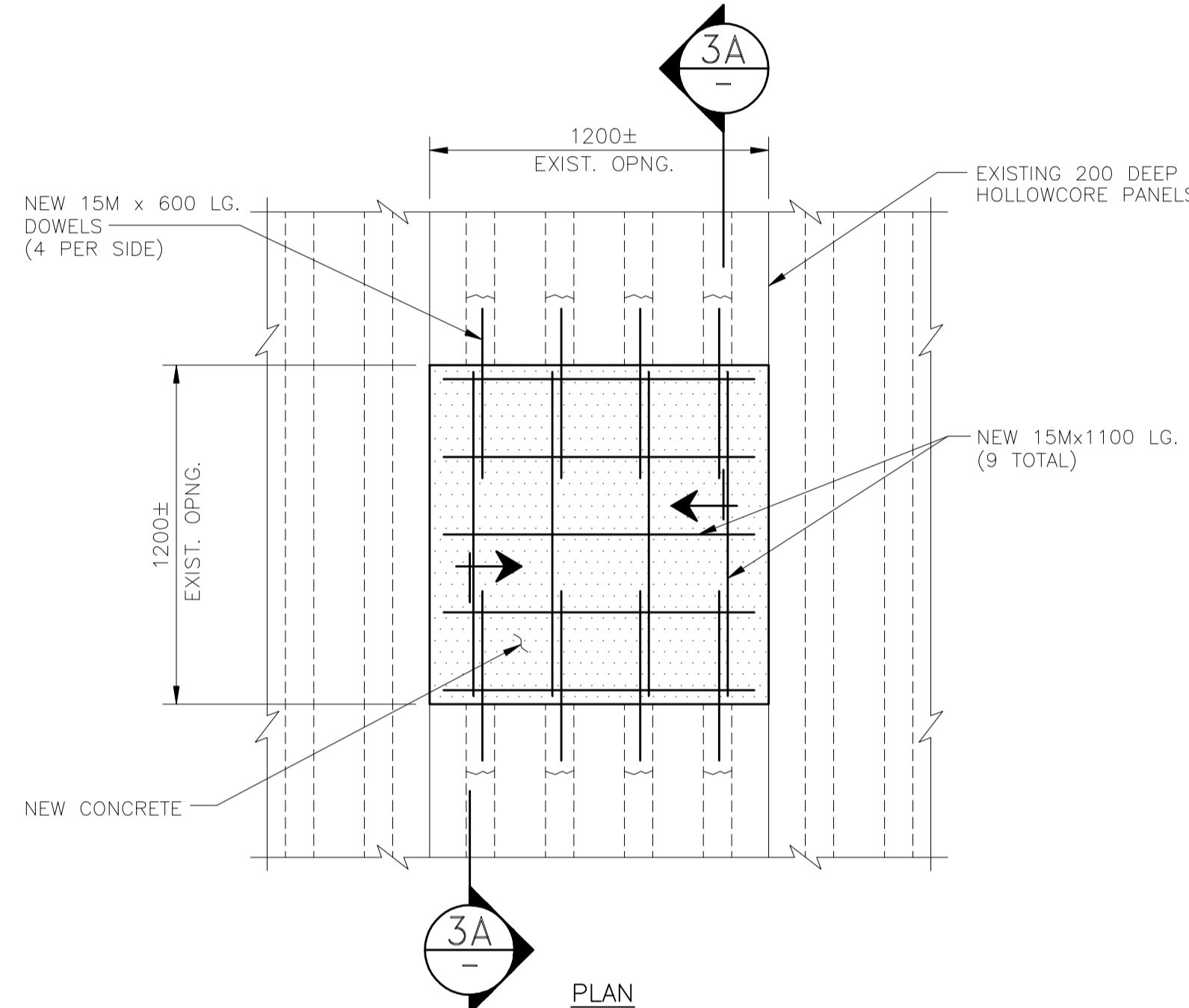


1 DETAIL (LOOKING NORTH)
SCALE: 1:20

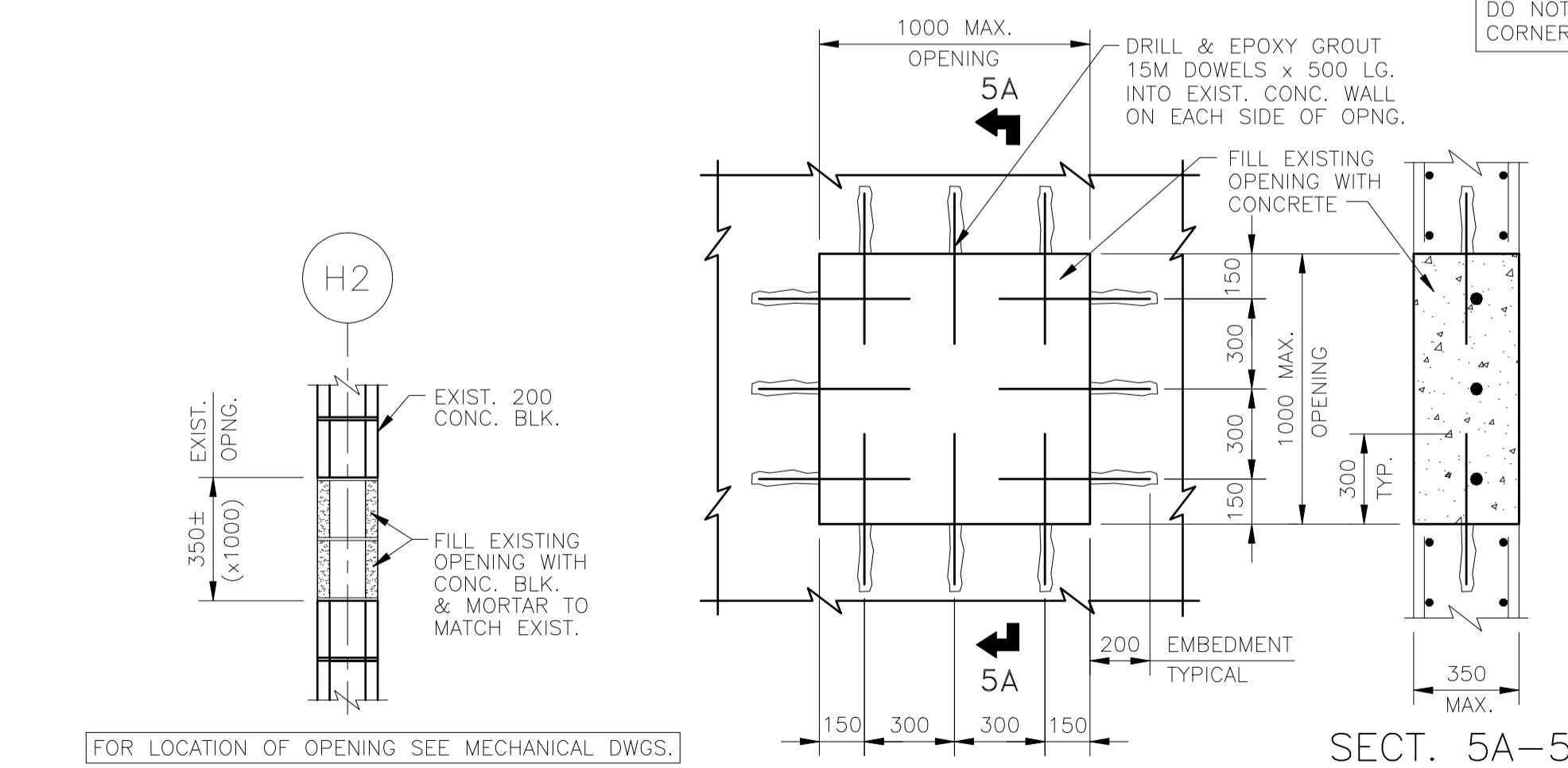
CLOSURE DETAIL FOR EXIST. 1000x350 OPENING GOING THRU EXISTING CONCRETE FLOOR SLAB AND EXISTING HOUSEKEEPING PAD.



3 DETAIL
SCALE: 1:20

TYPICAL HOLLOWCORE CLOSURE DETAIL: THIS DETAIL CAN BE USED FOR ALL OPENINGS IN EXISTING 200mm DEEP HOLLOWCORE PANEL ROOF AS LONG AS THE OPENING DOES NOT EXCEED THE DIMENSIONS SHOWN IN THIS DETAIL.

