED. ALL FIELD CONNECTIONS SHALL BE WELDED OR BOLTED USING HIGH TENSILE BOLTS. BEARING TYPE CONNECTIONS SHALL BE C.I.S.C. DOUBLE ANGLE BEAM CONNECTIONS OR SHEAR PLATES USING A325 BOLTS AND E49XX FILLET WELDS, MINIMUM SIZE OF BOLTS-- 20mm DIAMETER. THEY SHALL BE CAPABLE OF SUPPORTING 50% OF THE TOTAL UNIFORM LOAD CAPACITY CALCULATED USING UNIFORM LOAD CONSTANTS FOR BEAMS LATERALLY SUPPORTED EXCEPT WHERE SPECIFICALLY NOTED OR DETAILED.
- BRACING CONNECTIONS SHALL BE DESIGNED FOR THE LARGER OF 50% OF MEMBER TENSILE STRENGTH OR INDICATED DESIGN LOADS.
- ALL HSS SECTIONS MUST HAVE OPEN ENDS CAPPED OR WELDED SOLID ALL AROUND AT CONNECTION POINT.
- PROVIDE AND TAKE RESPONSIBILITY FOR ALL TEMPORARY BRACING AND SHORING REQUIRED.
- ALL COLUMN ENDS SHALL BE SAWCUT AND WELDED TO BASE PLATES.
- PROVIDE WELDED STIFFENER PLATES ON BOTH SIDES, UNLESS NOTED OTHERWISE. OF THE WEB OF BEAMS AT POINTS OF CONCENTRATED LOAD INCLUDING BEAMS SUPPORTING COLUMNS OR RUNNING OVER TOP OF COLUMNS. MINIMUM STIFFENER PLATE THICKNESS SHALL BE 10 mm OR FLANGE THICKNESS OF COLUMNS ABOVE OR BELOW, WHICHEVER IS GREATER. MINIMUM SIZE OF WELD SHALL BE 5mm DOUBLE FILLET WELD, OR SHALL BE SUFFICIENT TO DEVELOP THE FULL STRENGTH OF THE STIFFENER, WHICH EVER IS GREATER.
- FOR LOCATIONS OF DOOR FRAMES, WALL OPENINGS, AND ROOF OPENINGS, ETC. AND RELATED DETAILS, SEE ARCHITECTURAL, MECHANICAL, AND ELECTRICAL DRAWINGS.
- PERIMETER ROOF ANGLES, IF ANY, SHALL BE CONTINUOUS AND BUTT WELDED TOGETHER AT JOINTS.
- GIRTS SHALL HAVE END CONNECTIONS CAPABLE OF SUPPORTING 50% OF THE MEMBERS CAPACITY ABOUT THE MAJOR AXIS. CALCULATED IN THE SAME MANNER AS FOR BEAMS. EACH WEB OF BUILT-UP MEMBERS SHALL HAVE THEIR ENDS CONNECTED AS SPECIFIED ABOVE.
- GUSSET PLATES FOR DIAGONAL BRACING SHALL BE CONNECTED TO ALL INTERSECTING MEMBERS UNLESS NOTE OTHERWISE, AND BE IN LINE WITH CENTERLINE OF MEMBERS.
- THE MINIMUM END CONNECTION OF ANY MEMBER SHALL BE MADE WITH TWO(2) A325 BOLTS OR EQUIVALENT WELD.
- IN ADDITION TO STRENGTH WELDS, STRUCTURAL STEEL EXPOSED TO WEATHER SHALL HAVE CONTINUOUS SEAL WELDS AT ALL JOINTS (INCLUDING ALL CONNECTION MATERIAL).
- ALL STRUCTURAL STEEL SHALL BE IN ACCORDANCE WITH CSA G40.21M GRADE 300W, UNLESS NOTED OTHERWISE.
- ALL STRUCTURAL STEEL 'W' SHAPES SHALL CONFORM TO CSA G40.21M GRADE 350W.
- ALL HOLLOW STRUCTURAL STEEL SECTIONS (HSS) SHALL CONFORM TO CSA G40.21M GRADE 350W - CLASS H.
- FABRICATION, ERECTION AND WORKMANSHIP SHALL CONFORM TO CAN/CSA S16-01.
- ALL WELDING SHALL CONFORM TO CSA S16-01 AND THE LATEST VERSION OF W59 AND SHALL BE PERFORMED BY A WELDER QUALIFIED UNDER THE LATEST VERSION OF CSA W47.
- WELDING ELECTRODES SHALL BE E49XX.
- SURFACES TO BE WELDED SHALL BE THOROUGHLY CLEANED OF ALL FOREIGN MATTER INCLUDING PAINT FILM.
- ALL JOINTS SHALL BE WELDED USING E49XX ELECTRODES OR BEARING TYPE CONNECTIONS USING M20 ASTM A325M HIGH STRENGTH BOLTS, UNLESS NOTED OTHERWISE.
- SUBMIT SHOP DRAWINGS TO THE RECORD ENGINEER FOR REVIEW AND APPROVAL. SHOP DRAWINGS SHALL BE STAMPED AND SIGNED BY A PROFESSIONAL ENGINEER REGISTERED IN THE PROVINCE OF ALBERTA FOR CONNECTION DESIGN.
- FOR PRIME PAINTING / PAINTING OF STRUCTURAL STEEL REFER TO SPECS. TOUCH-UP DAMAGED AREAS IN FIELD WITH SAME SYSTEM.
- ANCHOR BOLTS CONFORMING TO ASTM A307.

MATERIALS SPECIFICATIONS

- CONCRETE IN ACCORDANCE WITH CSA STANDARD A23.1 AND A23.2.
- STRUCTURAL CONCRETE UNLESS OTHERWISE NOTED: 35 MPa AT 28 DAYS, 40 MPa AT 56 DAYS. EXPOSURE CLASSIFICATION C-1.
- LEAN FILL AND MASS CONCRETE 28-DAYS COMPRESSIVE STRENGTH 15 MPa AT 28 DAYS, CLASSIFICATION N.
- OTHER REQUIREMENTS FOR CONCRETE AS LISTED IN THE SPECIFICATIONS.
- REINFORCING STEEL: CSA STANDARD G30.18, GRADE 400W, DEFORMED BARS.
- STRUCTURAL STEEL: CSA STANDARD G40.20/G40.21, GRADE 350 ROLLED SECTIONS, GRADE 300 PLATES. ALL STRUCTURAL STEEL SHALL BE HOT DIP GALVANIZED AFTER FABRICATION.
- WELDING: CSA STANDARD W59.
- BOLTS: ASTM A325M, ANCHOR BOLTS ASTM A307 (UNLESS OTHERWISE NOTED).
- DOWELS INTO CONCRETE

DOWEL SIZE	HOLE SIZE	EDGE DISTANCE	EMBEDMENT
15M	19 mm DIA.	90 mm	180 mm
20M	24 mm DIA.	100 mm	230 mm
25M	29 mm DIA.	125 mm	340 mm

- FILL HOLES WITH EPOXY ADHESIVE : HILTI HIT-HY 200 OR APPROVED EQUAL.
- EMBEDMENTS ARE MINIMUM. PRODUCT CAPACITIES VARY AND MAY REQUIRE ADDITIONAL EMBEDMENT.



CONSULTANT
PRIME:
AECOM Canada Architects Ltd.
50 Sportsworld Crossing Road, Suite 290
Kitchener, Ontario, N2P 0A4

PROJECT
**FORT McMURRAY
AIRPORT RENTAL CAR
WASH / QTA FACILITY**

FORT MCMURRAY, ALBERTA

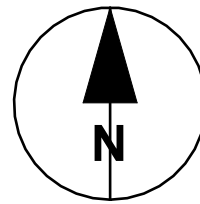
PROJECT NUMBER
60723990

CLIENT



REGISTERED OWNER:
FORT McMURRAY AIRPORT AUTHORITY
Address
Suite 300 - 100 Snow Bird Way, Fort McMurray, AB T9H 0G3

NORTH ARROW AND KEYPLAN



KEY PLAN

NOTE:
IT IS THE RESPONSIBILITY OF THE CONTRACTORS TO INFORM THEMSELVES OF THE EXACT LOCATION OF, AND ASSUME ALL LIABILITY FOR DAMAGE TO ALL UTILITIES, SERVICES AND STRUCTURES WHETHER ABOVE GROUND OR BELOW GRADE BEFORE COMMENCING THE WORK. SUCH INFORMATION IS NOT NECESSARILY SHOWN ON THE DRAWING, AND WHERE SHOWN, THE ACCURACY CANNOT BE GUARANTEED. WITH THE SOLE EXCEPTION OF THE BENCHMARKS SPECIFICALLY DESCRIBED FOR THIS PROJECT, NO ELEVATION INDICATED OR ASSUMED HEREON IS TO BE USED AS A REFERENCE ELEVATION FOR ANY PURPOSE.

REGISTRATION

**PRELIMINARY
NOT FOR CONSTRUCTION**

ISSUE/REVISION

C	06/06/2025	ISSUED FOR TENDER
B	02/14/2025	ISSUED FOR 100%
A	10/06/2024	60% SUBMISSION
I/R	DATE	DESCRIPTION

PRODUCTION INFORMATION
DRAWN: R.PITTMAN
REVIEWED: J.CHAN
VERIFIED: A.SMITH

**SHEET TITLE
STRUCTURAL NOTES**

SHEET NUMBER **REVISION**

S-001

C

ARCH D 24" x 36"

D

C

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FILENAME: Autodesk Docs\\BP-AMEER (CAN) 60723990-FMAA QTA\\60723990-FMAA QTA-01-S-R23.rvt

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FILENAME: Autodesk Docs\\BP-AMEER (CAN) 60723990-FMAA QTA\\60723990-FMAA QTA-01-S-R23.rvt

MASONRY

1.

ALL MASONRY WORK SHALL CONFORM TO CAN/CSA-S304.1, A371 AND TO DETAILS SHOWN ON DRAWINGS.
2.

MASONRY BLOCK UNITS SHALL CONFORM TO CSA-A165, CLASSIFICATION H/20/C/M WITH A MINIMUM UNIT STRENGTH OF 20 MPa, UNLESS NOTED OTHERWISE.
3.

ALL MORTAR SHALL CONFORM TO CSA A179 AND SHALL BE TYPE 'S' UNLESS NOTED OTHERWISE.
4.

FOR ALL BLOCK WALLS VERTICAL GROUT FILL SHALL BE HIGH SLUMP CONCRETE WITH A COMPRESSIVE STRENGTH OF 20 MPa (28 DAYS). SEE MATERIALS SPECIFICATIONS.
5.

TIE MASONRY UNITS TO CONCRETE WITH 40mm x 5mm STANDARD CORRUGATED DOVETAIL ANCHORS AT 400mm SPACING.
6.

ALL MASONRY WORK SHALL CONFORM TO CAN/CSA-S304.1, A371 AND TO DETAILS SHOWN ON DRAWINGS.
7.

ALL LINTELS AND BOND BEAMS SHALL BE FILLED WITH CONCRETE HAVING A COMPRESSIVE STRENGTH OF 20 MPa. CONCRETE SHALL HAVE A MAXIMUM AGGREGATE SIZE OF 10mm AND A SLUMP OF 150±20mm
8.

PLACE MASONRY UNITS IN RUNNING BOND, UNLESS NOTED. USE FACE SHELL BEDDING EXCEPT FIRST COURSES AND CELLS TO BE GROUTED WHERE FULL BED MORTARING IS TO BE USED.
9.

EXTEND ALL NON-LOAD BEARING MASONRY WALLS TO FORM A 40mm GAP BETWEEN TOP OF WALL AND UNDERSIDE OF STRUCTURE ABOVE. FILL GAP WITH COMPRESSIBLE ACOUSTIC OR FIRE-STOP MATERIAL TO MAINTAIN WALL RATING. REFER TO DRAWING FOR DETAILS AT TOP OF WALL.
10.

HEAT MATERIALS AND PROTECT WORK IN ACCORDANCE WITH CSA-S304 WHEN AMBIENT TEMPERATURE IS BELOW 5°C.
11.

CORE FILLS SHALL BE DONE IN MAXIMUM 1200mm LIFTS, AND SHALL BE RODDED TO AVOID HONEYCOMBING, OR WHERE GROUT POUR EXCEEDS 1200mm PROVIDE CLEANOUTS AT BOTTOM OF CORES. MAXIMUM LIFT IN ONE POUR IS 2400mm. REINFORCE CORES AS NOTED ON DRAWINGS.
12.

PROVIDE DOWELS TO MATCH VERTICAL MASONRY WALL REINFORCING. REFER TO DRAWINGS FOR CONNECTIONS TO EXISTING CONCRETE.
13.

REINFORCING LAPS: (UNLESS NOTED OTHERWISE); WIRE REINFORCING - 300mm; 10M BARS - 400mm; 15M BARS - 650mm
14.

PROVIDE VERTICAL CONTROL JOINTS AT MAXIMUM 6000mm SPACING. BOND BEAM REINFORCING CONTINUES THROUGH CONTROL JOINT. CUT ALTERNATE WIRE JOINT REINFORCEMENT. CAULK EACH JOINT WITH FLEXIBLE SEALANT ON BOTH SIDES. CONTROL JOINT SHALL NOT BE WITHIN 600mm FROM EDGE OF WALL OPENING.
15.

UNLESS OTHERWISE NOTED IN MASONRY ELEVATIONS, PROVIDE SOLID BLOCK OR CONCRETE FILLED BLOCK UNDER ALL CONCENTRATED LOADS BEARING ON MASONRY.
16.

PROVIDE CONCRETE FILLED CORES AT ALL LOCATIONS WHERE METAL FABRICATIONS OR OTHER EQUIPMENT, UTILITIES, ETC., ARE FASTEN TO BLOCK WALLS.
17.

FILL ALL PARAPET VOIDS WITH CONCRETE.
18.

FILL ALL OPEN CELLS IN EXTERIOR BLOCK WALLS WITH FOAM CELL INSULATION.
19.

PROVIDE TEMPORARY BRACING FOR ALL WALLS UNTIL MASONRY HAS BEEN ANCHORED TO PERMANENT STRUCTURE AND THE ROOF DECK HAS BEEN INSTALLED.
20.

BUILD MASONRY TRUE TO LINE, PLUMB, SQUARE AND LEVEL WITH VERTICAL JOINT IN PROPER ALIGNMENT TO CSA A371.
21.

MAXIMUM JOINT WIDTH 10mm. POINT AND COMPACT JOINTS WITH ROUND BAR TOOL. TYPE TO BE CONFIRMED WITH ARCHITECT.
22.

CUT MASONRY UNITS WITH MASONRY SAW. BROKEN UNITS ARE NOT ACCEPTABLE.
23.

UNLESS NOTED ON DRAWINGS, THE MINIMUM REINFORCING SHALL CONSIST OF THE FOLLOWING:

A.

HORIZONTAL JOINT REINFORCING - 3.8mm DIAMETER (9 GAUGE) TRUSS TYPE WIRE REINFORCING WITH DEFORMATIONS, PLACED AT 400mm OC

1.

ALL SPLICES SHALL BE LAPPED MINIMUM 300mm. LAP LOCATIONS SHALL BE STAGGERED MINIMUM 800mm FROM COURSE TO COURSE. SMOOTH WIRE REINFORCEMENT SHALL BE PERMITTED ONLY IF APPROVED, AND IF APPROVED, ALL LAPS SHALL BE INCREASED TO MINIMUM 400mm.

2.

LADDER TYPE REINFORCEMENT SHALL BE USED ONLY IF APPROVED, AND SHALL BE PERMITTED ONLY WITH MODIFICATIONS TO WIRE SIZE TO PROVIDE EQUIVALENT LONGITUDINAL AREA TO SPECIFIED TRUSS-TYPE.

3.

JOINT REINFORCEMENT SHALL BE MADE CONTINUOUS AT ALL WALL CORNERS AND WALL INTERSECTIONS BY USE OF "L" AND "T" SHAPED PIECES SPECIFICALLY FABRICATED FOR THESE APPLICATIONS.

B.

HORIZONTAL BAR REINFORCING - DEFORMED BILLET STEEL BARS TO G30.12M GRADE 400.

1.

PROVIDE CONCRETE FILLED AND REINFORCED BOND BEAMS AT MAX 2400mm OC, UNLESS OTHERWISE NOTED, REINFORCE EACH 200mm OF BOND BEAM WITH 1 - 20M CONTINUOUS, WITH MATCHING CORNER BARS.

2.

PROVIDE LINTELS OVER ALL OPENINGS OR RECESSES IN MASONRY WALLS, INCLUDING THOSE FOR MECHANICAL OR ELECTRICAL SERVICES AND EQUIPMENT. PROVIDE LINTELS AS FOLLOWS, UNLESS NOTED OTHERWISE:

SPAN (mm)	DEPTH (mm)	MAIN REINFORCEMENT	SHEAR LINKS
0 - 1200	200	1 - 20M	-
1200 - 2400	400	1 - 20M TOP AND BOTTOM	10M @ 200 OC
2400 - 3600	600	1 - 20M TOP AND BOTTOM	10M @ 200 OC
3600 - 4400	800	2 - 20M TOP AND BOTTOM	10M @ 200 OC

3.

BEAR LINTEL ON FILLED VERTICAL CELLS ON EACH SIDE OF OPENING.

C.

VERTICAL REINFORCING - DEFORMED BILLET STEEL BARS TO G30.12M GRADE 400

1.

15M AT 800 OC IN LOAD BEARING WALLS, AND EXTERIOR UNLESS NOTED OTHERWISE.

2.

PROVIDE ONE VERTICAL BAR TO MATCH WALL REINFORCING FULL HEIGHT AT:

•

UNSUPPORTED ENDS OF WALLS AND AT EACH SIDE OF CONTROL JOINTS.

•

EACH CORNER AND AT INTERSECTIONS.

•

EACH SIDE OF DOORS. BARS TO EXTEND TO TOP OF WALLS.

•

EACH SIDE OF OPENINGS. BARS TO EXTEND A MINIMUM 600mm BEYOND CORNERS.

3.

