PROJECT: NORTH OAKVILLE #3
CATHOLIC ELEMENTARY SCHOOL
& CHILDCARE FACILITY

CLIENT: HALTON CATHOLIC DISTRICT SCHOOL BOARD

PROJECT No.: 24106

DATE: NOVEMBER 2026

BINDER: C ARCHITECTURAL DETAILS & GEOTECHNICAL REPORT



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No. of Pages

SPECIFICATIONS BINDER "C"

ARCHITECTURAL DETAILS

Detail No. Title

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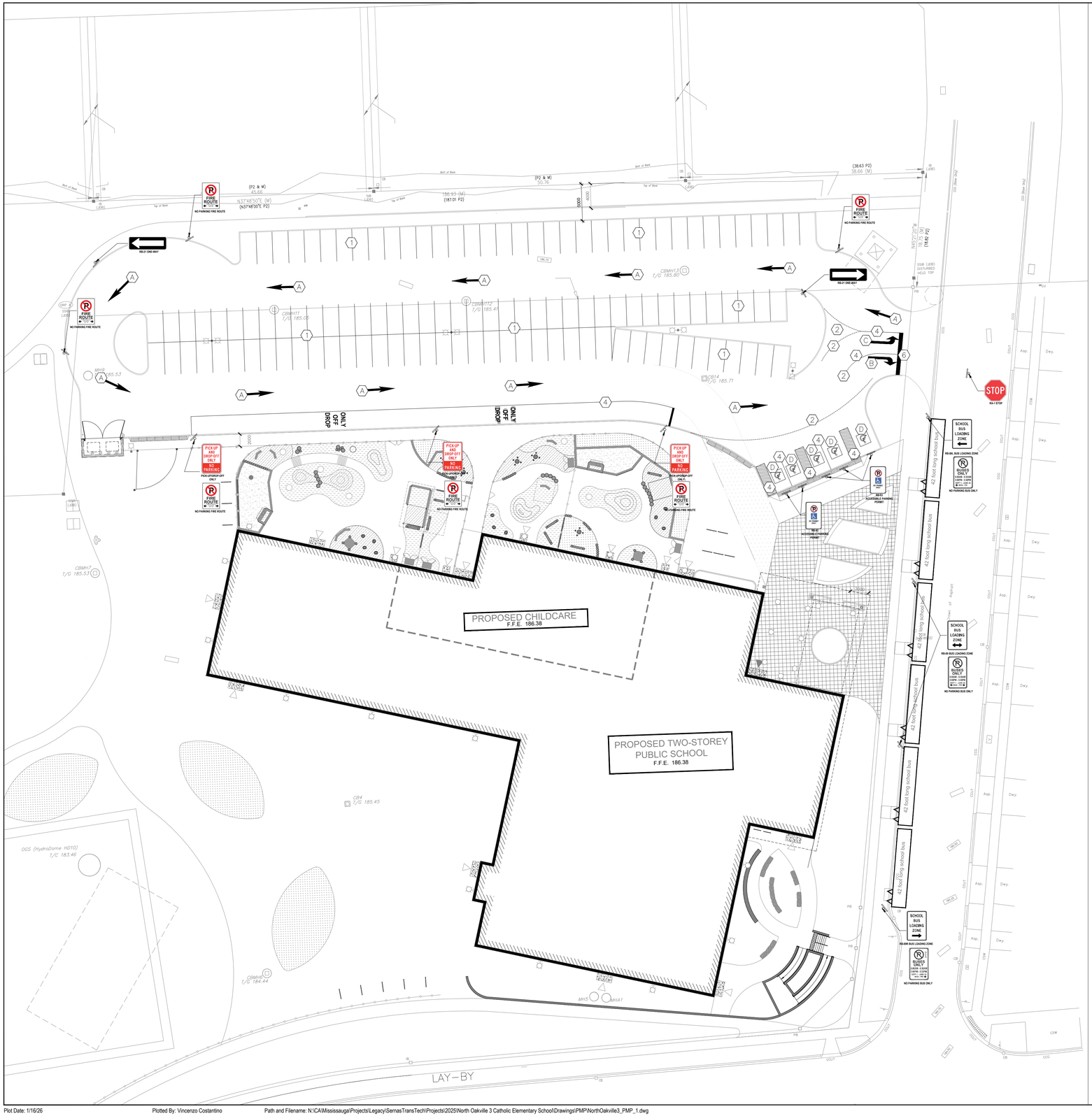
AD 725 Top of Wall Fire Separation Assembly

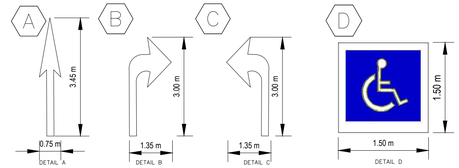
AD 800 Door Types
AD 801A Hollow Metal Frames & Screens
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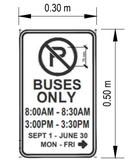
AD 900 Radiant Panel Detail
AD 1000 Washroom Fixture Mounting Heights
AD 2001 Sliding Boards Details (Classroom)

31 09 15 Geotechnical Information
Geotechnical Investigation Report Binder C
Chemical Analysis Report Binder C

END OF SECTION







LEGEND

SIGNS

MOUNTED SIGNS

PAVEMENT MARKING LEGEND

IDENTIFICATION	TYPE	COLOUR	WIDTH (cm)
1	SOLID	WHITE	10
2	1–1–1 BROKEN	YELLOW	10
3	3–3–3 BROKEN	YELLOW	10
4	SOLID	YELLOW	10
5	3–6–3 BROKEN	YELLOW	10
6	SOLID	WHITE	60
7	0.4–0.4–0.4 BROKEN	WHITE	40

PAVEMENT MARKING LEGEND TABLE NOTES

1. 3-3-3, 3-6-3, 3-9-3, DENOTES PAVEMENT MARKING SPACING (I.E., 3m LINE, 3m GAP, 3m LINE)
2. USE (X) TO DENOTE PAVEMENT MARKING

TRAFFIC SIGN SCHEDULE

SIGN NUMBER	SIGN NAME	QUANTITY	COMMENTS
Ra-1	STOP	1	
Rb-21	ONE-WAY	2	
Rb-89	SCHOOL BUS LOADING	2	BOTH ARROWS
Rb-89L	SCHOOL BUS LOADING	1	LEFT ARROWS
Rb-89R	SCHOOL BUS LOADING	1	RIGHT ARROWS
Rb-93	ACCESSIBLE PARKING PERMIT	5	
CUSTOM	PICK-UP/DROP-OFF ONLY	3	
CUSTOM	FIRE ACCESS ROUTE	6	
CUSTOM	NO PARKING BUS ONLY	2	BOTH ARROWS
CUSTOM	NO PARKING BUS ONLY	1	LEFT ARROWS
CUSTOM	NO PARKING BUS ONLY	1	RIGHT ARROWS
	TOTAL	25	

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No.	Issue	Checked	Approved	Date
1	First Submission	W.M	W.M	1/19/26

Author	V.C	Designer	V.C
Drafting Check	W.M	Design Check	W.M
Project Manager	W.M	Project Director	W.M

Client
HALTON CATHOLIC DISTRICT SCHOOL BOARD

Project
NORTH OAKVILLE 3 CATHOLIC ELEMENTARY SCHOOL

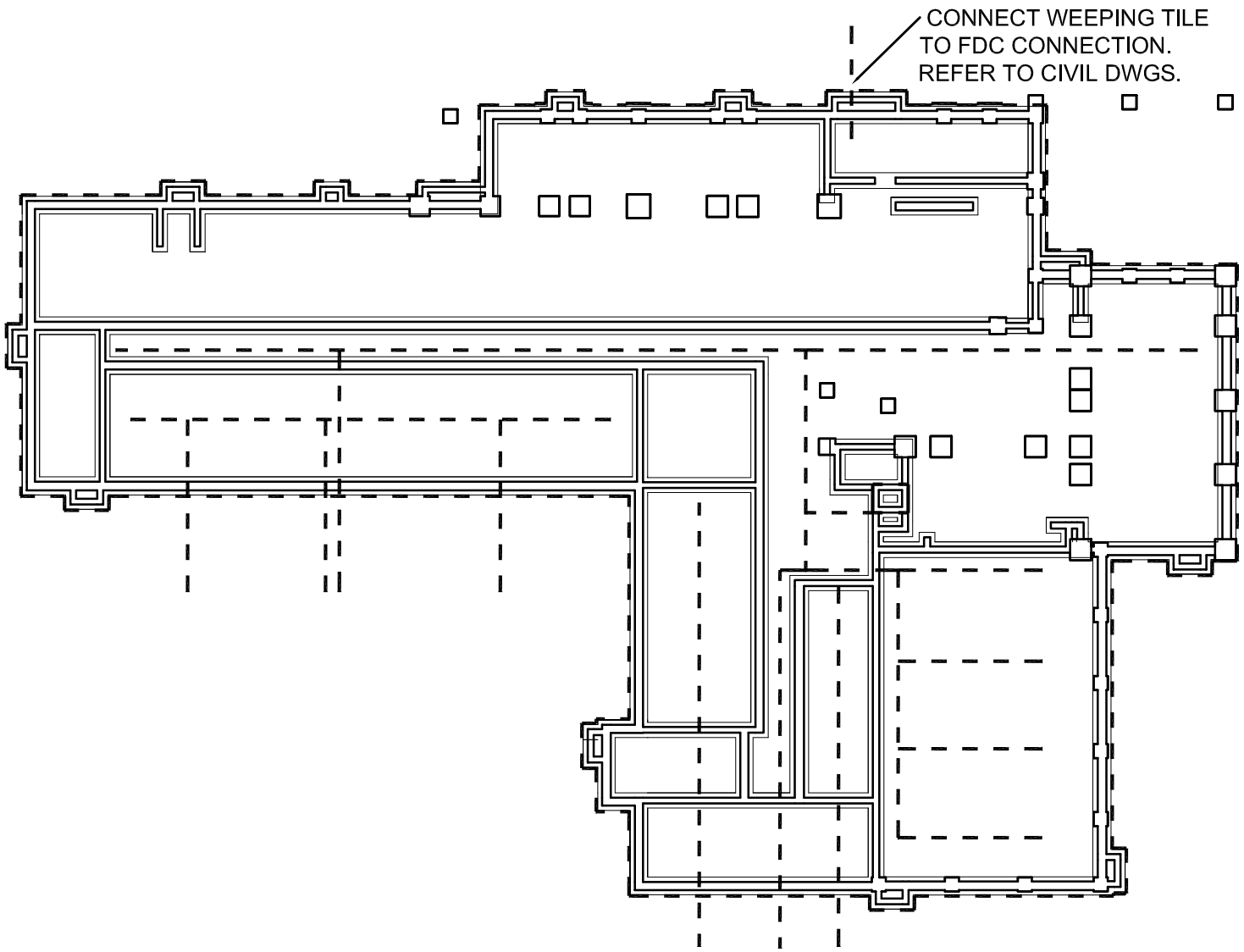
Date: January 19, 2026
Scale: NTS

Project No.: 12681972

Title
PAVEMENT MARKING AND SIGNAGE PLAN

Size: ANSI D

Sheet No.: PMP-101



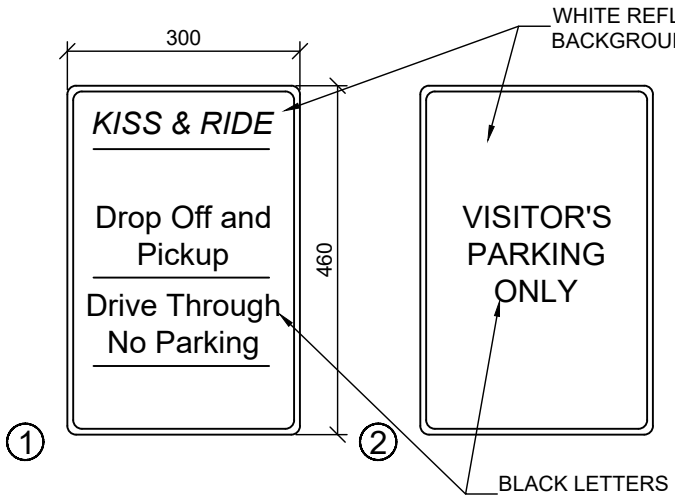
BUILDING WEEPING TILE LOCATION PLAN

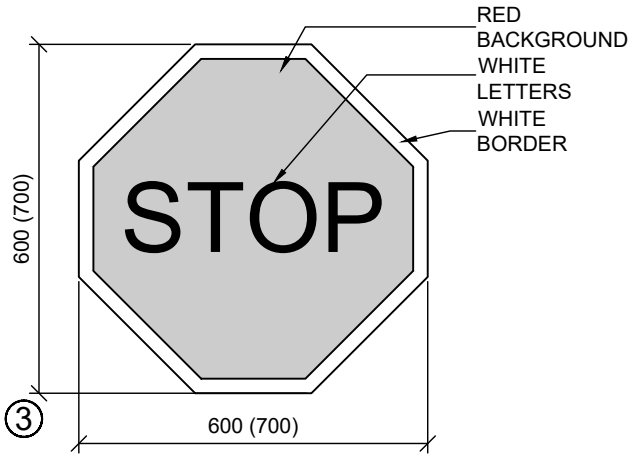
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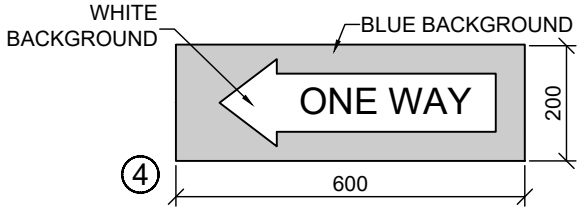
HOSSACK ARCHITECTURE

ISSUE/REV.
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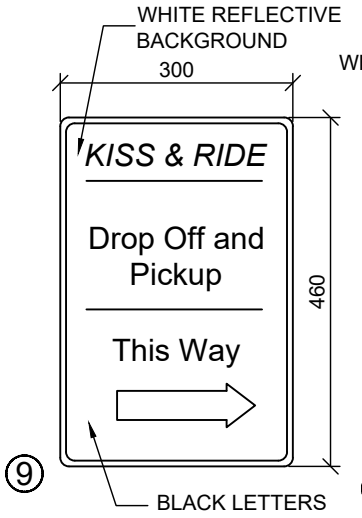
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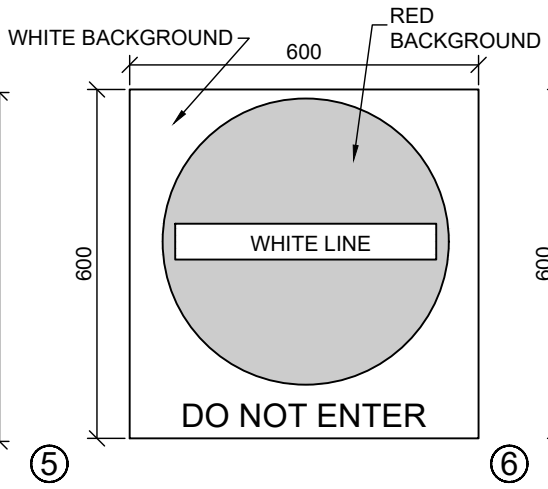


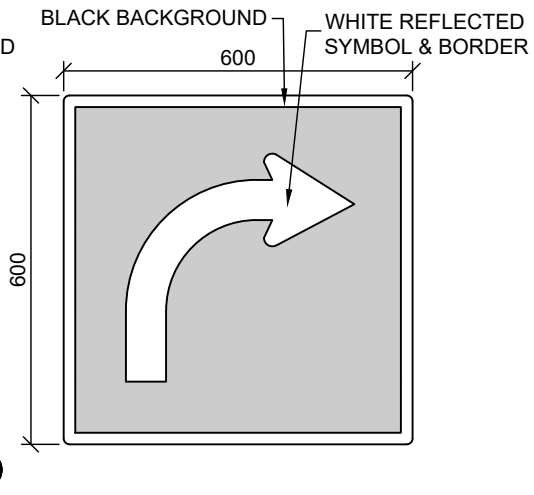


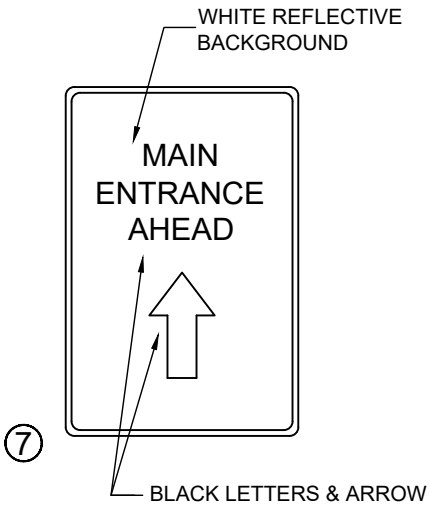


NOTE: ALL SIGNS TO BE FULL SIZE AND FORMAT AS PER MUNICIPAL STANDARDS. POSTS REQUIRED FOR ALL SIGNS



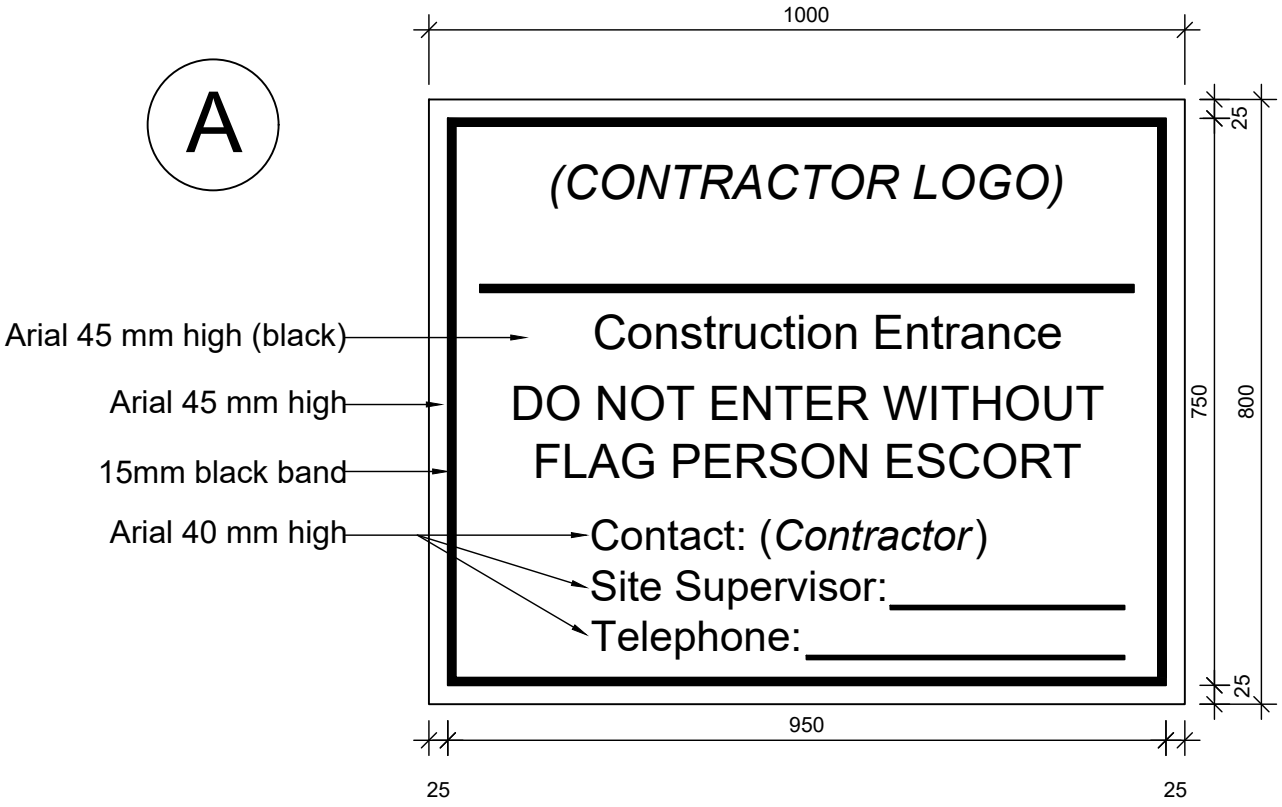






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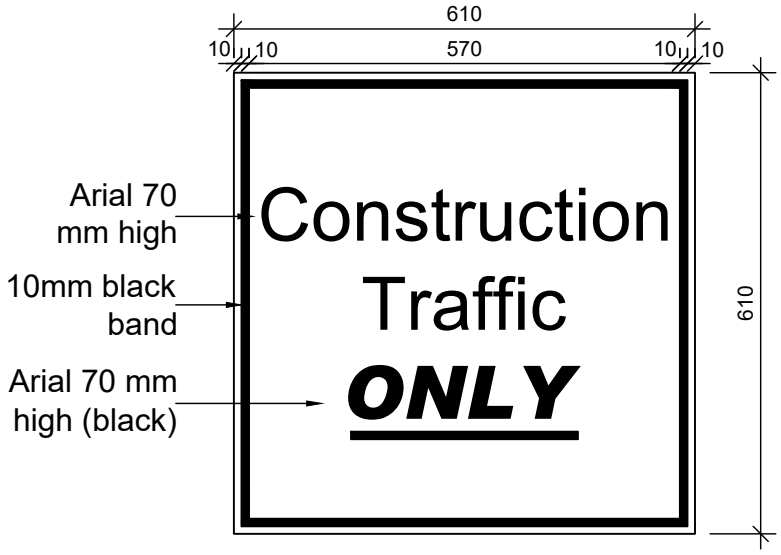
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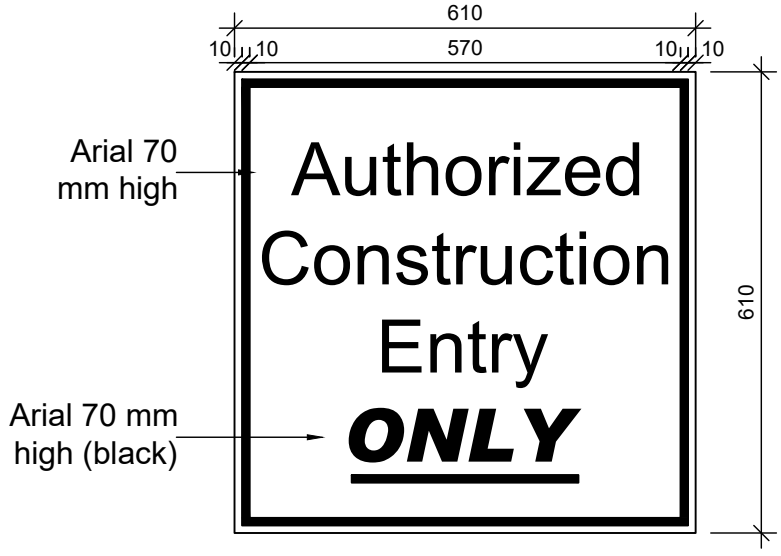
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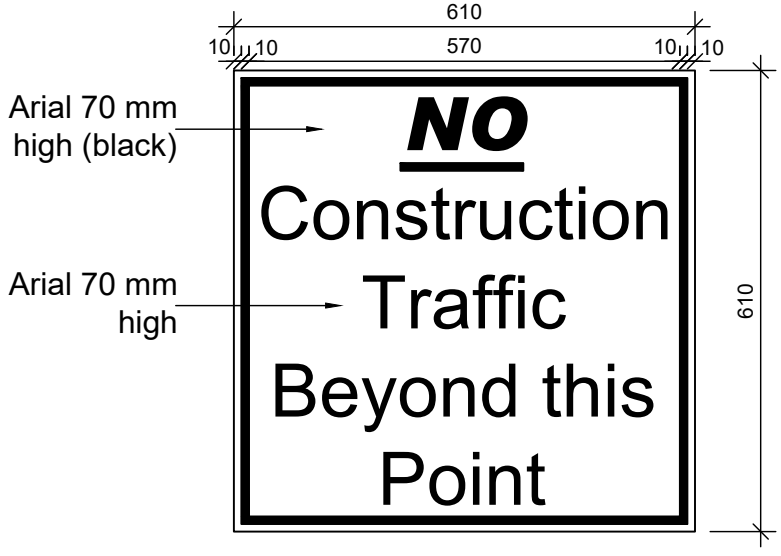
JOB SITE SIGNAGE	PROJ: 24106 SCALE: 1:10 DRAWN: GB DATE: 26 01 07	HOSSACK ARCHITECTURE	ISSUE/REV. 00	AD 257A



C



D



E

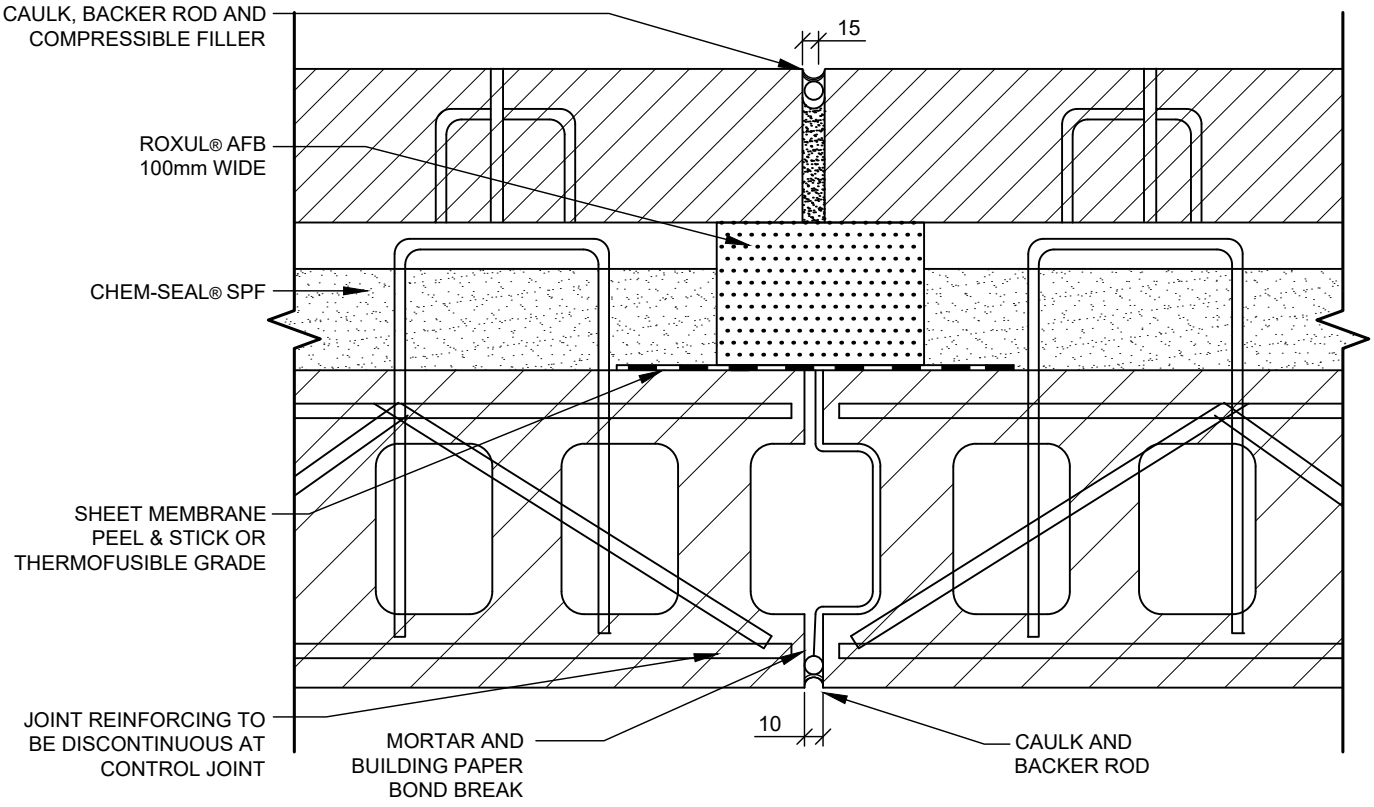
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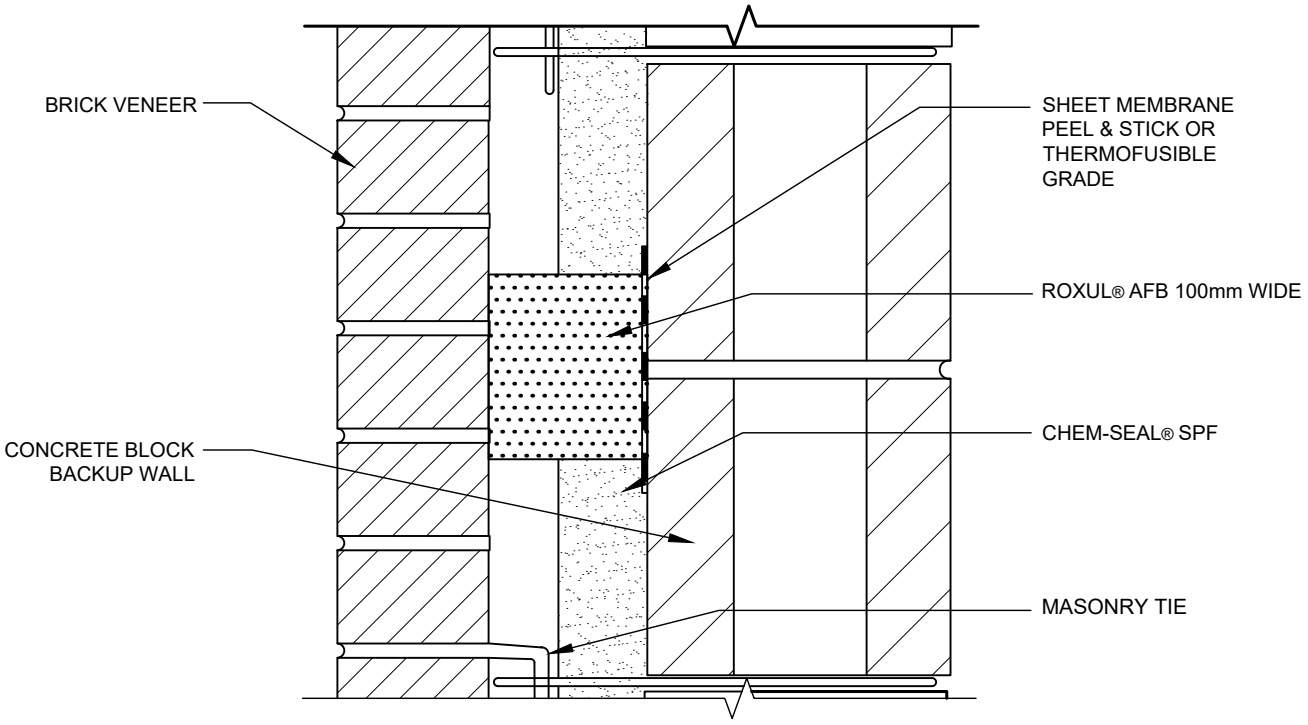
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ISSUE/REV. 00

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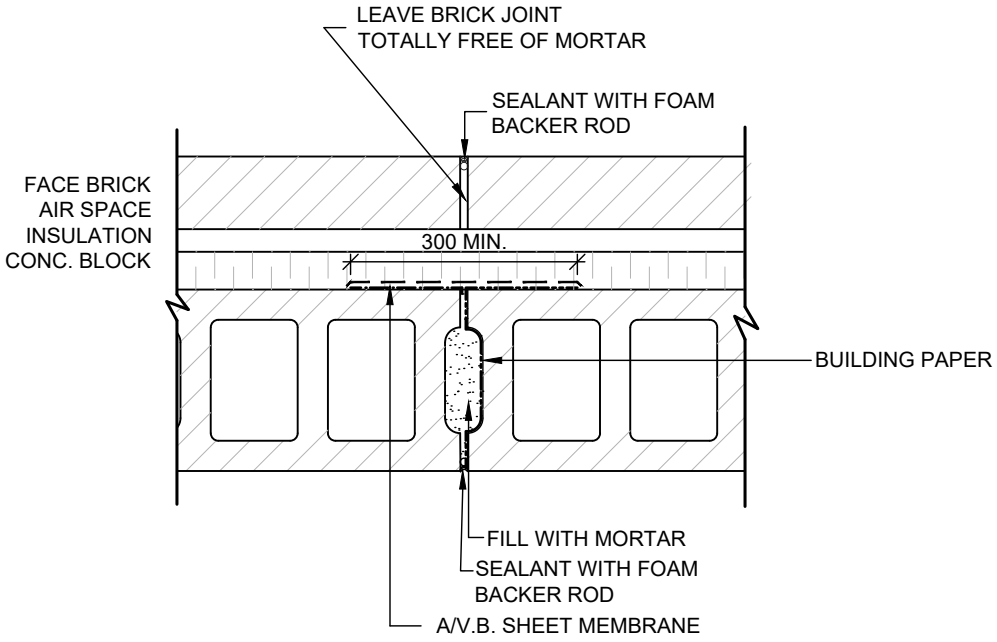