CLOSURE DETAIL FOR EXIST. 1200 x 1200 OPENING GOING THRU EXISTING 200 HOLLOWCORE ROOF

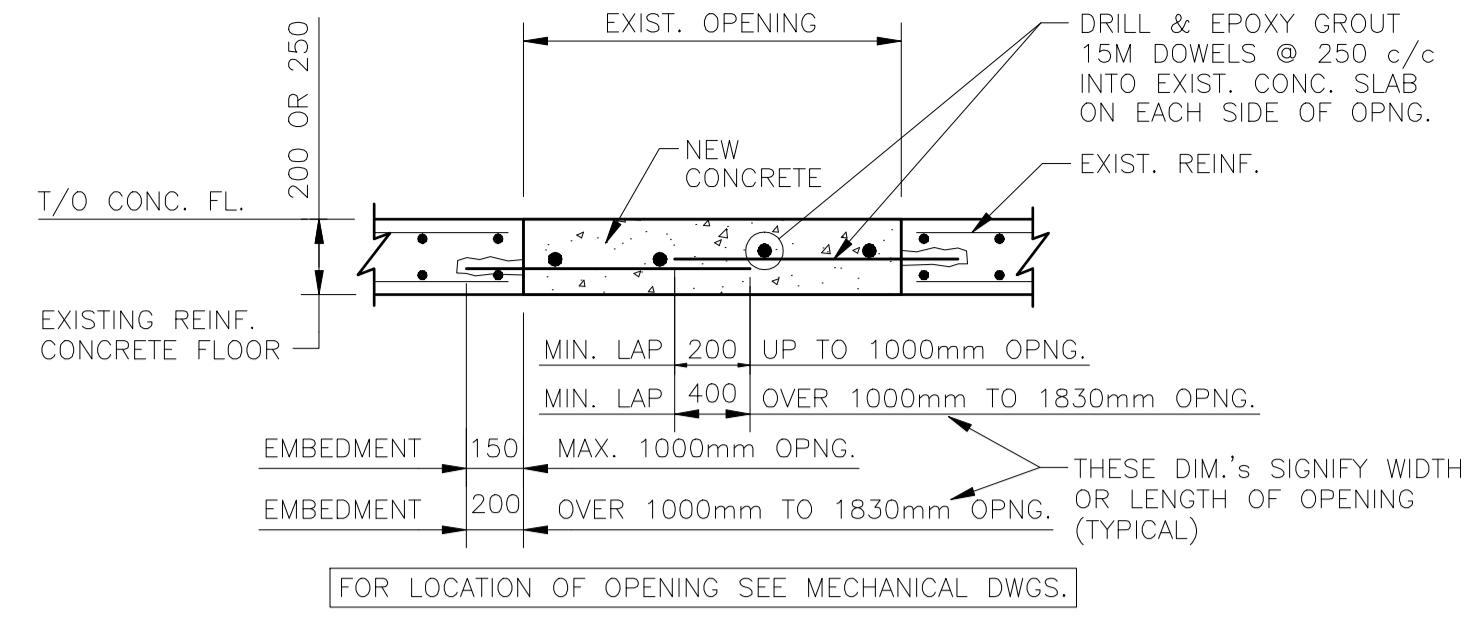


4 DETAIL
SCALE: 1:20

5 DETAIL
SCALE: 1:20

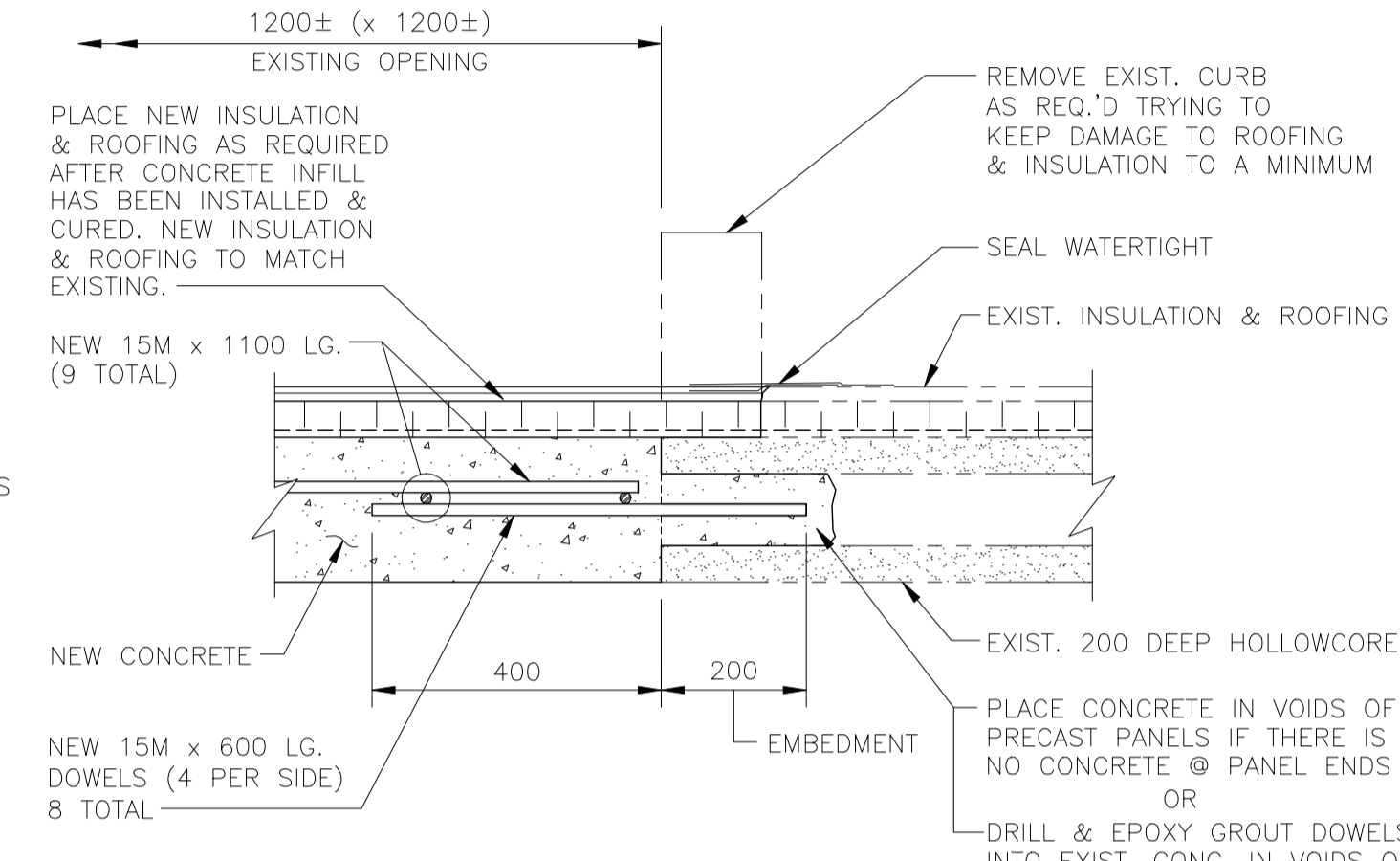
TYP. 200mm BLOCK CLOSURE DETAIL: THIS DETAIL CAN BE USED FOR ALL OPENINGS IN 200mm BLK. TO A MAXIMUM OF 1000mm VERTICAL AND 2800mm HORIZONTAL.