IN ADDITION TO REINFORCING DETAILS SHOWN ON DRAWINGS, CONCRETE FILL AND REINFORCE VERTICAL CELLS ON BOTH SIDES OF ALL OPENINGS WITH 1 BAR TO MATCH VERTICAL REINFORCING IN MIDDLE OF EACH CELL AS FOLLOWS:

OPENING WIDTH (mm)	CELLS TO BE FILLED EACH SIDE OF OPENING
0 - 2000	1
2000 - 3000	2
3000 - 4500	3

REINFORCEMENT TO EXTEND FULL HEIGHT OF WALL AND BE ANCHORED 200mm INTO CONTINUOUS BOND BEAMS AT TOP OF WALL. PROVIDE DOWELS FROM SUPPORTS.

MASONRY LINTELS

1.

UNLESS NOTED OTHERWISE, PROVIDE 200mm MINIMUM SOLID BEARING AT BOTH SIDES OF LINTEL.

2.

CONCRETE FILL TO BE 20 MPa AT 28 DAYS MINIMUM.

3.

PROVIDE 2-20mm DIAMETER x 450mm LONG ANCHOR BOLTS FOR EACH BEARING PLATE. GROUT ANCHOR BOLTS SOLID INTO BLOCK WALL.

4.

HOT DIP GALVANIZE ALL STEEL LINTEL MEMBERS AFTER FABRICATION.

CONDUIT THROUGH WALL/SLAB NOTES

1.

CONDUITS SHALL BE INSTALLED AT RIGHT ANGLES TO STRUCTURE.

2.

CONDUITS SHALL BE EMBEDDED IN CONCRETE AND ADEQUATELY SUPPORTED.

3.

WHERE CONDUITS INTERFERE WITH REINFORCING THE CONDUIT SHALL BE REARRANGED TO SUIT REINFORCING.

4.

CONDUIT WALL SEALS WITH WATERSTOPS SHALL BE INSTALLED IN OUTSIDE WALLS. THE CONDUIT SEALS SHALL ENSURE A WATERTIGHT INSTALLATION.

OPEN WEB STEEL JOIST

1.

MANUFACTURED OPEN WEB STEEL JOISTS SHALL CONFORM TO THE LATEST EDITION OF CAN/CSA-S16-19 AND CISC "RECOMMENDED PRACTICE".

2.

OWSJ DESIGN BY OWSJ MANUFACTURER. PROVIDE JOIST FABRICATION SHOP DRAWINGS STAMPED AND SIGNED BY A PROFESSIONAL ENGINEER LICENSED TO PRACTICE IN THE PROVINCE OF ALBERTA, OWSJ MANUFACTURER TO INDICATED LOCATIONS AND SIZE OF JOIST BRACING ON SHOP DRAWINGS PROVIDED TO THE PROJECT ENGINEER.

3.

JOISTS TO BE WELDED CONSTRUCTION. NO HOLES TO BE DRILLED FOR HANGERS.

4.

ALL JOISTS SHALL HAVE HOT ROLLED DOUBLE ANGLE TOP AND BOTTOM CHORDS.

5.

BEARING ENDS OF JOISTS SHALL BE 125mm DEEP (JOIST SHOE). CONNECT JOISTS TO SUPPORTING MEMBERS BY WELDING ONLY.

6.

EXTEND JOIST TOP CHORDS TO SUPPORT DECK AND SIDING WHERE REQUIRED.

7.

CAMBER JOISTS FOR 75% DEAD LOADS ONLY.

8.

ALL BASE PLATES AND ANCHORING FOR OWSJ TO BE AS PER MANUFACTURER.

9.

FULLY GROUT VERTICAL CELLS AT OWSJ BEARING ON LOCATION.

ABBREVIATIONS

@	AT
AIFB	ASPHALT IMPREGNATED FIBRE BOARD
BLL	BOTTOM LOWER LAYER
BUL	BOTTOM UPPER LAYER
BOT	BOTTOM
CANT.	CANTILEVER
C.I.P.	CAST-IN-PLACE
CL	CENTER LINE
CLR	CLEAR, CLEARANCE
COLS	COLUMNS
CONC	CONCRETE
CONT	CONTINUOUS
C/W	COMPLETE WITH
DEG	DEGREE
DIA	DIAMETER
DL	DEAD LOAD
DN	DOWN
DP	DEEP
DWG	DRAWING
EA	EACH
EF	EACH FACE
EL	ELEVATION
EW	EACH WAY
EXIST	EXISTING
GA	GAUGE
GALV	GALV.
HK	HOOK
HORIZ	HORIZONTAL
I.F.	INSIDE FACE
INV	INVERT
kN	KILONEWTON
kPa	KILOPASCAL
LG	LONG
LL	LIVE LOAD
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
m	METER
MAX.	MAXIMUM
MID	MIDDLE
MIN	MINIMUM
mm	MILLIMETER
MPa	N/mm²
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
OC	ON CENTER
O.F.	OUTSIDE FACE
OPP	OPPOSITE
±	PLUS MINUS
PT	PRESSURE TREATED
REF.	REFERENCE
REINF	REINFORCEMENT
R/W	REINFORCED WITH
SDL	SUPERIMPOSED DEAD LOAD
SIM.	SIMILAR
SL	SNOW LOAD
SLS	SERVICEABILITY LIMIT STATE
T&B	TOP AND BOTTOM
T.O.	TOP OF
TLL	TOP LOWER LAYER
TUL	TOP UPPER LAYER
TYP	TYPICAL
U/G	UNDER GROUND
ULS	ULTIMATE LIMIT STATE
UNO	UNLESS NOTED OTHERWISE
UIS	UNDER SIDE
VERT	VERTICAL
WL	WIND LOAD

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PROJECT

FORT McMURRAY
AIRPORT RENTAL CAR
WASH / QTA FACILITY

FORT MCMURRAY, ALBERTA

PROJECT NUMBER

60723990

CLIENT

REGISTERED OWNER:

FORT McMURRAY AIRPORT AUTHORITY
Address
Suite 300 - 100 Snow Bird Way, Fort McMurray, AB T9H 0G3

NORTH ARROW AND KEYPLAN

KEY PLAN

NOTE:
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B	02/14/2025	ISSUED FOR 100%
A	10/06/2024	60% SUBMISSION
I/R	DATE	DESCRIPTION

PRODUCTION INFORMATION

DRAWN: R.PITTMAN
REVIEWED: J.CHAN
VERIFIED: A.SMITH

SHEET TITLE

STRUCTURAL NOTES AND
ABBREVIATIONS

SHEET NUMBER

S-002

REVISION

C

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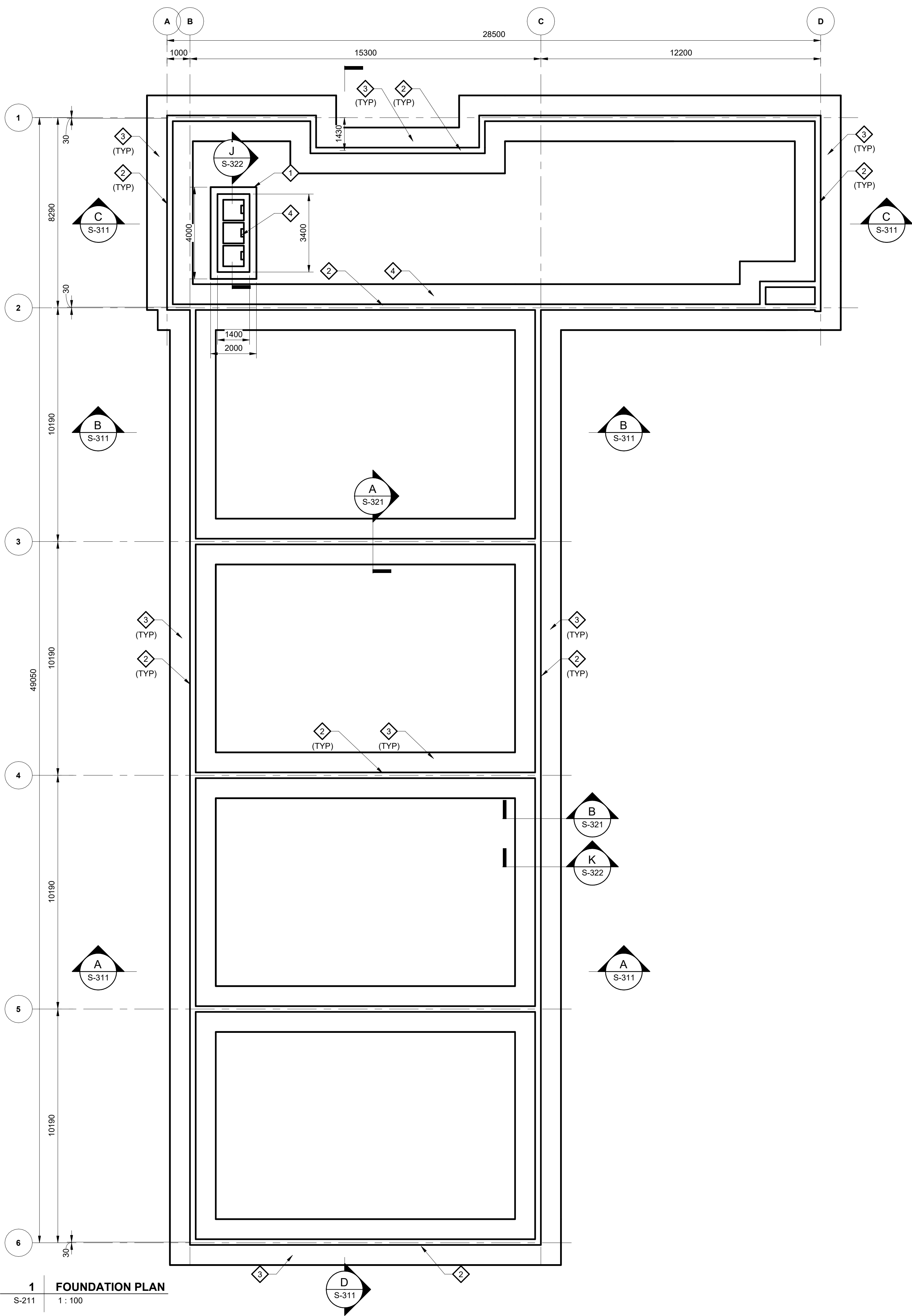
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1 FOUNDATION PLAN
S-211 1 : 100

KEYNOTES

- SUMP PIT, SEE SECTIONS AND TYPICAL DETAILS.
- 250 WIDE X 1800 DEEP FOUNDATION WALL UNDER PERIMETER WALLS, SEE SECTIONS.
- 2000 WIDE X 250 DEEP CONCRETE FOOTING, SEE SECTIONS.
- GALVANIZED MAN LADDER, POST-INSTALLED TO WALL OF SUMP PIT.

NOTES

- PROVIDE FULL DEPTH, 75 THICK INSULATION ALONG EXTERIOR FACE OF FOUNDATION WALL.



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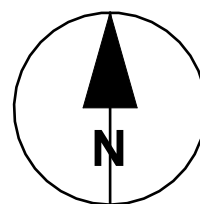
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NORTH ARROW AND KEYPLAN



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**STRUCTURAL FOUNDATION
PLAN**

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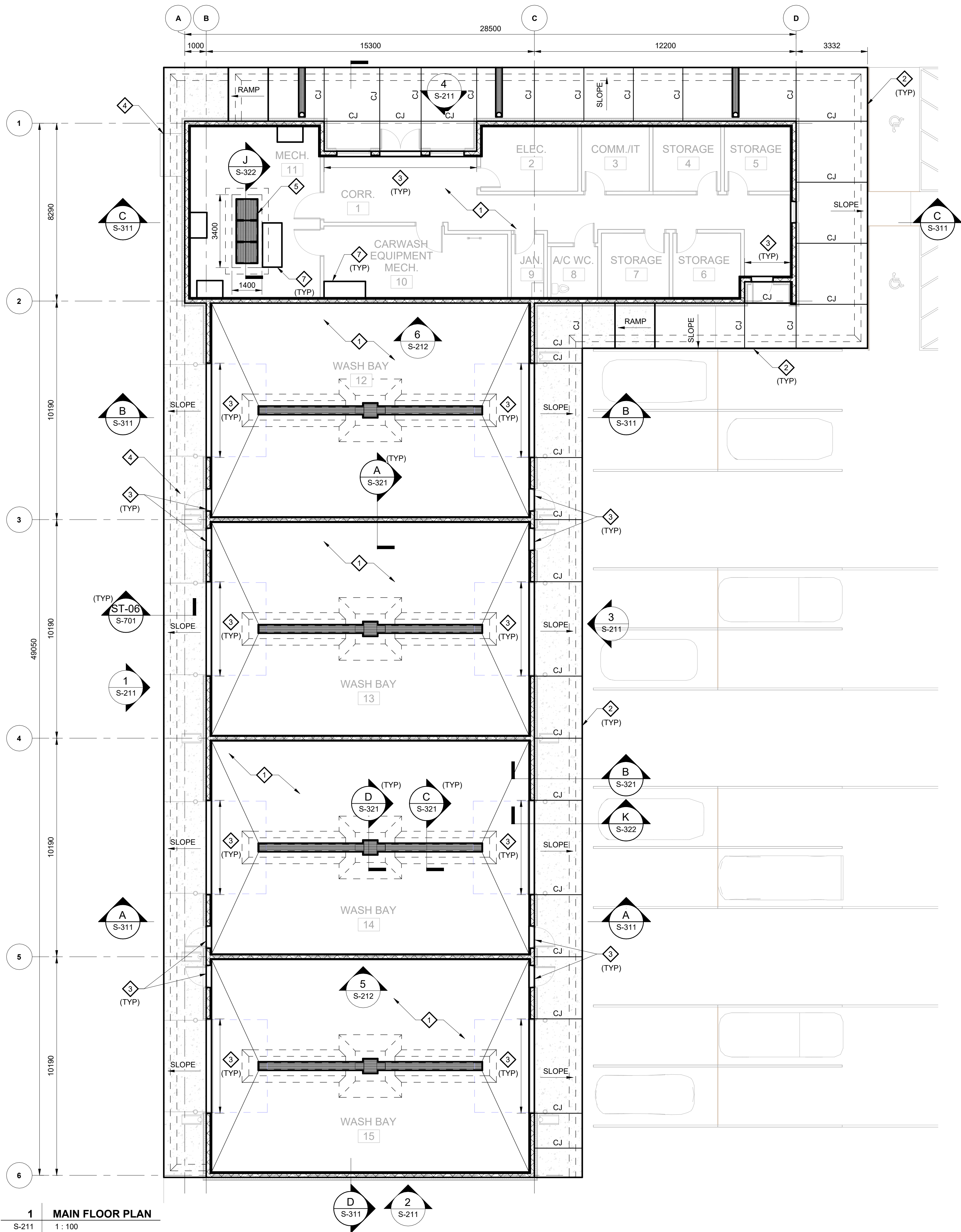
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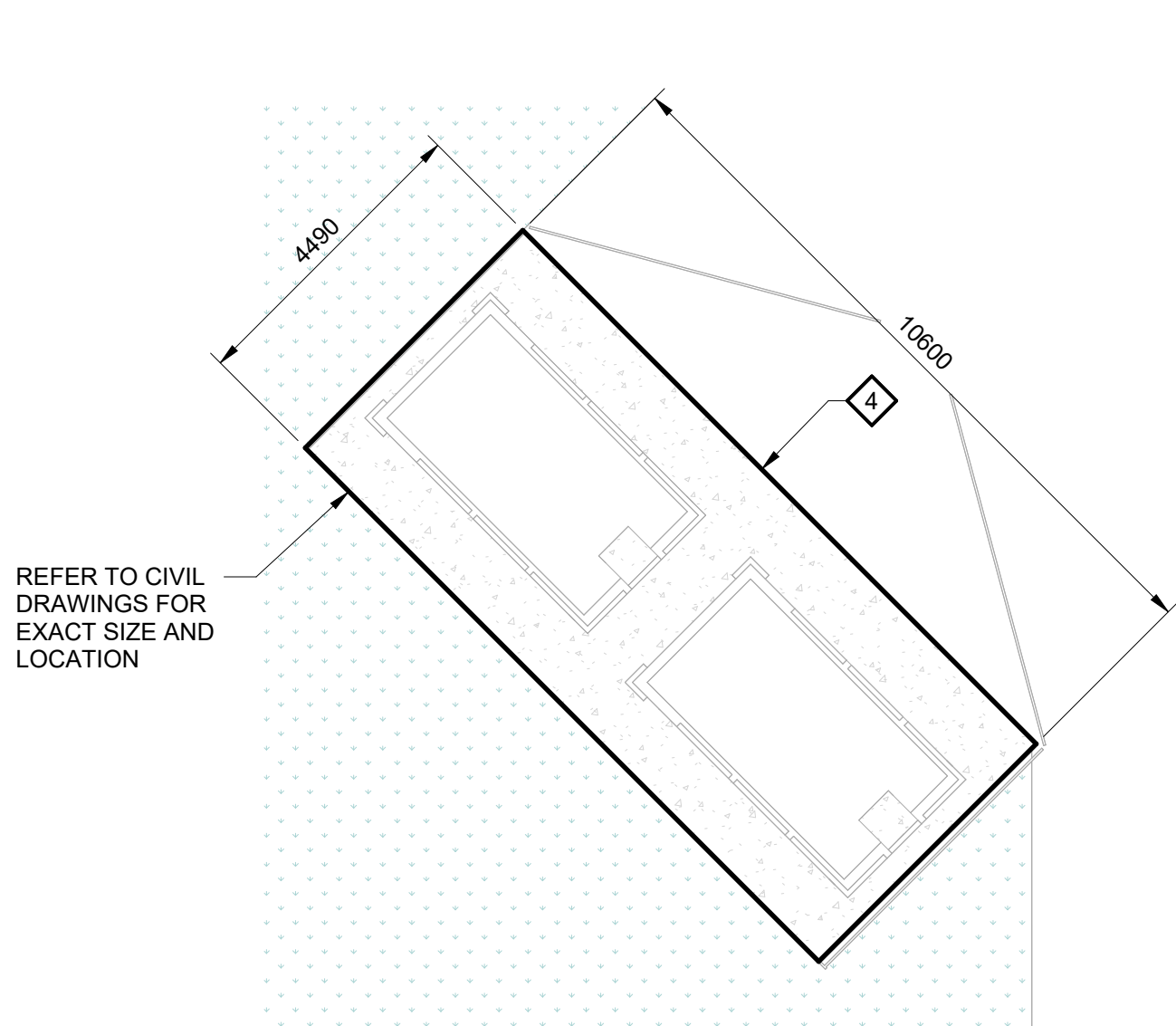
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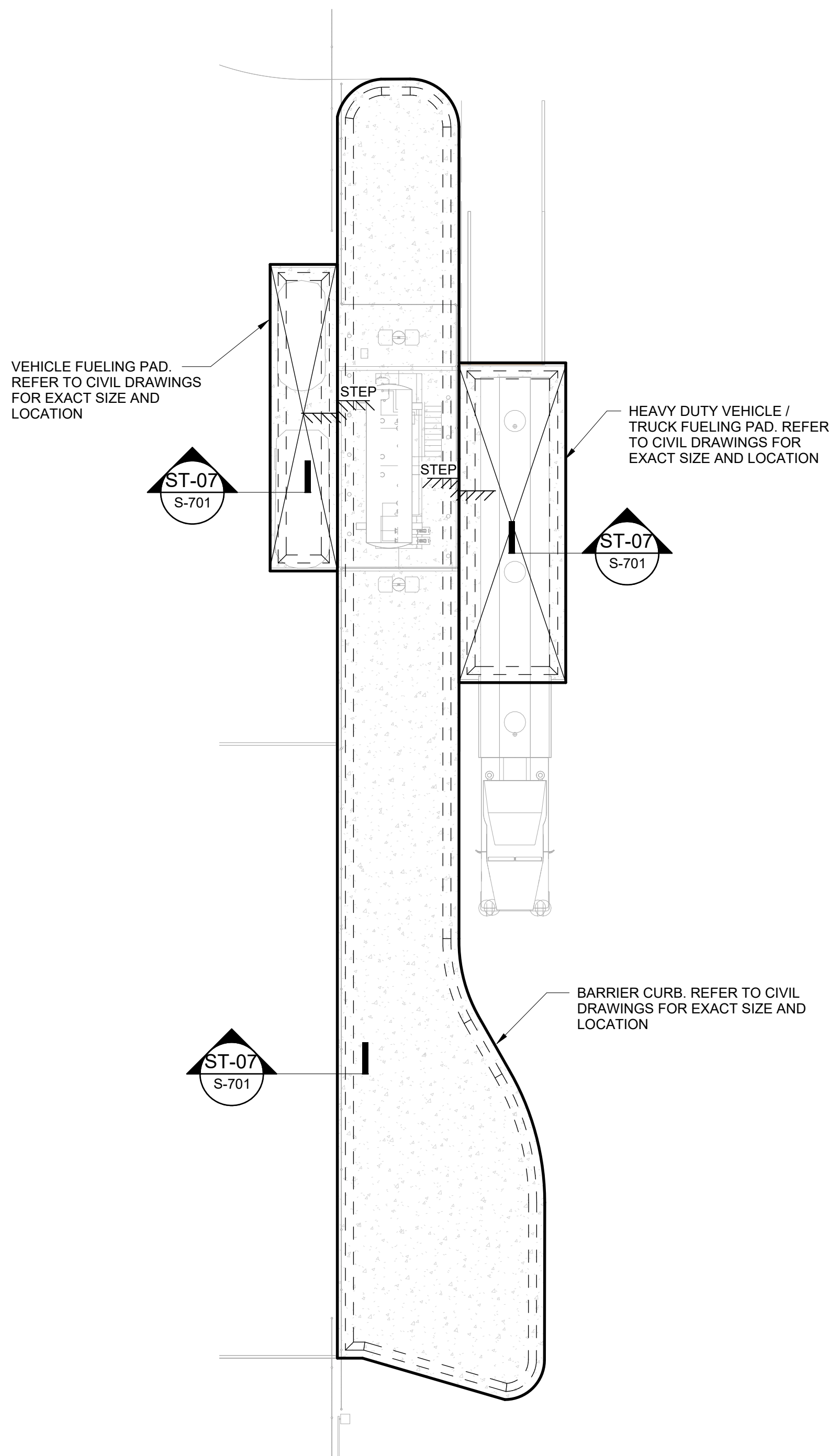
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1 MAIN FLOOR PLAN
S-211 1 : 100