VERTICAL FIRE STOPPING



HORIZONTAL FIRE STOPPING

FIRESTOPPING DETAIL AT CAVITY WALL	PROJ: 24106 SCALE: 1:5 DRAWN: GB DATE: 26 01 07	HOSSACK ARCHITECTURE	ISSUE/REV. 00	AD 400



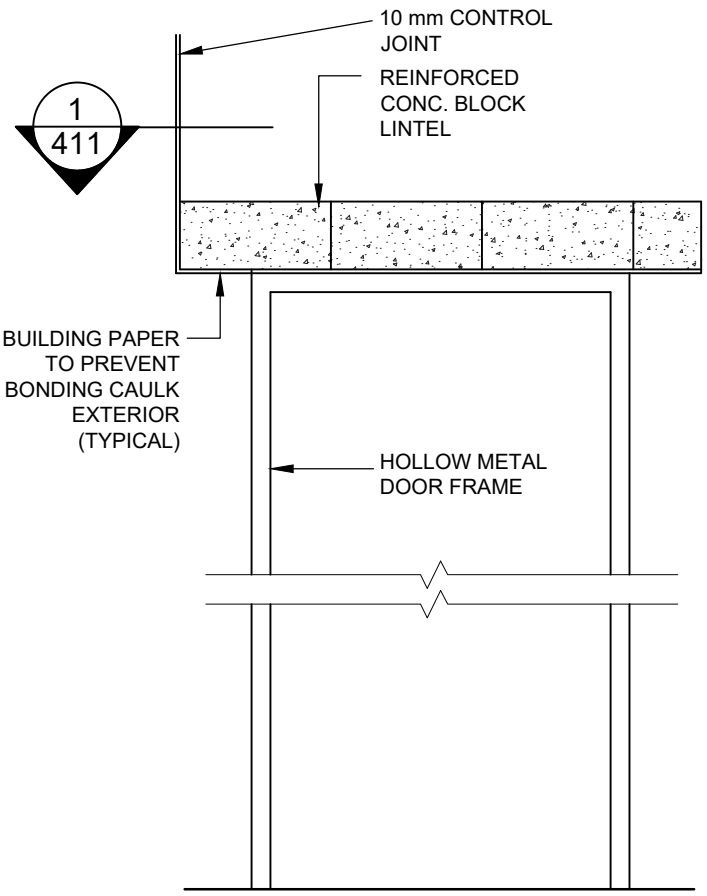
EXTERIOR CAVITY WALL CONTROL JOINT DETAIL

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DRAWN:	GB
DATE:	26 01 07

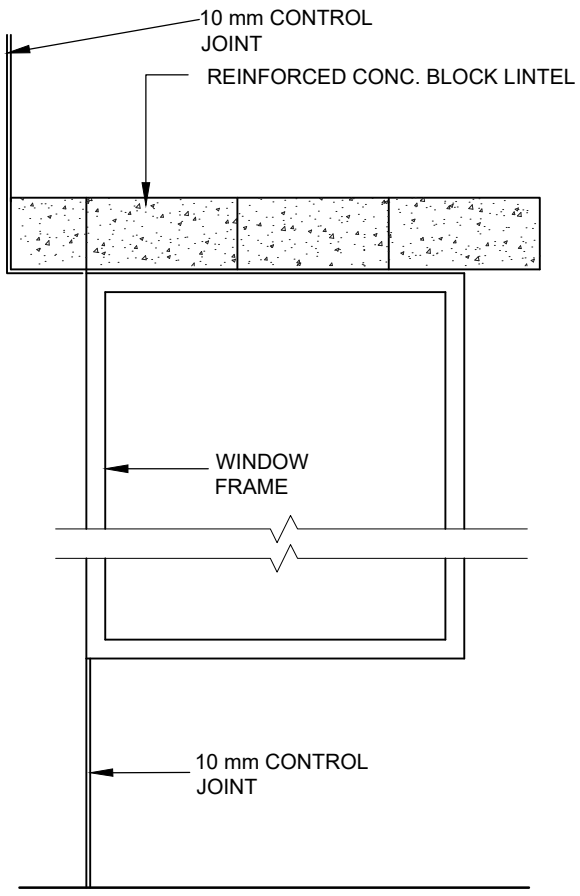
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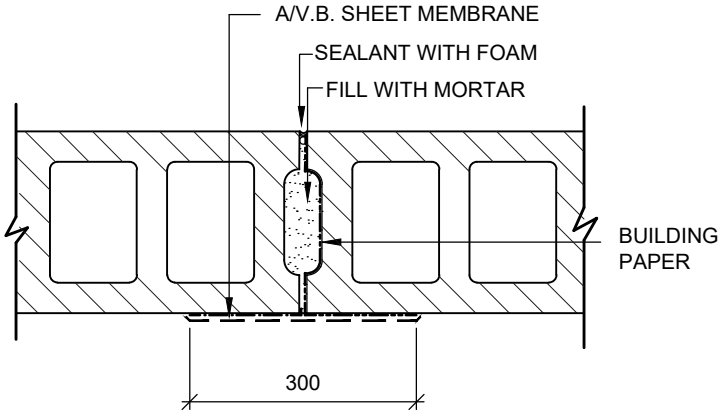
AD
401



1 AD411 DOOR CONTROL JOINT
SCALE 1:20



2 AD411 WINDOW CONTROL JOINT
SCALE 1:20



3 AD411 PLAN DETAIL
SCALE 1:10

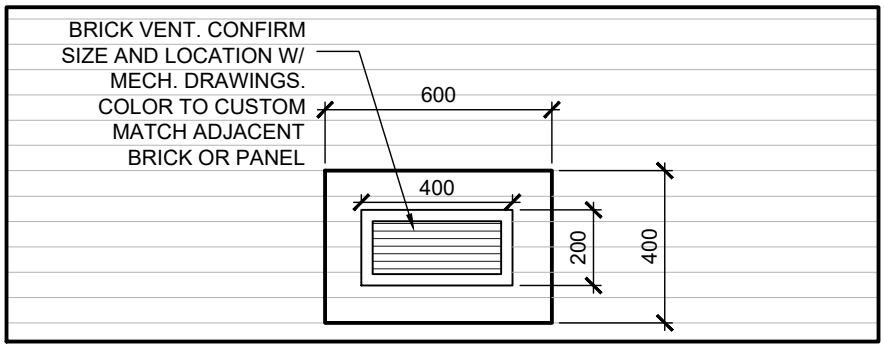
WALL CONTROL JOINT DETAILS INTERIOR SIDE

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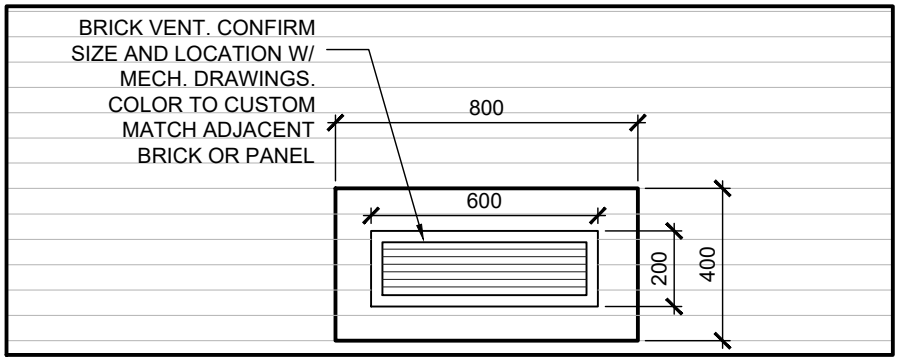
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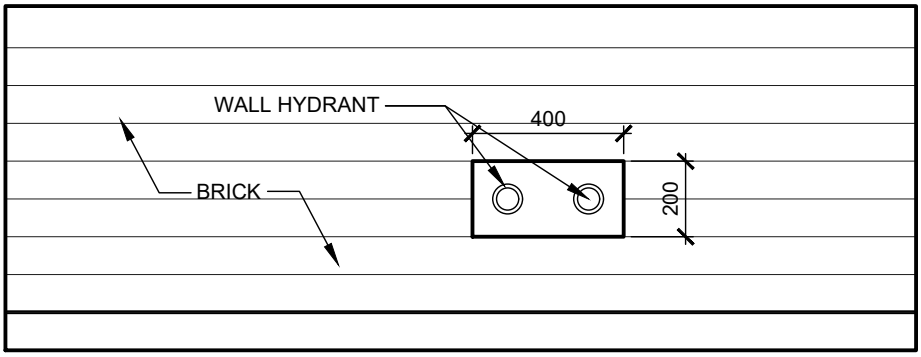
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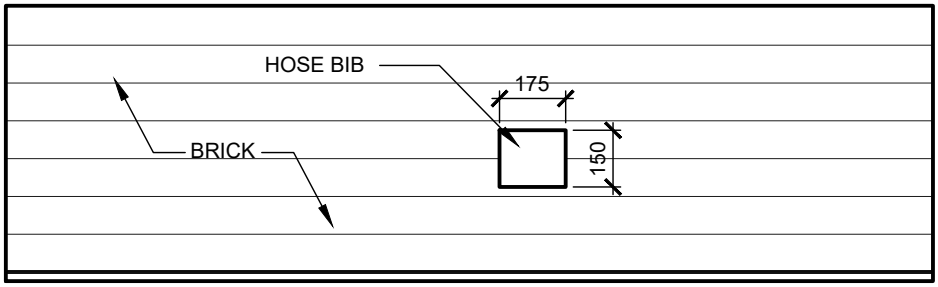
1 AD412 BRICK VENT DETAIL



2 AD412 BRICK VENT DETAIL



3 AD412 WALL HYDRANT DETAIL



4 AD412 HOSE BIB DETAIL

BRICK VENT DETAILS

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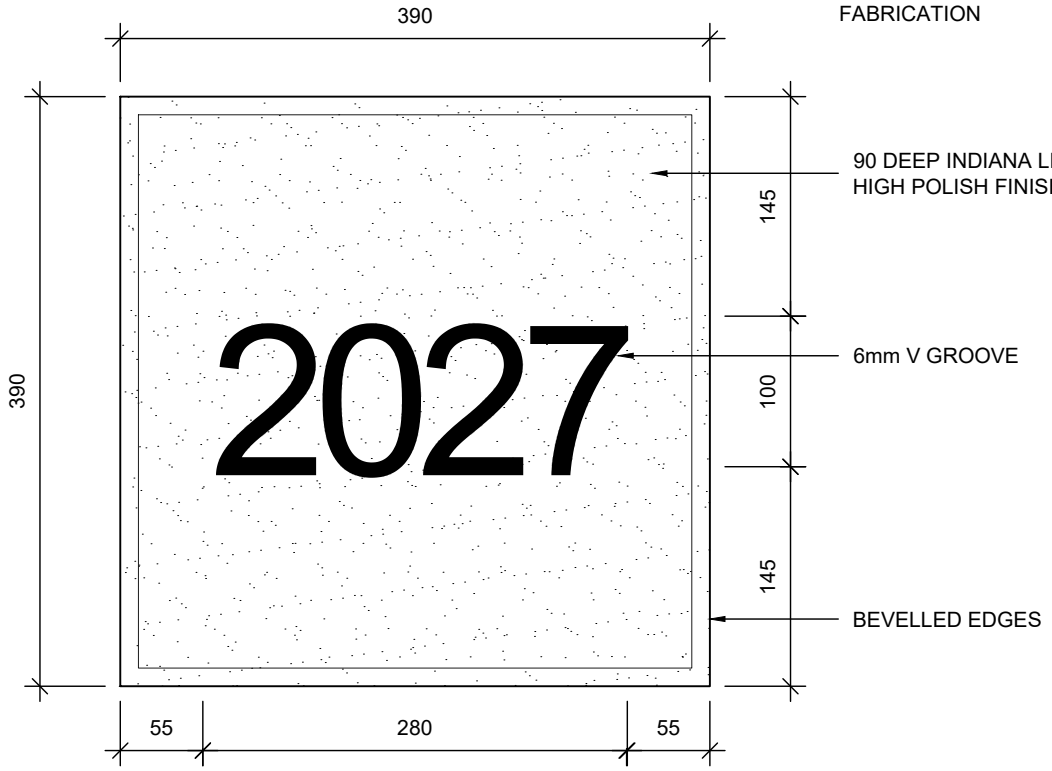
HOSSACK ARCHITECTURE

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AD 412

NOTE: REFER TO GROUND FLOOR PLAN FOR LOCATION ADJACENT TO THE MAIN ENTRANCE

NOTE: DATE ON STONE TO BE CONFIRMED BY OWNER PRIOR TO FABRICATION



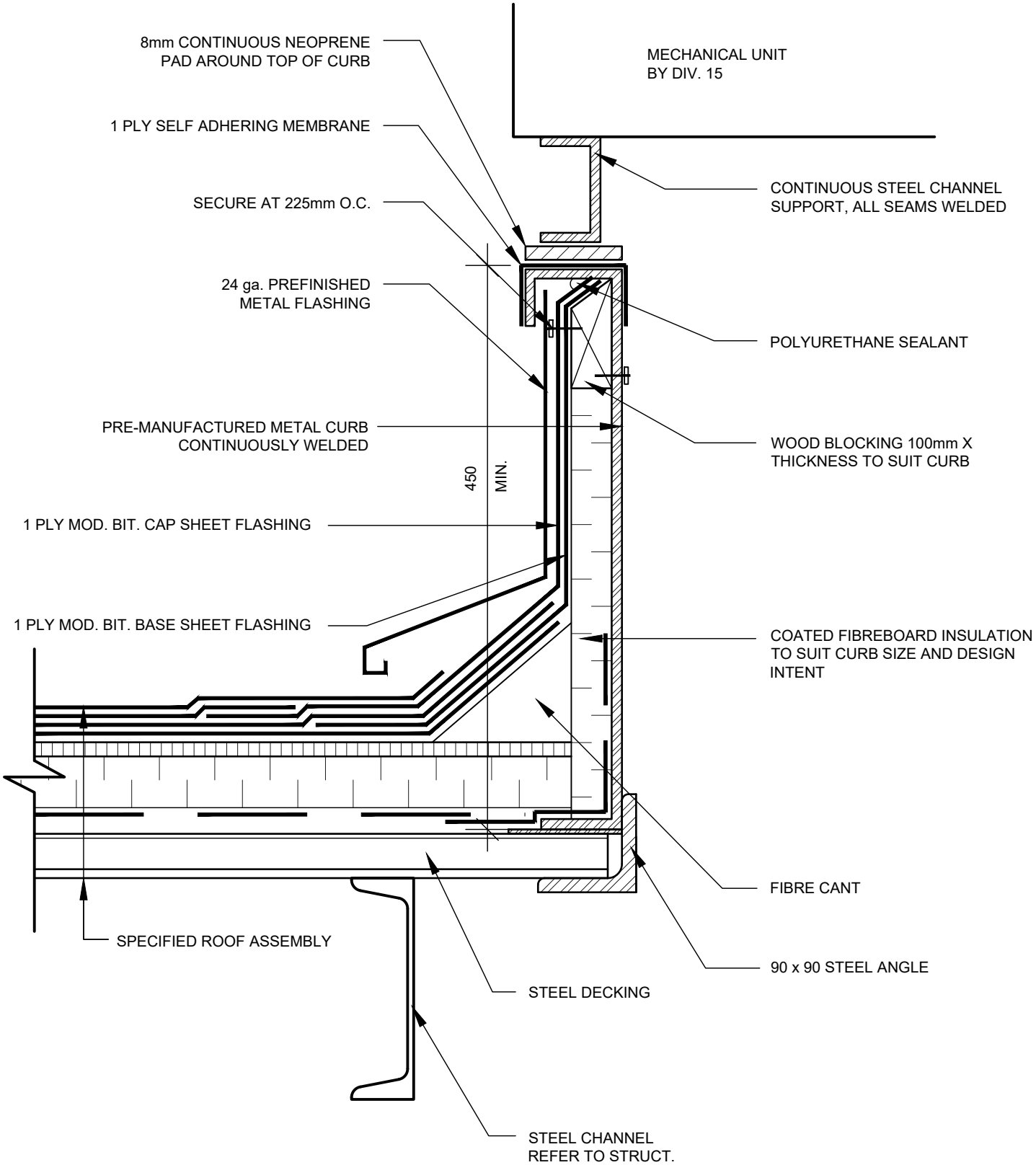
DATE STONE

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HOSSACK ARCHITECTURE

ISSUE/REV.

AD 413



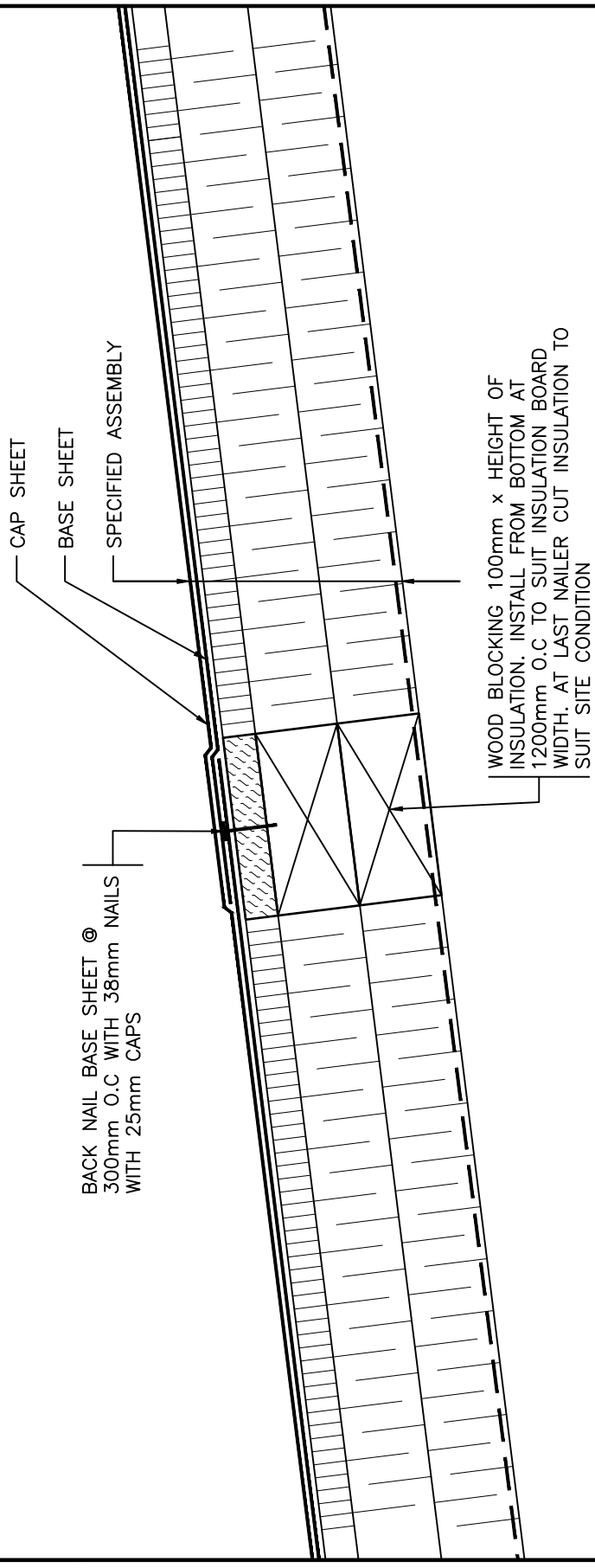
MECHANICAL CURB

PROJ:	24106
SCALE:	1:5
DRAWN:	GB
DATE:	26 01 07

HOSSACK ARCHITECTURE

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AD 455



NOTE: REFER TO A04 FOR LOCATIONS

NAILER DETAIL

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SCALE:	NTS
DRAWN:	SC
DATE:	26 01 07

HOSSACK ARCHITECTURE

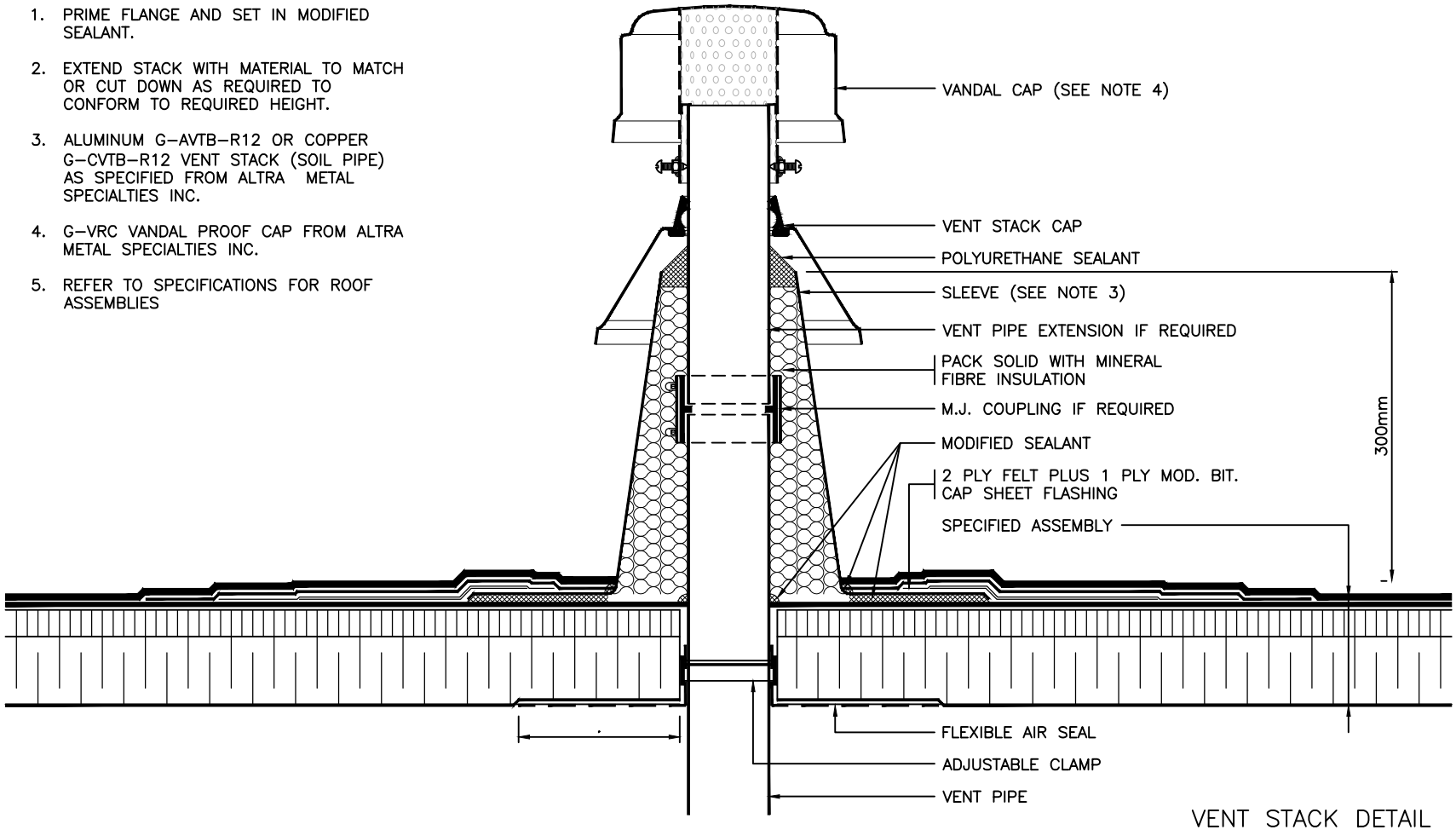
ISSUE/REV. 00

AD 457

VENT STACK DETAIL

NOTES:

1. PRIME FLANGE AND SET IN MODIFIED SEALANT.
2. EXTEND STACK WITH MATERIAL TO MATCH OR CUT DOWN AS REQUIRED TO CONFORM TO REQUIRED HEIGHT.
3. ALUMINUM G–AVTB–R12 OR COPPER G–CVTB–R12 VENT STACK (SOIL PIPE) AS SPECIFIED FROM ALTRA METAL SPECIALTIES INC.
4. G–VRC VANDAL PROOF CAP FROM ALTRA METAL SPECIALTIES INC.
5. REFER TO SPECIFICATIONS FOR ROOF ASSEMBLIES



VENT STACK DETAIL

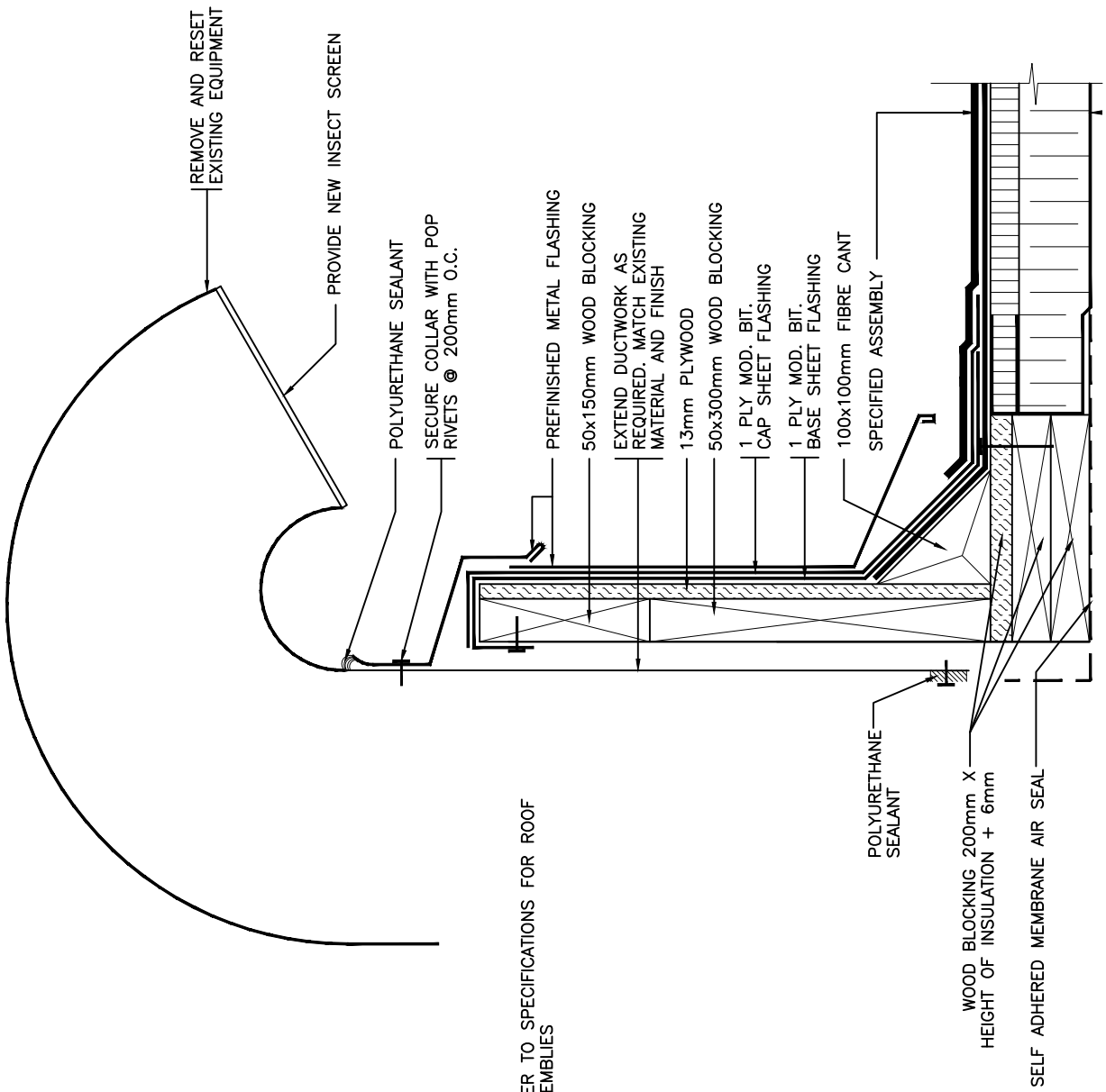
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DRAWN:	GB
DATE:	26 01 07

HOSSACK ARCHITECTURE

AD 459

ISSUE/REV. 00

GOOSENECK CURB DETAIL



NOTES:

1. REFER TO SPECIFICATIONS FOR ROOF ASSEMBLIES

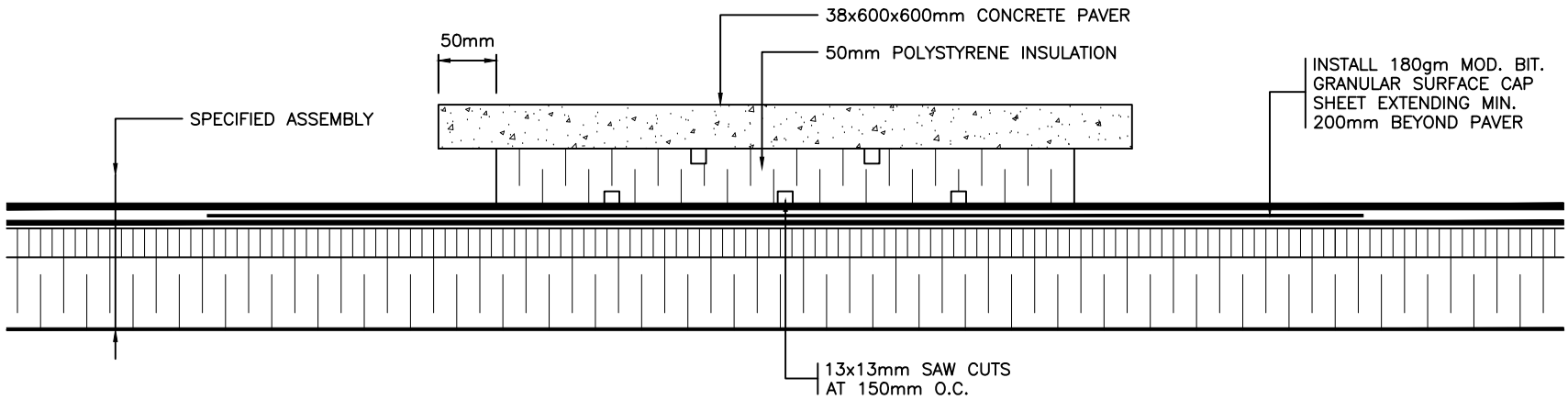
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DRAWN:	GB
DATE:	26 01 07

HOSSACK ARCHITECTURE

ISSUE/REV. 00

AD 460

CONCRETE PAVER DETAIL



NOTES:

1. REFER TO SPECIFICATIONS FOR ROOF ASSEMBLIES

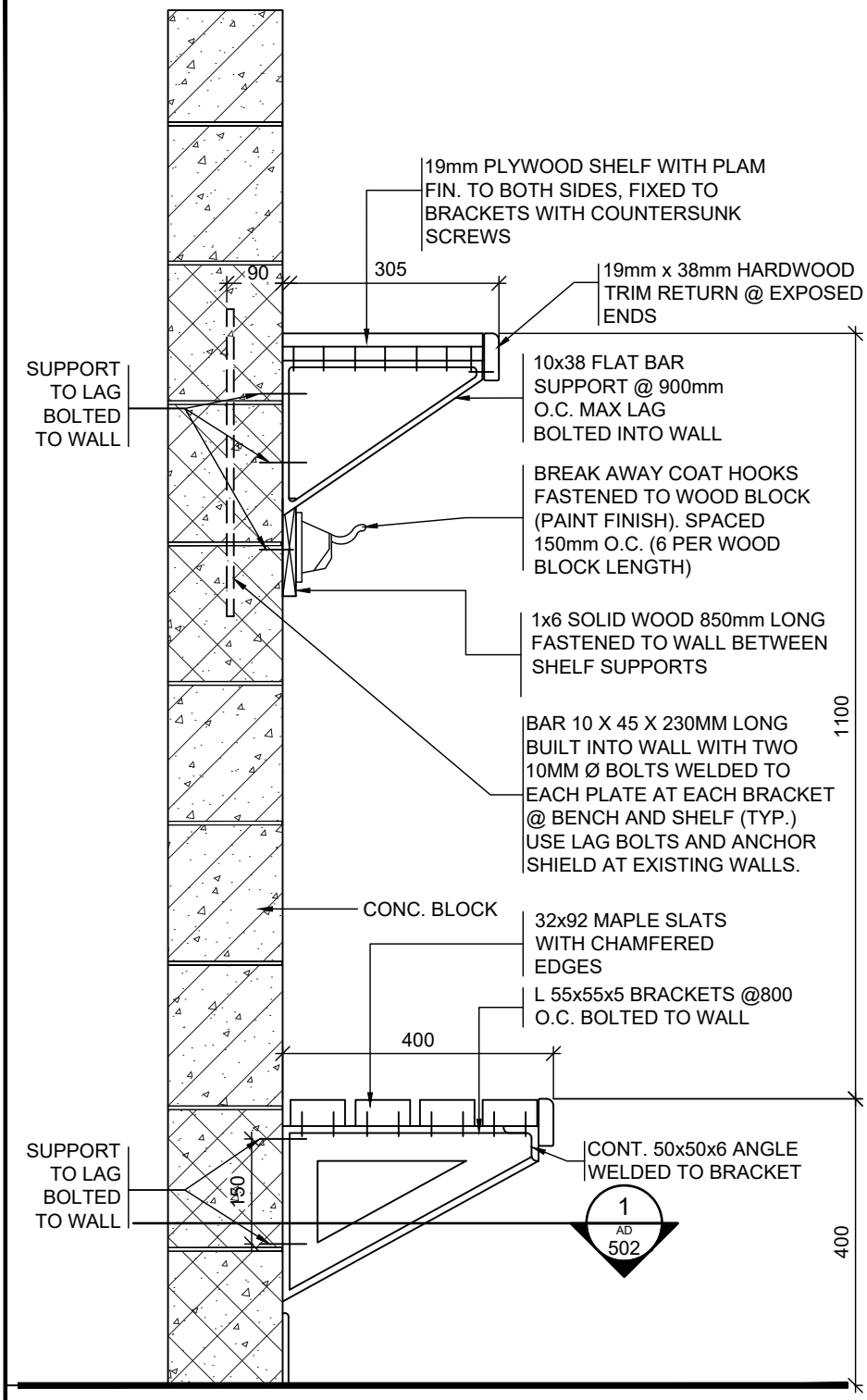
CONCRETE PAVER DETAIL

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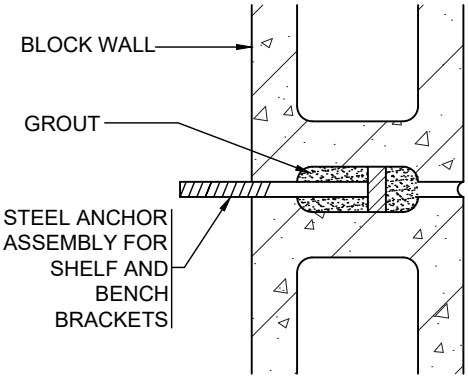
HOSSACK ARCHITECTURE

AD 461

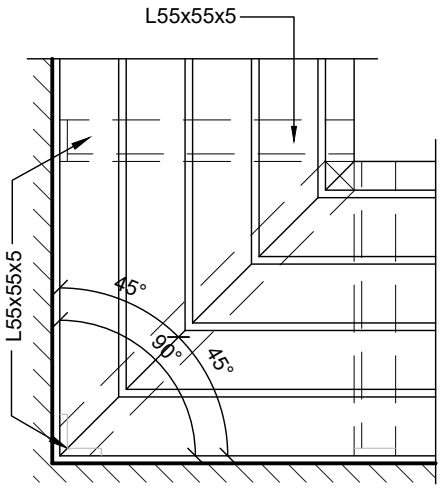
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SECTION
N.T.S.