TYPICAL CONCRETE WALL CLOSURE DETAIL: THIS DETAIL CAN BE USED FOR ALL OPENINGS IN EXISTING CONCRETE WALLS WHERE THE DIAMETER OF THE OPENING DOES NOT EXCEED 800mm.

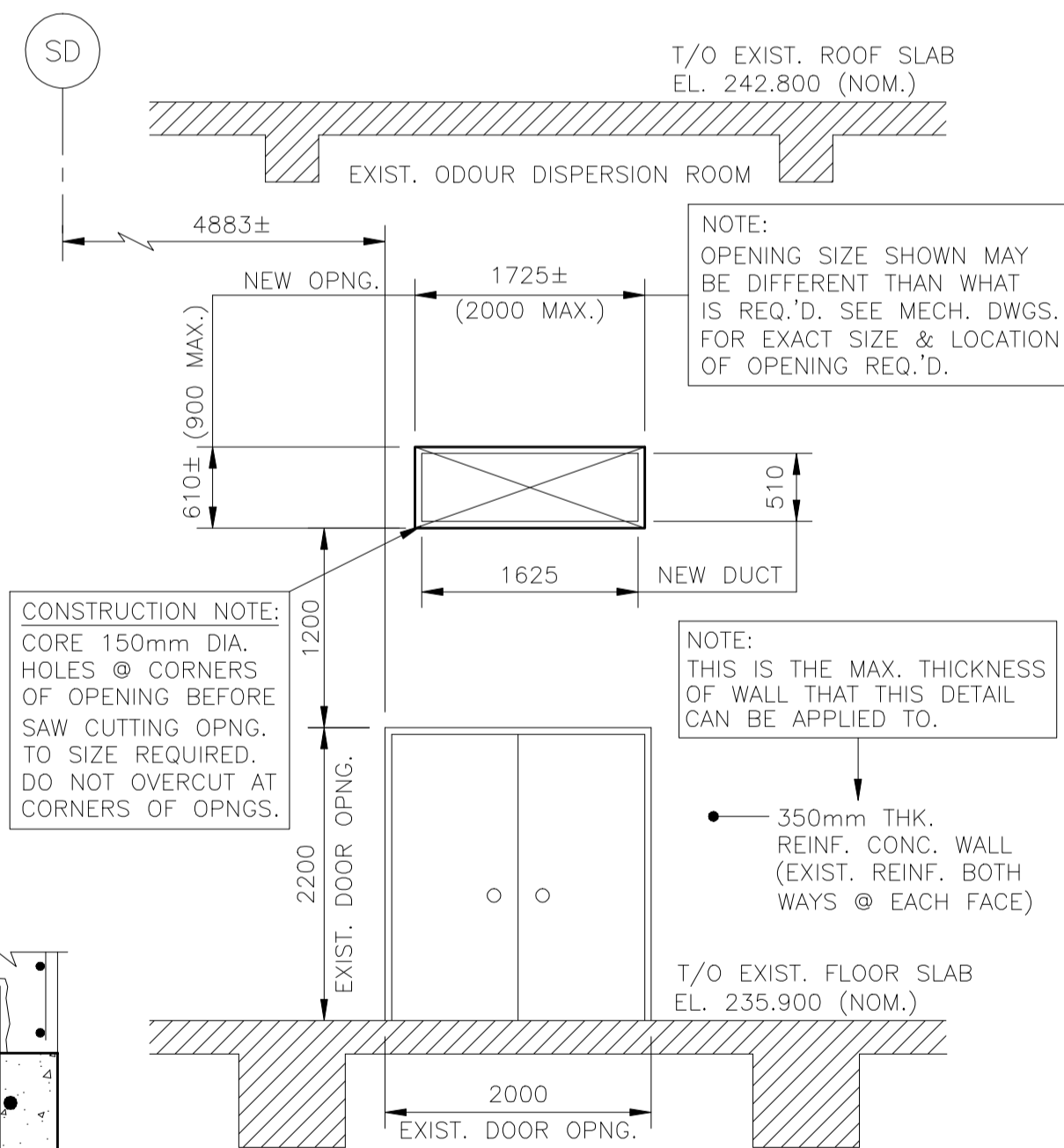


2 DETAIL
SCALE: 1:20

TYPICAL CLOSURE DETAIL: THIS DETAIL CAN BE USED FOR ALL OPENINGS IN EXISTING CONCRETE FLOORS WHERE THE WIDTH DOES NOT EXCEED 600mm AND THE LENGTH DOES NOT EXCEED 1830mm.



3A SECTION
SCALE: 1:10



6 DETAIL
SCALE: 1:50

TYPICAL CONCRETE WALL OPENING DETAIL: THIS DETAIL CAN BE USED FOR ALL OPENINGS IN EXISTING CONCRETE WALLS WHERE THE WIDTH DOES NOT EXCEED 2000mm AND THE HEIGHT DOES NOT EXCEED 900mm.

GENERAL NOTES:

- CONCRETE NOTES:
- CONCRETE MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH CAN/CSA-A23.1/ A23.2 (LATEST). SEE BELOW FOR MIX REQUIREMENTS.
 - CONCRETE MATERIALS, FORMING, PLACING, FORM REMOVAL, REINFORCING, ETC. TO ACI RECOMMENDATIONS AND ACCEPTABLE PRACTICE.
 - MIX WATER SHALL BE POTABLE. CALCIUM CHLORIDE SHALL NOT BE USED.
 - PROVIDE ADEQUATE PROTECTION FOR CONCRETE DURING CURING PERIOD.

- CONCRETE MIX
- CONCRETE MIX DESIGN SHALL BE IN ACCORDANCE WITH EXPOSURE CLASS N AND BE PROPORTIONED AS FOLLOWS:
- | | |
|-----------------------|--------------|
| 28 DAY COMP. STRENGTH | 30 MPa |
| CEMENT | TYPE GU |
| W/C RATIO | 0.45 |
| AGGREGATE SIZE (MAX.) | 19MM |
| SLUMP (MAX.) | 90mm (±10mm) |