2 EXTERIOR GARGAGE PAD PLAN
S-211 1 : 100



3 FUELING PAD / BARRIER CURB PLAN
S-211 1 : 150

KEYNOTES

- 150 THICK INTERIOR SLAB ON GRADE R/W 15M @ 300 OC EW. SEE PLANS FOR SLOPE. MAINTAIN A MINIMUM THICKNESS OF 150mm. PROVIDE 75 THICK RIGID INSULATION WITHIN FULL EXTENT OF CARWASH AREA.
- 150 THICK EXTERIOR SLAB ON GRADE R/W 15M @ 300 OC EW.
- DOWEL INTERIOR AND EXTERIOR SLAB ON GRADE TO FOUNDATION WALLS AT MAN DOOR AND OVERHEAD DOOR LOCATIONS.
- 200 THICK EXTERIOR PAD R/W 15M @ 300 OC EW. PROVIDE 100 THICK VOIDFORM UNDER PAD.
- SUMP PIT. SEE TYPICAL DETAILS.
- 150 DEEP PRECAST CONCRETE TRENCH DRAIN. SEE TYPICAL DETAIL.
- CONCRETE EQUIPMENT PAD. EXTEND A MINIMUM 100 BEYOND OUTLINE OF EQUIPMENT. REFER TO MECHANICAL DRAWINGS FOR EXACT LOCATIONS.

NOTES

- ALL BUILDING INTERIOR AND EXTERIOR SLAB ON GRADE PADS SHALL BE SUPPORTED ON ENGINEERED FILL. PROVIDE A MINIMUM 150 BASE COURSE OF 20 WELL GRADED CRUSH GRAVEL COMPACTED TO 100% SPMD. REFER TO GENERAL NOTES AND GEOTECHNICAL REPORT FOR BACKFILL REQUIREMENTS.
- PORTIONS OF CONCRETE SLAB ON GRADE UTILIZES IN-SLAB HEATING. REFER TO MECHANICAL FOR EXTENT OF IN-SLAB HEATING SYSTEM.
- PROVIDE CONCRETE HOUSEKEEPING PAD UNDER ALL MECHANICAL UNITS.

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AIRPORT RENTAL CAR
WASH / QTA FACILITY**

FORT MCMURRAY, ALBERTA

PROJECT NUMBER

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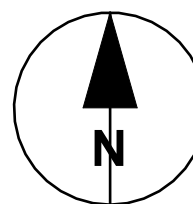
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NORTH ARROW AND KEYPLAN



KEY PLAN

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I/R	DATE	DESCRIPTION

PRODUCTION INFORMATION

DRAWN: R.PITTMAN
REVIEWED: J.CHAN
VERIFIED: A.SMITH

SHEET TITLE

**STRUCTURAL MAIN FLOOR
PLAN**

SHEET NUMBER

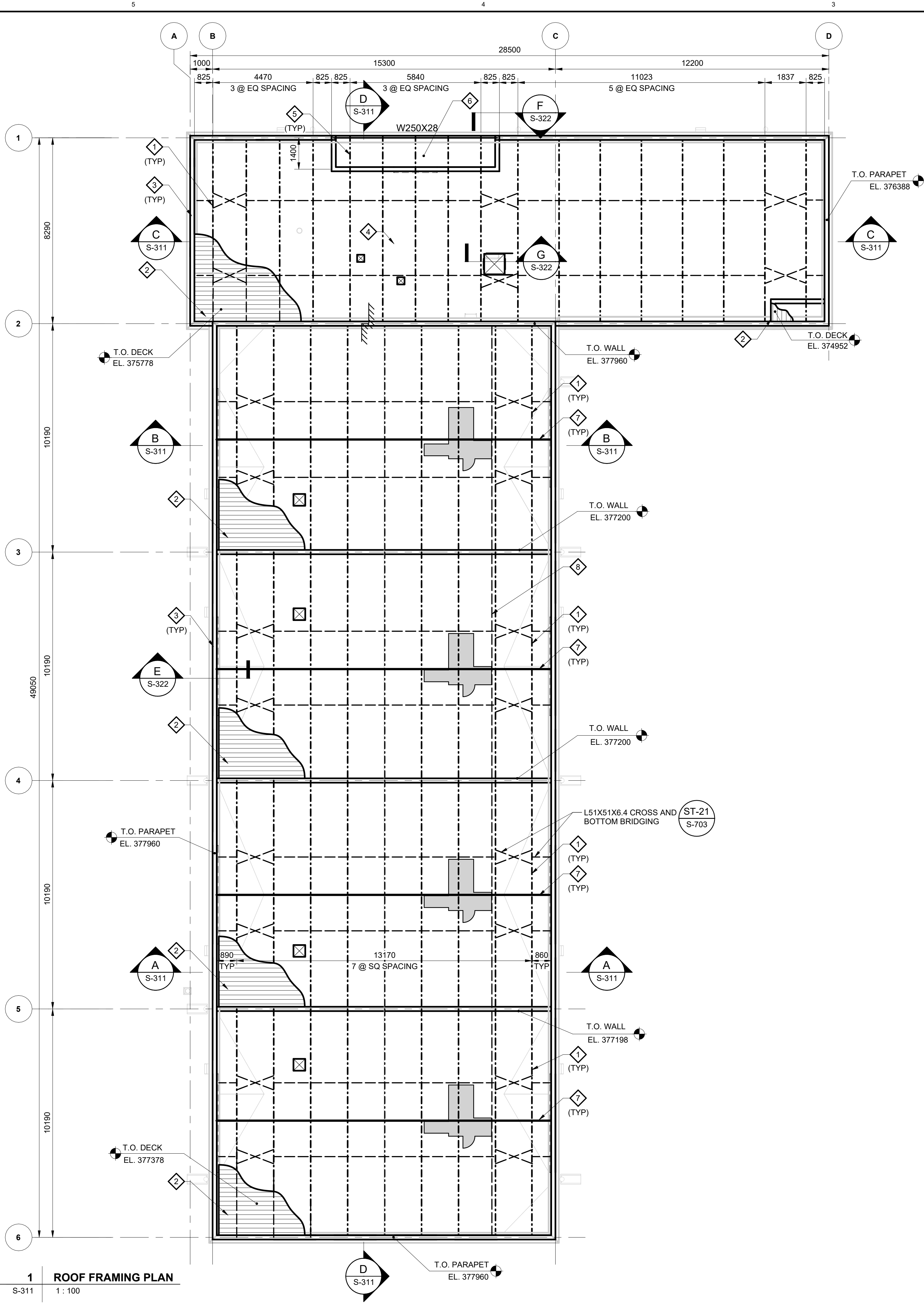
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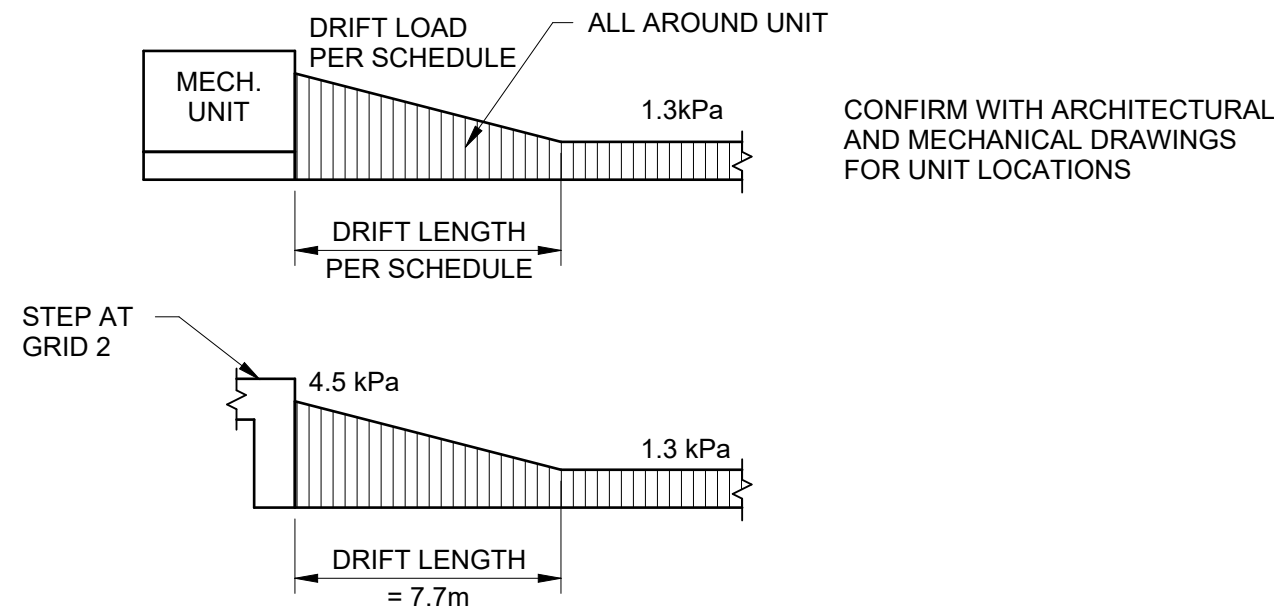
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MECHANICAL UNIT AND SNOW DRIFT SCHEDULE				
UNIT	ROUGH DIMENSIONS (LxWxH)	DESIGN WEIGHT	DRIFT LOAD	DRIFT LENGTH
MUA-1	2.85m X 1.02m X 1.88m	6.0 kN	1.3 kPa	N/A
MUA-2	2.85m X 1.02m X 1.88m	6.0 kN	1.3 kPa	N/A
MUA-3	2.85m X 1.02m X 1.88m	6.0 kN	1.3 kPa	N/A
MUA-4	2.85m X 1.02m X 1.88m	6.0 kN	1.3 kPa	N/A

* HEIGHT INCLUSIVE OF BURB HEIGHT



OWSJ & STEEL DECK DESIGN NOTES

- REFER TO RELEVANT SECTIONS IN GENERAL NOTES AND SPECIFICATIONS. SHOULD GENERAL NOTES AND SPECIFICATIONS CONTRADICT ONE ANOTHER, THE MORE STRINGENT REQUIREMENT SHALL APPLY.
- ROOF DESIGN CRITERIA:
DEAD LOAD = 1.3 kPa + SELF WEIGHT AND WEIGHT AS PER MECHANICAL UNIT SCHEDULE
SNOW LOAD = 1.3 kPa + SNOW DRIFT AS PER SNOW DRIFT SCHEDULE
CONCENTRATED LIVE LOAD @ UNDER-RUNNING EQUIPMENT CHANNEL = 2.0 kN

LIVE LOAD DEFLECTION = L/240
TOTAL LOAD DEFLECTION = L/180

DESIGN OWSJ AS PER LOAD COMBINATION REQUIREMENTS SET OUT IN NBCAE 2023. SNOW LOADS SHOWN FOR ULTIMATE LIMIT STATE (ULS), FOR SERVICEABILITY LIMIT STATE (SLS) MULTIPLY BY 0.90.
- PROVIDE ADDITIONAL JOIST BRIDGING AS REQUIRED TO SUPPORT OWSJ SYSTEM.
- PROVIDE FRAMING AS REQUIRED TO SUPPORT MECHANICAL UNITS AND LIGHTING. SEE TYPICAL DETAILS FOR FRAMING AROUND MECHANICAL UNITS.
- CONNECT STEEL DECK USING HILTI X-EDN 19 OR EDNK22 IN A (36/7) PATTERN, SCREW SIDELAPS USING #10 SCREWS @ 600 OC.
- CONNECT DECK TO SUPPORTING MEMBERS USING HILTI HILTI X-EDN 19 OR EDNK22 @ 500 OC.
- STEEL MANUFACTURER TO REINFORCE STEEL DECK AS REQUIRED FOR ROOF PENETRATIONS LARGER THAN 150mm X 150mm OR 150mm DIAMETER.
- PROVIDE ADDITIONAL FRAMING BETWEEN OWSJ TO SUPPORT MECHANICAL UNITS OR AROUND OPENINGS. SEE TYPICAL DETAILS.
- PERIMETER ANGLES ALONG GRIDS A, B, C AND D TO BE CONTINUOUS OR SPliced TO DEVELOP A FACTORED AXIAL LOAD OF 100 kN.

KEYNOTES

- 610 DEEP OWSJ @ 1800 OC MAXIMUM.
- 0.76 THICK CANAM P-3615 AND P3606 STEEL DECK OR APPROVED EQUIVALENT (MINIMUM 3 SPAN CONTINUOUS WHERE POSSIBLE).
- 190 CMU WALL. REFER TO ELEVATION AND GENERAL NOTES FOR REINFORCING REQUIREMENTS.
- ADJUST L-ANGLE FRAMING SPACING TO FIT HATCH DOOR. PROVIDE L203X203X13 ANGLE AT LADDER TIE-IN TO ALLOW FOR SLIP CONNECTION. SEE SECTION F/S-321.
- JOIST TOP CHORD EXTENSION, BEAR ON SUPPORTING W250.
- SUSPENDED SOFFIT W/ LIGHT-GAUGE STEEL FRAMING BY STEEL FABRICATOR. MAKE ATTACHMENTS TO CMU WALL AS REQUIRED DESIGN SOFFIT TO:

DEAD LOAD = 1.0 kPa + SELF WEIGHT
WIND (SUCTION) = 0.85 kPa
- PROVIDE GALVANIZED UNDER-RUNNING C200X17 W/ DRAIN HOLES TO MOUNT CAR WASH EQUIPMENT. CONNECT TO BOTTOM CHORD OF INTERSECTING OWSJ AND LOCATE MEMBER TO ALIGN WITH A VERTICAL ELEMENT OF THE OWSJ.
- TEMPERED WATER PIPING ALONG BOTTOM CHORD OF JOIST. PROVIDE GALVANIZED STEEL SUPPORTS AS REQUIRED. CONFIRM WALL PENETRATION SIZE WITH CAR WASH SUPPLIER PRIOR TO CMU WALL CONSTRUCTION.