DETAIL 1



PLAN
SCALE 1: 10

AT RETURNS PROVIDE 2 BRACKETS PLUS ADDITIONAL ANGLE UNDER THE MITERED CORNER.

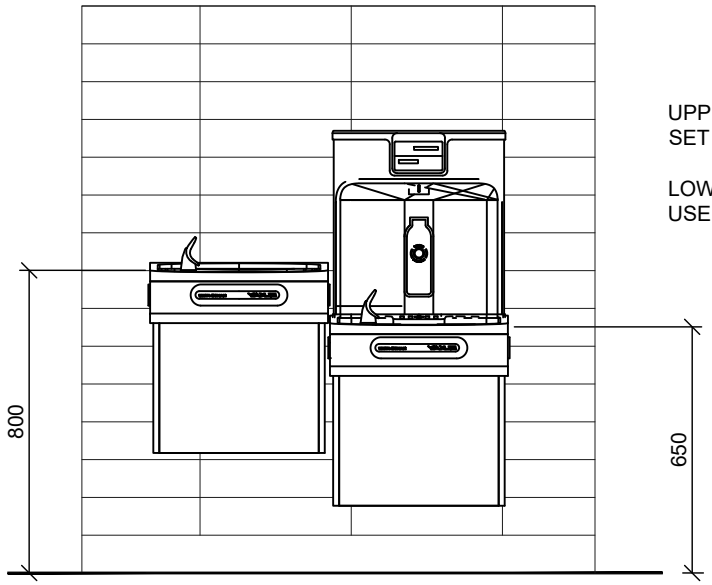
BENCH DETAIL M5

PROJ:	24106
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HOSSACK ARCHITECTURE

ISSUE/REV. 00

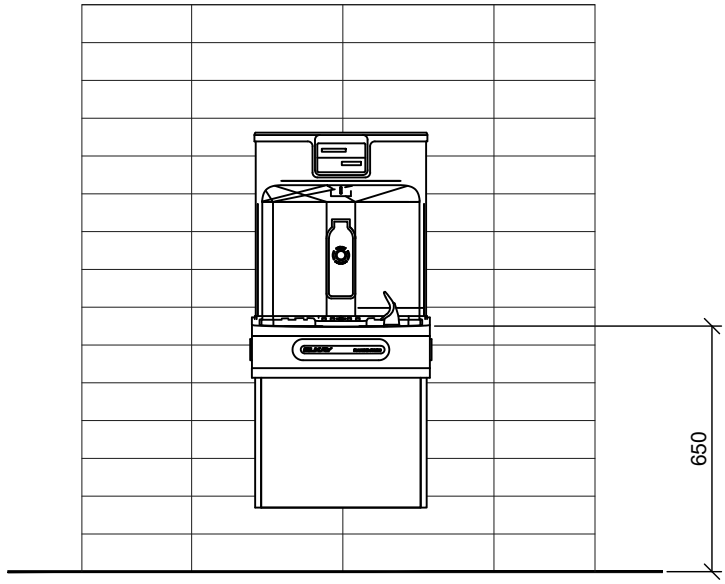
AD 502



UPPER DRINKING FOUNTAIN HEIGHT SET FOR BARRIER FREE

LOWER DRINKING FOUNTAIN IS FOR USE BY SMALL CHILDREN

FRONT ELEVATION 1



FRONT ELEVATION 2

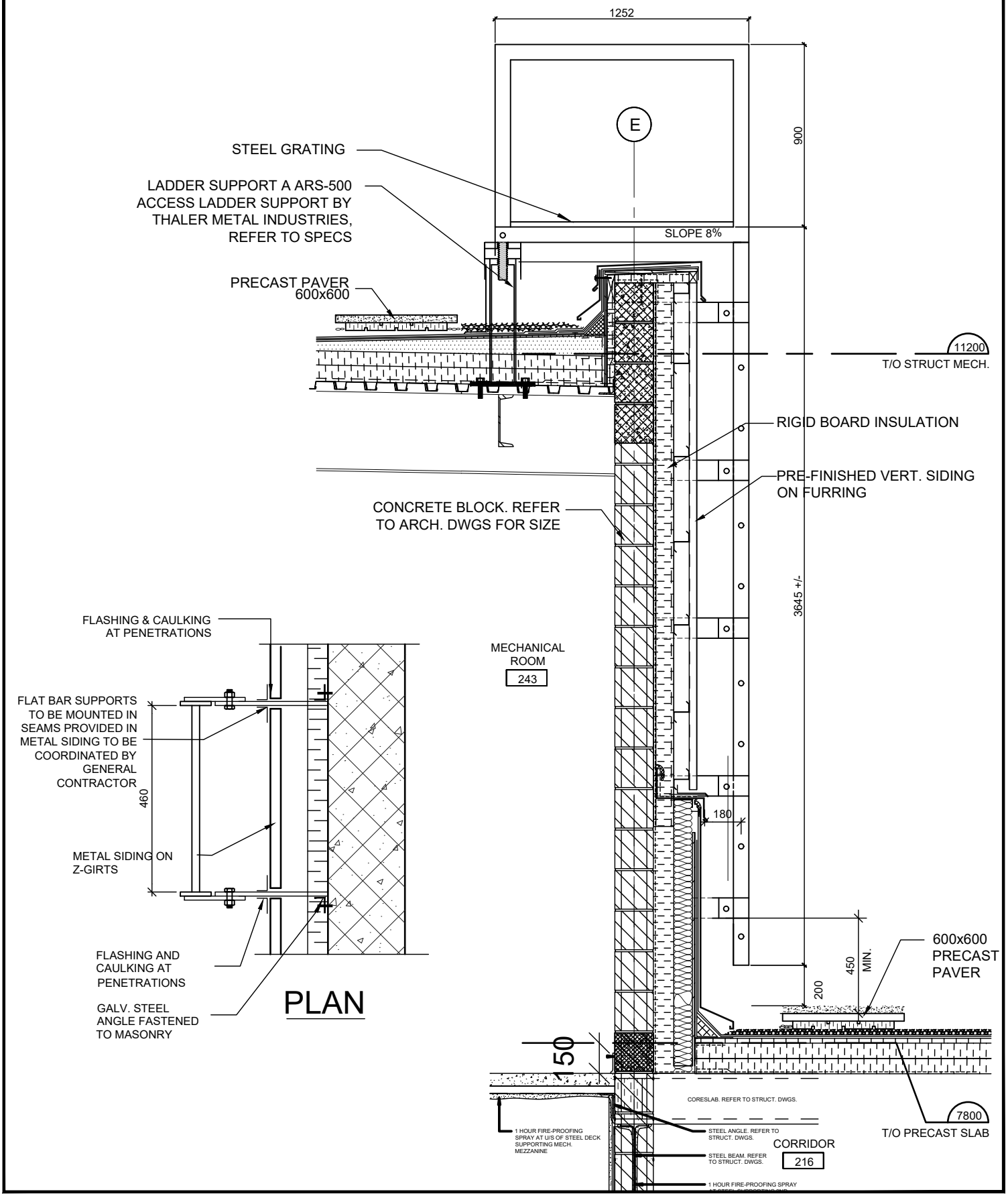
DRINKING FOUNTAINS
MOUNTING HEIGHTS

PROJ:	24106
SCALE:	N.T.S.
DRAWN:	GB
DATE:	26 01 07

HOSSACK ARCHITECTURE

ISSUE/REV. 00

AD 503



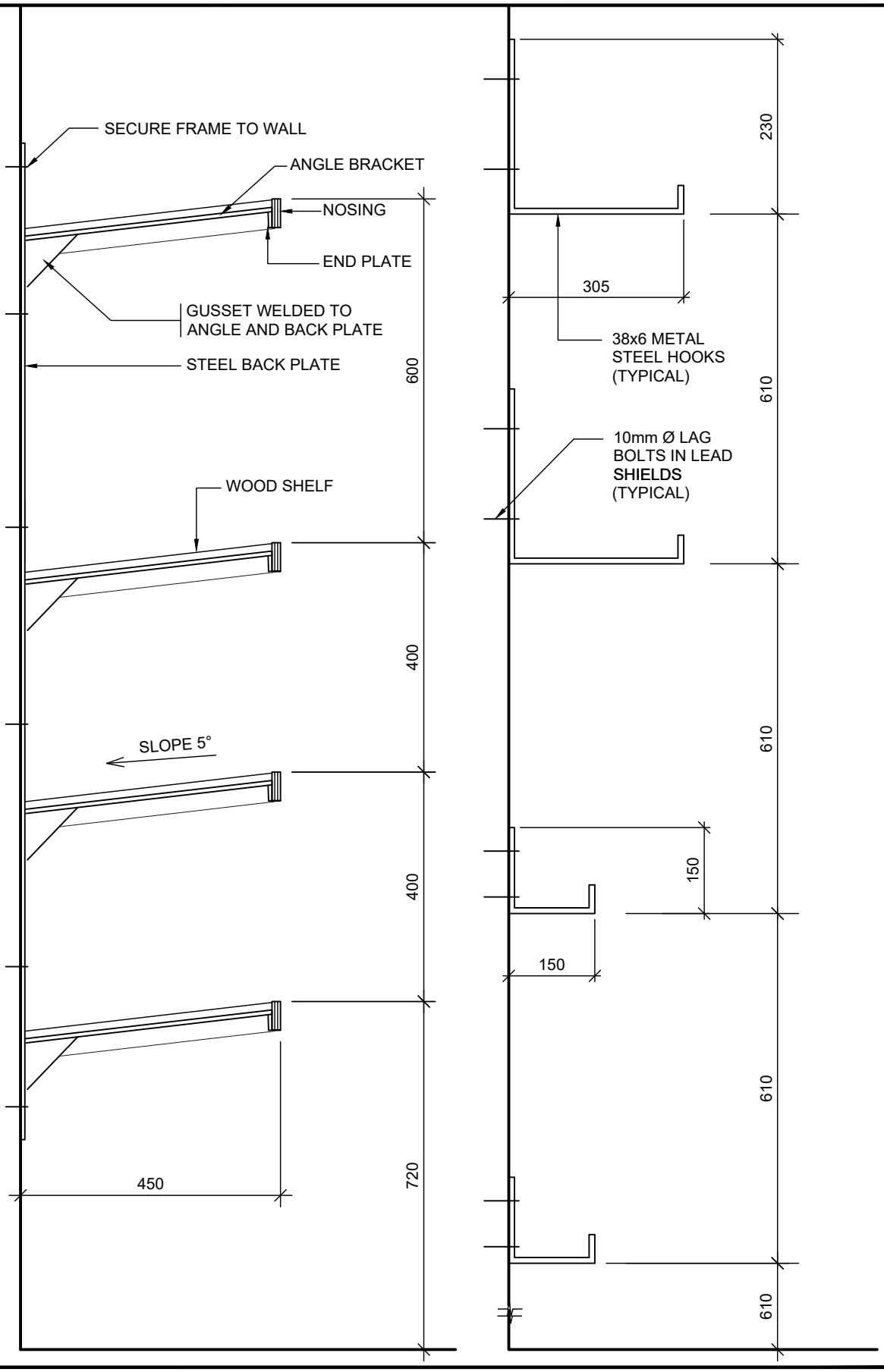
ROOF ACCESS LADDER

PROJ:	24106
SCALE:	N.T.S.
DRAWN:	GB
DATE:	26 01 07

HOSSACK ARCHITECTURE

ISSUE/REV.
00

AD
517



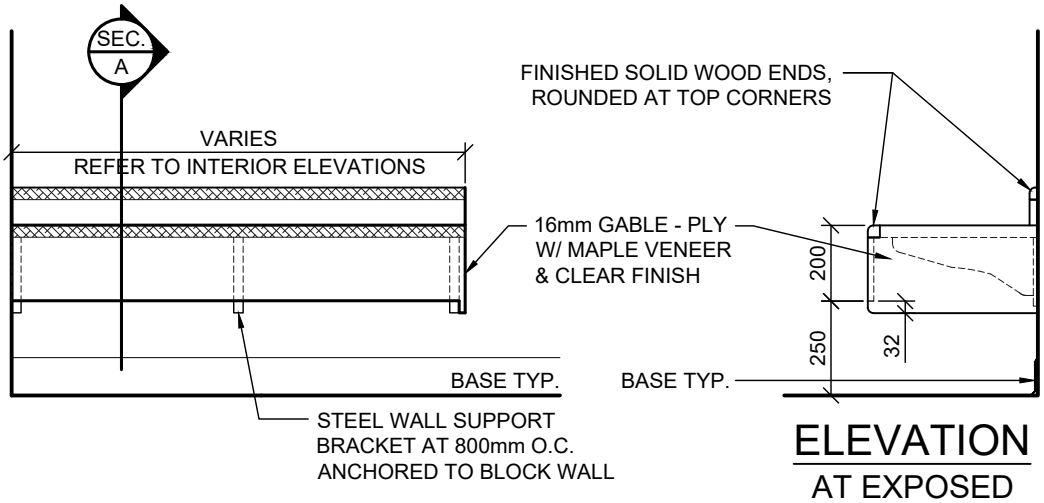
GYM STORAGE ROOM SHELVING
M4

PROJ:	24106
SCALE:	1:10
DRAWN:	GB
DATE:	26 01 07

HOSSACK ARCHITECTURE

ISSUE/REV.
00

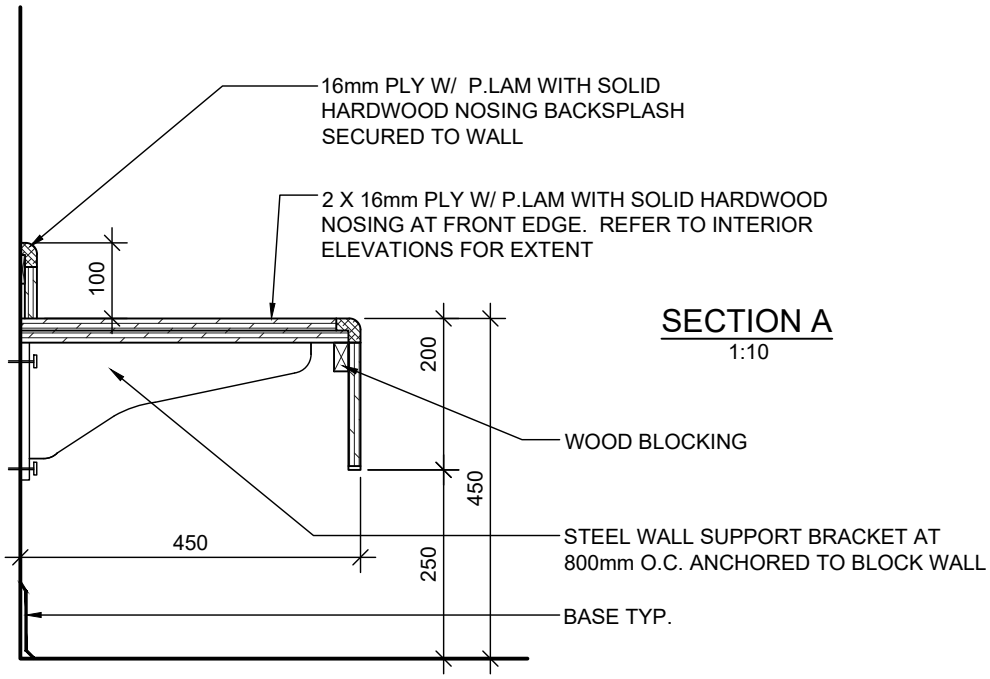
AD
519



ELEVATION
SCALE 1 : 20

ELEVATION
AT EXPOSED
GABLE END
SCALE 1 : 20

NOTES:
-REFER TO SPECIFICATIONS FOR MILLWORK CONSTRUCTION AND HARDWARE.
-CONFIRM LOCATION AND QUANTITIES WITH PLANS AND INTERIOR ELEVATIONS.
-CONFIRM UNIT SIZE WITH INTERIOR ELEVATIONS. TYP.
-NO BACKSPLASH AT WINDOWS



SECTION A
1:10

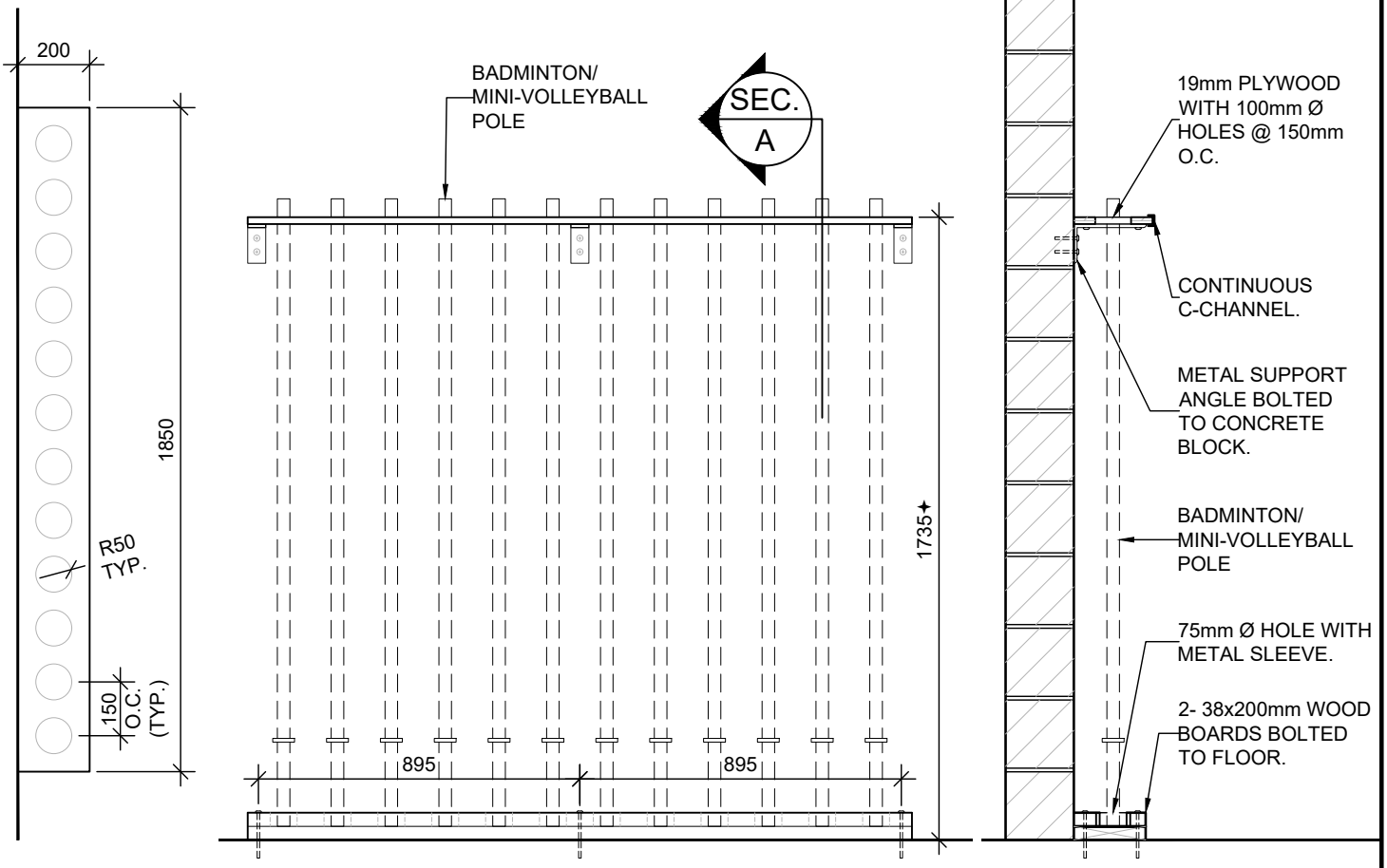
CO-LAB WOOD BENCH - M7

PROJ:	24106
SCALE:	NOTED
DRAWN:	GB
DATE:	26 01 07

HOSSACK ARCHITECTURE

ISSUE/REV.

AD
520



PLAN
SCALE 1:20

ELEVATION
SCALE 1:20

SECTION A
SCALE 1:20

✦NOTE:
HEIGHT MAY VARY TO MANUFACTURER'S SPEC. & TO BE CONFIRMED WITH SCHOOL BOARD PRIOR TO INSTALLATION.

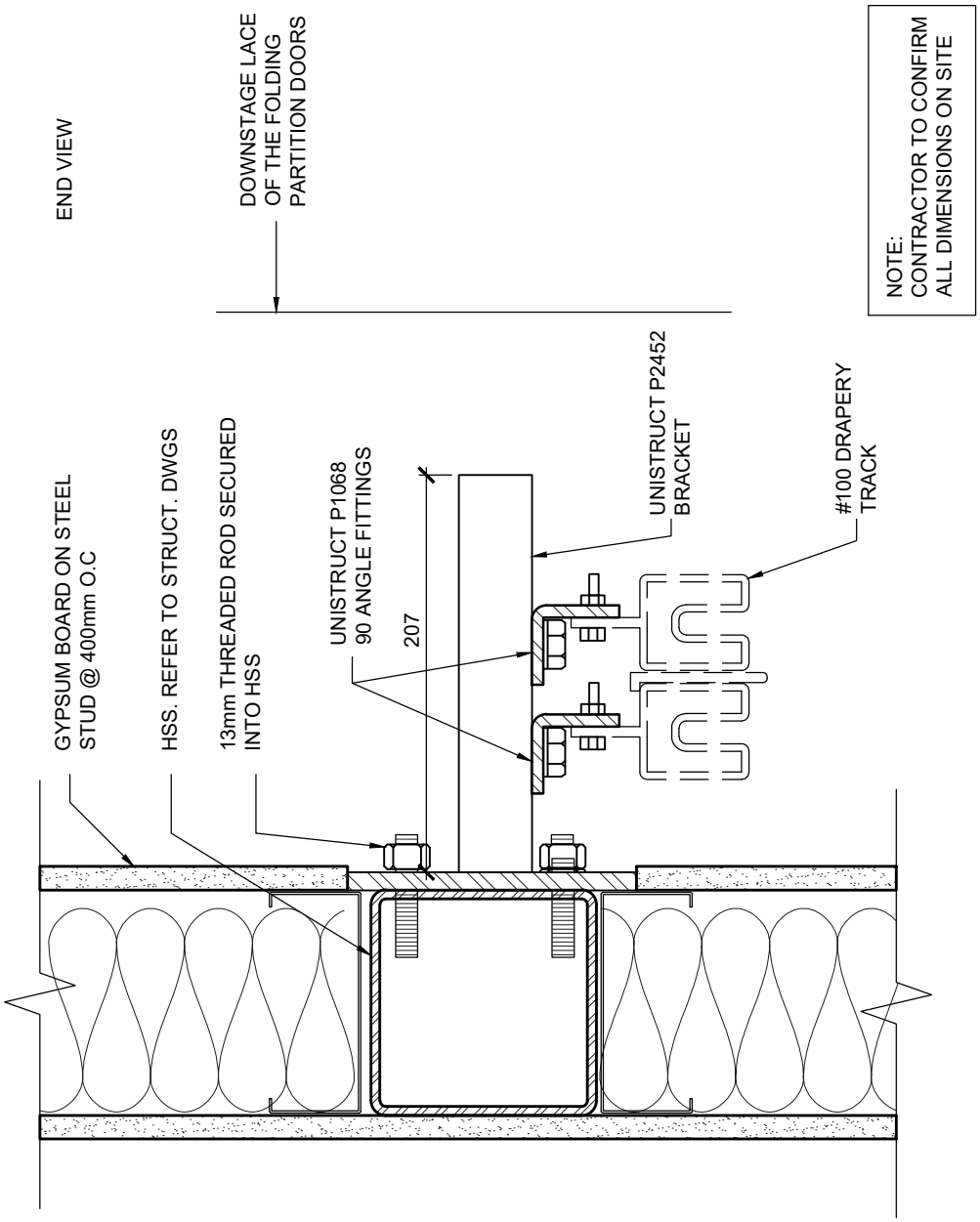
GYM VERTICAL POLE STORAGE RACK

PROJ:	24106
SCALE:	NOTED
DRAWN:	GB
DATE:	26 01 07

HOSSACK ARCHITECTURE

ISSUE/REV.

AD
523



MAIN DRAPE BRACKET 'B' DETAIL

PROJ:	24106
SCALE:	N.T.S.
DRAWN:	RS
DATE:	26 06 05

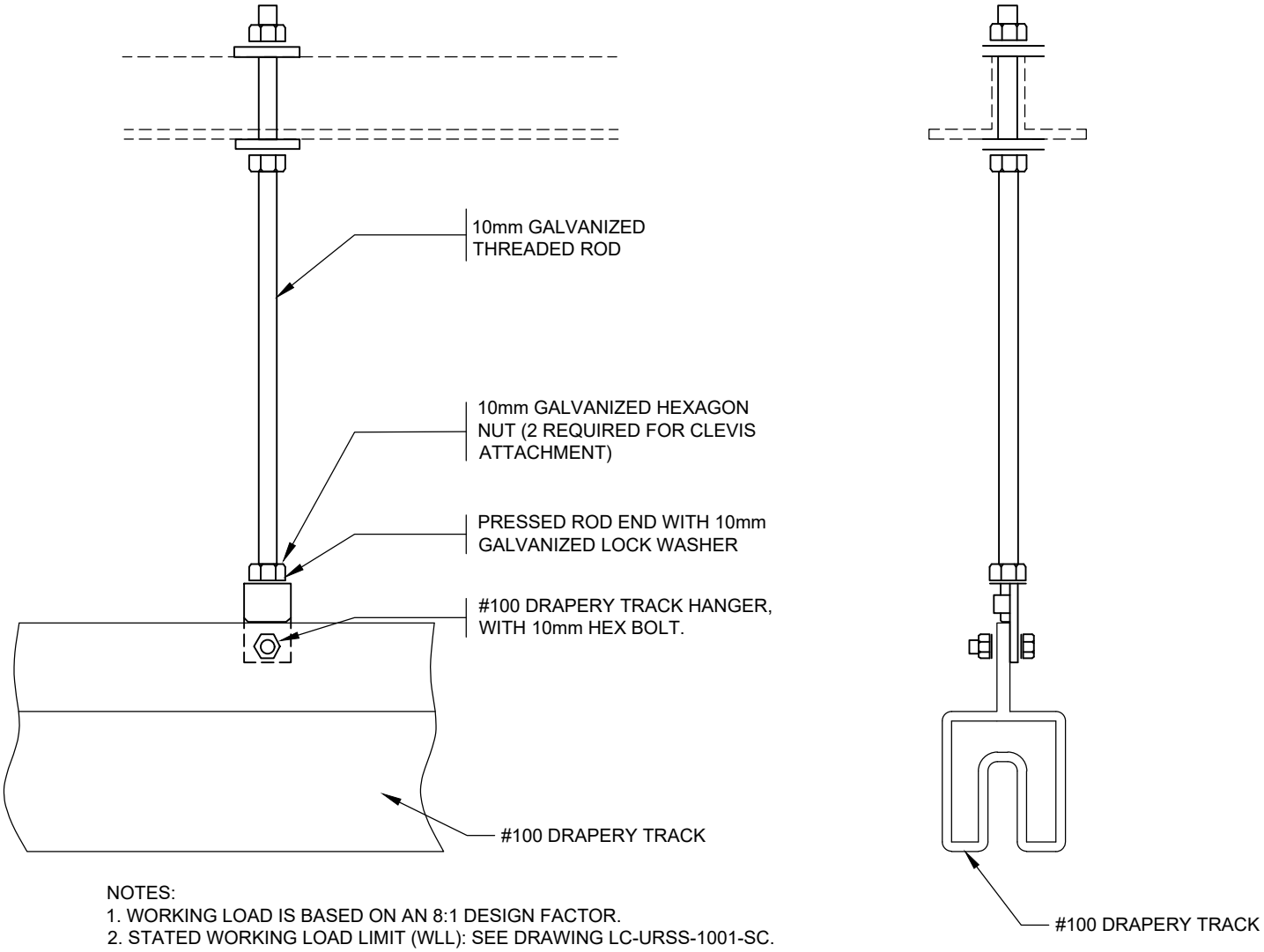
HOSSACK & ASSOCIATES ARCHITECTS

ISSUE/REV. 00

AD 534

(ANGULAR LOADING IS NOT PERMITTED)

Ta STEEL BEAM OR JOIST OVERALL WIDTH AND THICKNESS OF BOTTOM FLANGE TO BE DETERMINED



NOTES:
1. WORKING LOAD IS BASED ON AN 8:1 DESIGN FACTOR.
2. STATED WORKING LOAD LIMIT (WLL): SEE DRAWING LC-URSS-1001-SC.
3. FOR LOADING ON CENTER LINE AXIS OF CLAMP HANGER ASSEMBLY IN DIRECTION Ta ONLY.
4. ANGULAR LOADING IS NOT PERMITTED.
5. USE WITH MULTIPLE CONNECTIONS TO PREVENT LOAD FROM TWISTING.
6. RECOMMENDED TORQUE FOR 10mm UNC BOLTS - 25Nm (19 FOOT/lbs).
7. REFER TO CLAMP HANGER DRAWING: CA-2786-1001-E.
8. PLEASE REFER TO THE UNISTRUT GENERAL CATALOG FOR WARNING AND APPLICATION INFORMATION.