- UNIT MASONRY
- MASONRY UNITS SHALL BE MANUFACTURED IN ACCORDANCE WITH CAN3-A165.1-M85. CONSTRUCT MASONRY IN ACCORDANCE WITH CAN3-A371-M84.
 - ALL CONCRETE MASONRY TO BE AS NOTED AND DETAILED WITH A MINIMUM NET COMPRESSIVE STRENGTH OF 15 MPa.
 - MORTAR SHALL BE TYPE 'S' AND MANUFACTURED TO CSA A179-M76.
 - CONCRETE IN-FILL SHALL BE 25 MPa CONCRETE; MAX. AGGREGATE 10MM; MAX. SLUMP 100MM (HORIZONTAL IN-FILL) 200MM (VERTICAL IN-FILL).

- VENEER
- ALL NEW VENEER TO BE AS PER EXISTING.
 - SET ALL MASONRY WITH NONSTAINING COLOURED MORTAR. MORTAR COLOUR AS PER EXISTING.
 - SECURE ALL MASONRY WORK TO BACKING WALL WITH FERRO PAC-TIE SYSTEM TIES AT 400mm O/C VERTICALLY AND HORIZONTALLY. PAC-TIE SYSTEM TO INCLUDE 1.6mm THICK GALV. AB-CLIP, 1.6mm THICK GALV. BACKER PLATE AND 4.76mm DIA. WIRE V-TIE. BACKER PLATE MAY BE ELIMINATED FOR INTERIOR STONWORK ONLY. GALVANIZING OF CLIPS AND BACKER PLATES TO ASTM A123 (401 g/sq.m/SIDE), WIRE TIES TO ASTM153 (458 g/sq.m/SIDE). ALL ANCHORS TO BE FASTENED DIRECTLY TO STUDS OR CONCRETE, AND SHALL MATCH DESIGN LOADS AND CORROSION RESISTANCE OF TIE ASSEMBLY.
 - PROTECT ALL MASONRY WORK FROM THE ELEMENTS UNTIL ALL MORTAR IS SUFFICIENTLY SET AND CURED.
 - WASH ALL MASONRY SURFACES WITH CLEAN WATER AND A STIFF BRISTLE BRUSH. DO NOT USE ACID OF ANY TYPE. MORTAR STAINS ON SURFACES WILL NOT BE ACCEPTED.