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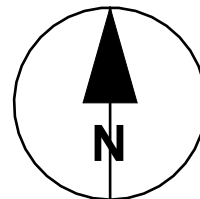
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NORTH ARROW AND KEYPLAN



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I/R	DATE	DESCRIPTION

PRODUCTION INFORMATION

DRAWN: R.PITTMAN
REVIEWED: J.CHAN
VERIFIED: A.SMITH

SHEET TITLE

**STRUCTURAL ROOF FRAMING
PLAN**

SHEET NUMBER

S-122

REVISION

C

S-211 C

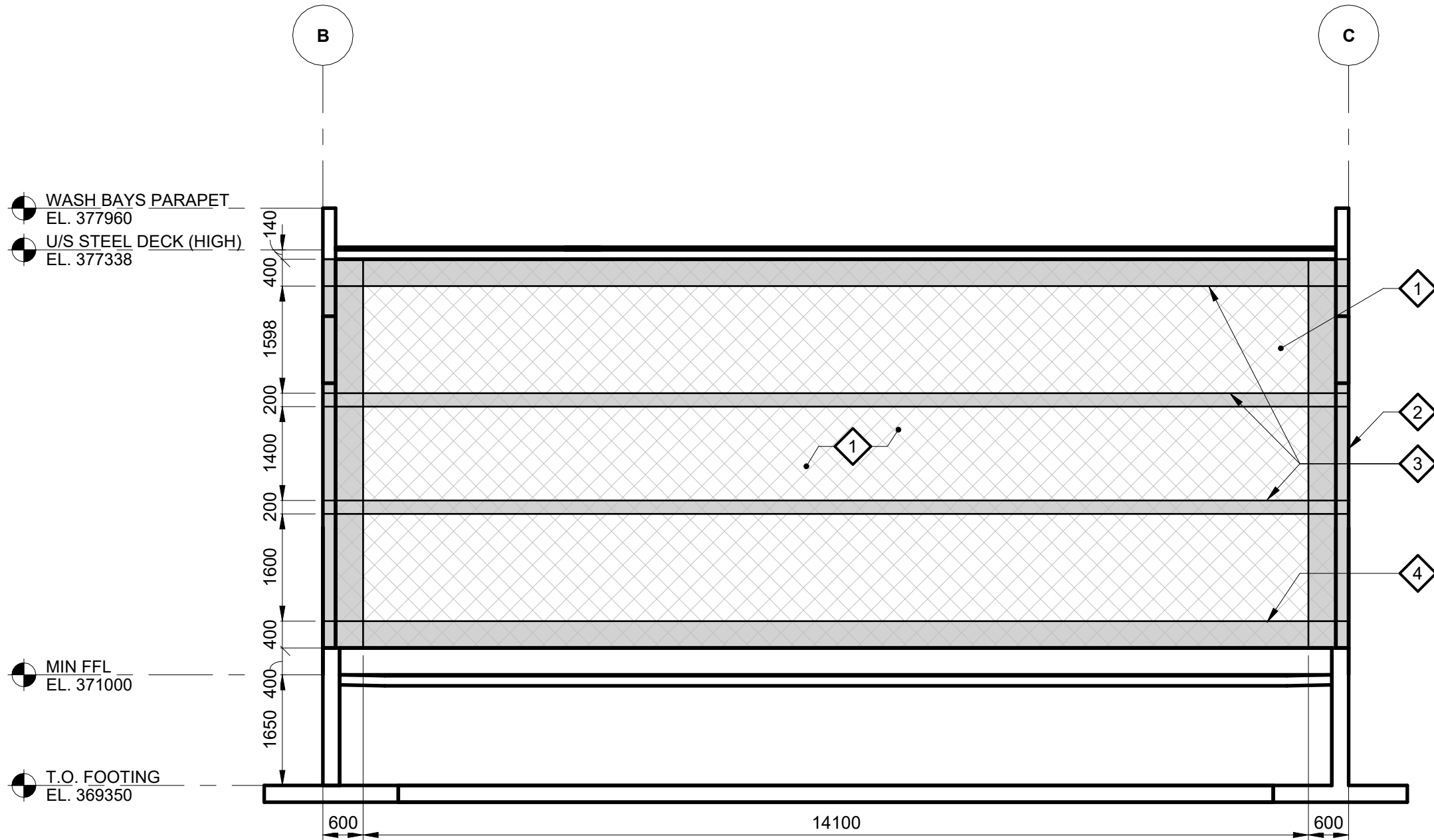
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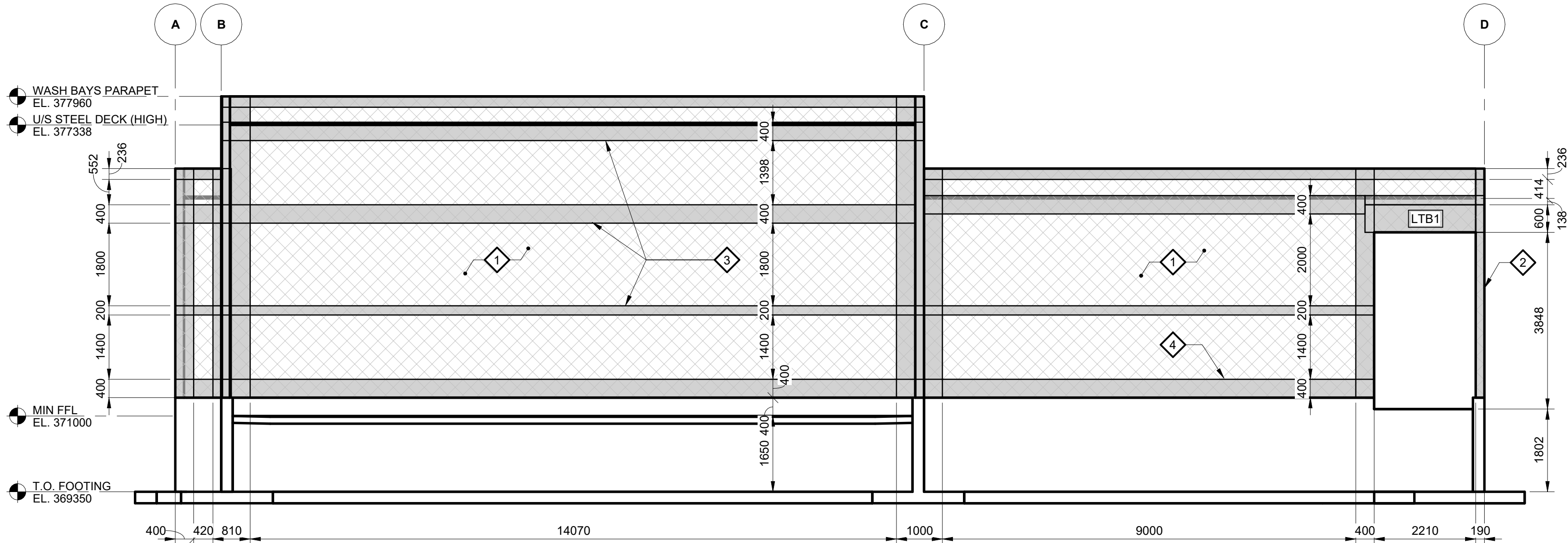
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5 TYPICAL CAR WASH PARTITION ELEVATION
S-121 1 : 75



6 GRID 2 ELEVATION
S-121 1 : 75

LINTEL SCHEDULE					
MARK	DEPTH	REINFORCEMENT			MATERIAL
		TOP	BOTTOM	SINGLE TIES	
LTB1	AS PER ELEVATION	1 - 20M	2 - 20M	10M @ 200 OC	LINTEL BLOCK
LTB2	AS PER ELEVATION	1 - 20M	2 - 20M	10M @ 200 OC	CONCRETE
LTB3	N/A		N/A		L203X150X8 LINTEL

KEYNOTES

- 190 CMU WALL:
20M VERT @ 1200 OC
20M HORIZ @ 2400 OC
INCLUDE 8 GA LADDER REINF AT EVERY COURSE.
- SHADED VERTICAL AREA DENOTES REINFORCED AND GROUT FILLED CORES. ALL SHADED AREAS ARE REINFORCED WITH 20M REBAR (TYP) AND FILLED WITH 15 MPa GROUT MIX. WHERE ELEVATION SHOW VERT. CORE SPACING BEYOND 1200, FOLLOW NOTE 1.
- CONTINUOUS BOND BEAM R/W 1-20M (TYP).
- 400 BOND BEAM AT BASE OF CMU WALLS (TYP). PROVIDE CONT. 20M AT BOTTOM COURSE.

MASONRY ELEVATION NOTES

- WHERE WALL ELEVATIONS ARE NOT SHOWN, REINFORCE MASONRY WALLS AS PER MASONRY REINFORCING SCHEDULE FROM GENERAL NOTES.

AECOM

CONSULTANT

PRIME:
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PROJECT

FORT McMURRAY
AIRPORT RENTAL CAR
WASH / QTA FACILITY

FORT MCMURRAY, ALBERTA

PROJECT NUMBER

60723990

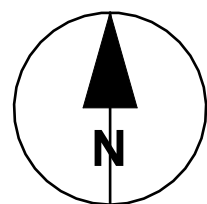
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REGISTERED OWNER:

FORT McMURRAY AIRPORT AUTHORITY
Address
Suite 300 - 100 Snow Bird Way, Fort McMurray, AB T9H 0G3

NORTH ARROW AND KEYPLAN



KEY PLAN

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PRODUCTION INFORMATION

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REVIEWED: J.CHAN
VERIFIED: A.SMITH

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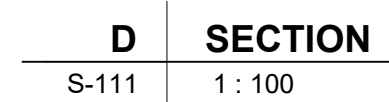
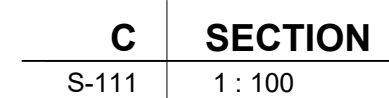
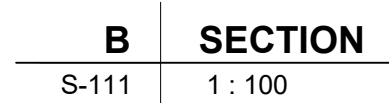
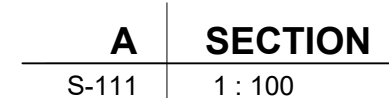
BUILDING ELEVATIONS II

SHEET NUMBER

S-212

REVISION

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S-311	C
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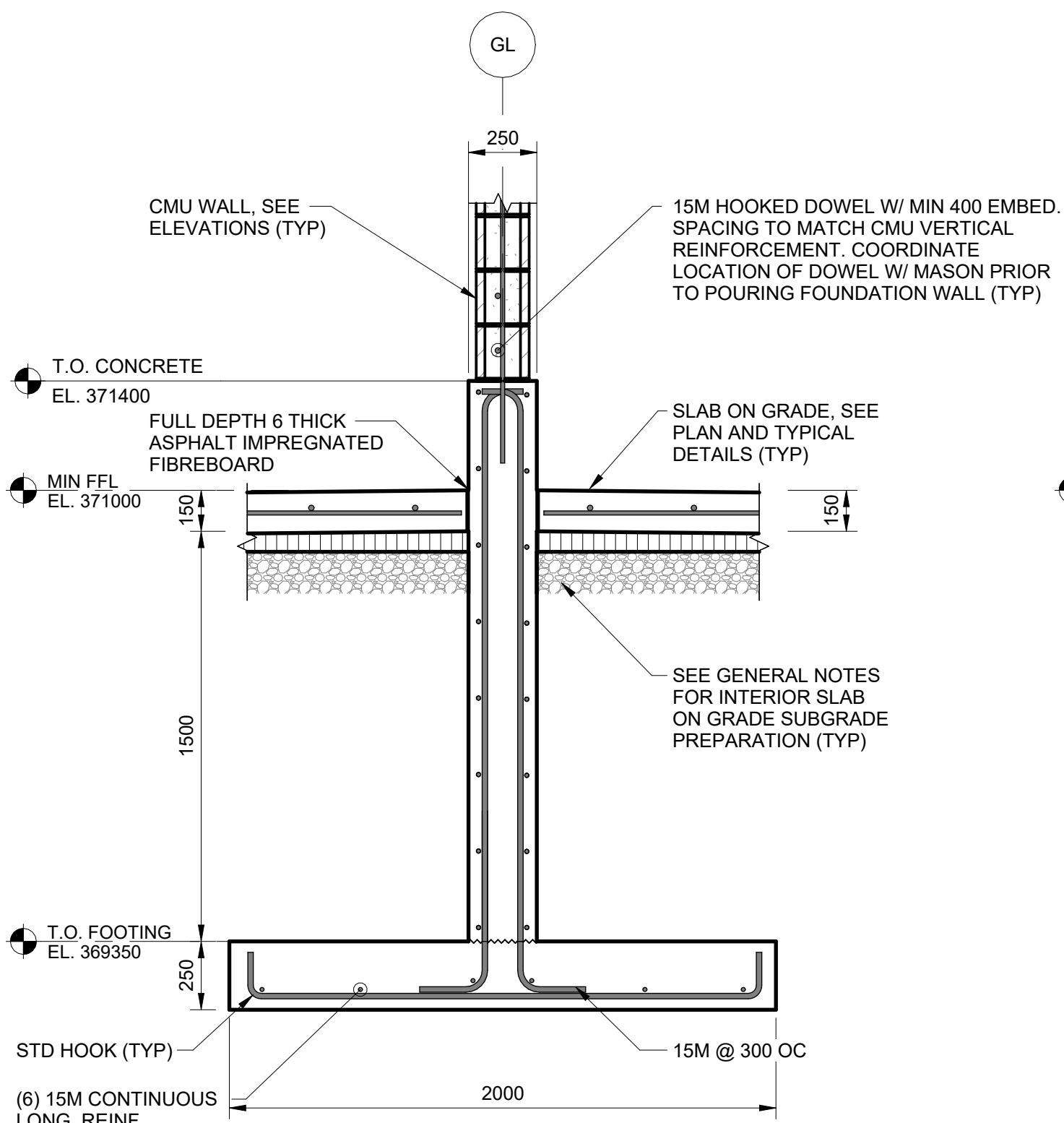
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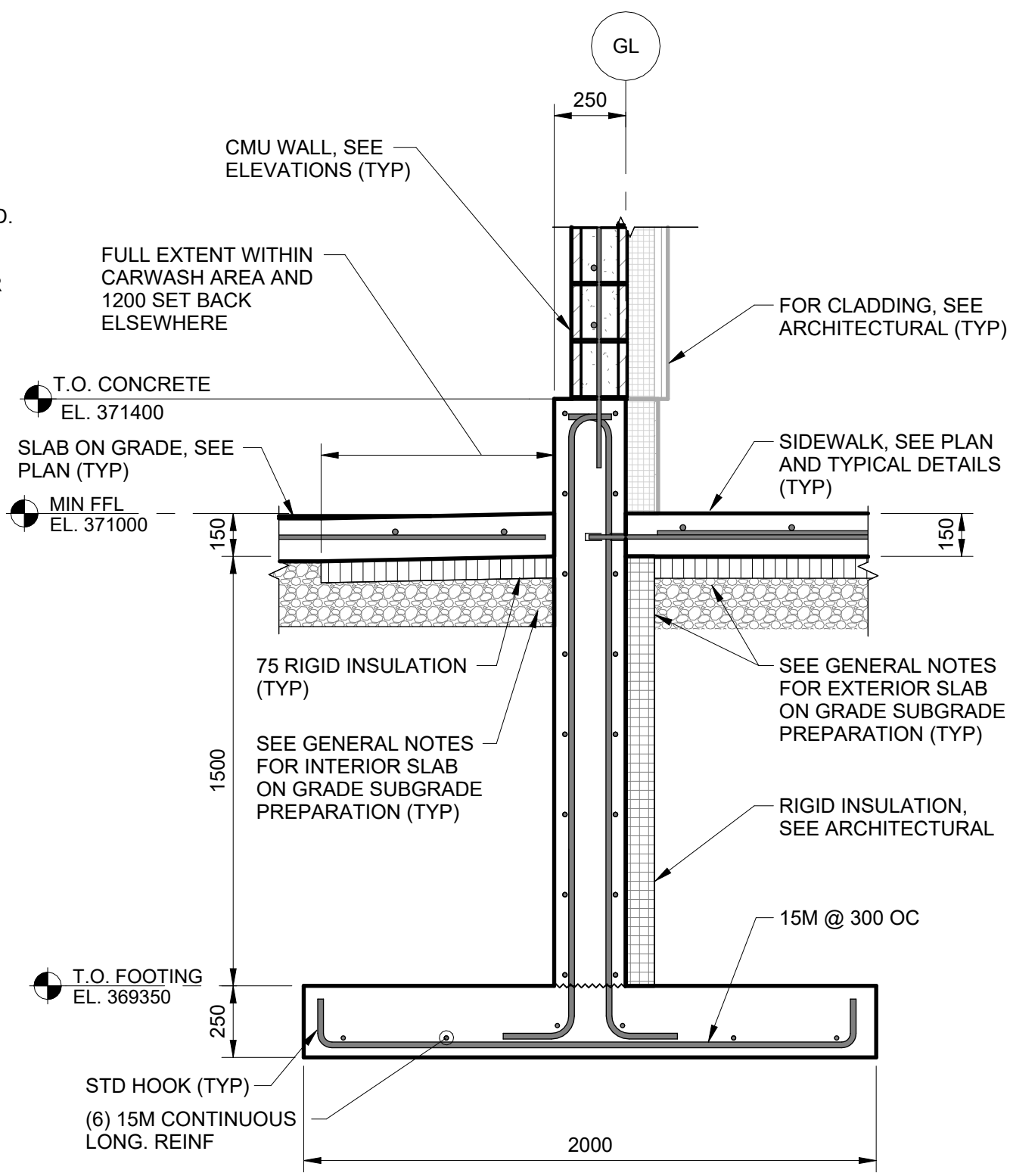
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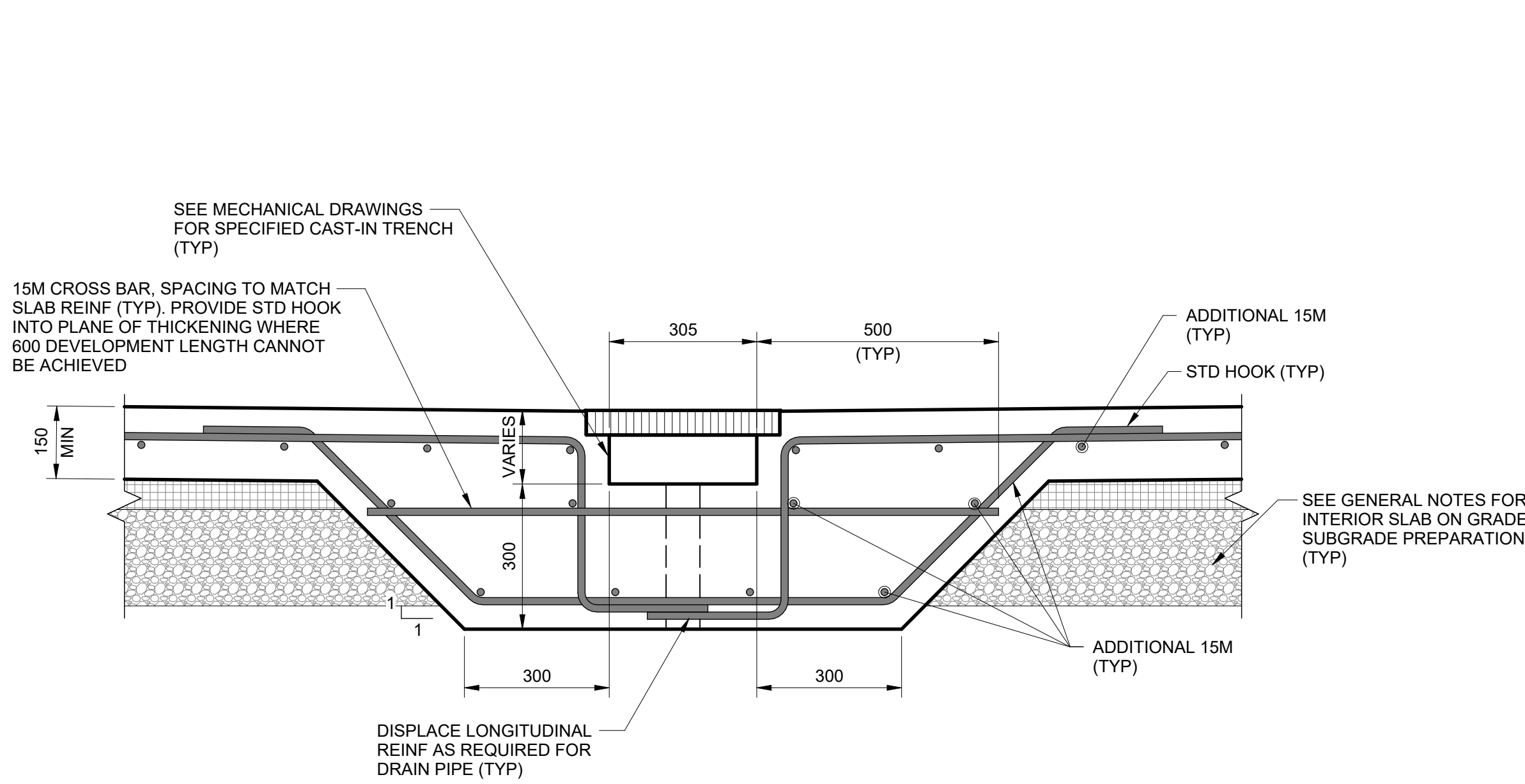
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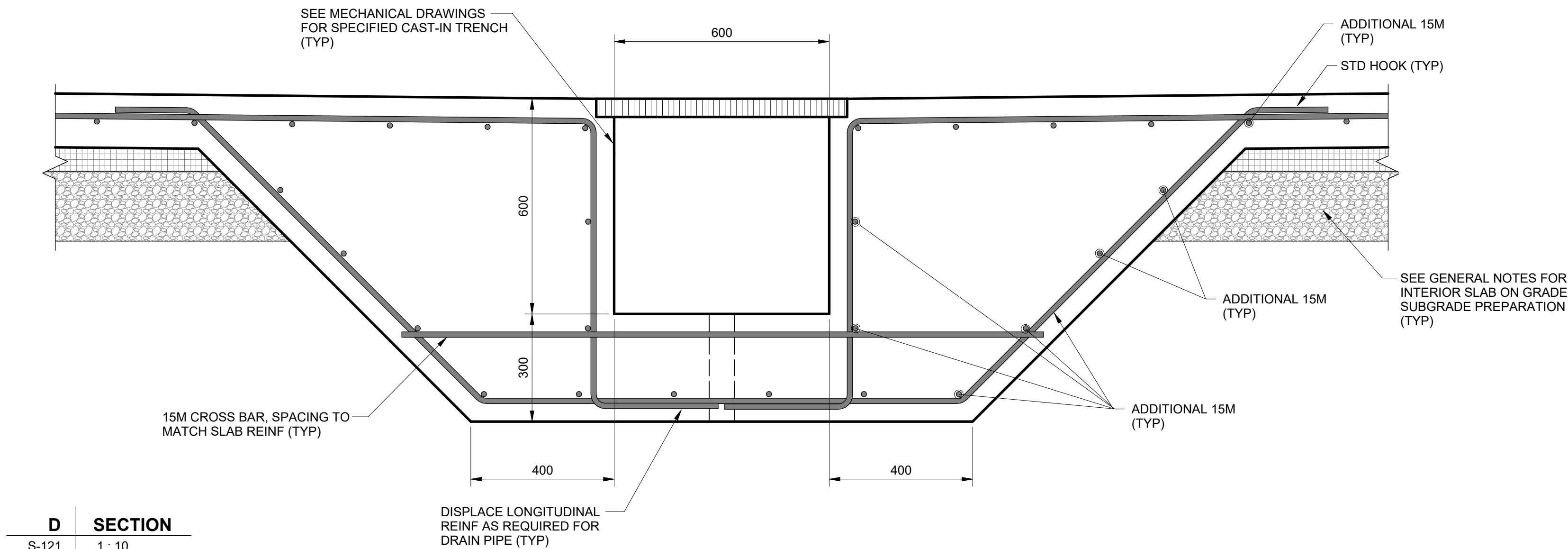
A SECTION
S-111 1:20