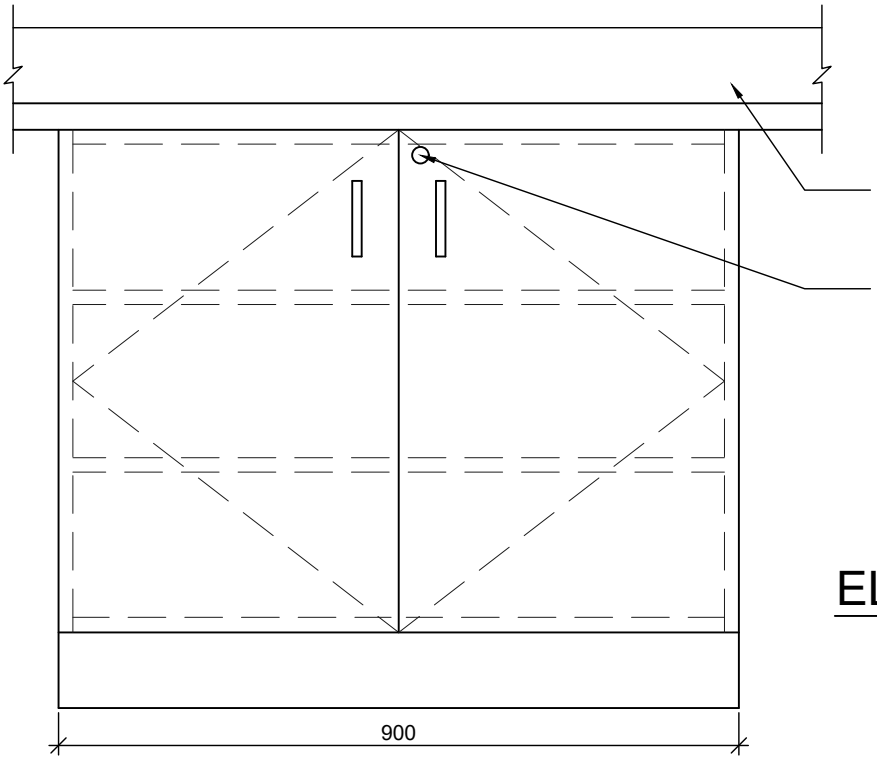
DRAPERY HANGER

PROJ:	24106
SCALE:	N.T.S.
DRAWN:	KB
DATE:	26 01 07

HOSSACK ARCHITECTURE

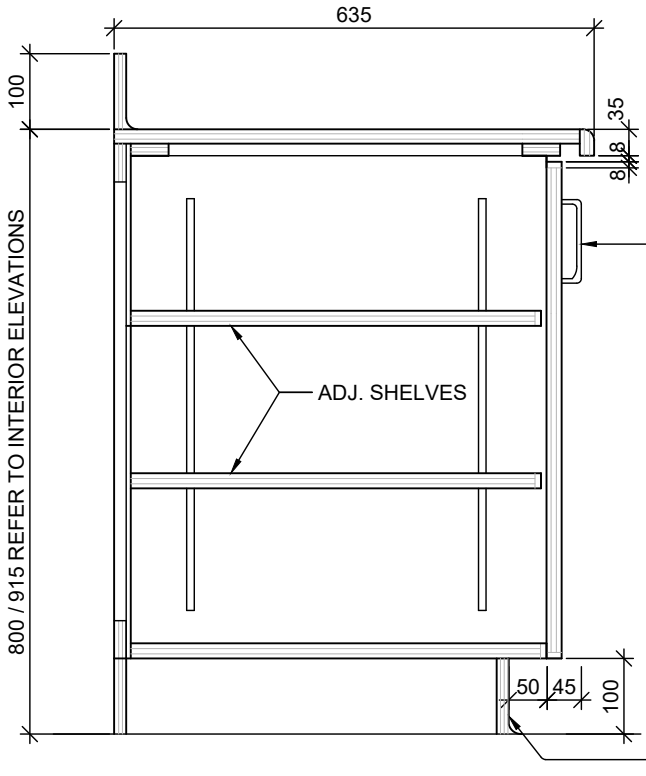
ISSUE/REV. 00

AD 539



ELEVATION

SCALE 1 : 10



NOTE:
ALL MILLWORK DOORS AND DRAWERS TO BE EQUIPT WITH LOCKS. ALL MILLWORK TO BE OF 19mm MELAMINE FACED PARTICLE BOARD UNLESS OTHERWISE NOTED.

SECTION

SCALE 1: 10

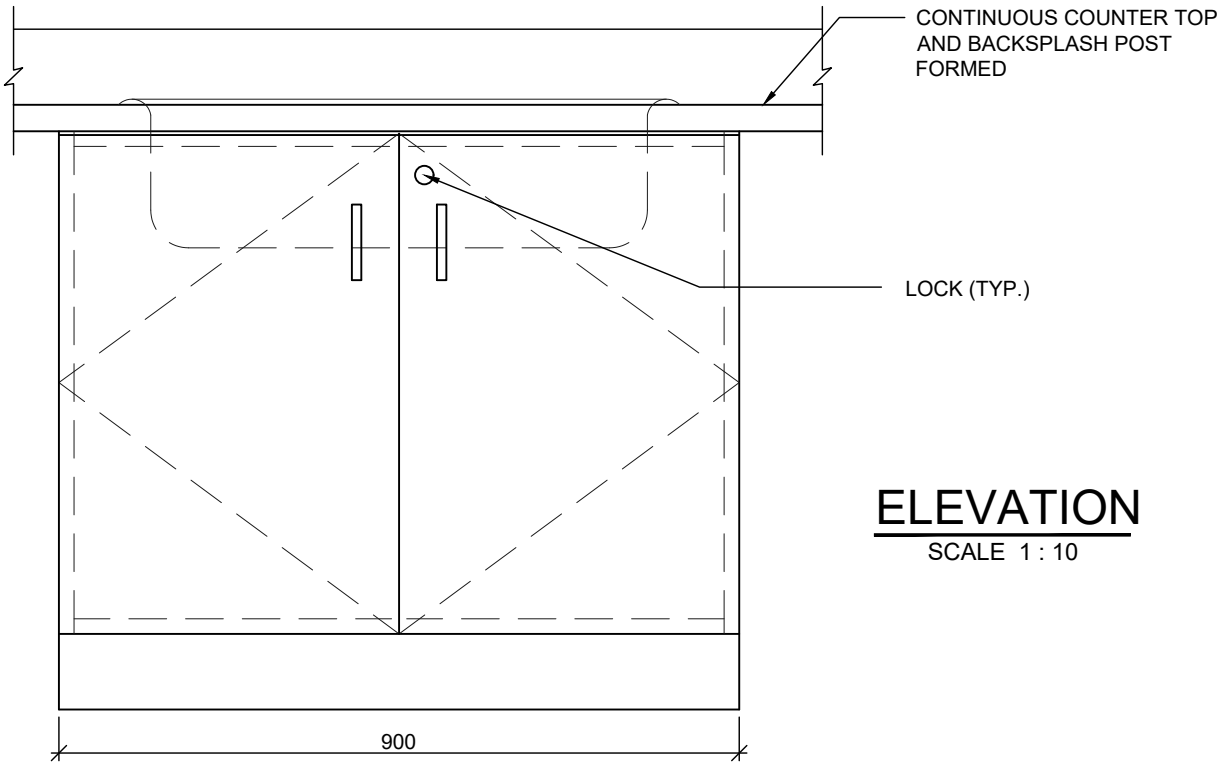
CABINET TYPE B1

PROJ:	24106
SCALE:	1:10
DRAWN:	GB
DATE:	26 01 07

HOSSACK ARCHITECTURE

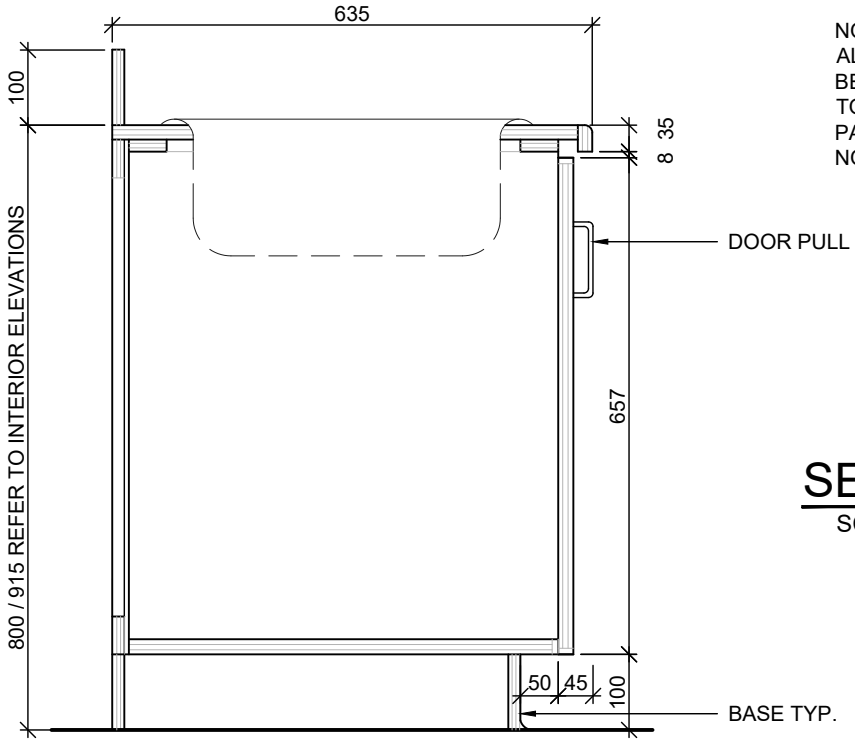
ISSUE/REV. 00

AD 601



ELEVATION

SCALE 1 : 10



NOTE:
ALL MILLWORK DOORS AND DRAWERS TO BE EQUIPT WITH LOCKS. ALL MILLWORK TO BE OF 19mm MELAMINE FACED PARTICLE BOARD UNLESS OTHERWISE NOTED.

SECTION

SCALE 1: 10

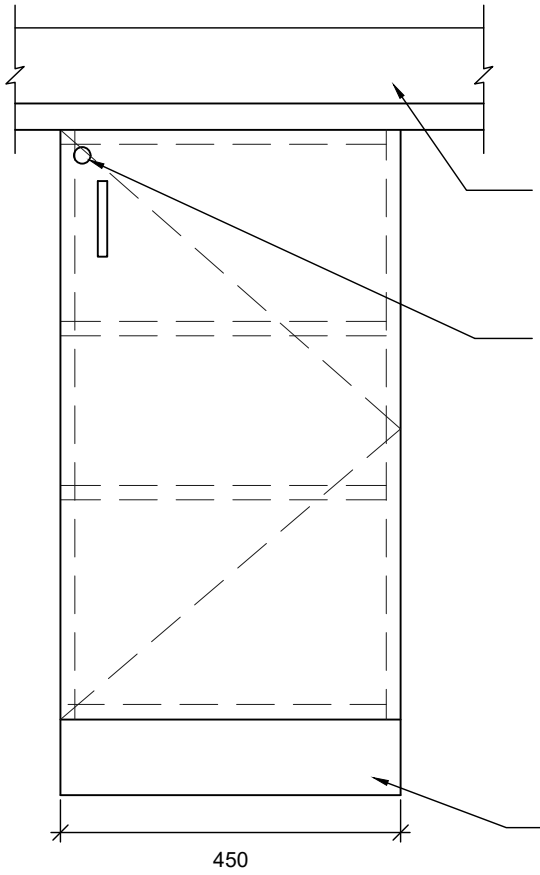
CABINET TYPE B2

PROJ:	24106
SCALE:	1:10
DRAWN:	GB
DATE:	26 01 07

HOSSACK ARCHITECTURE

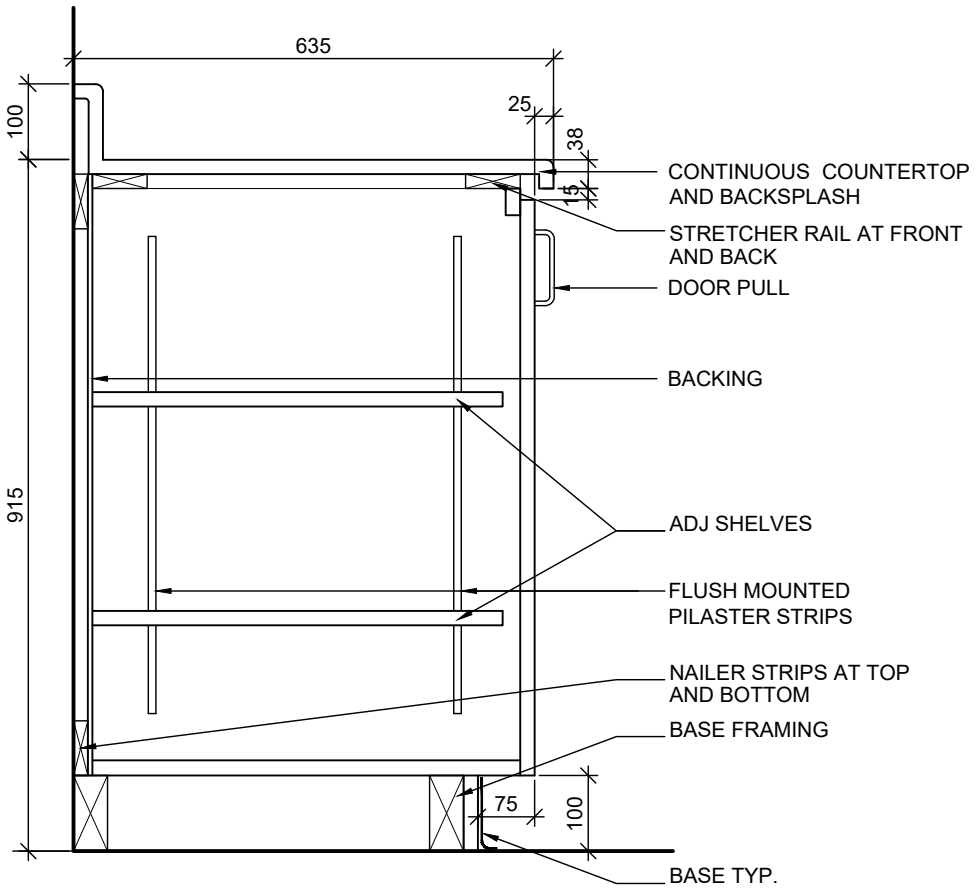
ISSUE/REV.
00

AD
602



ELEVATION

SCALE 1 : 10



NOTE:
ALL MILLWORK DOORS AND DRAWERS TO BE EQUIPPED WITH LOCKS UNLESS OTHERWISE NOTED.

SECTION

SCALE 1: 10

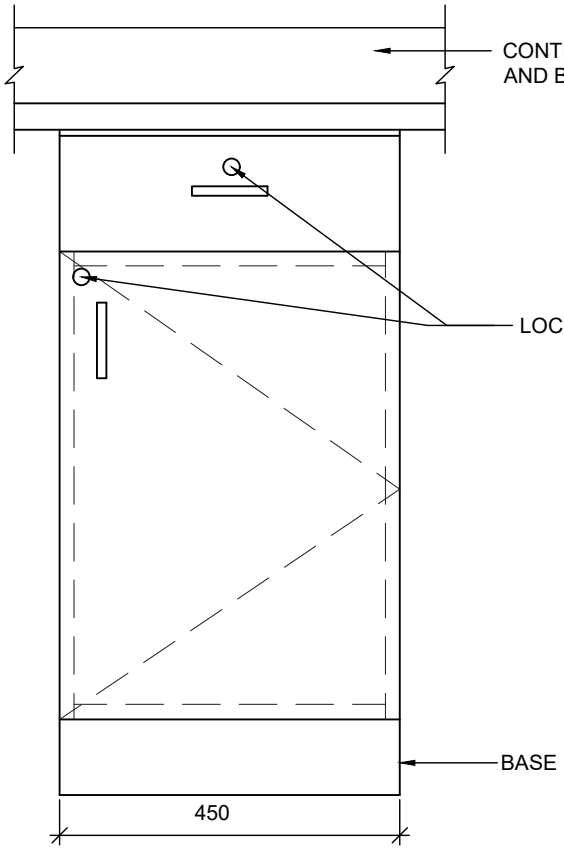
CABINET TYPE B3A

PROJ:	24106
SCALE:	1:10
DRAWN:	GB
DATE:	26 01 07

HOSSACK ARCHITECTURE

ISSUE/REV. 00

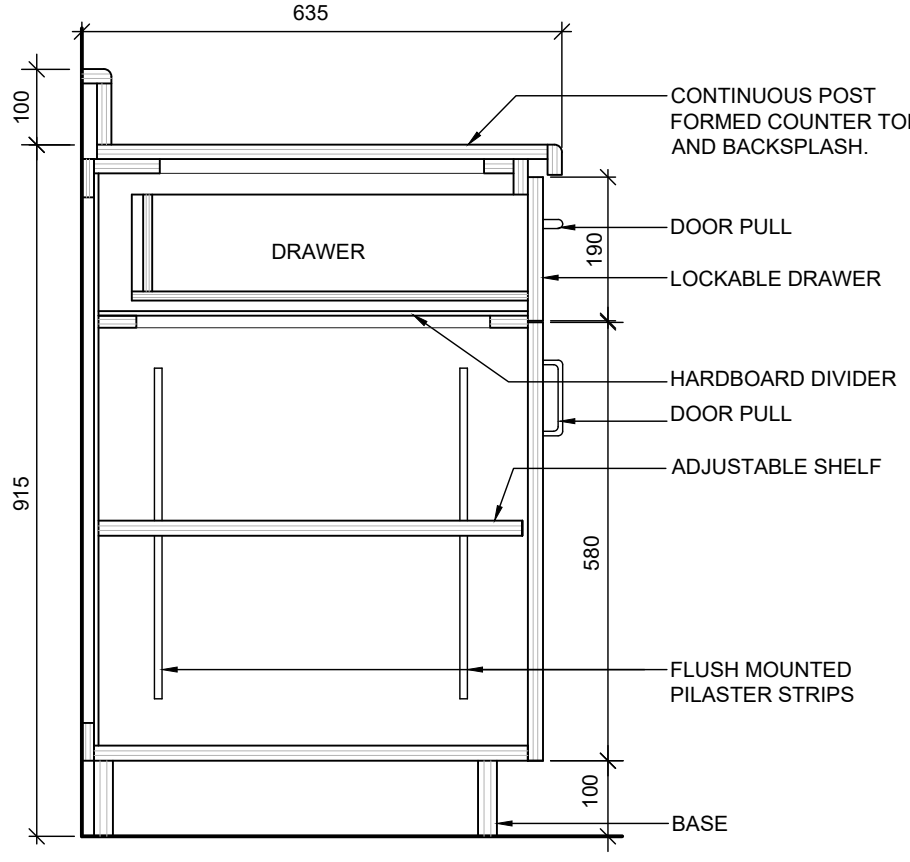
AD 603A



NOTE:
ALL MILLWORK DOORS AND DRAWERS TO BE EQUIPPED WITH LOCKS UNLESS OTHERWISE NOTED.

REFER TO INTERIOR ELEVATIONS FOR DOOR SWING DIRECTION

ELEVATION
SCALE 1 : 10



SECTION
SCALE 1: 10

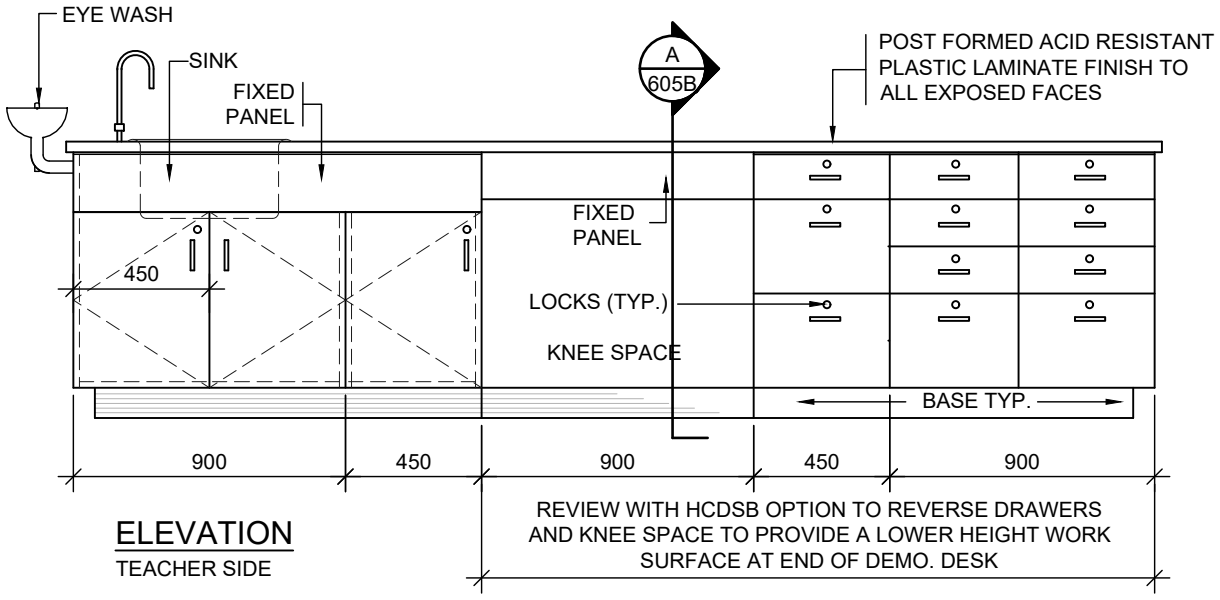
CABINET TYPE B3B

PROJ:	24106
SCALE:	1:10
DRAWN:	GB
DATE:	26 01 07

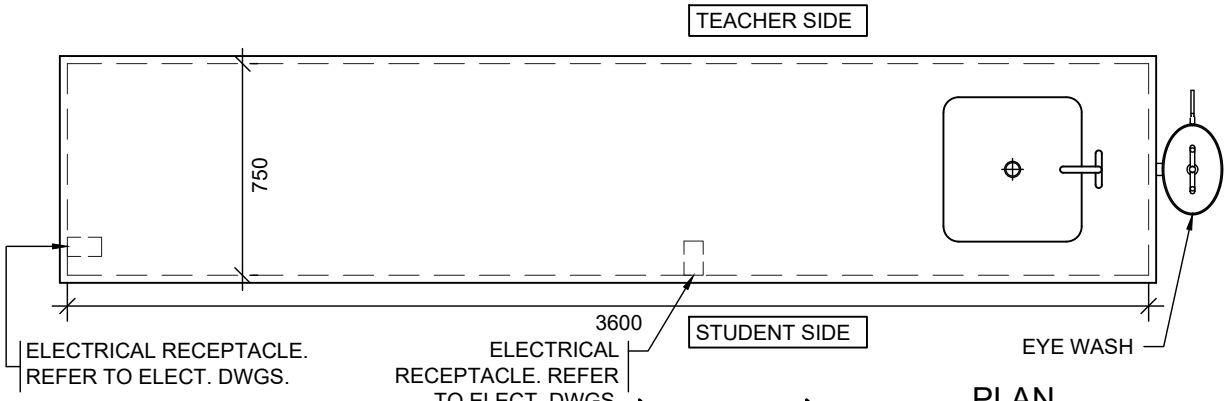
HOSSACK ARCHITECTURE

ISSUE/REV. 00

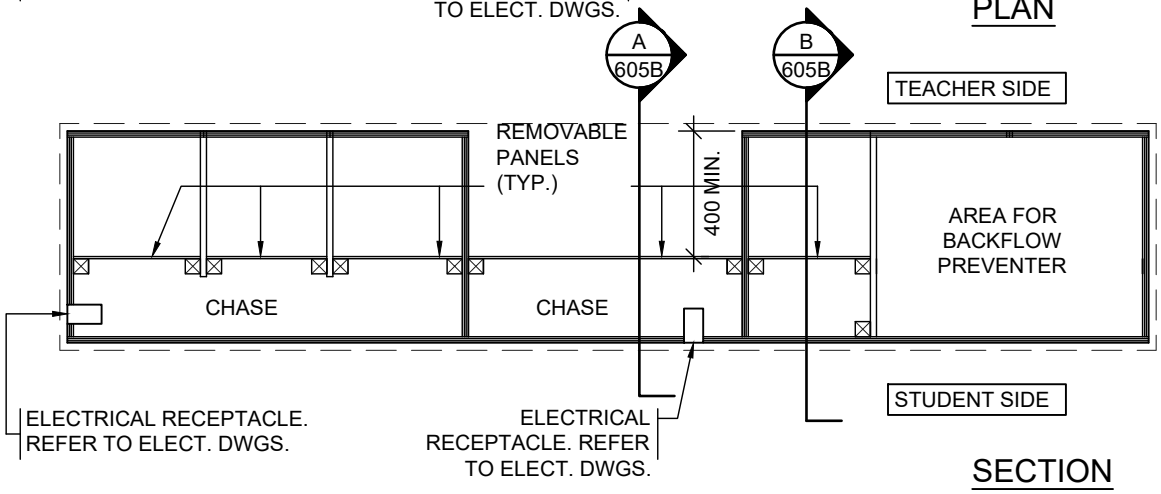
AD 603B



ELEVATION
TEACHER SIDE



PLAN



SECTION

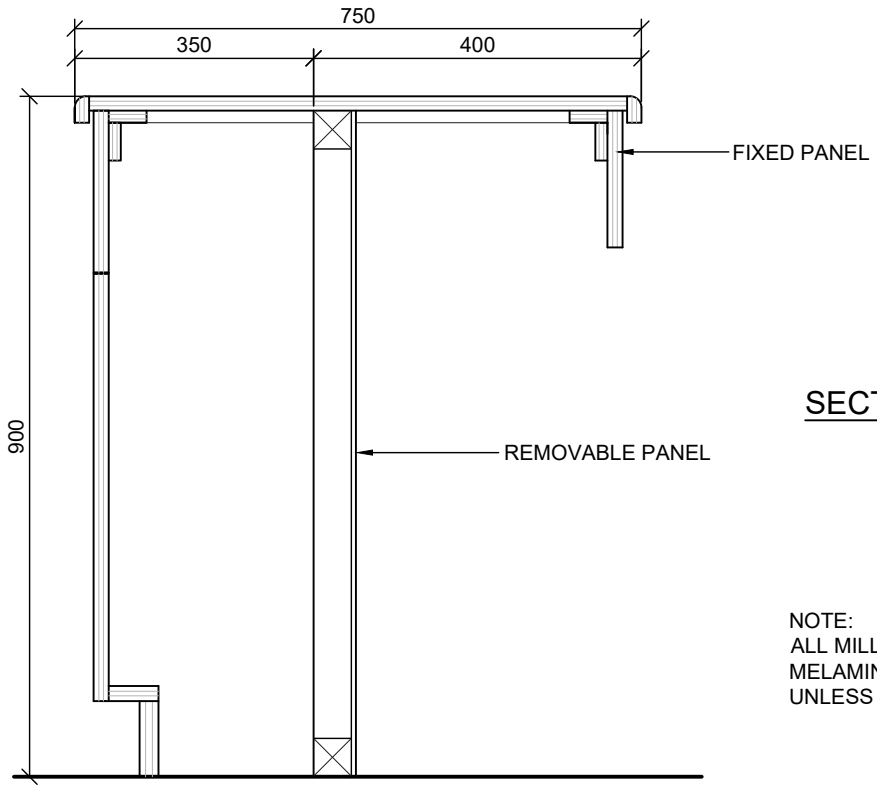
CABINET TYPE B5
SCIENCE ROOM - TEACHER'S DESK

PROJ:	24106
SCALE:	1:25
DRAWN:	GB
DATE:	26 01 07

HOSSACK ARCHITECTURE

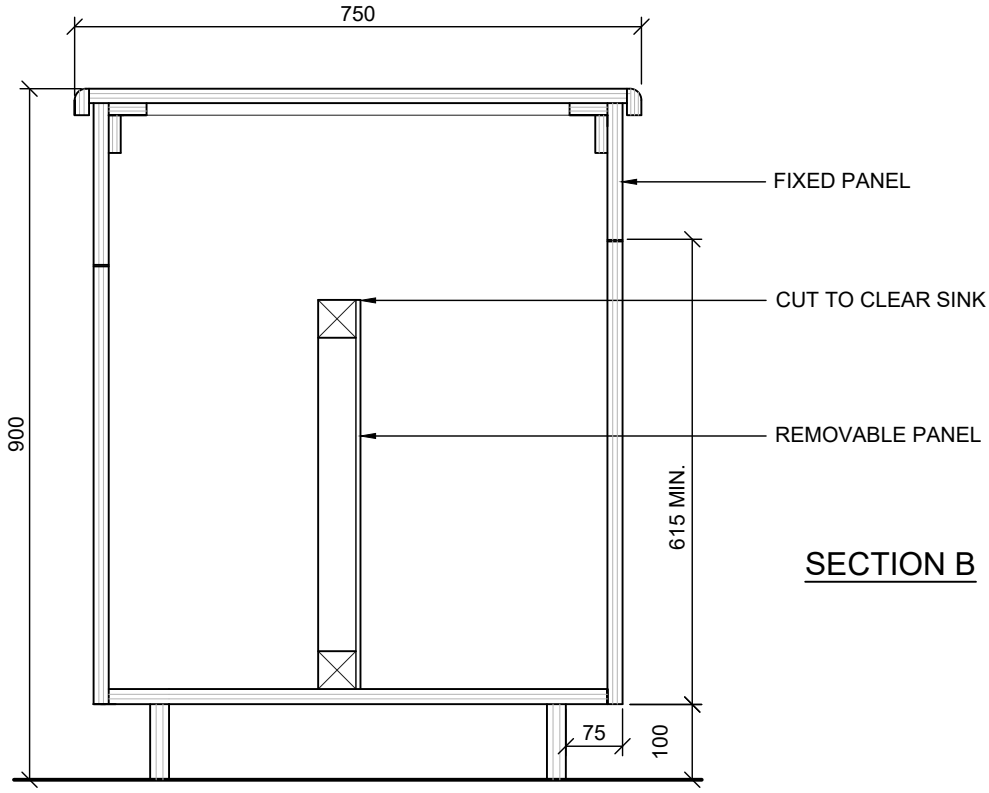
ISSUE/REV. 00

AD
605A



SECTION A

NOTE:
ALL MILLWORK TO BE OF 19mm MELAMINE FACED PARTICLE BOARD UNLESS OTHERWISE NOTED.