- STEEL DOORS AND FRAMES
- FABRICATE STEEL DOORS AND FRAMES IN ACCORDANCE WITH THE CANADIAN STEEL DOOR AND FRAME MANUFACTURER'S ASSOCIATION "CANADIAN MANUFACTURING SPECIFICATIONS FOR STEEL DOORS AND FRAMES 1982".
 - DOORS TO BE OF 1.27mm (18 GA.) ZINC WIPED SHEET STEEL, 44.5mm THICK, WELDED TYPE, REINFORCED FOR SPECIFIED HARDWARE. NON-INSUL. DOOR CORES TO BE RESIN IMPREGNATED KRAFT HONEYCOMB (U/N). INSULATED DOORS TO BE FILLED WITH INJECTED POLYURETHANE FOAM INSULATION AND SHALL HAVE VINYL CAPS. FIRE-RATED DOORS SHALL BEAR APPROPRIATE U.L.C. LABEL.
 - FRAMES TO BE OF 1.52mm (16 GA.) ZINC WIPED SHEET STEEL, WELDED TYPE, REINFORCED FOR SPECIFIED HARDWARE AND CONFIGURATION. PROVIDE 3 NEOPRENE BUMPERS PER DOOR LEAF. EXTERIOR FRAMES TO BE THERMALLY BROKEN. FIRE-RATED FRAMES SHALL BEAR APPROPRIATE U.L.C. LABEL.
 - INSTALL ALL FRAMES/DOORS PLUMB AND SQUARE. PACK EXTERIOR FRAMES WITH BATT INSULATION. EXTERIOR FRAMES SHALL BE SEALED TO AIR/VAPOUR BARRIER ON INTERIOR SIDE AND TO BUILDING CLADDING ON EXTERIOR SIDE. INSTALL ALL FIRE-RATED FRAMES/DOORS TO N.F.P.A. 80.

- STEEL DOOR HARDWARE
- PLENUM DOORS (3'-0" x 7'-0")
- 11/2 PR. 41/2"x41/2" FBB179 C26D HINGES
 - D10S ORB 26D PASSAGE SET, 5" BACKSET
 - 4040 SUPER SMOOTHIE CLOSER
 - HB1123X FLOOR STOP
 - 701C REESE SWEEP
 - W15 KNC WEATHER STRAPPING
- STAIRWELL DOOR (3'-0" x 7'-0")
- 11/2 PR. 41/2"x41/2" FBB179 C26D HINGES
 - D10S ORB 26D PASSAGE SET, 5" BACKSET
 - 4040 SUPER SMOOTHIE CLOSER
 - HB1123X FLOOR STOP
 - 701C REESE SWEEP
 - W15 KNC WEATHER STRAPPING
 - TO MATCH EXISTING - NOTE: NO WEATHER STRIPPING

REINFORCING STEEL

- REINFORCING STEEL TO BE NEW DEFORMED BILLET STEEL BARS CONFORMING TO CAN/CSA G30.18-M92. GRADES TO BE: 400 MPa FOR 15M BARS AND LARGER; 300 MPa FOR 10M BARS.
- REINFORCING STEEL SHALL BE CLEAN, FREE OF RUST, DIRT, LOOSE SCALE, OIL, GREASE OR ANY OTHER MATERIAL WHICH WOULD REDUCE BOND WITH THE CONCRETE.
- PROVIDE MINIMUM CONCRETE COVER FOR REINFORCING OR AS SHOWN ON DRAWINGS.