B SECTION
S-111 1:20



C SECTION
S-121 1:10



D SECTION
S-121 1:10

AECOM

CONSULTANT
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AIRPORT RENTAL CAR
WASH / QTA FACILITY**

FORT MCMURRAY, ALBERTA

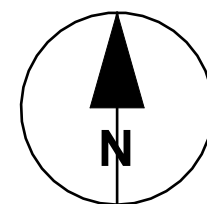
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CLIENT

**FORT McMURRAY
INTERNATIONAL AIRPORT**

REGISTERED OWNER:
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Address
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NORTH ARROW AND KEYPLAN



KEY PLAN

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REVIEWED: J.CHAN
VERIFIED: A.SMITH

SHEET TITLE
SECTIONS AND DETAILS I

SHEET NUMBER REVISION

S-321 **C**

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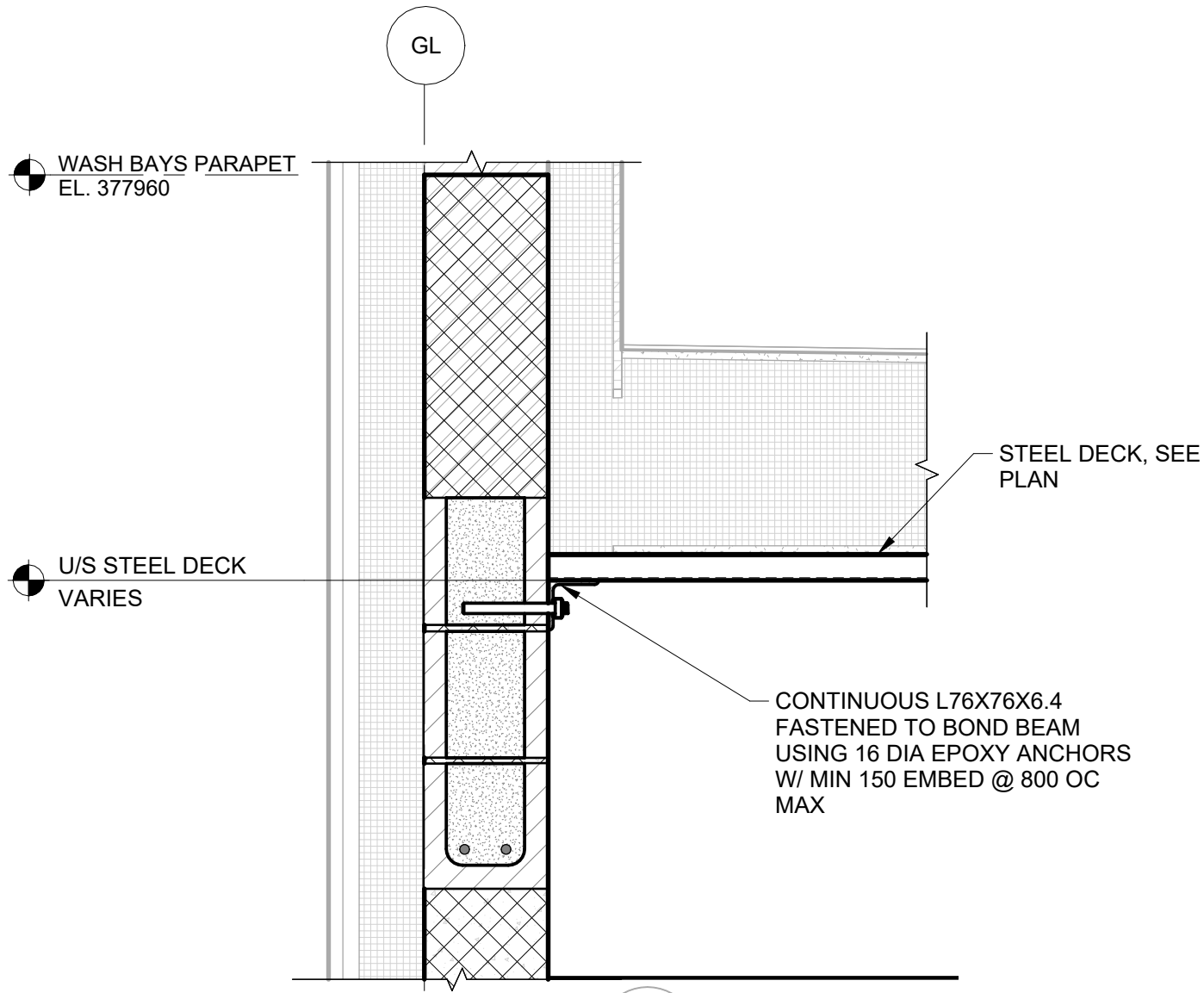
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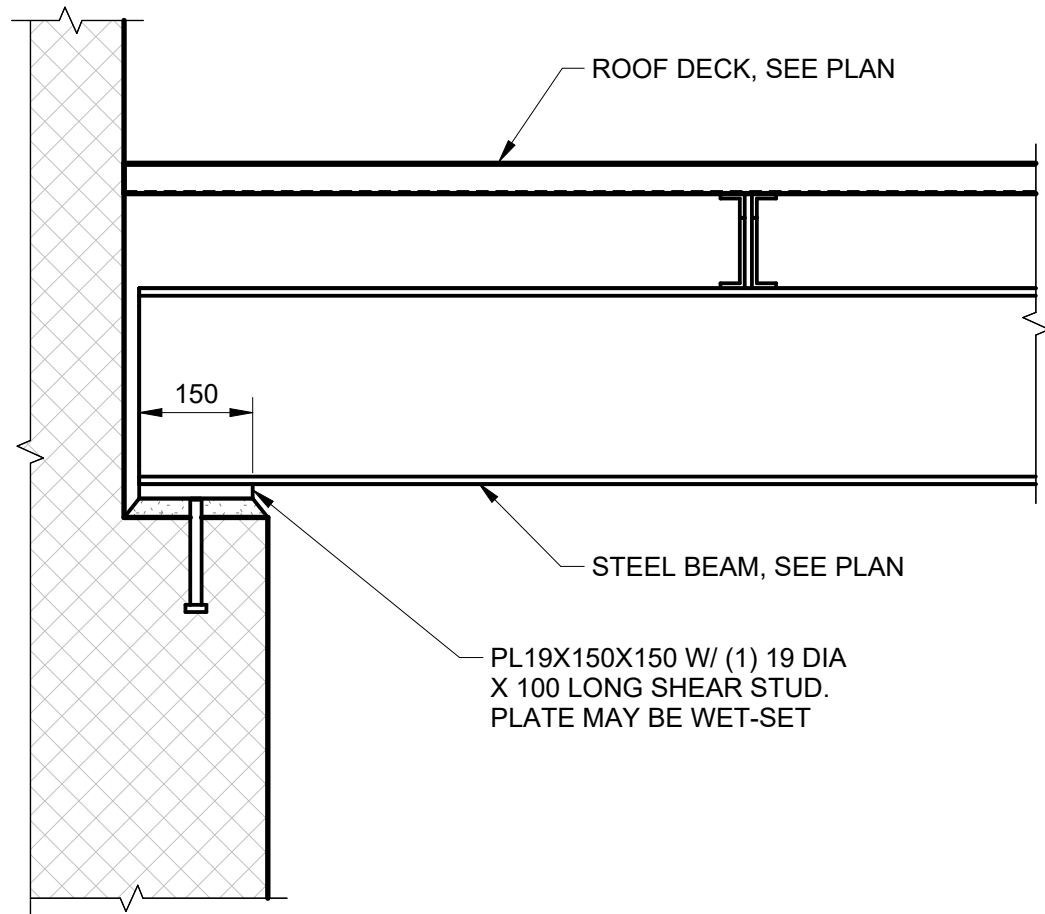
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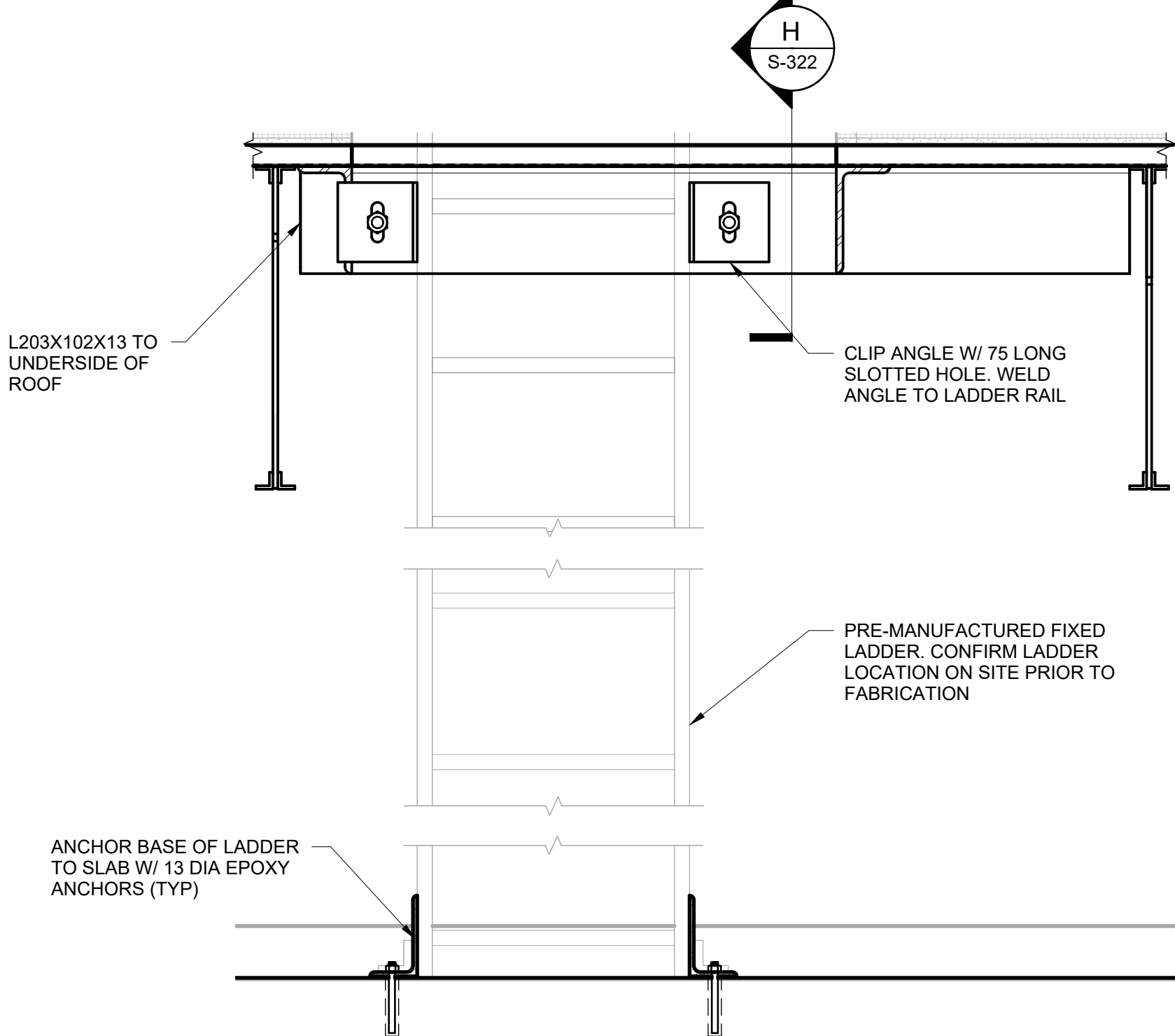
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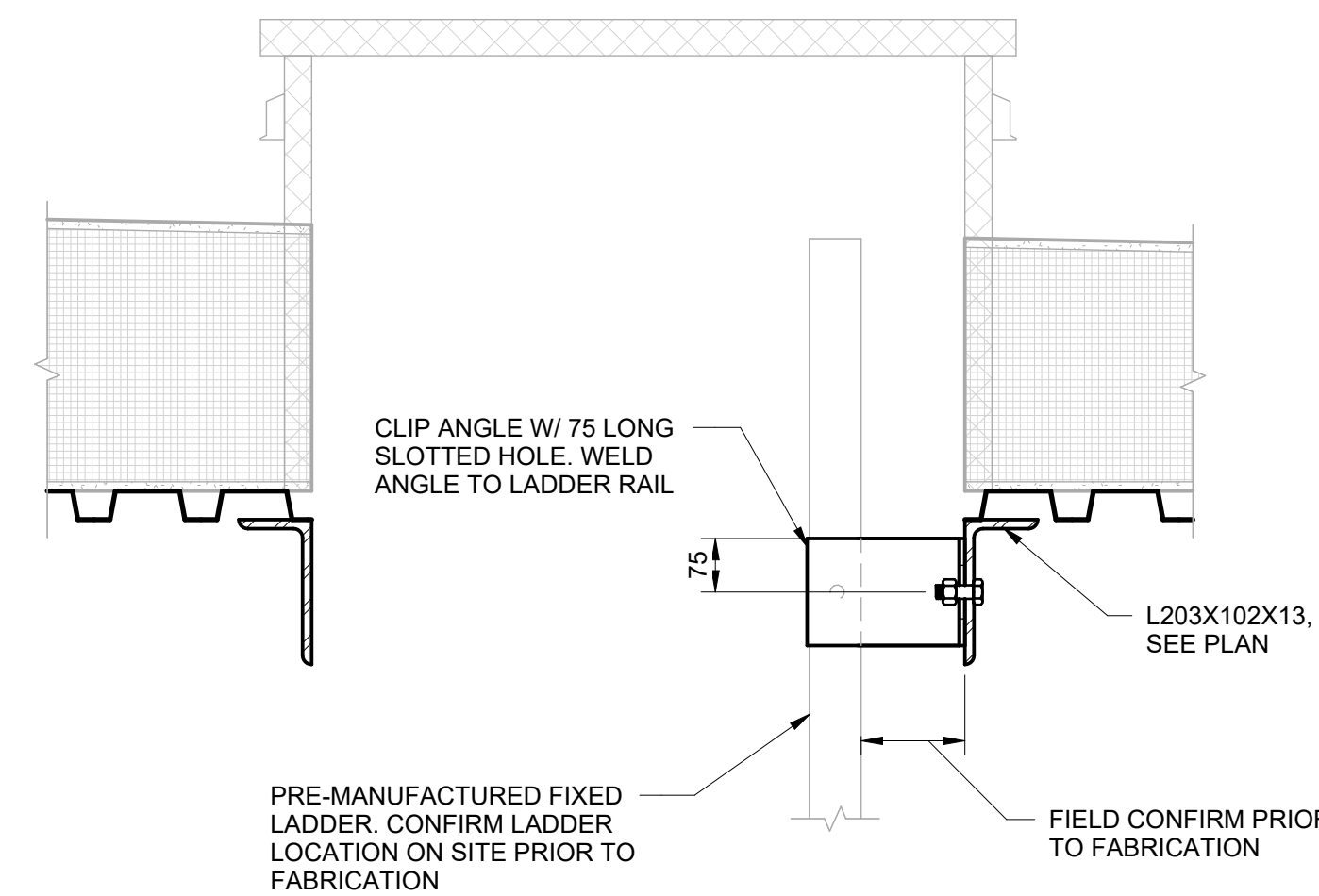
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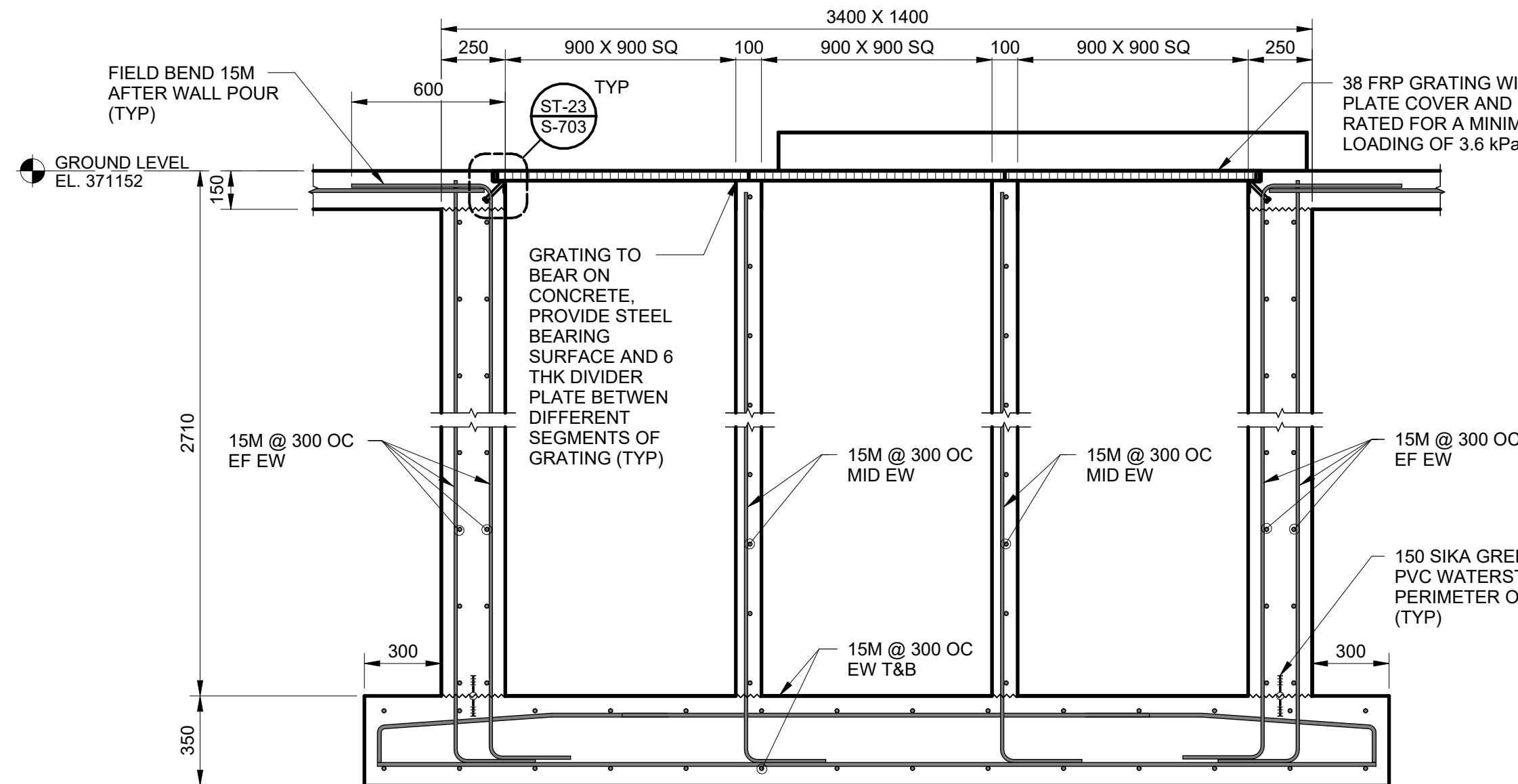
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S-122 1 : 10