SECTION B

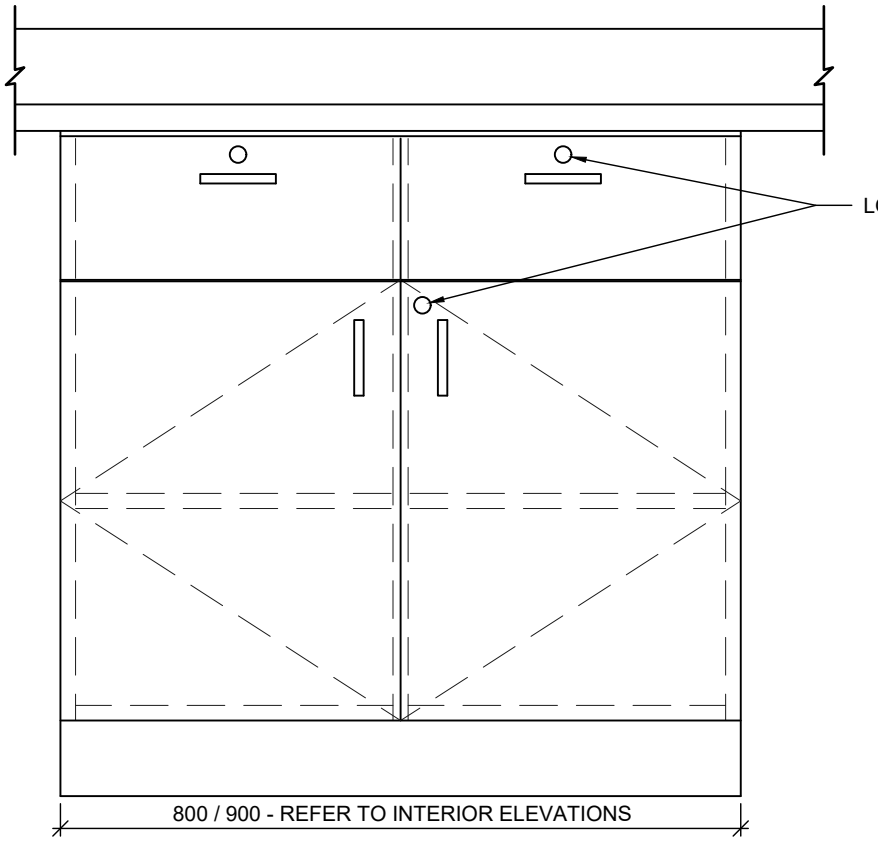
CABINET TYPE B5 SECTIONS
SCIENCE ROOM - TEACHER'S DESK

PROJ:	24106
SCALE:	1:10
DRAWN:	GB
DATE:	26 01 07

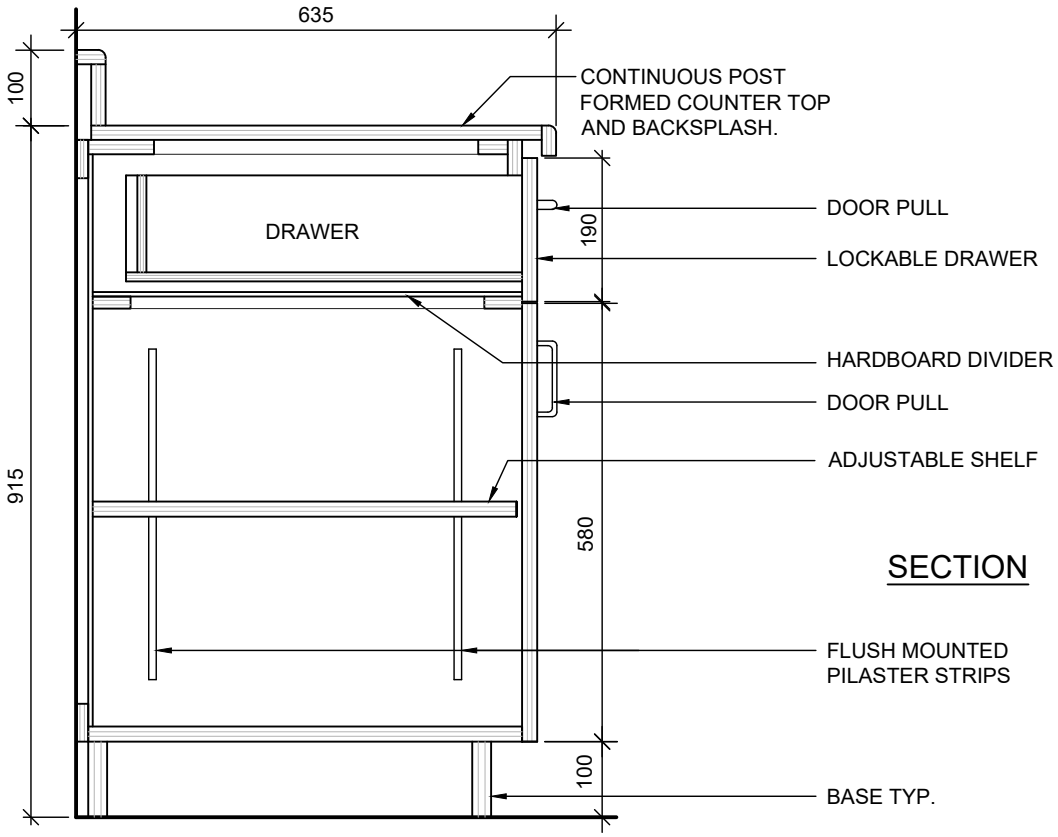
HOSSACK ARCHITECTURE

ISSUE/REV. 00

AD 605B



ELEVATION



SECTION

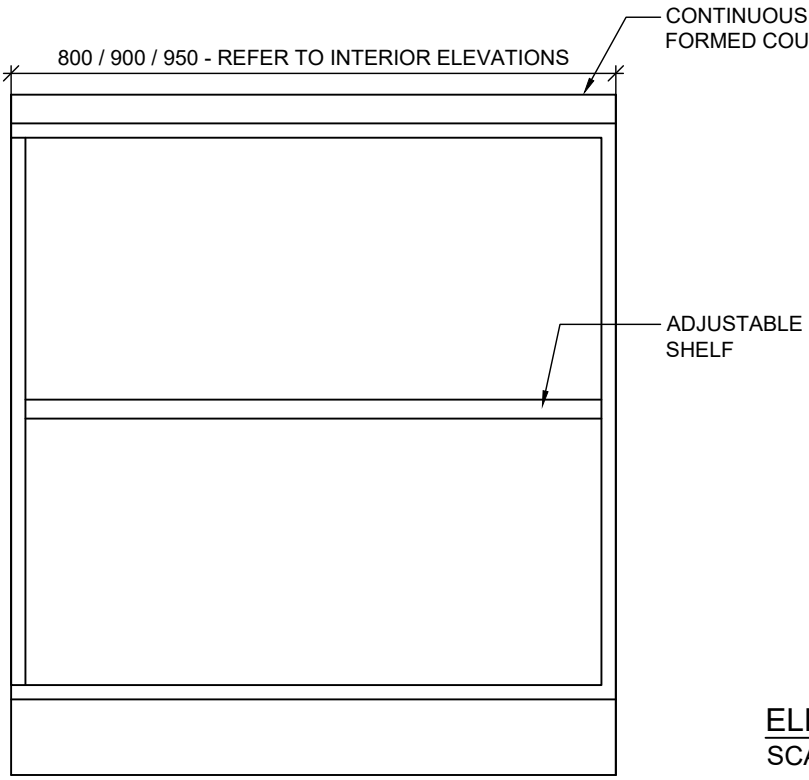
CABINET TYPE B8

PROJ:	24106
SCALE:	1:10
DRAWN:	GB
DATE:	26 01 07

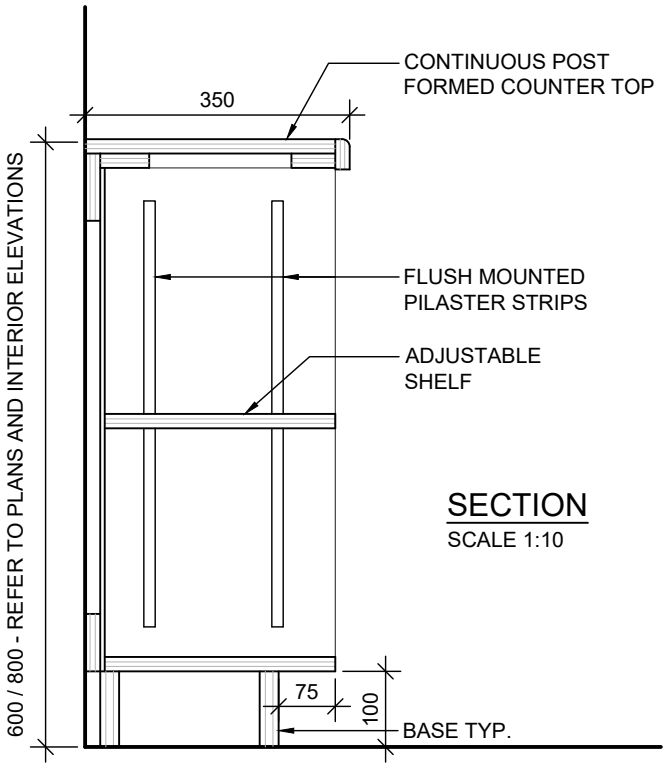
HOSSACK ARCHITECTURE

ISSUE/REV. 00

AD 608



ELEVATION
SCALE 1:10



SECTION
SCALE 1:10

NOTE:
-REFER TO FLOOR PLANS FOR QUANTITIES AND LAYOUT
-COORDINATE HEIGHT OF CABINET WITH INSTALLATION OF STB IN CLASSROOMS WHERE APPLICABLE

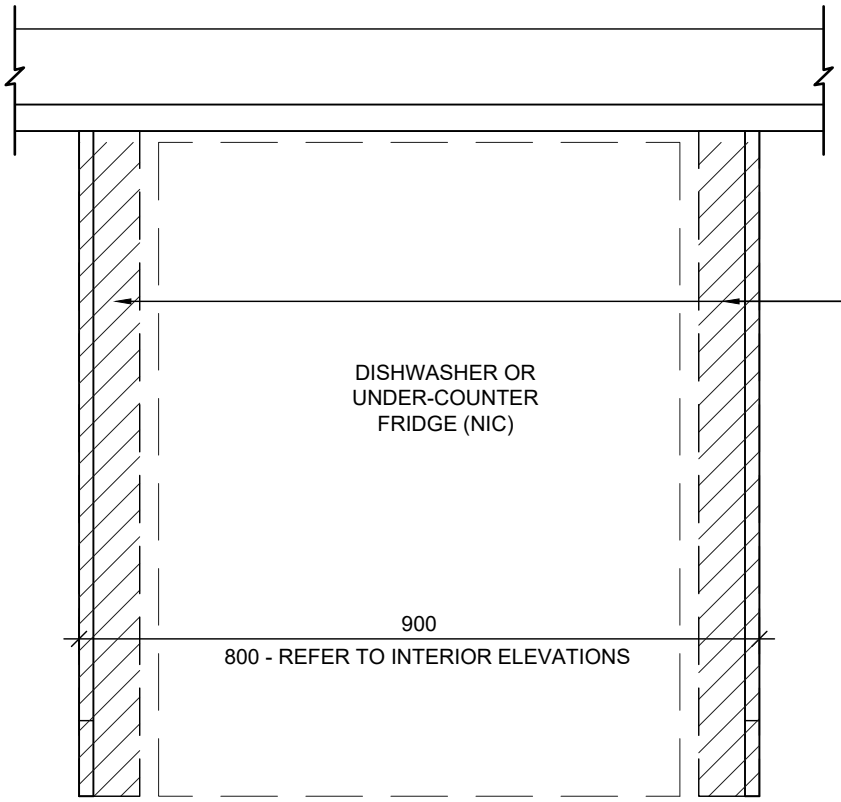
CABINET TYPE B9

PROJ:	24106
SCALE:	NOTED
DRAWN:	GB
DATE:	26 01 07

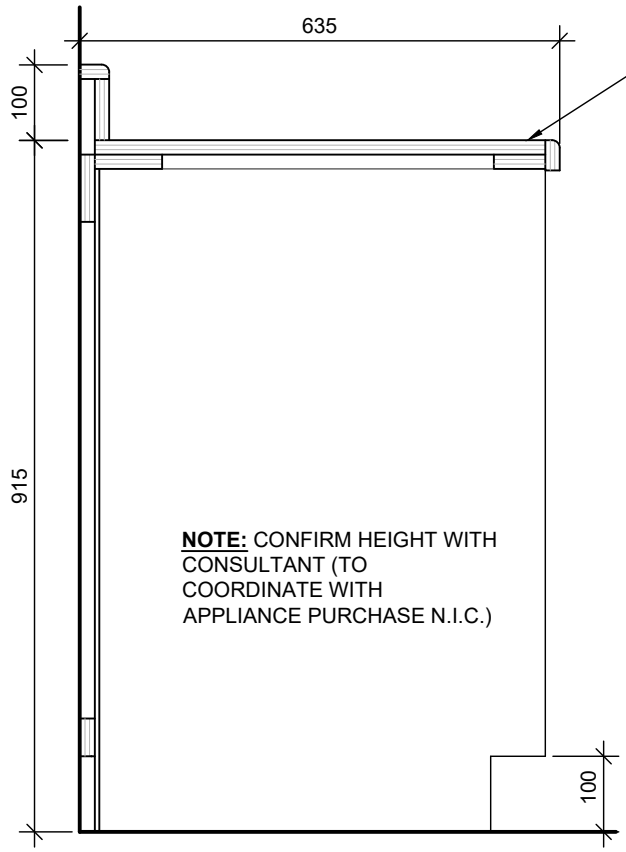
HOSSACK ARCHITECTURE

ISSUE/REV.
00

AD
609



ELEVATION



SECTION

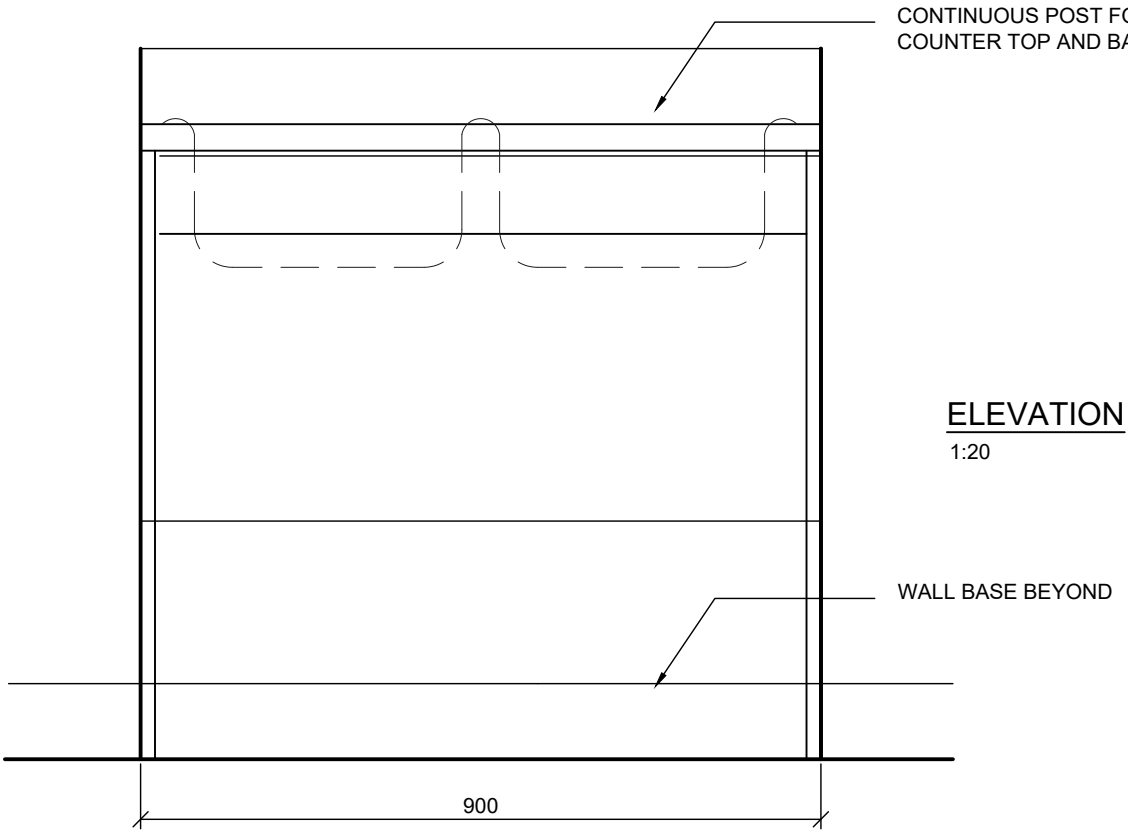
CABINET TYPE B10

PROJ:	24106
SCALE:	1:10
DRAWN:	GB
DATE:	26 01 07

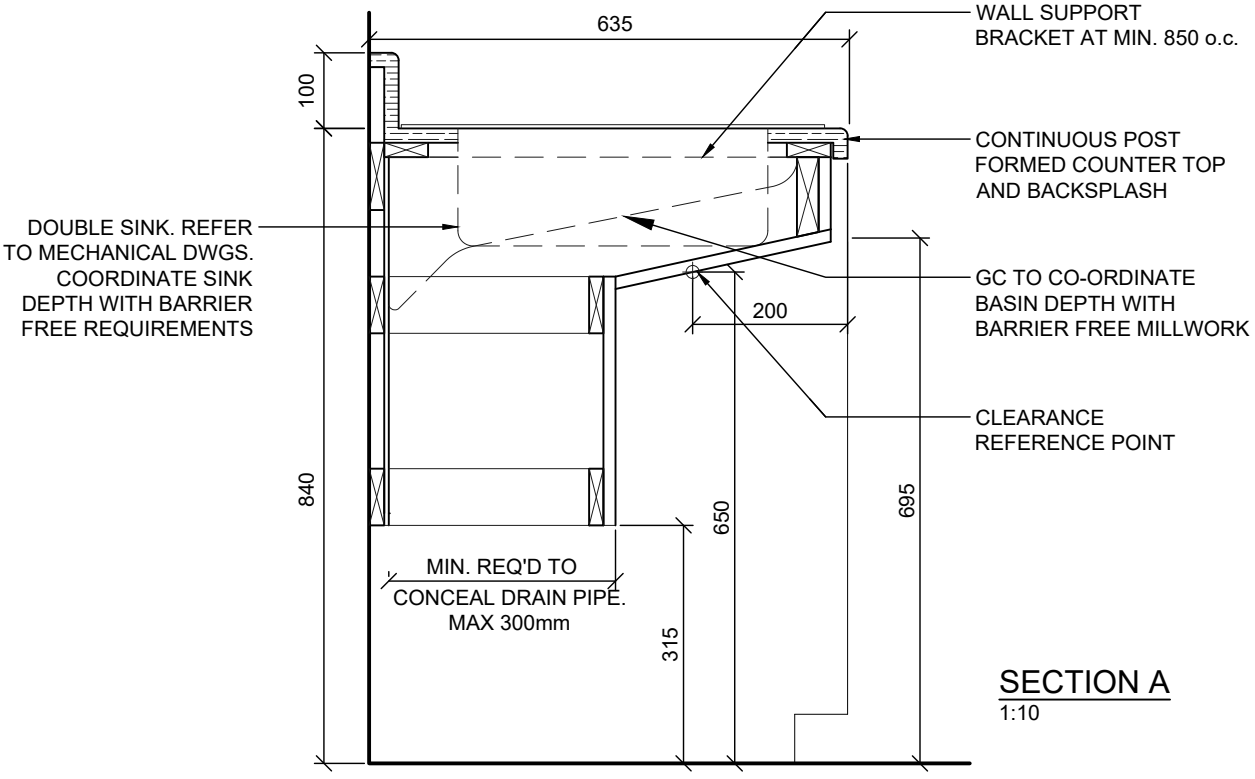
HOSSACK ARCHITECTURE

ISSUE/REV. 00

AD 610



ELEVATION
1:20



SECTION A
1:10

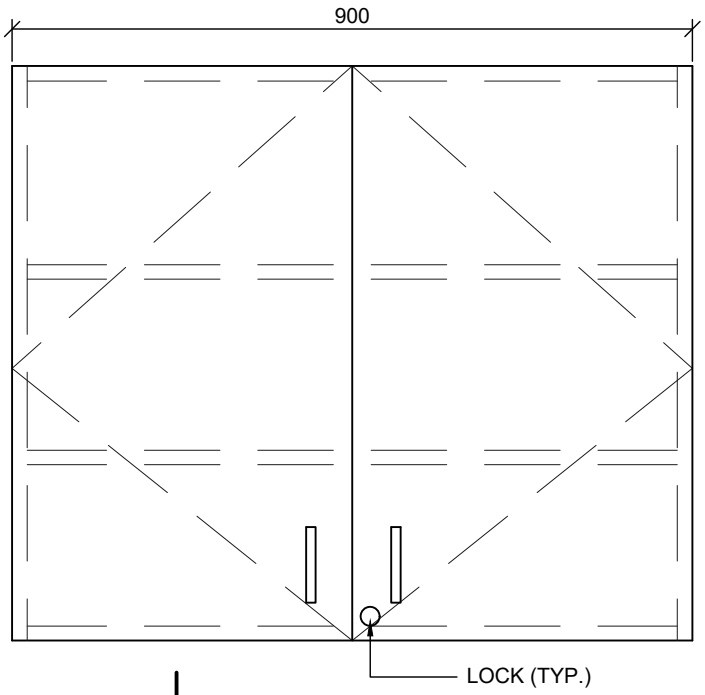
CABINET TYPE B12 - BARRIER FREE COUNTER WITH DOUBLE SINK

PROJ:	24106
SCALE:	VARIES
DRAWN:	GB
DATE:	26 01 07

HOSSACK ARCHITECTURE

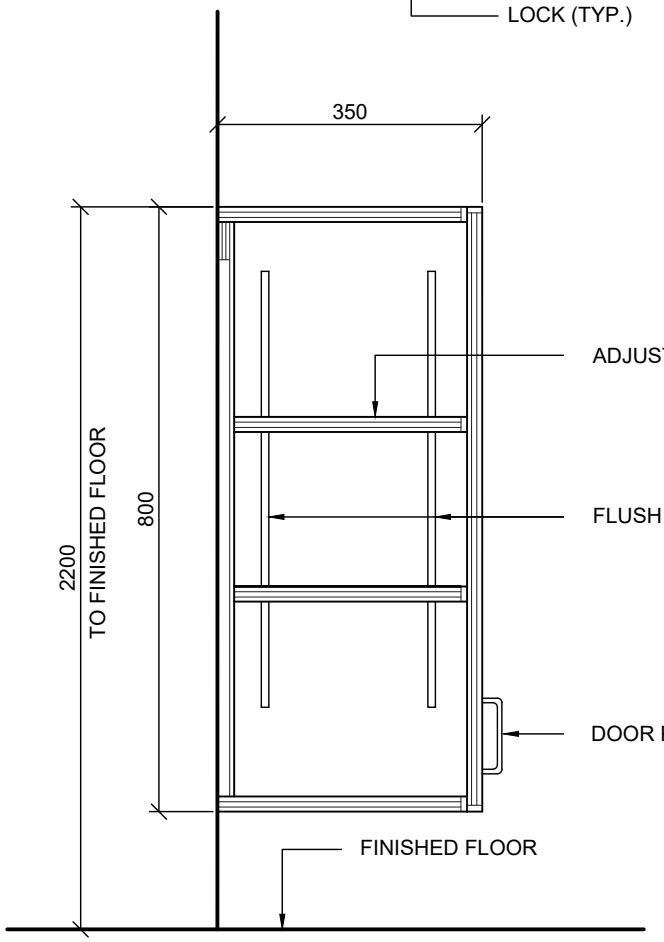
ISSUE/REV.
00

AD
613



ELEVATION

SCALE 1 : 10



SECTION

SCALE 1: 10

NOTE:
ALL MILLWORK DOORS AND DRAWERS TO BE EQUIPT WITH LOCKS. ALL MILLWORK TO BE OF 19mm MELAMINE FACED PARTICLE BOARD UNLESS OTHERWISE NOTED.

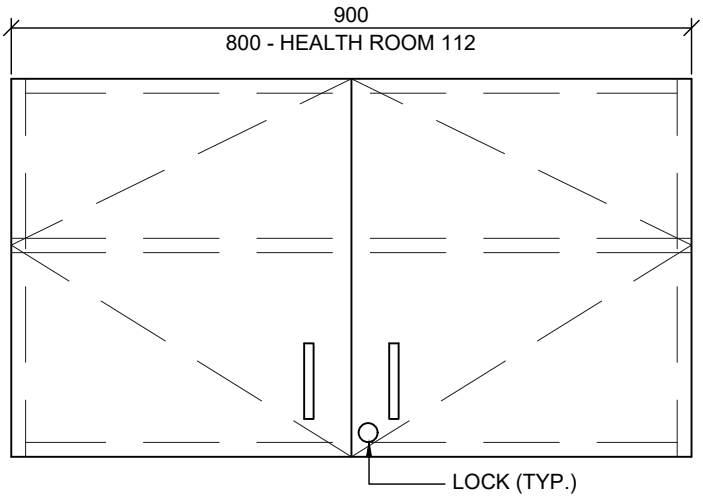
CABINET TYPE U1

PROJ:	24106
SCALE:	1:10
DRAWN:	GB
DATE:	26 01 07

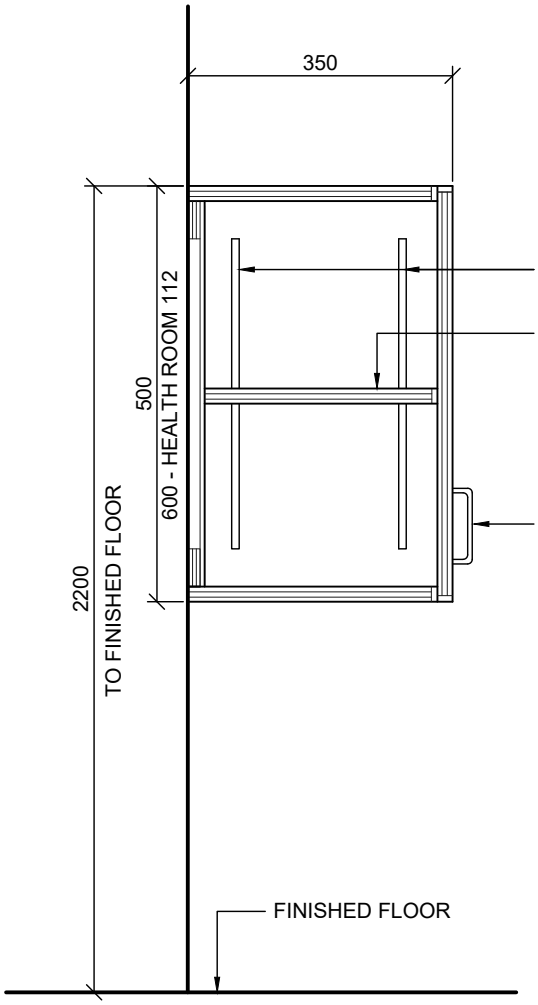
HOSSACK ARCHITECTURE

ISSUE/REV. 00

AD 621



ELEVATION
SCALE 1 : 10



SECTION
SCALE 1: 10

NOTE:
ALL MILLWORK DOORS AND DRAWERS TO BE EQUIPT WITH LOCKS. ALL MILLWORK TO BE OF 19mm MELAMINE FACED PARTICLE BOARD UNLESS OTHERWISE NOTED.

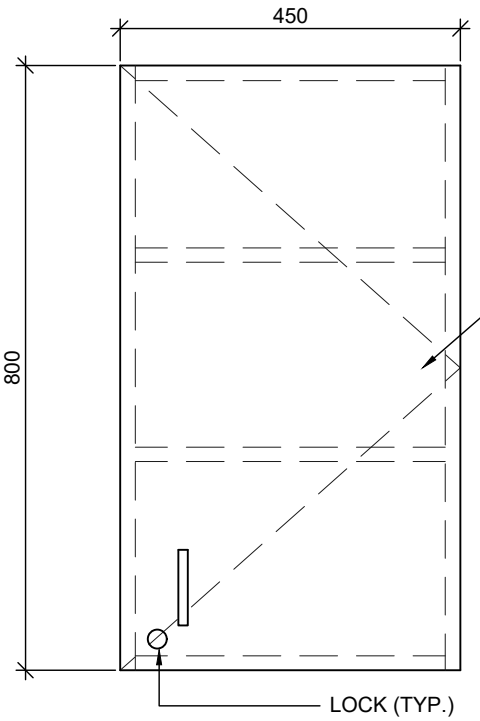
CABINET TYPE U2

PROJ:	24106
SCALE:	1:10
DRAWN:	GB
DATE:	26 01 07

HOSSACK ARCHITECTURE

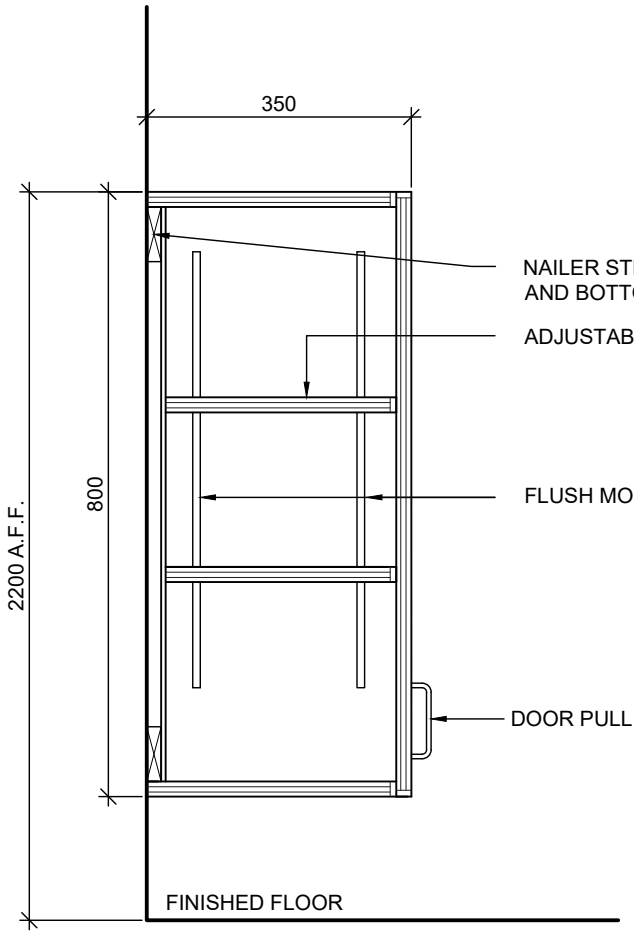
ISSUE/REV. 00

AD 622



ELEVATION

NOTE:
ALL MILLWORK DOORS AND DRAWERS
TO BE EQUIPT WITH LOCKS.
UNLESS OTHERWISE NOTED.



SECTION

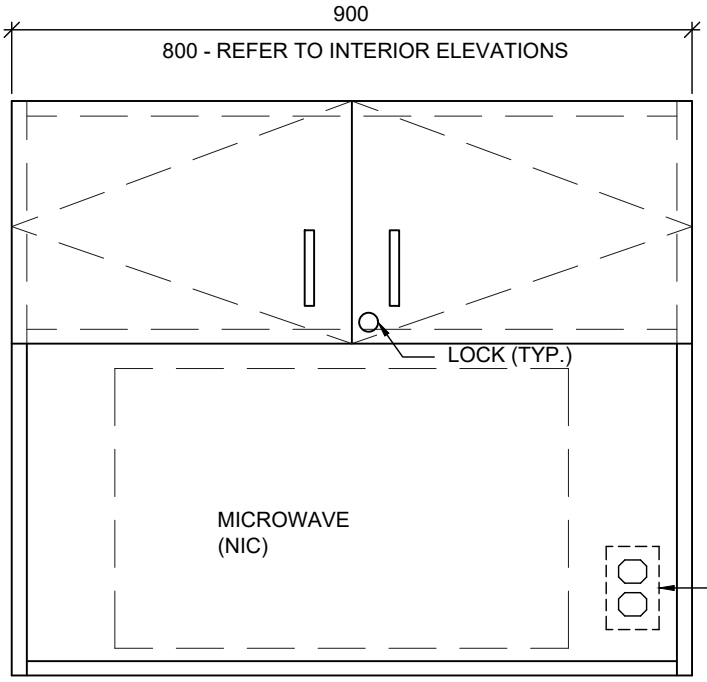
CABINET TYPE U3

PROJ:	24106
SCALE:	1:10
DRAWN:	GB
DATE:	26 01 07

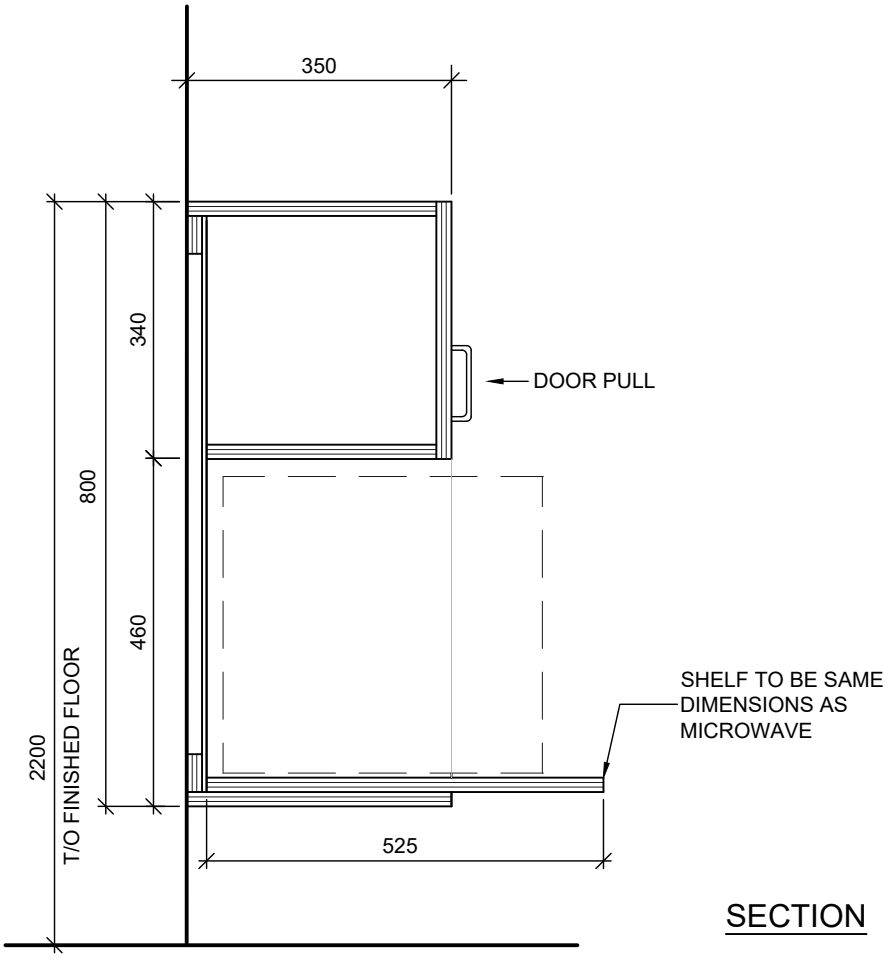
HOSSACK ARCHITECTURE

ISSUE/REV.