STRUCTURAL STEEL

- STRUCTURAL AND MISCELLANEOUS STEEL FABRICATION AND ERECTION SHALL BE IN ACCORDANCE WITH CAN/CSA-S16.1-M94.
- STRUCTURAL STEEL SHALL MEET THE REQUIREMENTS OF CAN/CSA-G40.20/G40.21-M2004.
 - ROLLED SHAPES AND PLATES.....CSA G40.21-350W
 - HSS SECTIONS.....CSA G40.21-350W
 - BOLTS, NUTS AND WASHERS.....AS SPECIFIED ON DWGS.
 - CONCRETE EXPANSION ANCHORS.....AS SPECIFIED ON DWGS.
 - WELDING ELECTRODES.....CSA W48.1 M1980
- WELDING SHALL BE IN ACCORDANCE WITH CSA W59-M1989, BY WELDERS CERTIFIED AND QUALIFIED IN ACCORDANCE WITH CSA W47.1-1983. ALL WELDS TO BE 1/4" UNLESS NOTED OTHERWISE.
- FIELD CONNECTIONS SHALL BE BOLTED 3/4" DIAMETER A325 FRICTION TYPE UNLESS NOTED OTHERWISE. BOLTS SHALL BE TORQUED IN ACCORDANCE WITH CAN/CSA S16.1-M89.
- STRUCTURAL AND MISCELLANEOUS STEEL NOT EMBEDDED IN CONCRETE SHALL BE SURFACE PREPPED AND SHOP PRIMED WITH GREY OXIDE PRIMER UNLESS OTHERWISE SPECIFIED.

- STAINLESS STEEL
- STAINLESS STEEL MEMBERS SHOWN ON THE DRAWINGS SHALL CONFORM TO TYPE 304.
- METAL LINER (INTERIOR)
- LINER PANEL TO BE PREFORMED PREFINISHED GALVANIZED SHEET STEEL TO MILL STANDARD. VIC-WEST L-800, 26 GA. STELCOLOUR BARRIER SERIES OC273 BONE WHITE.

- WOOD FRAMING
- FRAMING LUMBER SHALL BE GRADED IN ACCORDANCE WITH NGLA "STANDARD GRADING RULES FOR CANADIAN LUMBER".
 - MINIMUM GRADE TO BE AS FOLLOWS: STUDS AND PLATES S-P-F NO.2
 - LUMBER MOISTURE CONTENT NOT TO EXCEED 19%.
 - CUT LUMBER NEAT AND SQUARE PROVIDING FULL SURFACE CONTACT WITH ADJOINING MEMBERS.

STEEL FLOOR AND ROOF DECK

- STEEL FLOOR DECK TO BE 38MM DEPTH, COMPOSITE. THICKNESS TO BE 0.030" (22 GA.) MINIMUM OR AS NOTED ON THE DRAWINGS.
- STEEL ROOF DECK TO BE 38MM DEPTH. THICKNESS TO BE 0.030" (22 GA.) MINIMUM OR AS NOTED ON THE DRAWINGS.
- DECK TO BE WIPE COAT ZINC FINISHED.
- FASTEN TO STRUCTURAL STEEL AND OPEN WEB STEEL JOISTS WITH 19MM (3/4") DIA. FUSION WELDS AT 300mm o/c ALONG ALL SUPPORTS. CLINCH ALL SIDE SEAMS AT 300MM o/c.

STAINLESS STEEL

- STAINLESS STEEL MEMBERS SHOWN ON THE DRAWINGS SHALL CONFORM TO TYPE 304.

METAL LINER (INTERIOR)

- LINER PANEL TO BE PREFORMED PREFINISHED GALVANIZED SHEET STEEL TO MILL STANDARD. VIC-WEST L-800, 26 GA. STELCOLOUR BARRIER SERIES OC273 BONE WHITE.

WOOD FRAMING

- FRAMING LUMBER SHALL BE GRADED IN ACCORDANCE WITH NGLA "STANDARD GRADING RULES FOR CANADIAN LUMBER".
- MINIMUM GRADE TO BE AS FOLLOWS: STUDS AND PLATES S-P-F NO.2
- LUMBER MOISTURE CONTENT NOT TO EXCEED 19%.
- CUT LUMBER NEAT AND SQUARE PROVIDING FULL SURFACE CONTACT WITH ADJOINING MEMBERS.

NOTE: FOR CONTINUATION OF NOTES SEE DWG. US2.4.