G SECTION
S-122 1 : 10

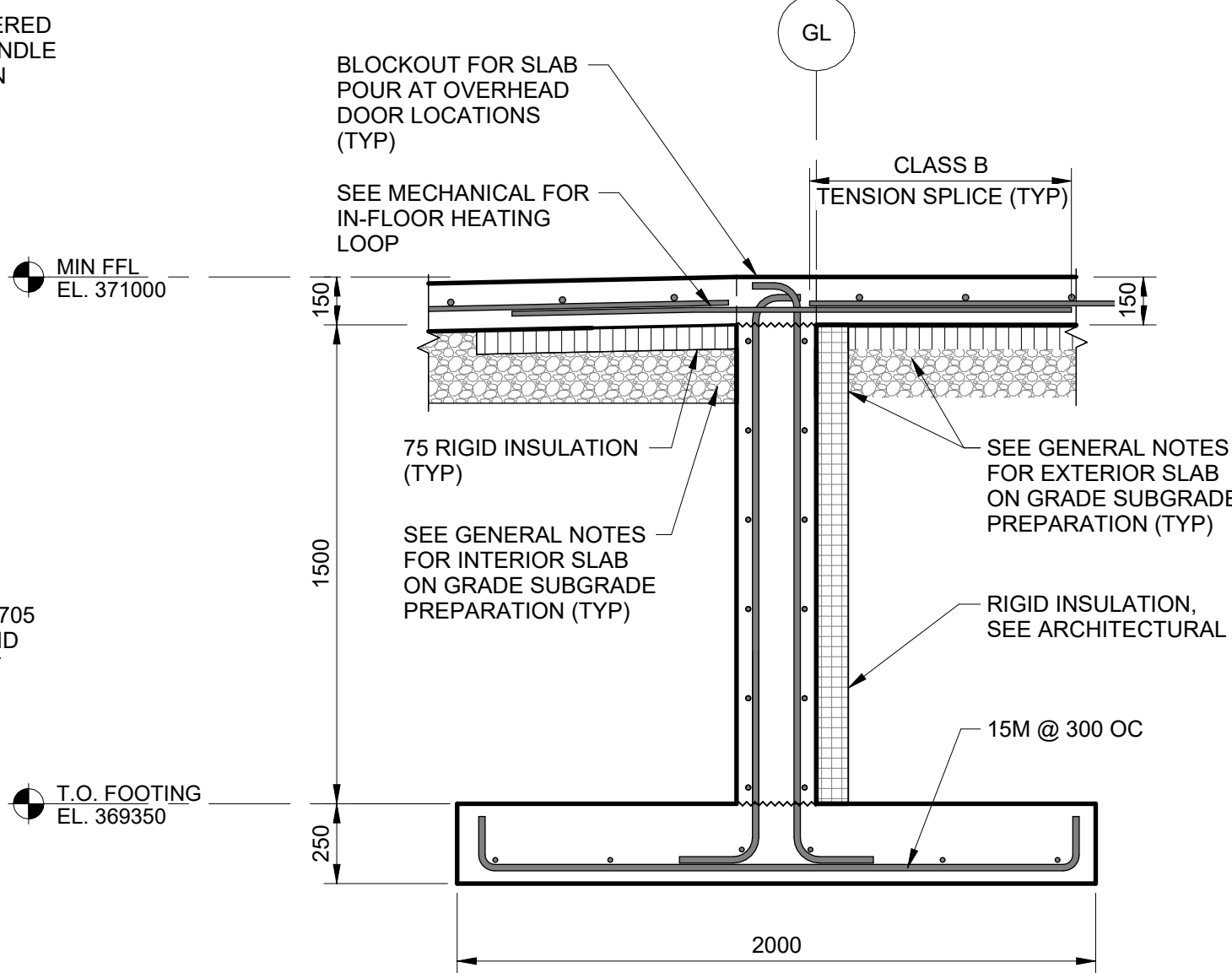


H SECTION
S-322 1 : 10



- NOTES:
- SEE MECHANICAL FOR PENETRATION REQUIREMENTS. REINFORCE AROUND PENETRATIONS AS PER TYPICAL DETAILS.
 - REFER TO GEOTECHNICAL REPORT FOR SUBGRADE PREPARATION.

J SECTION
S-111 1 : 20



K SECTION
S-111 1 : 20

AECOM

CONSULTANT

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PROJECT NUMBER

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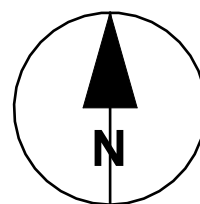
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PRODUCTION INFORMATION

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REVIEWED: J.CHAN
VERIFIED: A.SMITH