AD
623



ELEVATION



SECTION

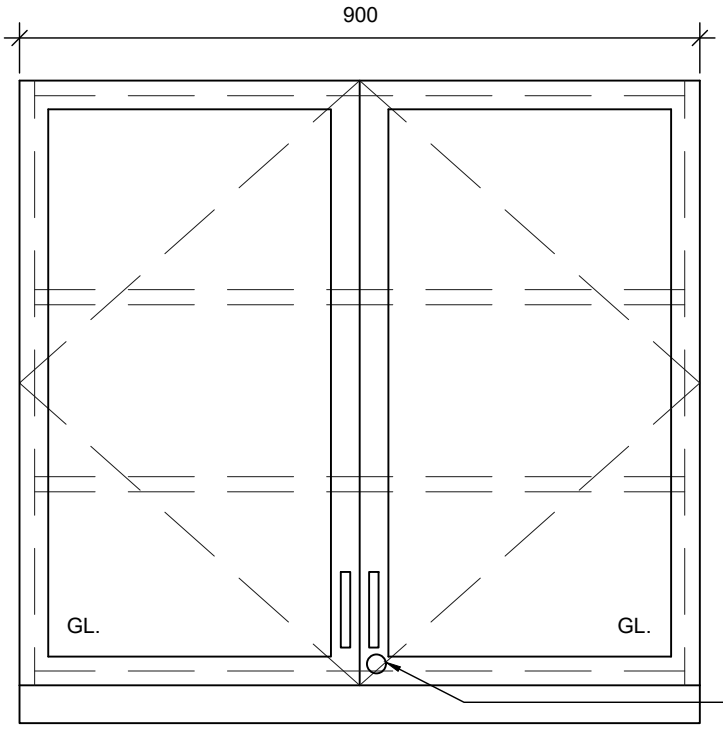
CABINET TYPE U4

PROJ:	24106
SCALE:	1:10
DRAWN:	GB
DATE:	26 01 07

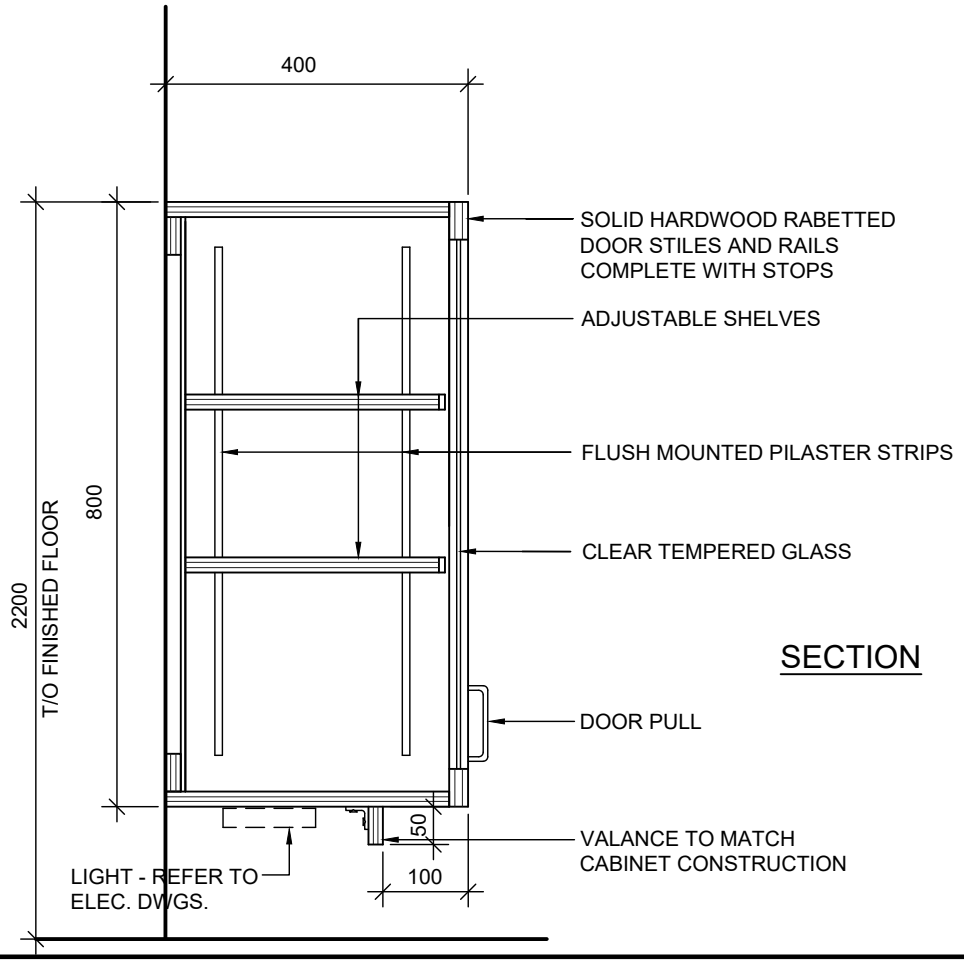
HOSSACK ARCHITECTURE

ISSUE/REV.
00

AD
624



ELEVATION



SECTION

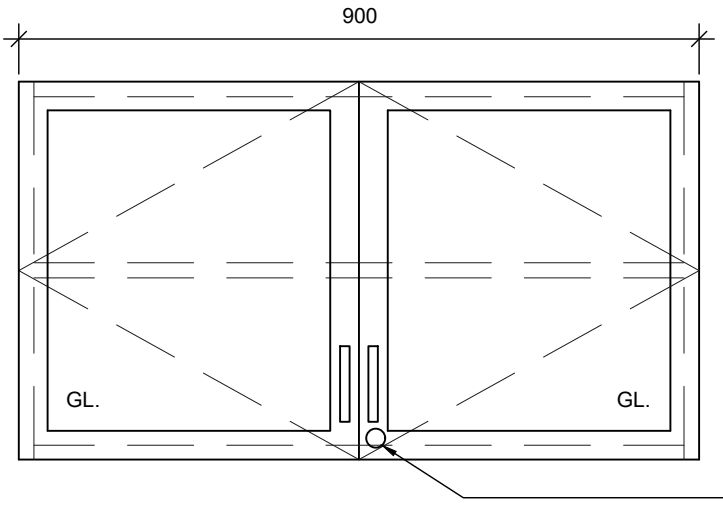
CABINET TYPE U5-A

PROJ:	24106
SCALE:	1:10
DRAWN:	GB
DATE:	26 01 07

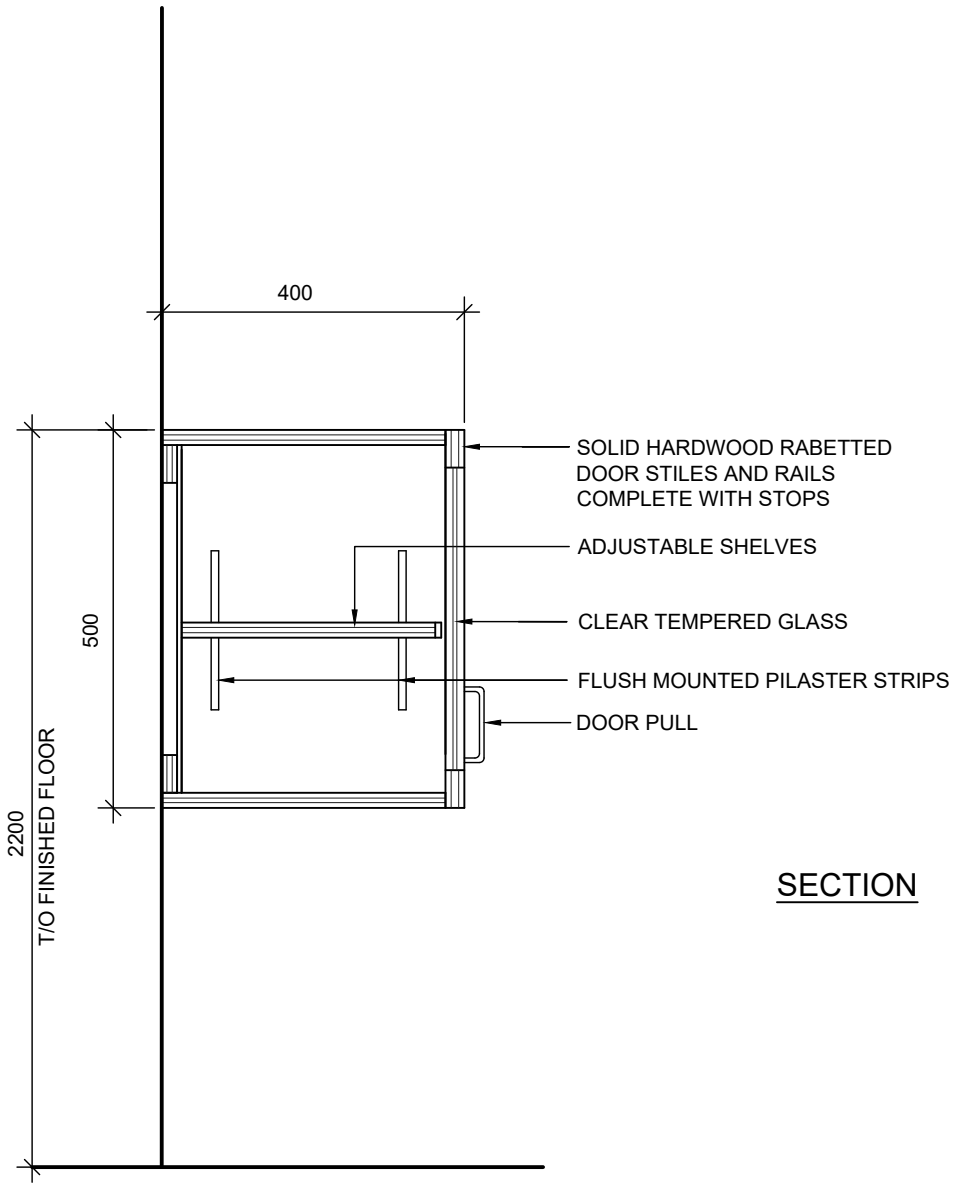
HOSSACK ARCHITECTURE

ISSUE/REV.
00

AD
625A



ELEVATION



SECTION

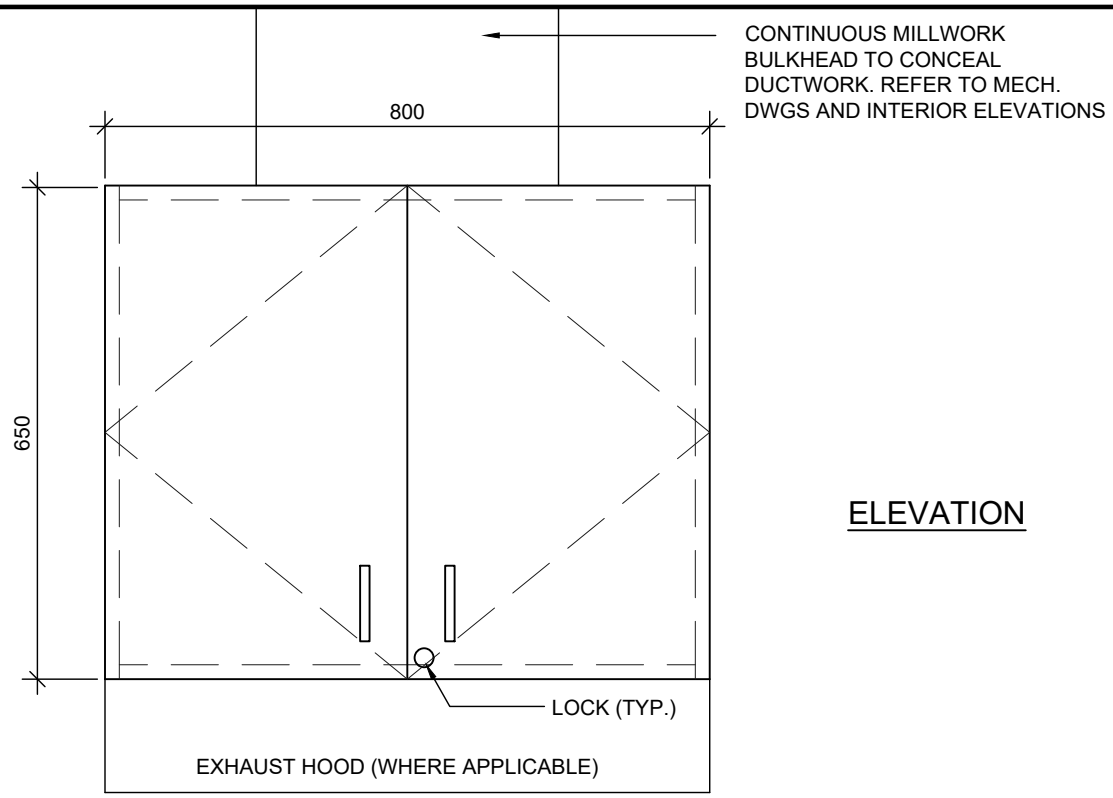
CABINET TYPE U5-B

PROJ:	24106
SCALE:	1:10
DRAWN:	GB
DATE:	26 01 07

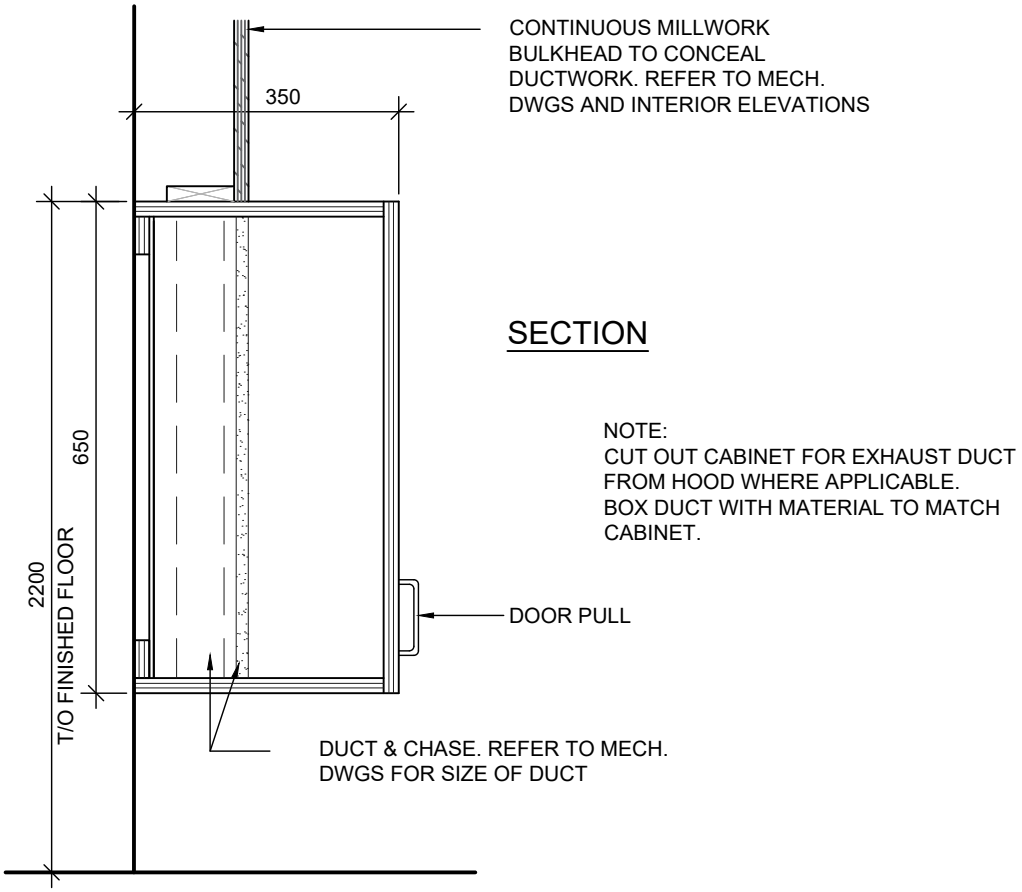
HOSSACK ARCHITECTURE

ISSUE/REV. 00

AD 625B



ELEVATION



SECTION

NOTE:
CUT OUT CABINET FOR EXHAUST DUCT
FROM HOOD WHERE APPLICABLE.
BOX DUCT WITH MATERIAL TO MATCH
CABINET.

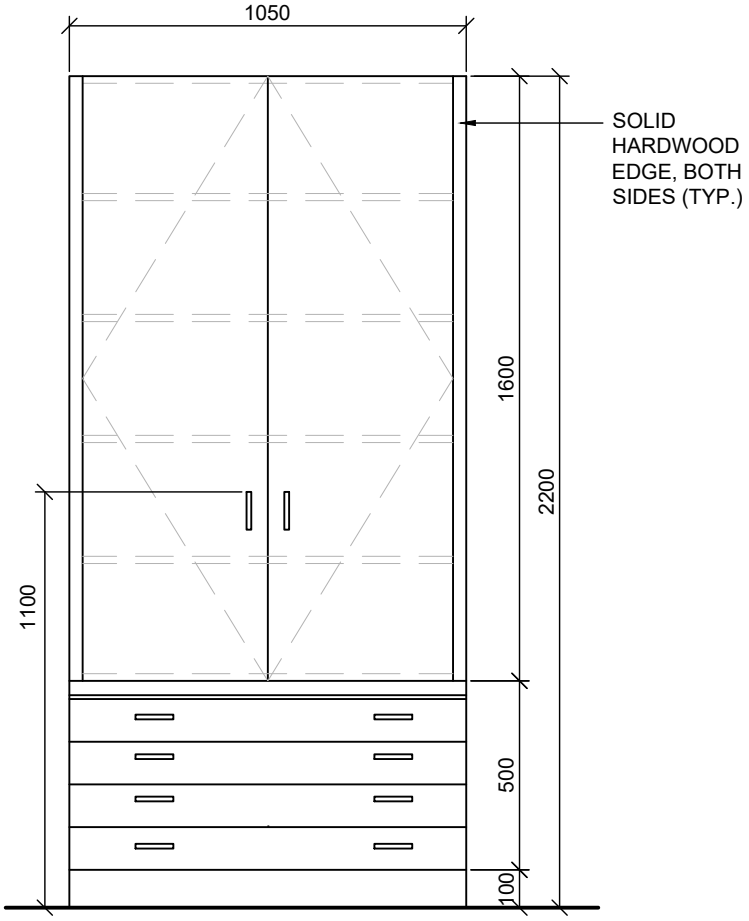
CABINET TYPE U6

PROJ:	24106
SCALE:	1:10
DRAWN:	GB
DATE:	26 01 07

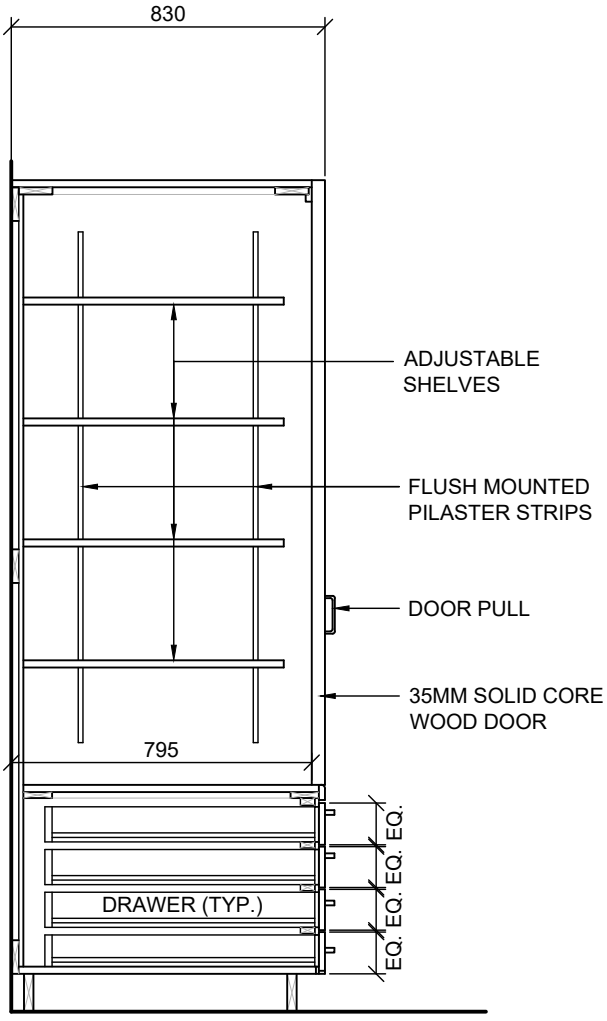
HOSSACK ARCHITECTURE

ISSUE/REV.
00

AD
626



ELEVATION



SECTION

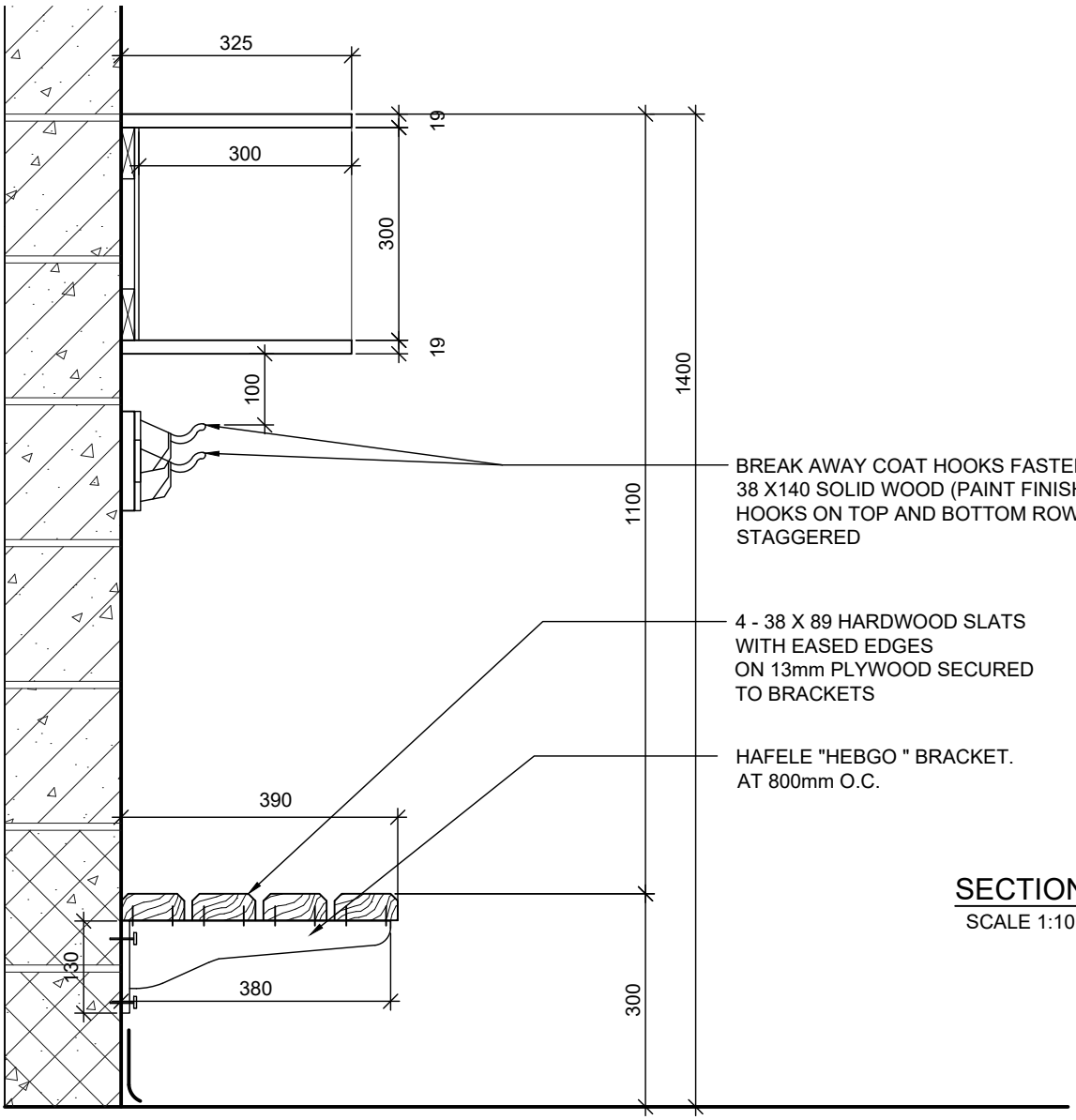
KINDERGARTEN CLOSET AND DOORS
TYPE K1

PROJ:	24106
SCALE:	NTS
DRAWN:	GB
DATE:	26 01 07

HOSSACK ARCHITECTURE

ISSUE/REV. 00

AD 631



SECTION
SCALE 1:10

NOTE:
REFER TO SPECIFICATION FOR MILLWORK CONSTRUCTION AND HARDWARE.

REFER TO PLANS & INTERIOR ELEVATIONS FOR LOCATIONS AND LAYOUT.

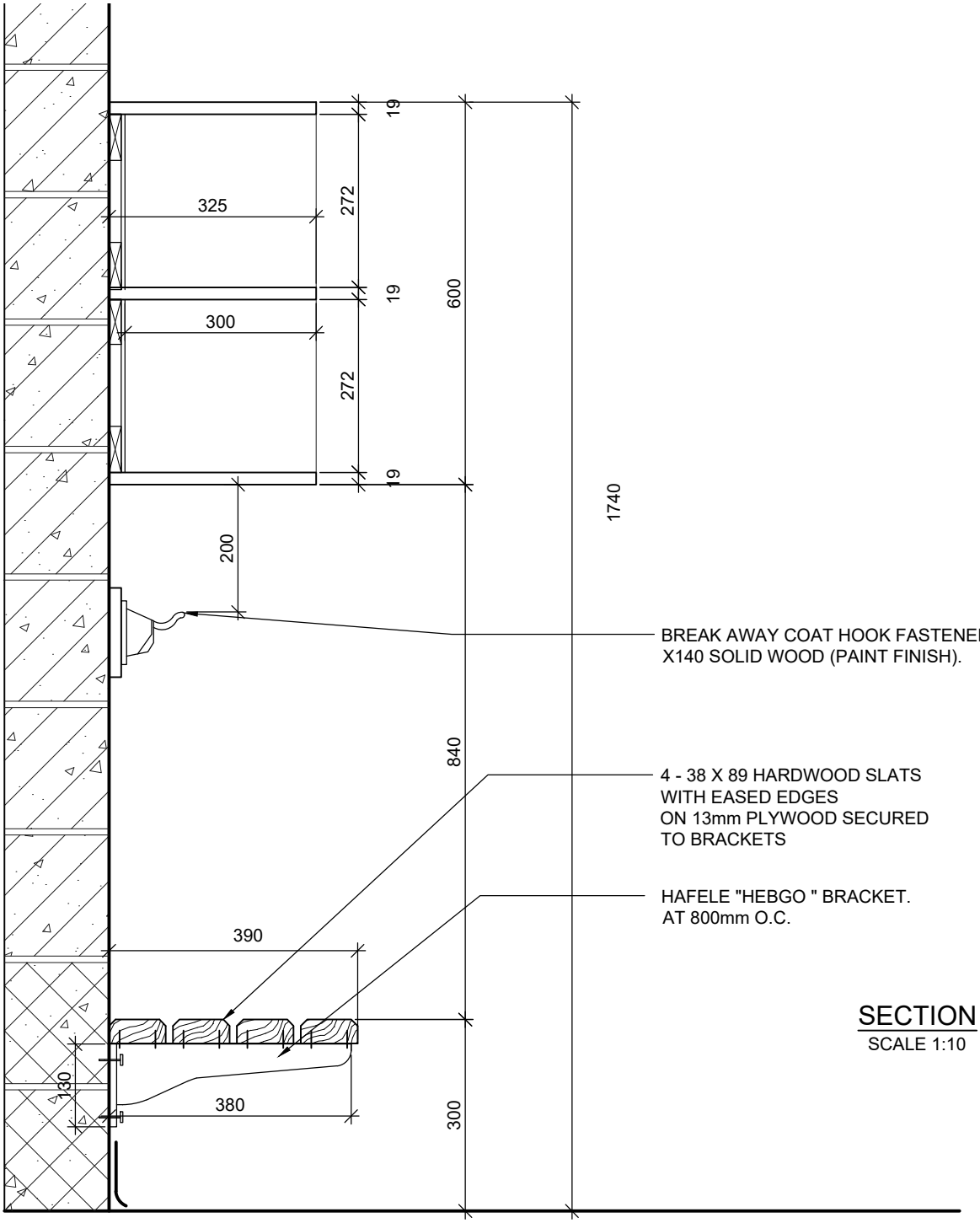
KINDERGARTEN CUBBIES
TYPE K4

PROJ:	24106
SCALE:	1:10
DRAWN:	GB
DATE:	26 01 07

HOSSACK ARCHITECTURE

ISSUE/REV.

AD
633



SECTION
SCALE 1:10

NOTE:
REFER TO SPECIFICATION FOR MILLWORK CONSTRUCTION AND HARDWARE.

REFER TO PLANS & INTERIOR ELEVATIONS FOR LOCATIONS AND LAYOUT.

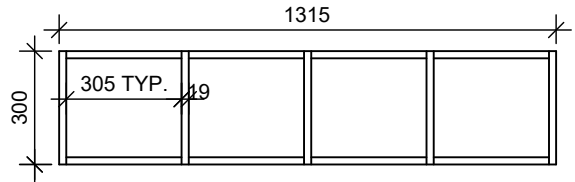
CHILD CARE CUBBIES
TYPE K5

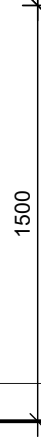
PROJ:	24106
SCALE:	1:10
DRAWN:	GB
DATE:	26 01 07

HOSSACK ARCHITECTURE

ISSUE/REV.

AD
634

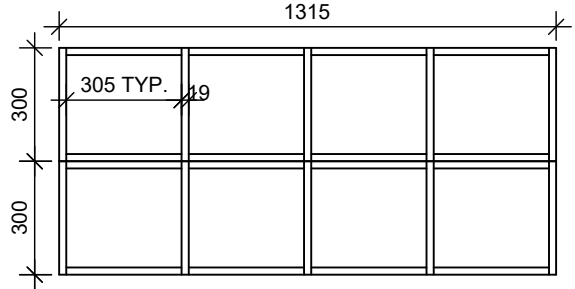


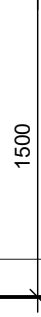


ELEVATION A
SCALE 1:20

BASE TYP.

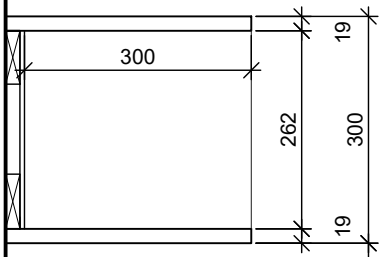
REFER TO INTERIOR ELEVATIONS
FOR QUANTITY OF UNITS





ELEVATION B
SCALE 1:20

BASE TYP.



SECTION
SCALE 1:10

NOTE:
REFER TO SPECIFICATION FOR MILLWORK CONSTRUCTION AND HARDWARE.

REFER TO PLANS & INTERIOR ELEVATIONS FOR LOCATIONS AND LAYOUT.