GALVANIZING

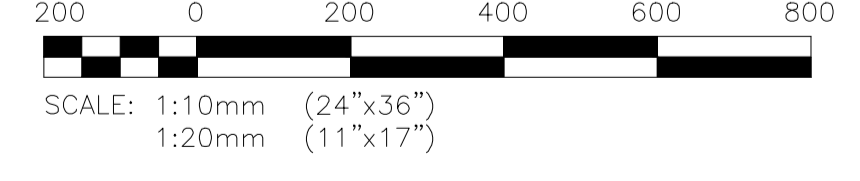
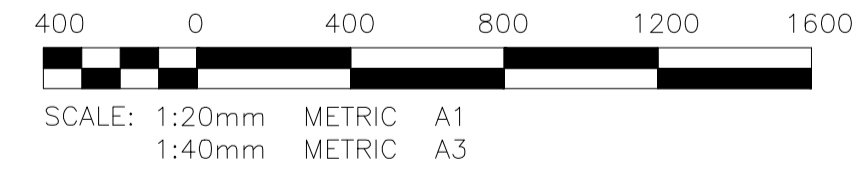
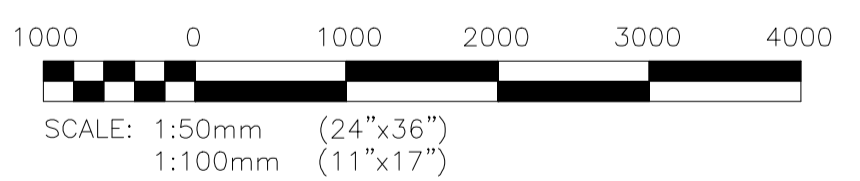
- STRUCTURAL AND MISCELLANEOUS STEEL EMBEDDED IN CONCRETE SHALL BE HOT-DIPPED GALVANIZED TO MEET THE REQUIREMENTS OF CAN/CSA G164-M92.
- BOLTS DESIGNATED GALVANIZED ON THE DWGS. SHALL CONFORM TO ASTM A-325.

STRUCTURAL STEEL GRATING

- STEEL GRATING AND GRATING STAIR TREADS TO BE TYPE 19-4 STANDARD FLOWFORGE STEEL GRATING BY FISHER & LUDLOW.
- BEARING BARS TO BE 1 1/4" DEEP X 3/16" WIDE, SPACED AT 1 3/16" CENTERS, UNLESS NOTED OTHERWISE.
- GRATING STAIR TREADS SHALL HAVE CHECKER PLATE NOSING.

OPEN WEB STEEL JOISTS (O.W.S.J.)

- O.W.S.J. SHALL BE DESIGNED BY OTHERS. FABRICATE AND ERECT IN ACCORDANCE WITH THE REQUIREMENTS OF CAN/CSA S16.1-M89. DESIGN FOR LOADS SHOWN ON DRAWINGS. THE SIZE, WEIGHT AND LOCATION OF ALL MECHANICAL EQUIPMENT SHALL BE CO-ORDINATED WITH THE MECHANICAL CONTRACTOR. DESIGN SHALL INCLUDE ALL BRIDGING, BRACING, REINFORCING, ETC. AS REQUIRED.
- SHOP DRAWINGS INDICATING SIZES, LENGTHS, SLOPES, SPACING, CAMBER, LOADING CRITERIA, CONNECTIONS, ETC. SHALL BE SUBMITTED BEARING THE SEAL OF A PROFESSIONAL ENGINEER REGISTERED IN THE PROVINCE OF MANITOBA FOR REVIEW AND APPROVAL PRIOR TO FABRICATION.
- MANUFACTURE ALL O.W.S.J. WITH CAMBER TO OFFSET DEAD LOAD DEFLECTION.
- DEFLECTION DUE TO LIVE LOADS SHALL NOT EXCEED SPAN/360 UNLESS NOTED OTHERWISE.
- PROVIDE 3" X 3" X 5/16" ANGLE FRAMING BETWEEN O.W.S.J. AND AROUND ALL SIDES OF DECK OPENINGS LARGER THAN 12" DIA.
- O.W.S.J. SHALL NOT BE FIELD MODIFIED IN ANY WAY WITHOUT WRITTEN CONSENT OF THE MANUFACTURER AND THE DESIGN ENGINEER.
- SHIP, STORE, HANDLE AND INSTALL O.W.S.J. AND RELATED COMPONENTS IN STRICT ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS.
- SURFACE PREP AND PRIME WITH RED OXIDE PRIMER UNLESS OTHERWISE SPECIFIED.



B.M. ELEV.	FIELD BOOK #:	ALLIANCE Engineering Services Inc.		ENGINEER'S SEAL PROVINCE OF MANITOBA REGISTERED PROFESSIONAL ENGINEER R.J. LONG	THE CITY OF WINNIPEG WATER AND WASTE DEPARTMENT
POSTED TO LBIS		DESIGNED BY: RJL	CHECKED BY: RJL	2010 HVAC REPLACEMENT AND ASSOCIATED WORKS	
		DRAWN BY: JF	APPROVED BY:	WEWPCC	SHEET 1 OF 1
		HOR. SCALE AS NOTED	RELEASED FOR CONSTRUCTION	ALL AREAS	CITY DRAWING NUMBER
00 ISSUED FOR TENDER	2010-12-21	VERTICAL AS NOTED		TYPICAL STRUCTURAL DETAILS & NOTES	1-0103A-S0003-001
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NO. 245 Date: 10/12/21

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