SHEET TITLE

SECTIONS AND DETAILS II

SHEET NUMBER

S-322

REVISION

C

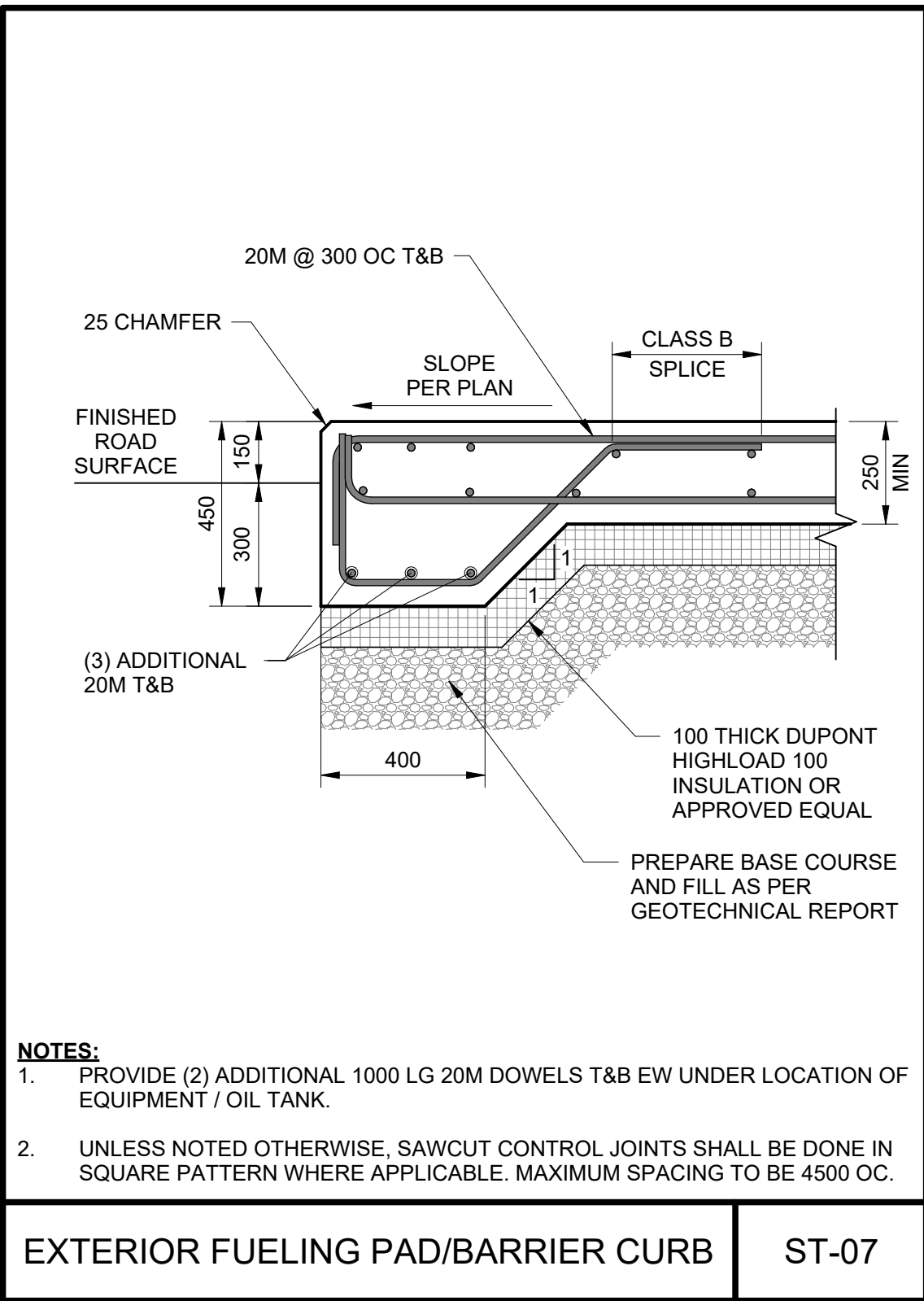
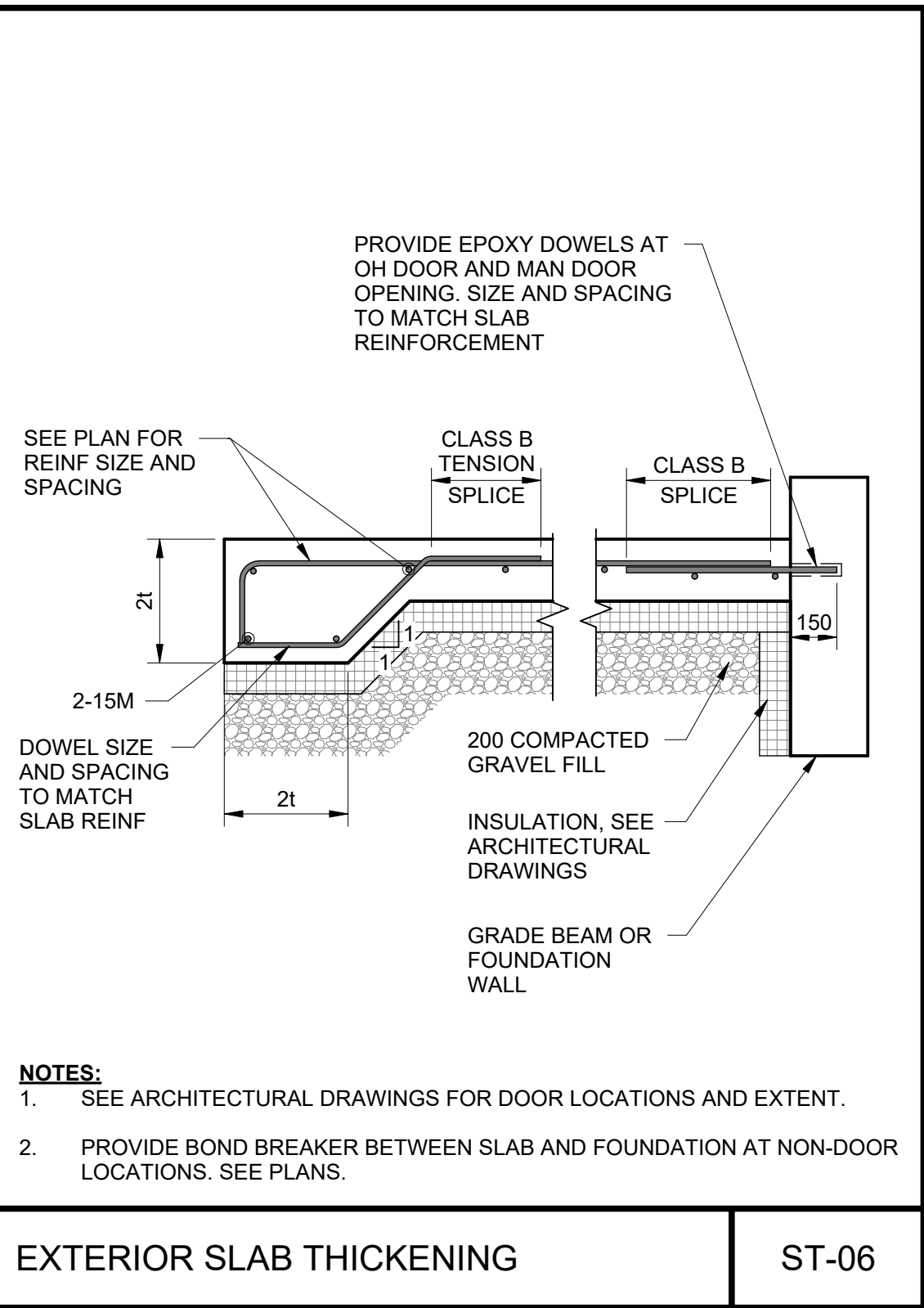
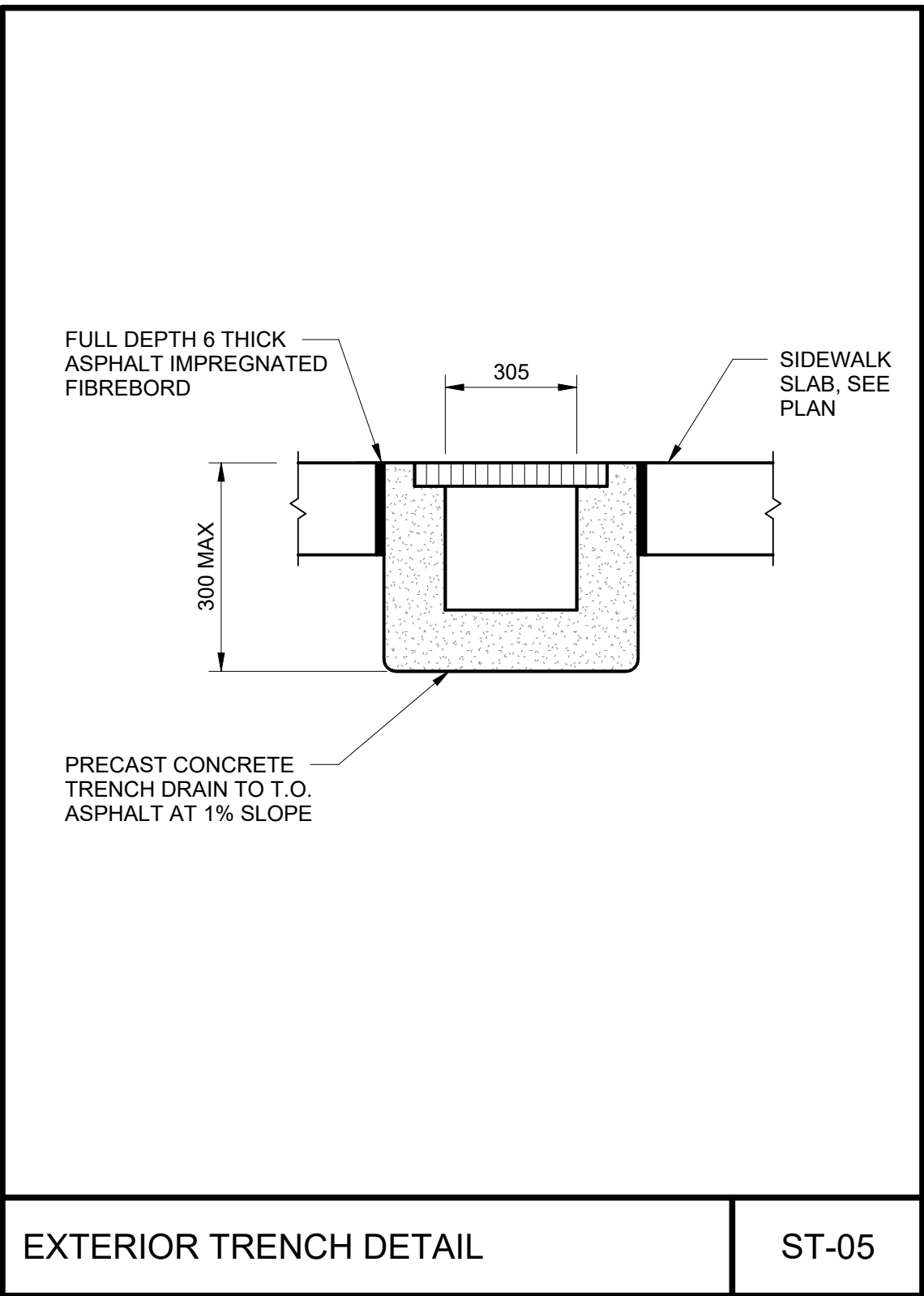
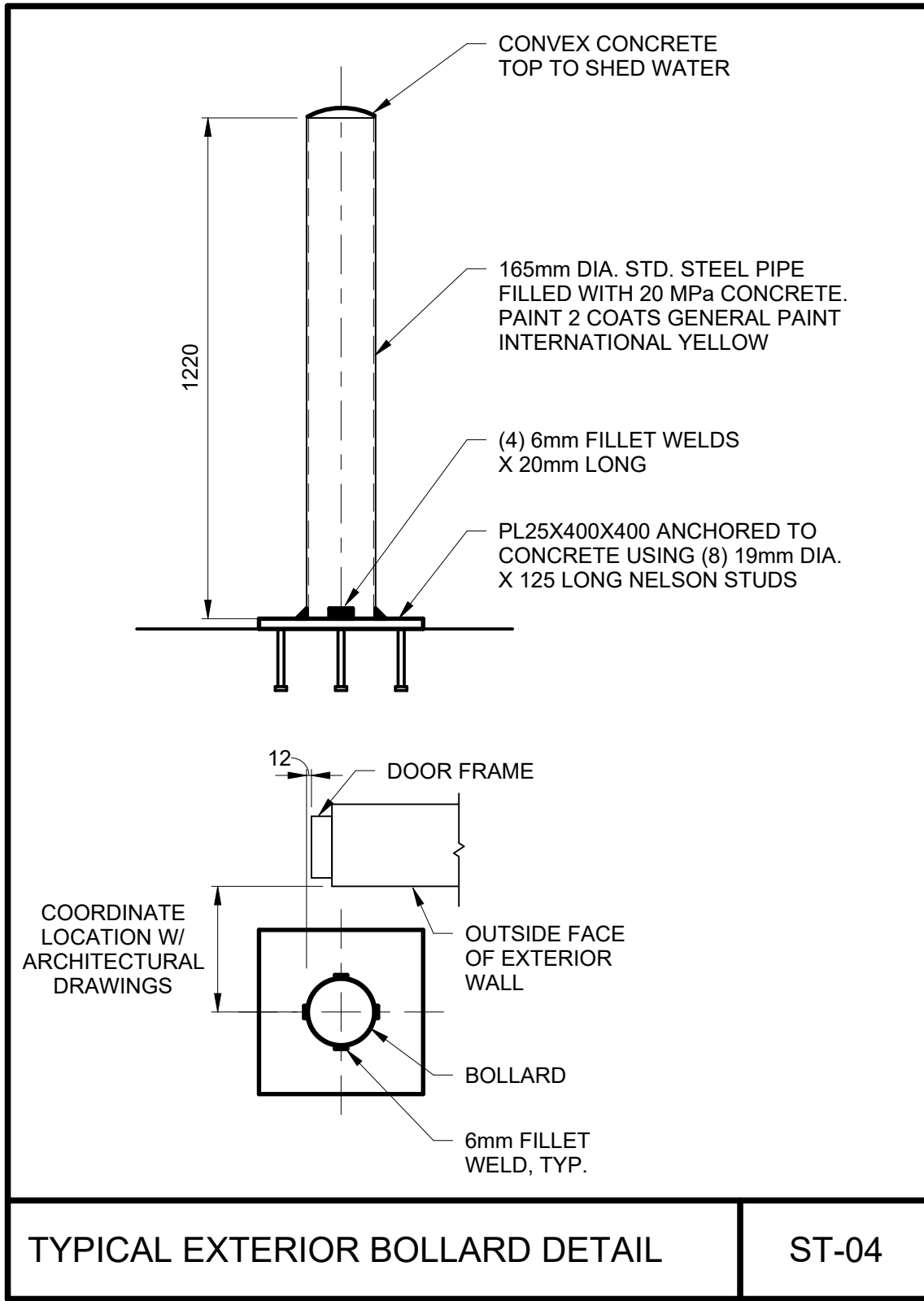
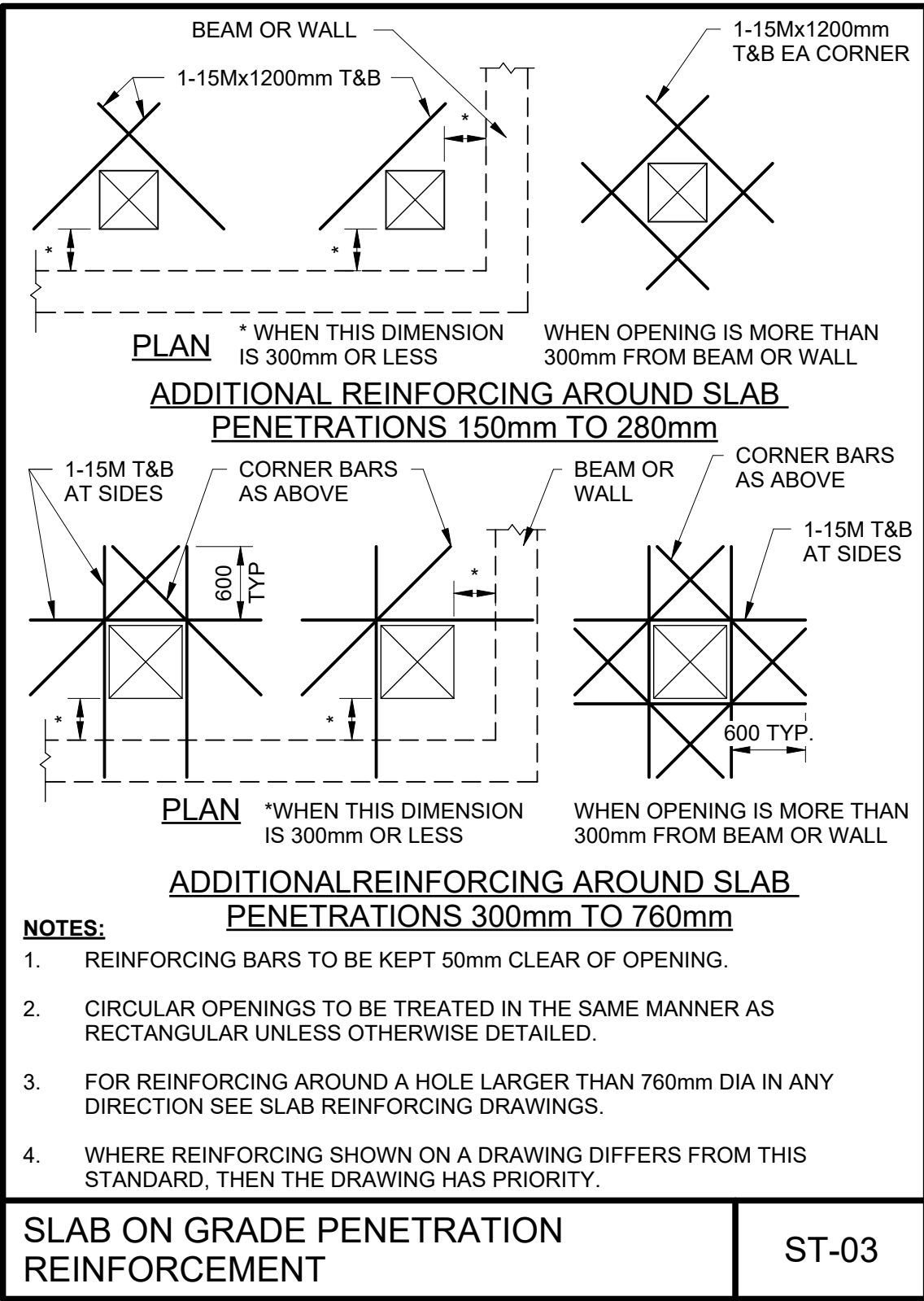
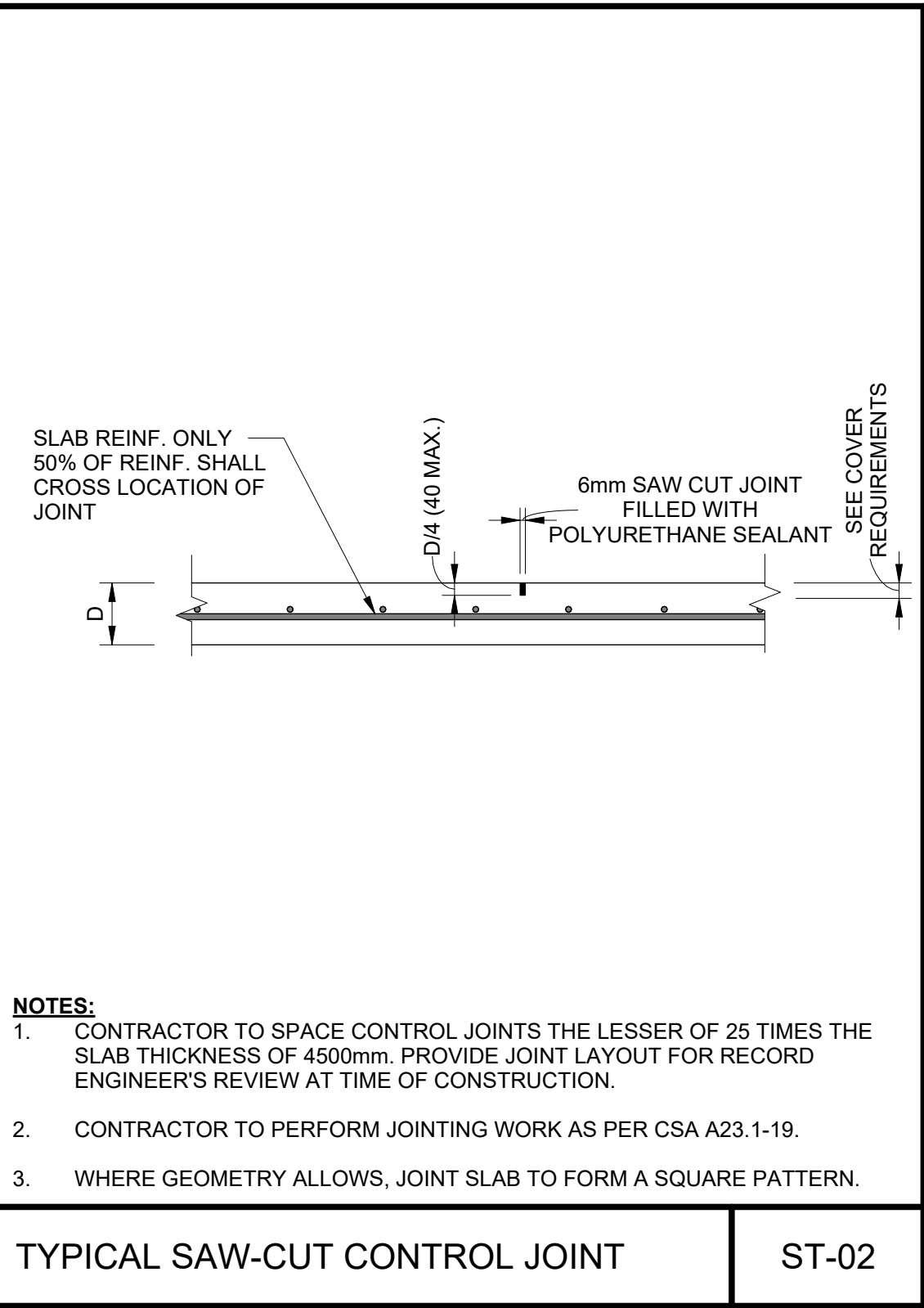
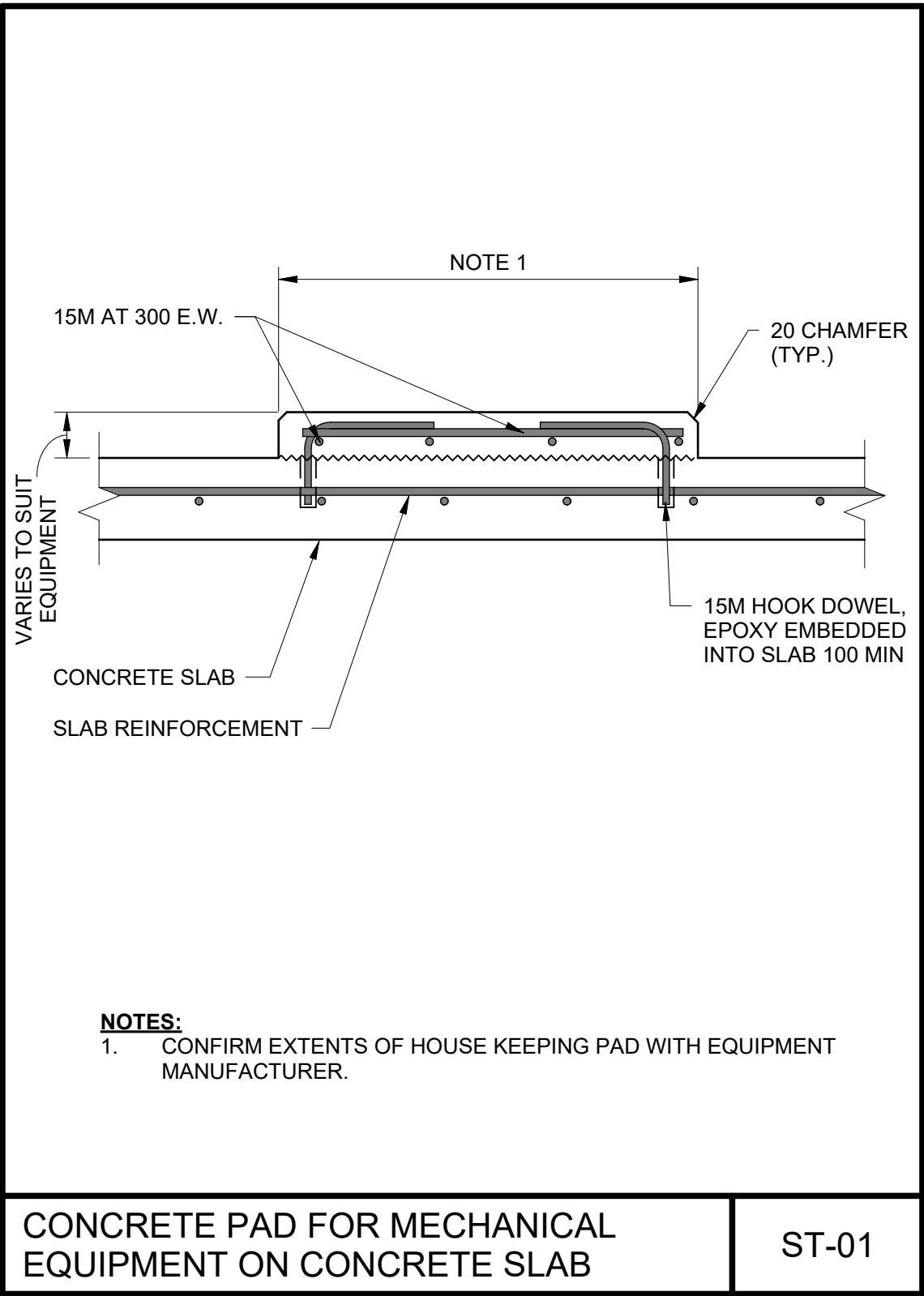
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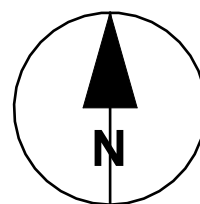
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SHEET TITLE
TYPICAL DETAILS I