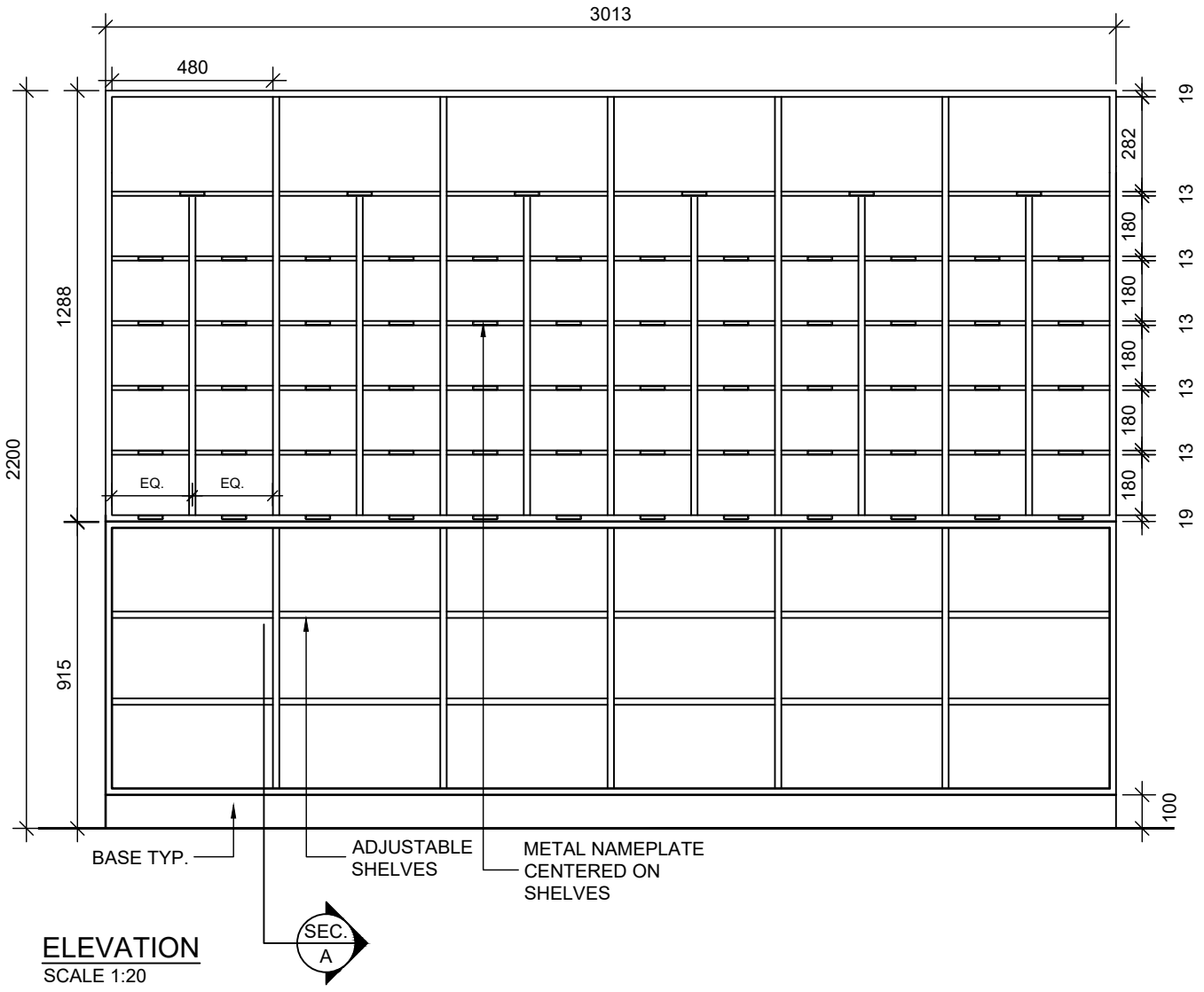
CHILD CARE CUBBIES - WASHROOMS TYPE K6

PROJ:	24106
SCALE:	1:10
DRAWN:	GB
DATE:	26 01 07

HOSSACK ARCHITECTURE

ISSUE/REV.

AD
635



ELEVATION
SCALE 1:20

MAIL SLOTS - C8
ELEVATION

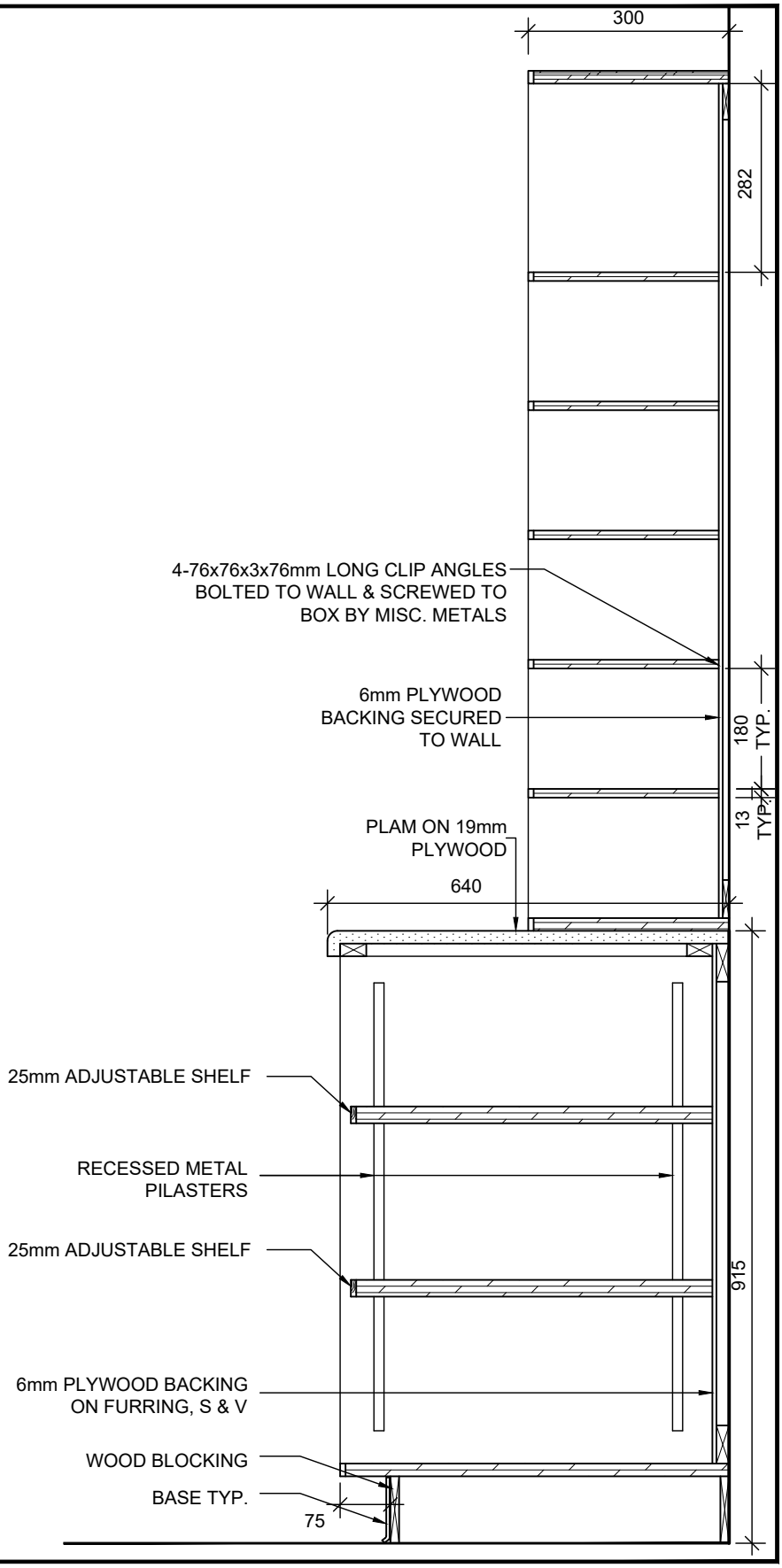
PROJ:	24106
SCALE:	1:20
DRAWN:	GB
DATE:	26 01 07

HOSSACK ARCHITECTURE

ISSUE/REV.

AD
638A

SECTION A
SCALE 1:10



NOTE:
- NUMBER OF SLOTS = SCHOOL STAFF + 20% (TO BE CONFIRMED DURING CONSTRUCTION).
- TEACHER NAME PLATES TO BE INCLUDED IN CONTRACT.
- REFER TO SPECIFICATIONS FOR MILLWORK CONSTRUCTION AND HARDWARE.
- CONFIRM UNIT SIZE WITH INTERIOR ELEVATIONS. TYP.
- ALL MILLWORK DOORS AND DRAWERS TO BE EQUIPPED WITH LOCKS UNLESS OTHERWISE NOTED.

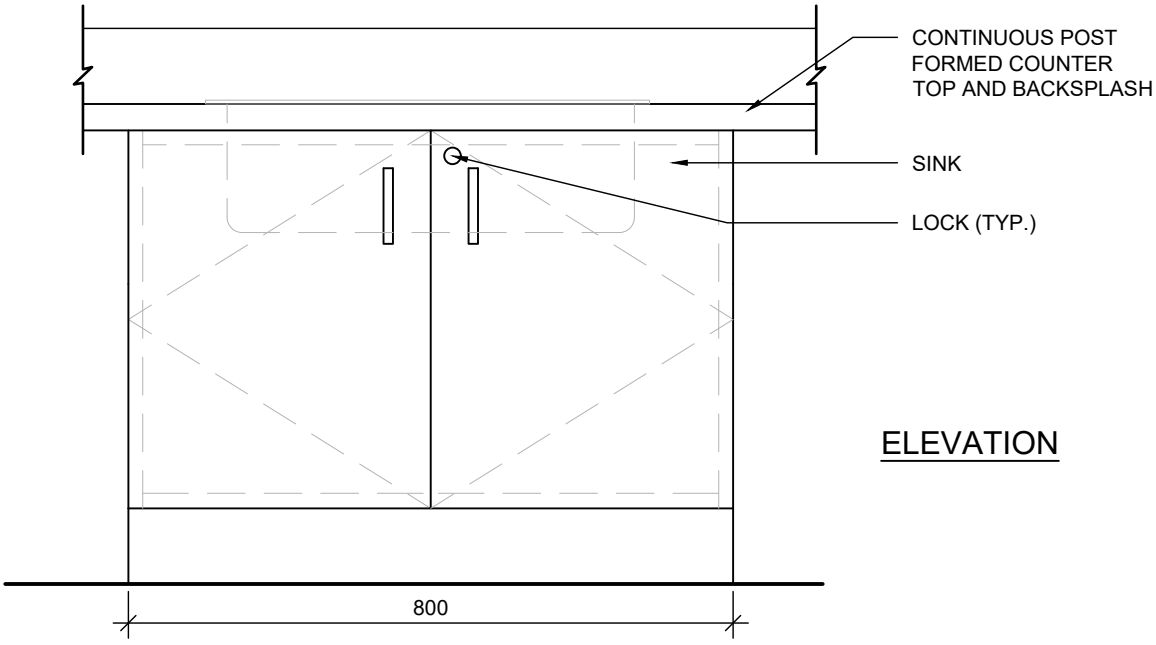
MAIL SLOTS - C8
SECTION

PROJ:	24106
SCALE:	1:10
DRAWN:	GB
DATE:	26 01 07

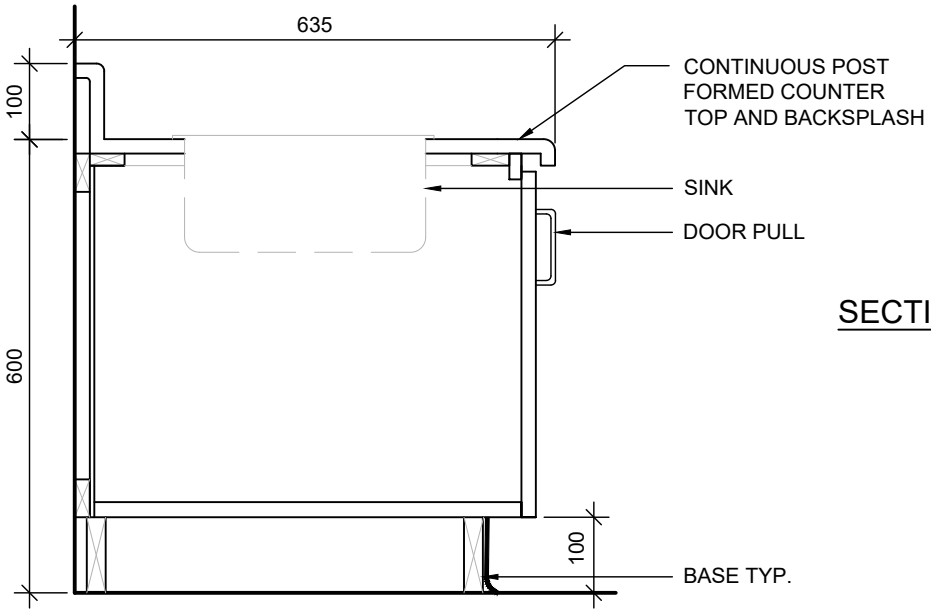
HOSSACK ARCHITECTURE

ISSUE/REV.

AD 638B



ELEVATION



SECTION

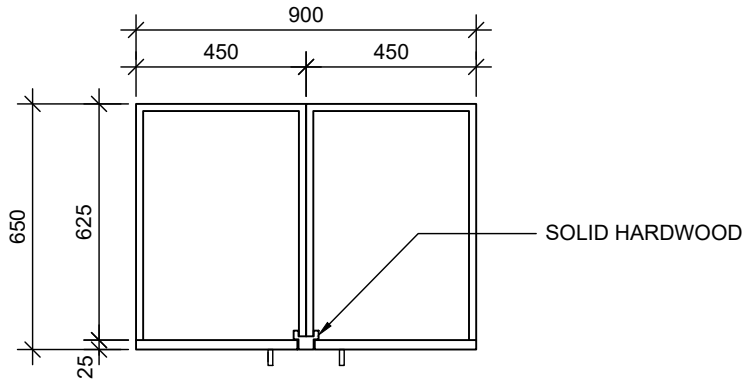
KINDERGARTEN CABINET
TYPE K9

PROJ:	24106
SCALE:	NTS
DRAWN:	GB
DATE:	26 01 07

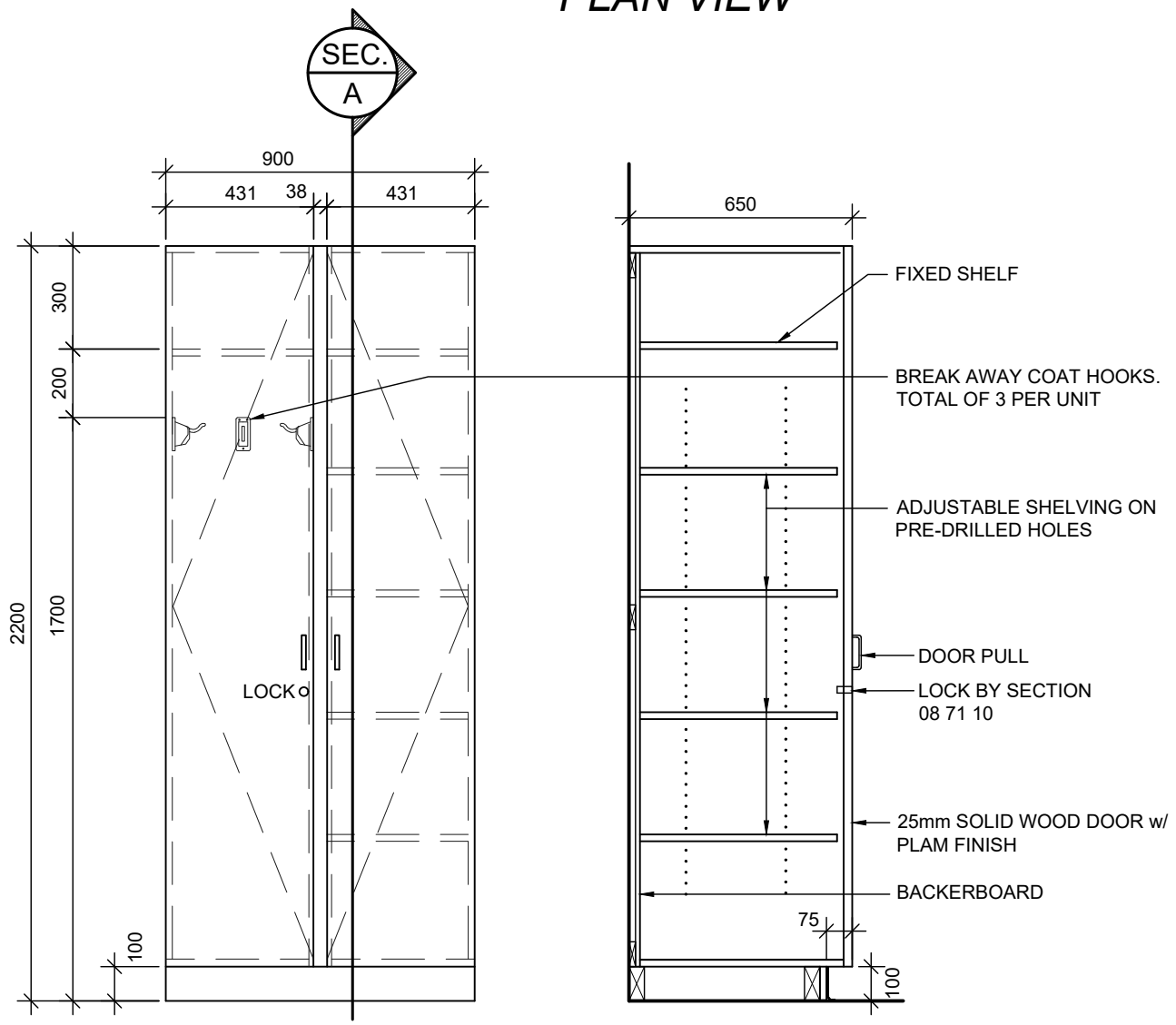
HOSSACK ARCHITECTURE

ISSUE/REV.
00

AD
639



PLAN VIEW



ELEVATION *SECTION 'A'*

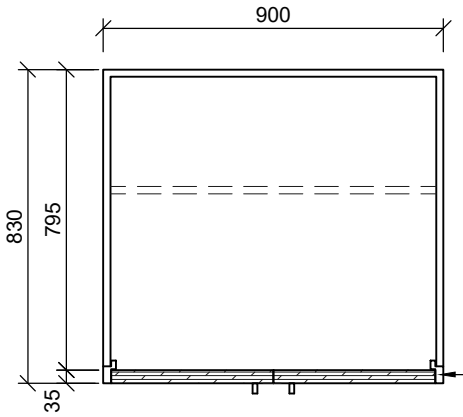
TEACHER'S CLOSET TYPE C1

PROJ:	24106
SCALE:	1:20
DRAWN:	GB
DATE:	26 01 07

HOSSACK ARCHITECTURE

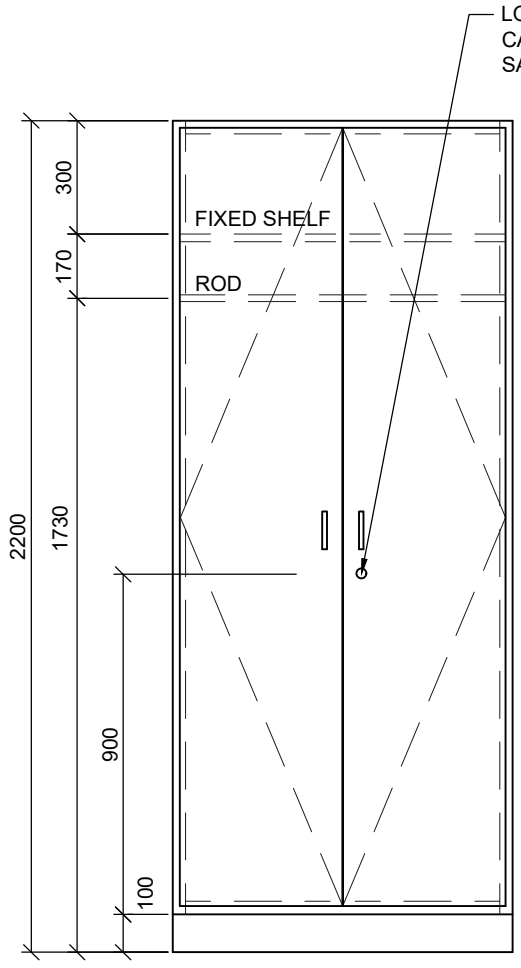
ISSUE/REV.