SHEET NUMBER

S-701

REVISION

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FOR MINIMUM LAP REFER TO TABLE 1

3-20M VERT AT CORNER

2-20M VERT AT TEE INTERSECTION

2-20M VERT AT END OF WALL & OPENING MORE THAN 1000mm LONG

ALTERNATE DIRECTION OF HOOK

WALL REINF LAYOUT (SINGLE LAYER)

TABLE 1 - MINIMUM LAP

BAR SIZE	MINIMUM LAP
10	450mm
15	600mm
20	900mm

CROSSWIRE

BEND JOINT REINF AT LAP

HOOK END OF JOINT REINF

100 (4")

300

MIN LAP FROM CROSS WIRE UN

CROSSWIRE

HOOK END OF JOINT REINF W/ WELDED CROSSWIRE

JOINT REINF LAYOUT

NOTES:

1. REINFORCEMENT TO BE SUPPORTED TO PREVENT DISPLACEMENT DURING PLACEMENT OF GROUT OR MORTAR. AS A MINIMUM PROVIDE WIRE POSITIONERS OR SIMILAR DEVICE AT THE TOP AND BOTTOM, ENDS AND AT INTERVALS NOT EXCEEDING 200 BAR DIAMETERS.
2. AT INTERSECTION, BOND WALLS TOGETHER BY INTERLOCKING ALTERNATE COURSES (RUNNING BOND), UNLESS NOTED OTHERWISE.
3. DOWELS TO MATCH VERTICAL REINFORCEMENT.

REINFORCED MASONRY WALL

ST-11

HORIZ REINFORCING IN BOND BEAM BELOW

STOP HORIZ REINF AT CONTROL JOINT. REFER TO NOTE 3

CONTROL JOINT

VERT REINF REFER TO NOTE 2

HORIZONTAL REINFORCEMENT AT CONTROL JOINT

CONTROL JOINT

VERT REINF. REFER TO NOTE 2

STOP JOINT REINFORCEMENT AT CONTROL JOINT

JOINT REINFORCEMENT AT CONTROL JOINT

DOWELLED CONNECTION. REFER TO NOTE 4

CONTROL JOINT

VERTICAL REINF. REFER TO NOTE 2

HORIZ REINF TO BE CONTINUOUS FOR BOND BEAMS AT FLOOR LEVELS.

DOWELLED CONTROL JOINT AT BOND BEAM

NOTES:

1. FOR REINFORCED WALLS PROVIDE 1-20M EACH SIDE OF ALL CONTROL JOINTS UNLESS NOTED OTHERWISE.
2. TERMINATE ALL REINFORCEMENT 50mm FROM CONTROL JOINTS, UNLESS SHOWN OTHERWISE.
3. FOR DOWELLED CONTROL JOINTS PROVIDE 1200mm LONG SMOOTH DOWELS ACROSS THE JOINT. PREVENT BOND BETWEEN BAR AND GROUT WITH GREASE OR A PLASTIC SLEEVE. CAP ALL DOWELS TO ALLOW 25mm OF MOVEMENT.

CONTROL JOINTS IN WALL

ST-12

T.O. DECK ELEVATION SEE PLAN

200 X 400 BEARING SEAT

STEEL DECK, SEE PLAN (TYP)

GROUT FILL POCKET AFTER JOIST INSTALLATION

PL13 X 300 LG BEARING PLATE W/ (2) 13 DIA X 125 LG NELSON STUD ANCHORS. SHIM AND GROUT TO ACHIEVE DESIGN ELEVATION

SEE MASONRY ELEVATION

TYPICAL JOIST SEAT DETAIL

ST-13

190

150

300

STAGGER AS REQUIRED

PROVIDE CLEARANCE AS REQUIRED FOR BOND BEAM CONCRETE (100 MIN)

SIZE, LENGTH, OF EMBED AND MISC HSS AS REQ'D FOR DECK TRANSFER (TYP)

13 THICK BEARING PLATE W/ (2) 13 DIA X 125 LG NELSON STUD ANCHORS (TYP)

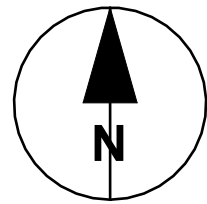
400 BOND BEAM BELOW, SEE MANSONRY ELEVATIONS

T.O. CMU WALL EL. SEE PLAN

PL13X300X150 BEARING PLATE W/ (2) 19 DIA X 125 LG NELSON STUD ANCHORS

OWSJ TOP CONNECTION TO CMU WALL

ST-14



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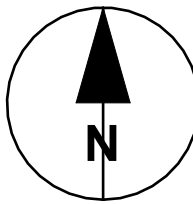
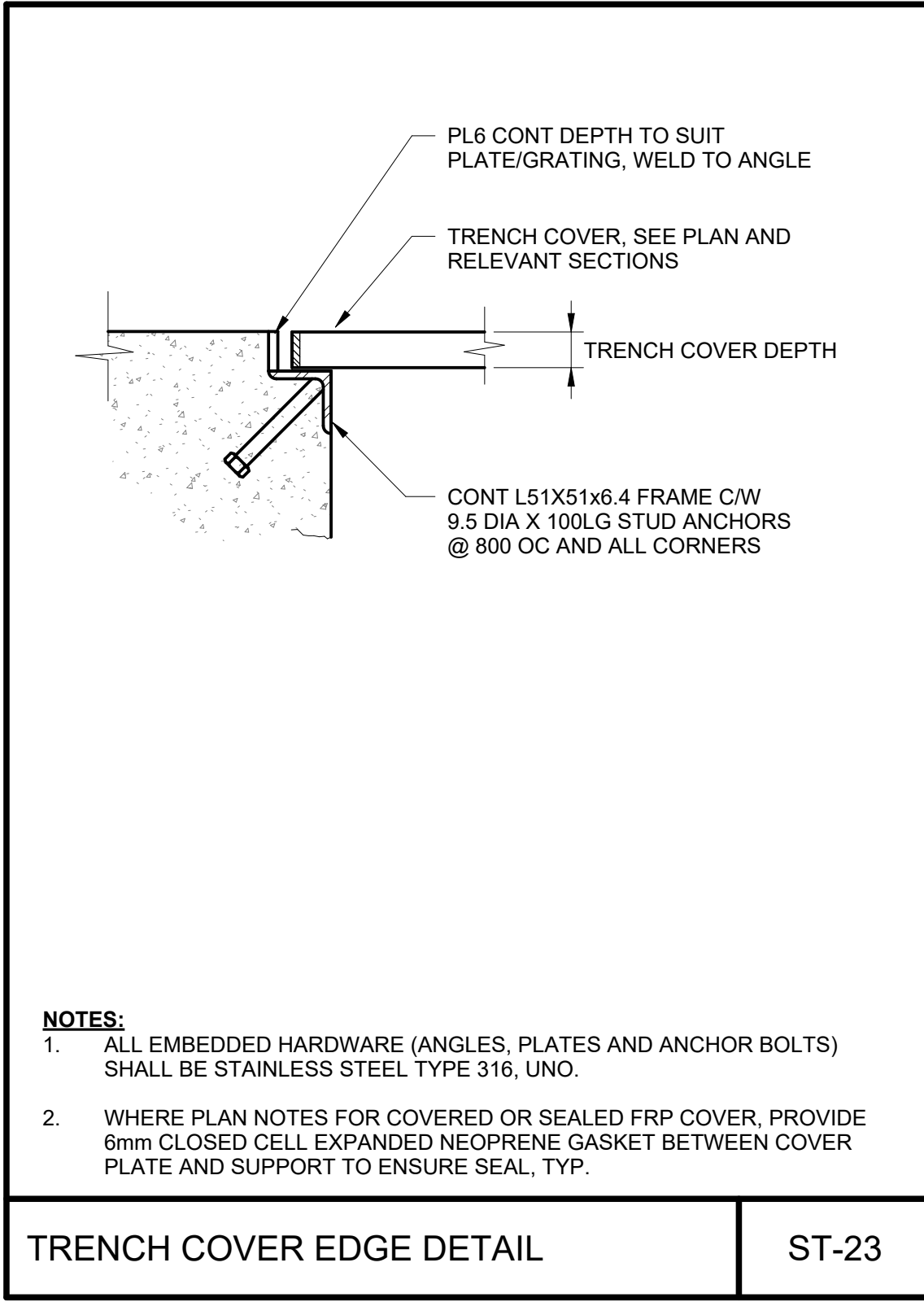
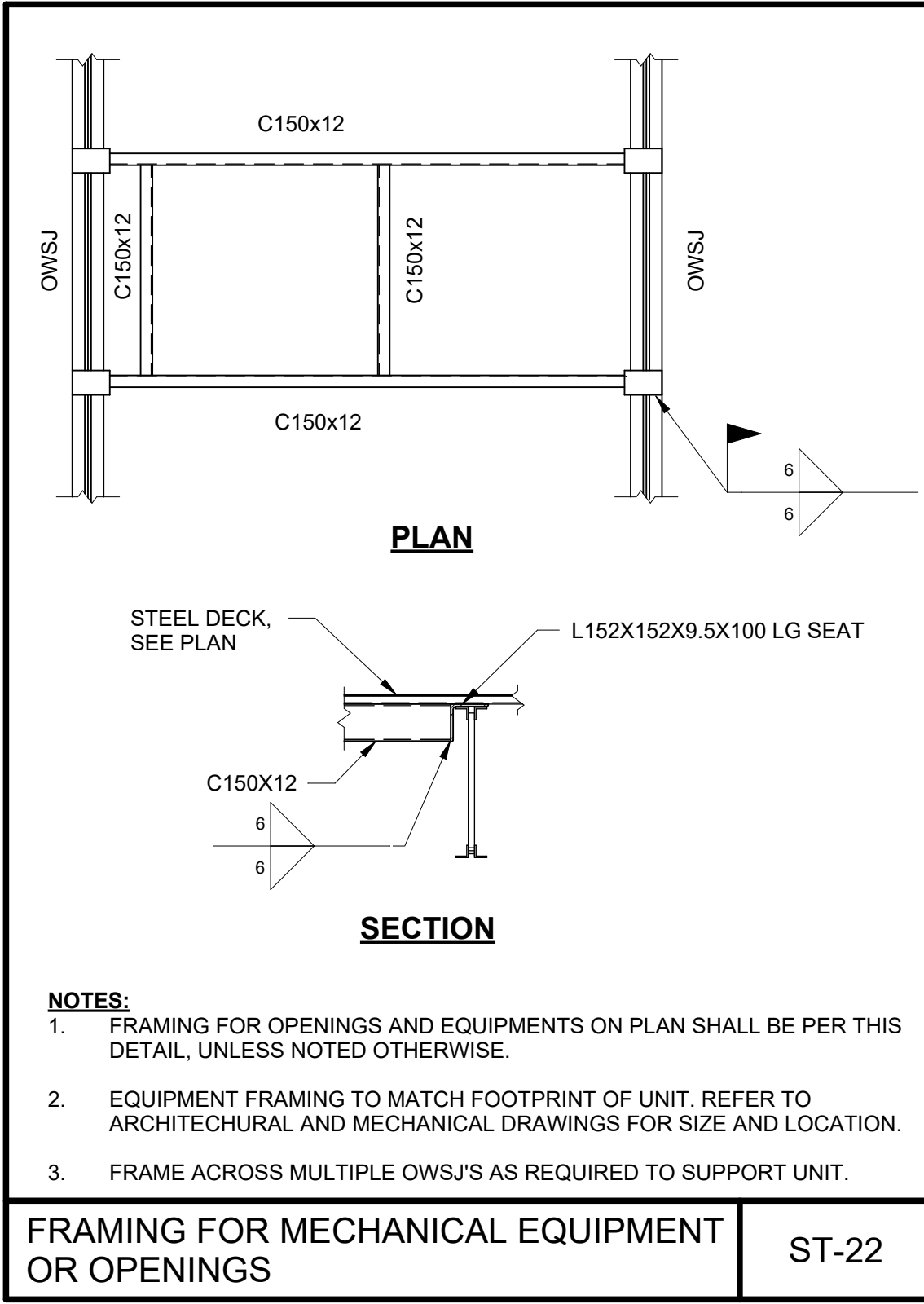
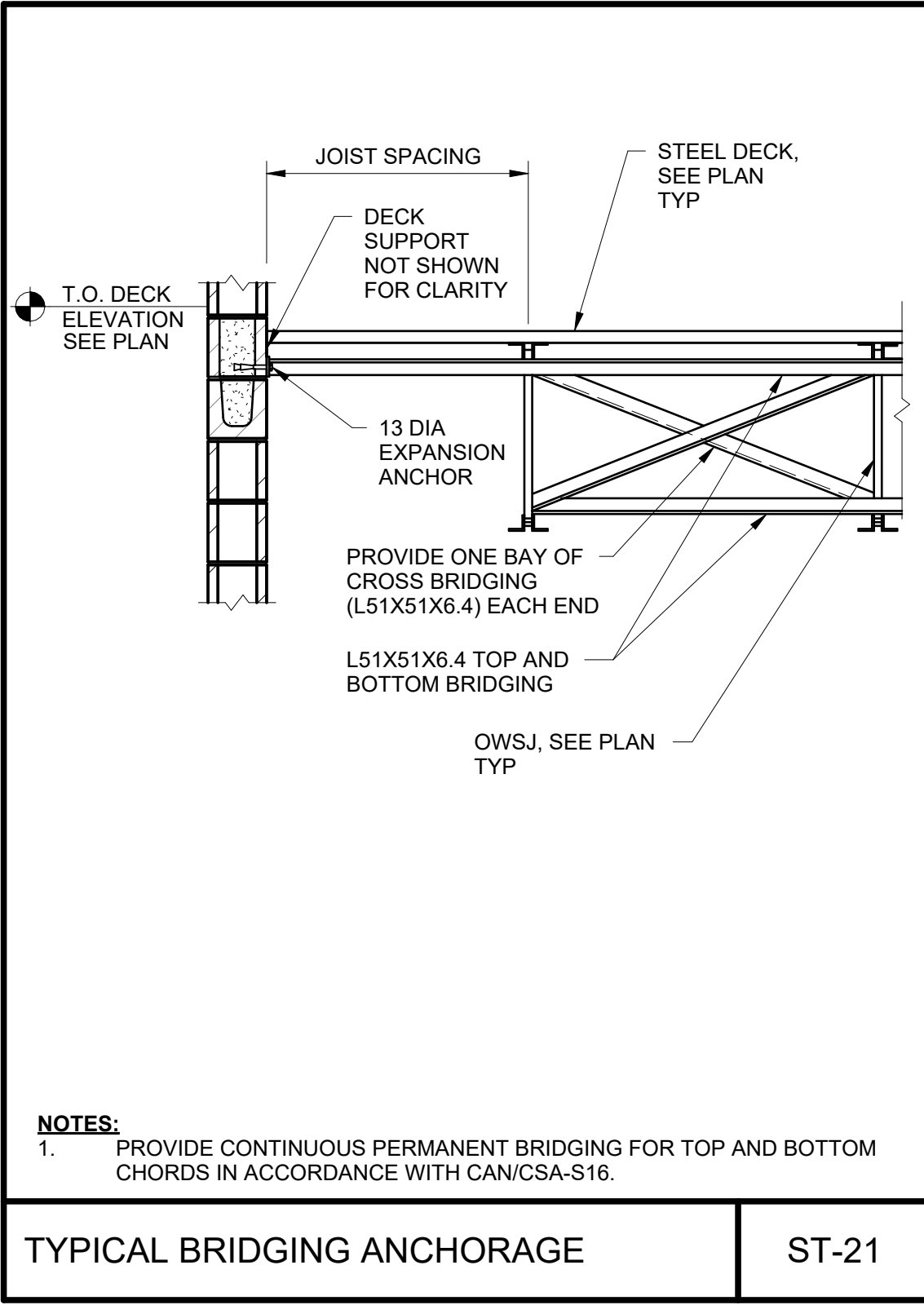
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