AD
651

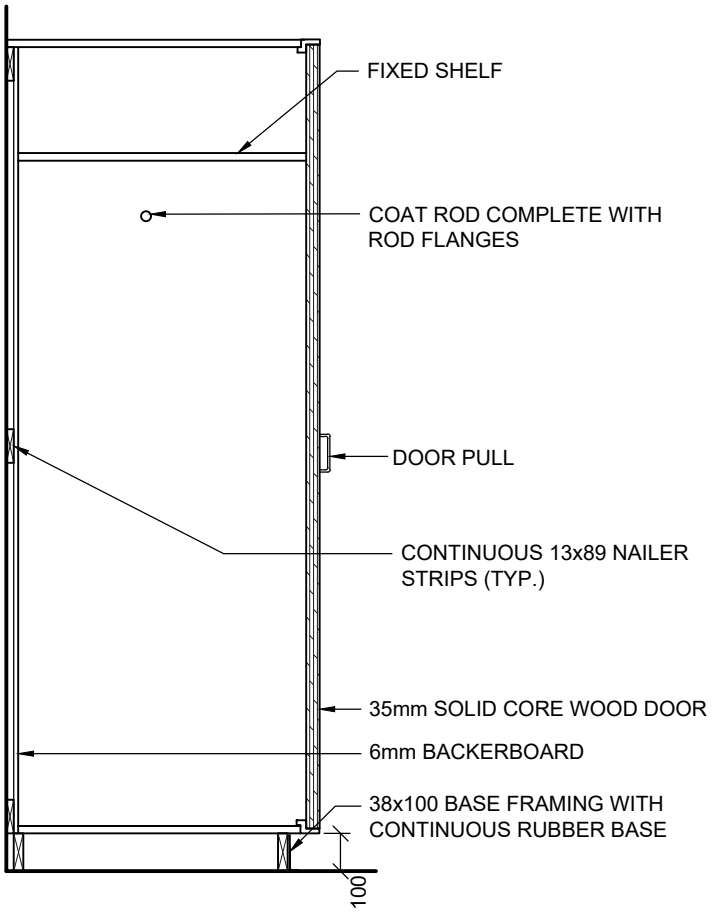


NOTE:
MILLWORK TO BE CONSTRUCTED OF
19mm(3/4") PARTICLE BOARD c/w
MELAMINE FINISH ON EXPOSED SIDES

PLAN VIEW
SCALE 1 : 20



ELEVATION
SCALE 1 : 20



SECTION
SCALE 1: 20

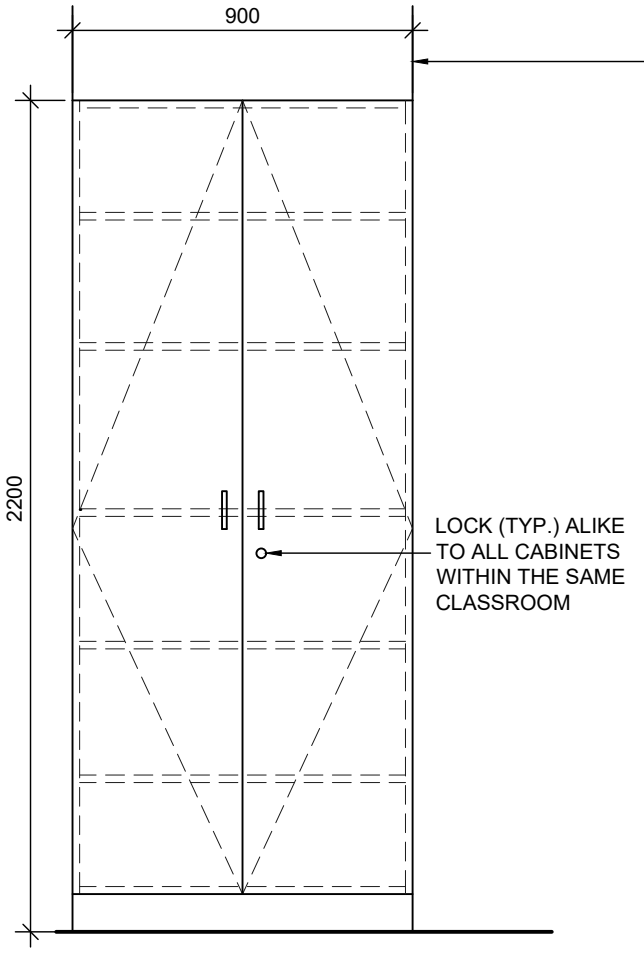
CABINET TYPE C1A

PROJ:	24106
SCALE:	1:20
DRAWN:	GB
DATE:	26 01 07

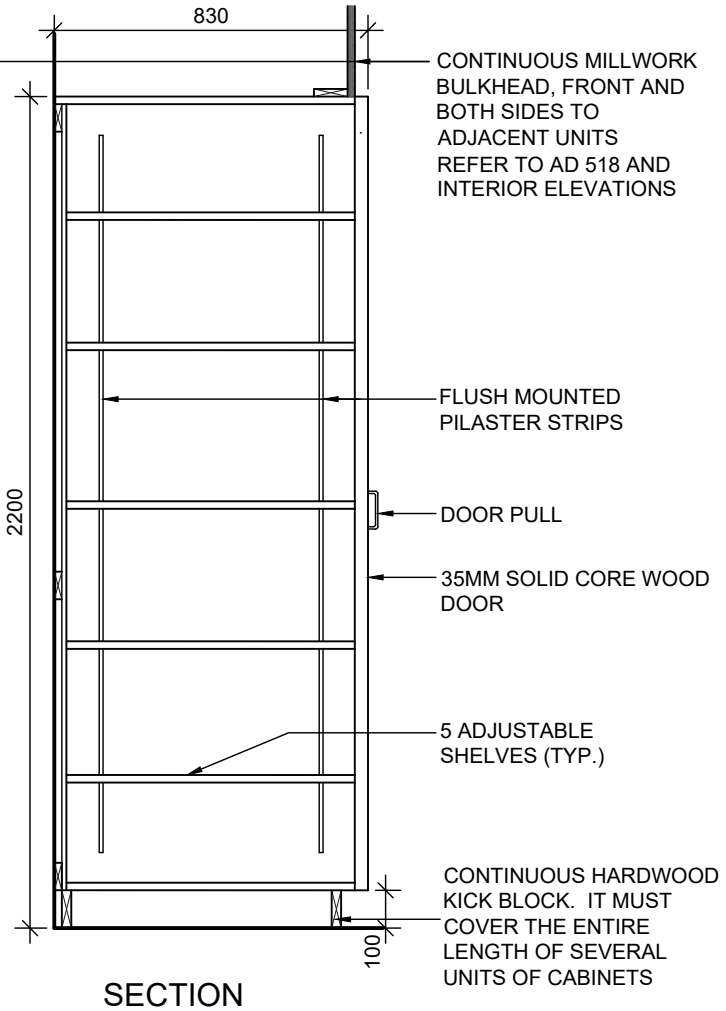
HOSSACK ARCHITECTURE

ISSUE/REV.
00

AD
651A



ELEVATION
SCALE 1:20



SECTION
SCALE 1:20

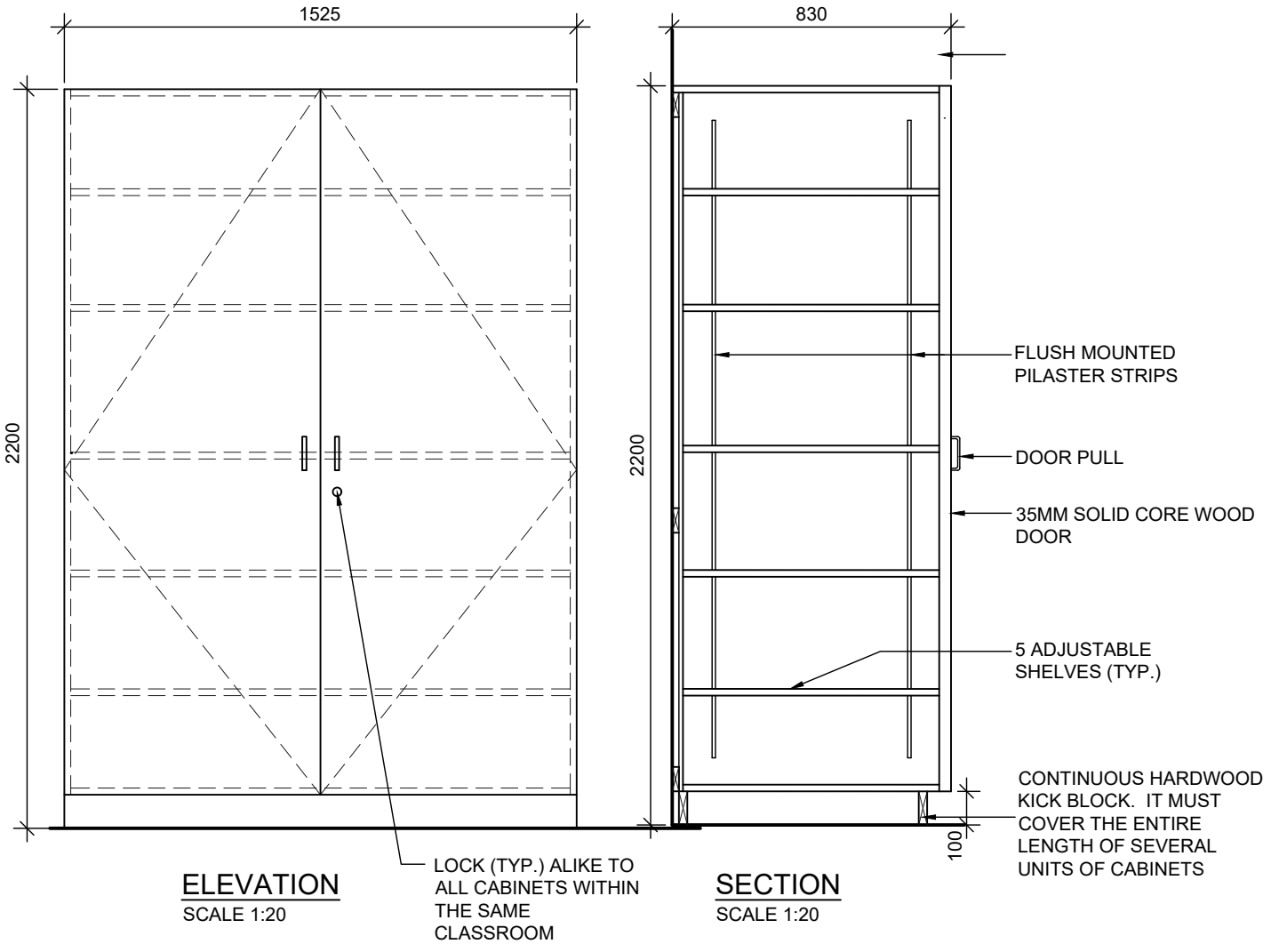
CABINET TYPE C3

PROJ:	24106
SCALE:	NOTED
DRAWN:	GB
DATE:	26 01 07

HOSSACK ARCHITECTURE

ISSUE/REV. 00

AD 653



ELEVATION
SCALE 1:20

SECTION
SCALE 1:20

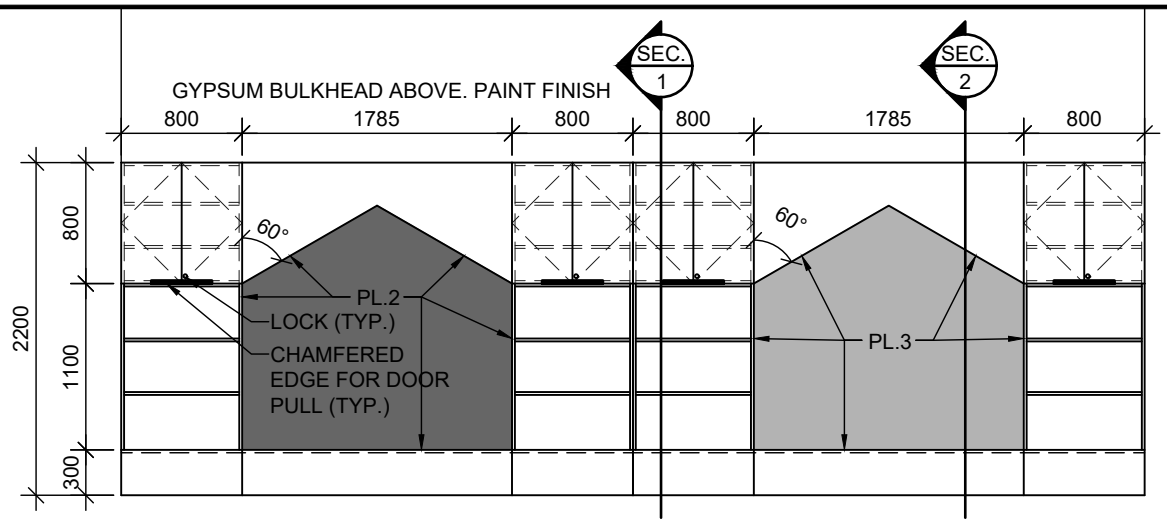
CABINET TYPE C4

PROJ:	24106
SCALE:	NOTED
DRAWN:	GB
DATE:	26 01 07

HOSSACK ARCHITECTURE

ISSUE/REV. 00

AD 654

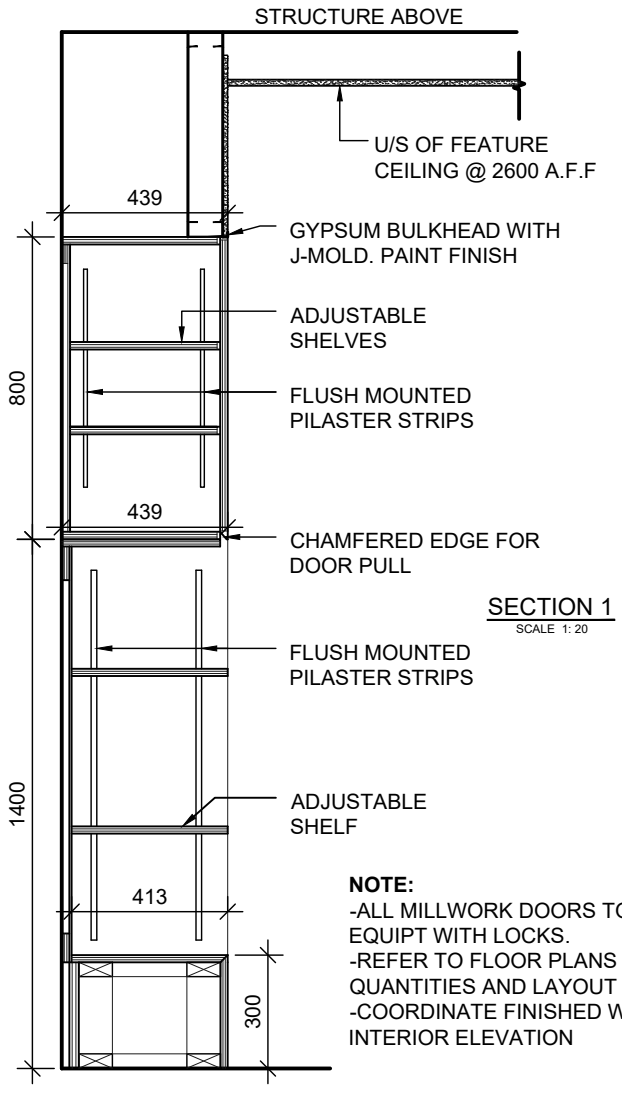


PLASTIC LAMINATED FINISH

PL.1 PL.2 PL.3

ELEVATION

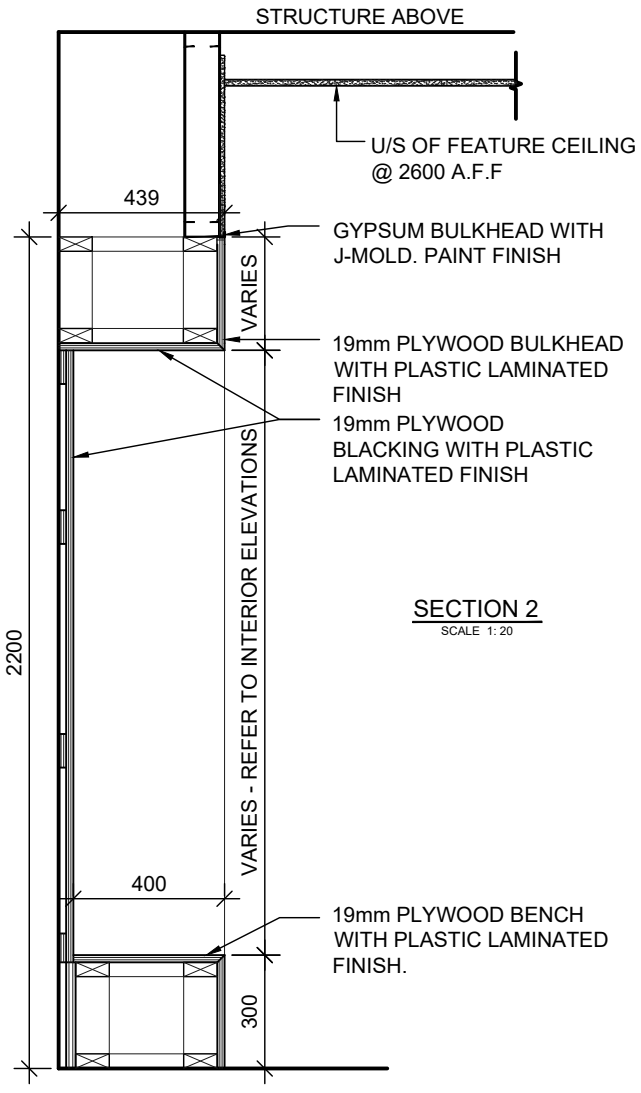
SCALE 1: 50



SECTION 1

SCALE 1: 20

NOTE:
-ALL MILLWORK DOORS TO BE EQUIPT WITH LOCKS.
-REFER TO FLOOR PLANS FOR QUANTITIES AND LAYOUT
-COORDINATE FINISHED WITH INTERIOR ELEVATION



SECTION 2

SCALE 1: 20

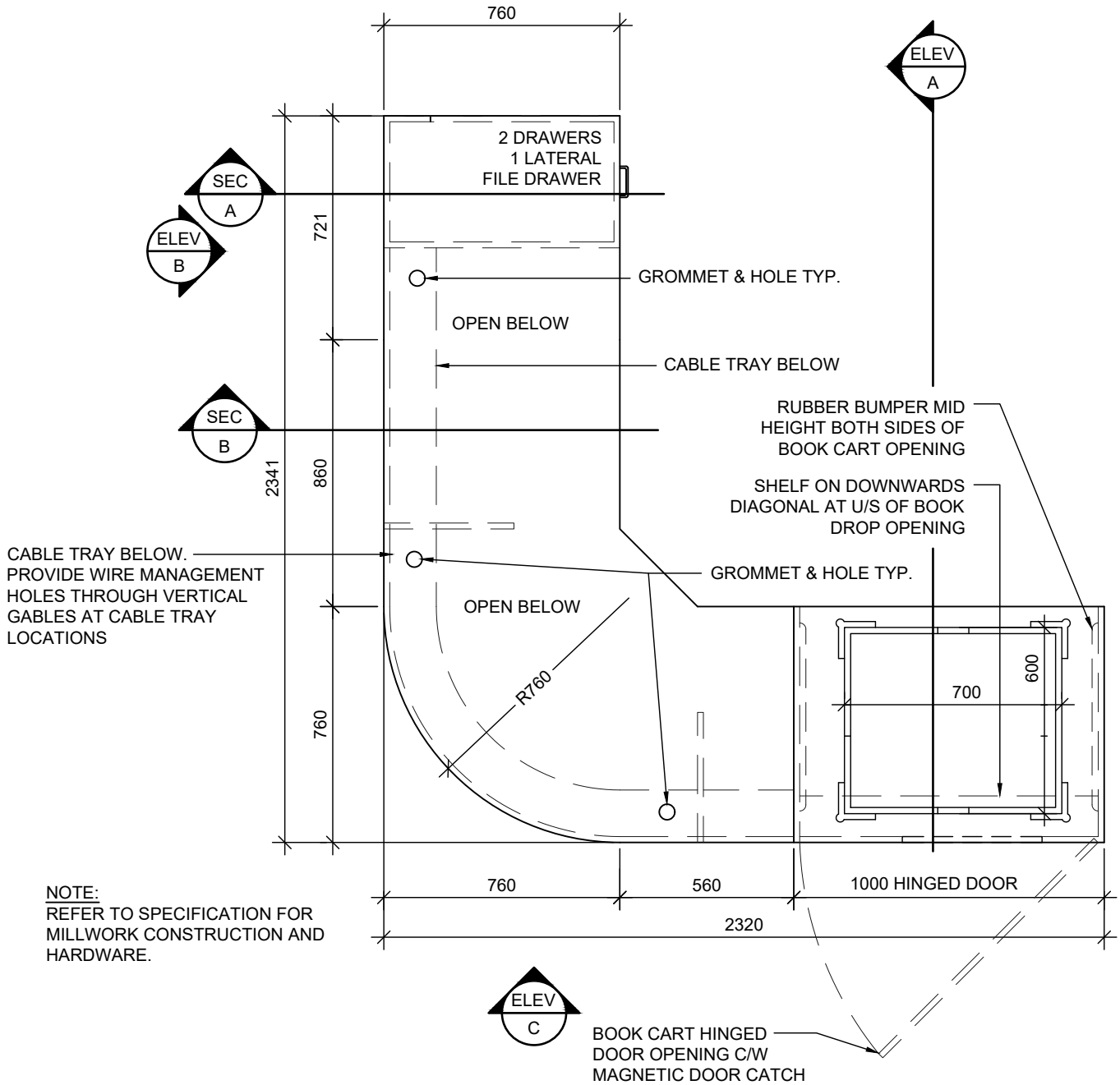
KINDERGARTEN CORRIDOR READING NOOK TYPE C5

PROJ:	24106
SCALE:	NOTED
DRAWN:	GB
DATE:	26 01 07

HOSSACK ARCHITECTURE

ISSUE/REV. 00

AD 655



NOTE:
REFER TO SPECIFICATION FOR MILLWORK CONSTRUCTION AND HARDWARE.

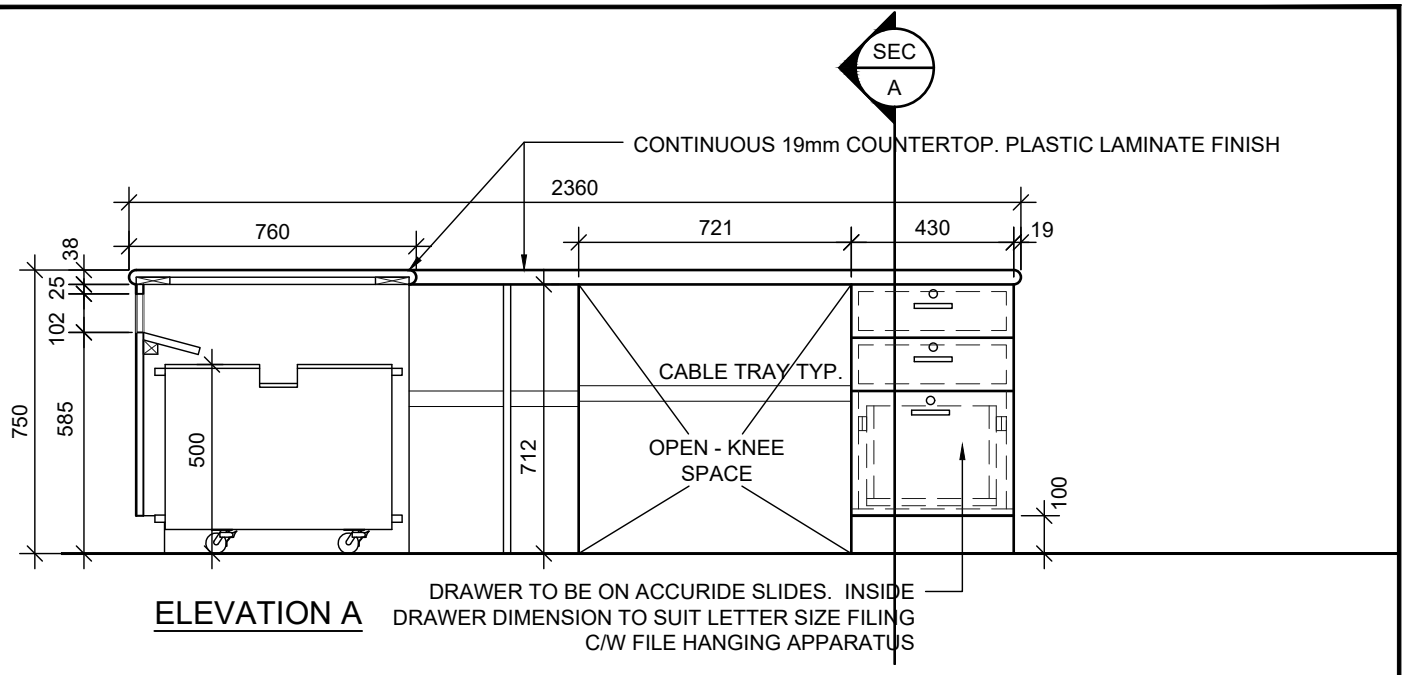
LIBRARY CIRCULATION DESK
PLAN VIEW

PROJ:	24106
SCALE:	1:20
DRAWN:	GB
DATE:	26 01 07

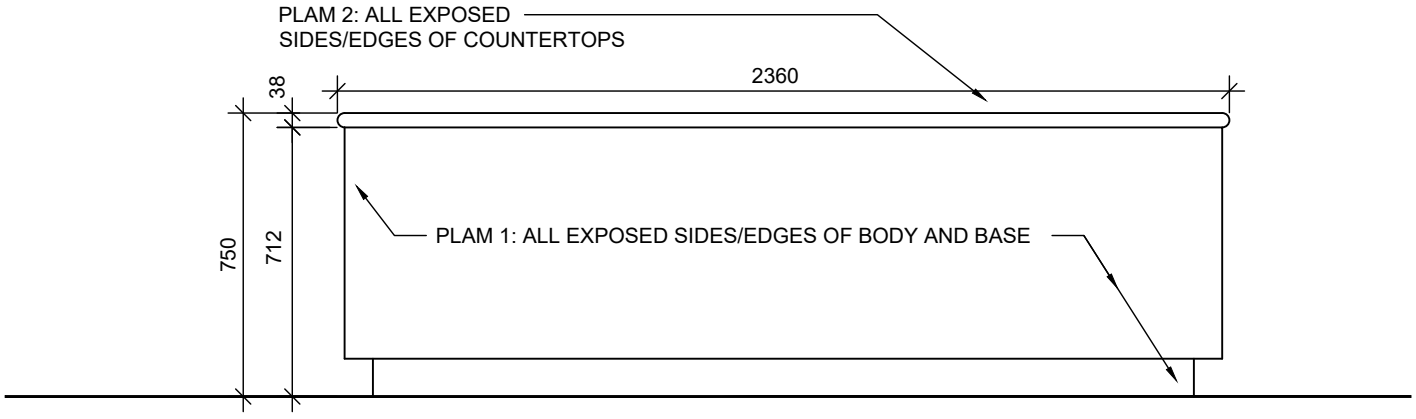
HOSSACK ARCHITECTURE

ISSUE/REV.

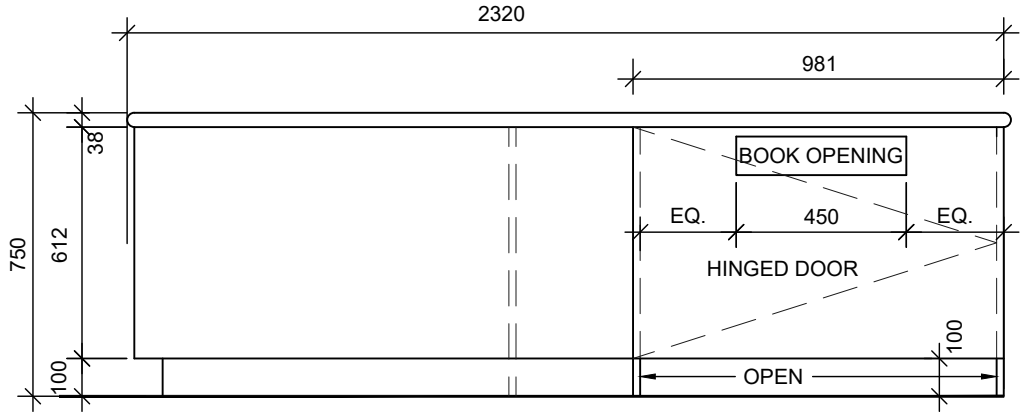
AD
660A



ELEVATION A



ELEVATION B



ELEVATION C

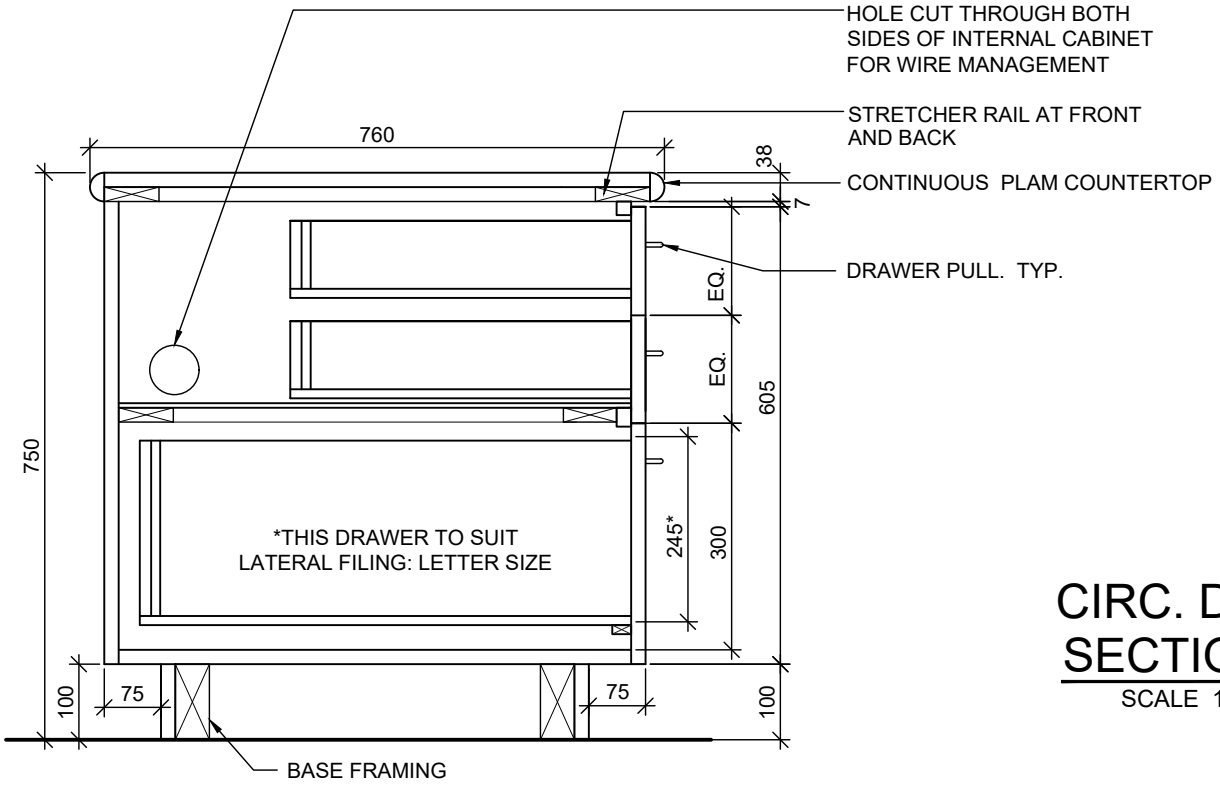
LIBRARY CIRCULATION DESK ELEVATIONS

PROJ:	24106
SCALE:	1:20
DRAWN:	GB
DATE:	26 01 07

HOSSACK ARCHITECTURE

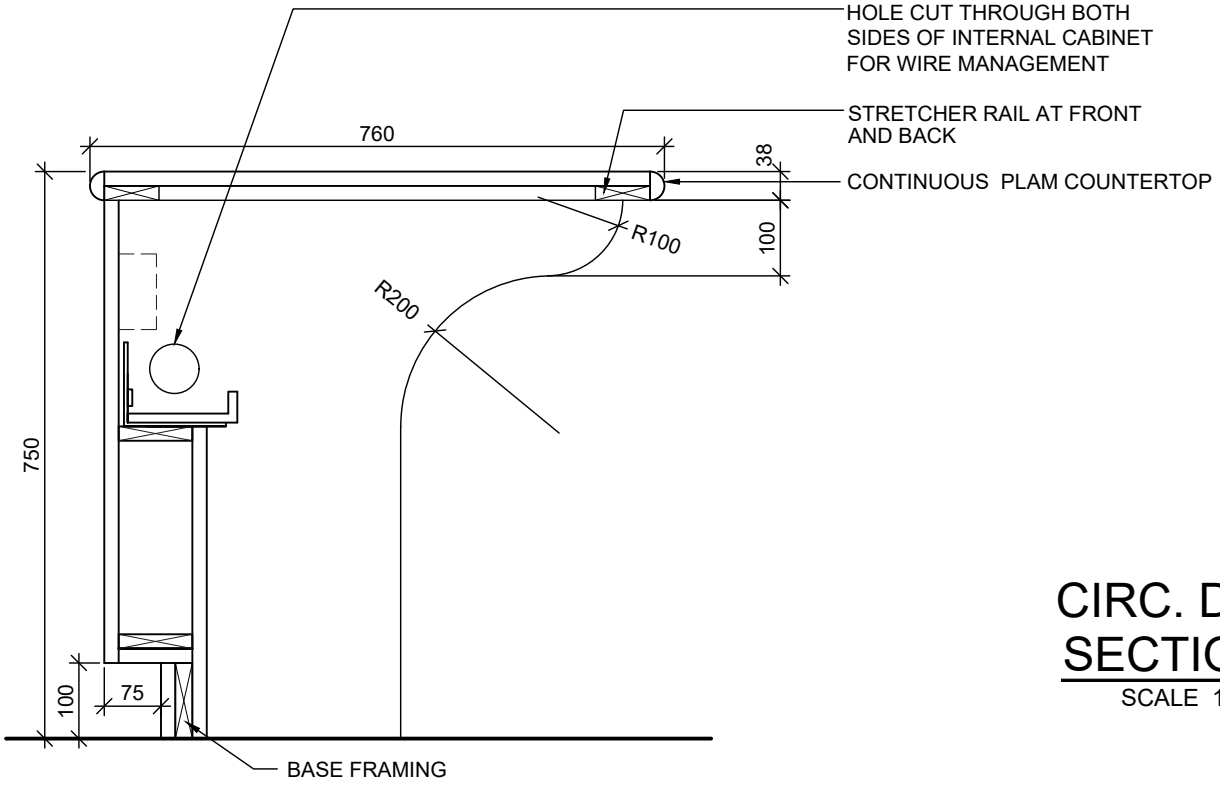
ISSUE/REV.

AD 660B



CIRC. DESK SECTION A

SCALE 1: 10



CIRC. DESK SECTION B

SCALE 1: 10

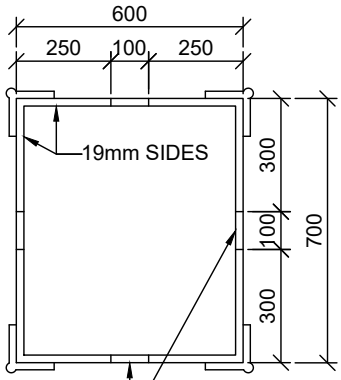
LIBRARY CIRCULATION DESK SECTIONS

PROJ:	24106
SCALE:	NOTED
DRAWN:	GB
DATE:	26 01 07

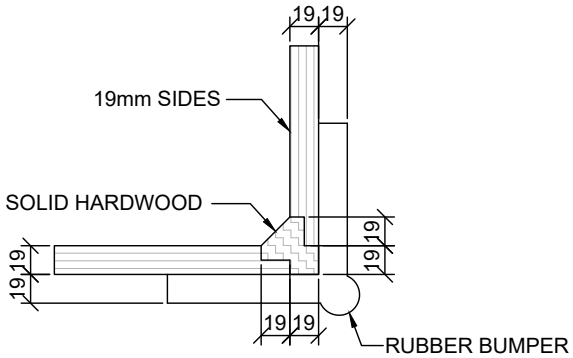
HOSSACK ARCHITECTURE

ISSUE/REV.

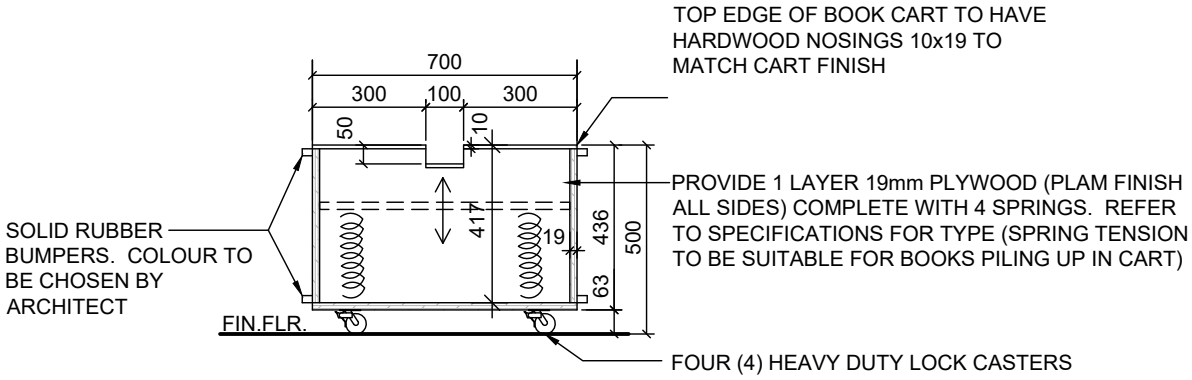
AD 660C



PLAN
SCALE 1 : 20



CORNER DETAIL
SCALE 1 : 5



SECTION
SCALE 1 : 20

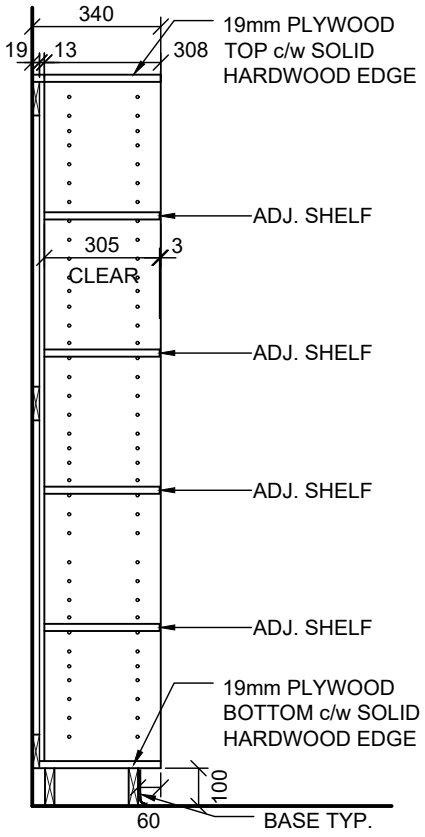
BOOK RETURN CART DETAILS

PROJ:	24106
SCALE:	NOTED
DRAWN:	GB
DATE:	26 01 07

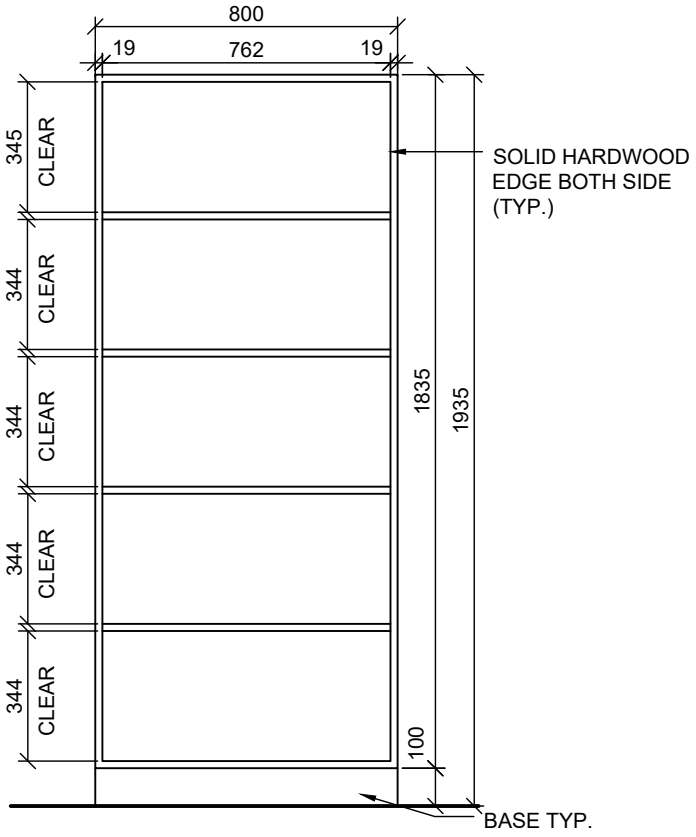
HOSSACK ARCHITECTURE

ISSUE/REV.

AD
660D



SECTION



ELEVATION

NOTE:
REFER TO SPECIFICATION FOR MILLWORK
CONSTRUCTION AND HARDWARE.

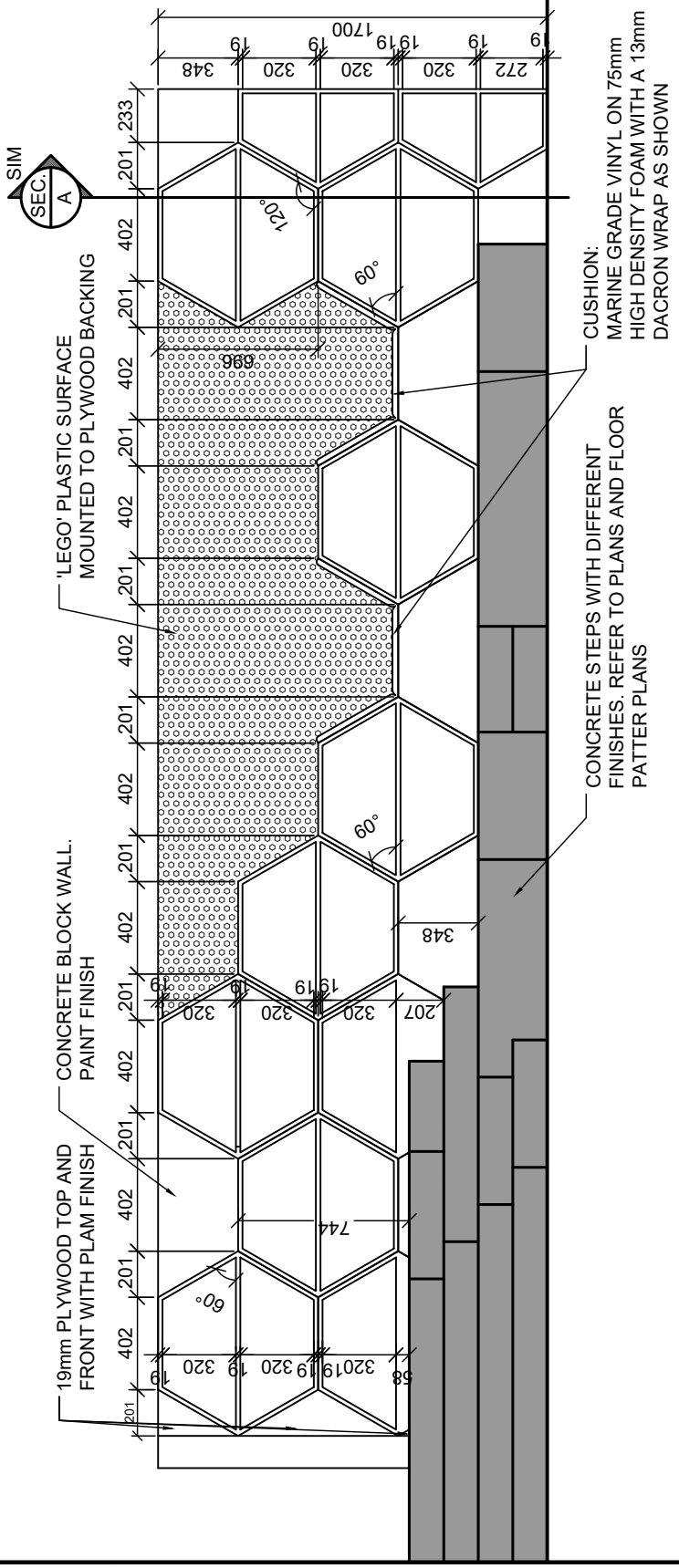
LIBRARY MILLWORK
TYPE L2: 12" DEEP OPEN SHELVING

PROJ:	24106
SCALE:	1:20
DRAWN:	GB
DATE:	26 01 07

HOSSACK ARCHITECTURE

ISSUE/REV.

AD
662



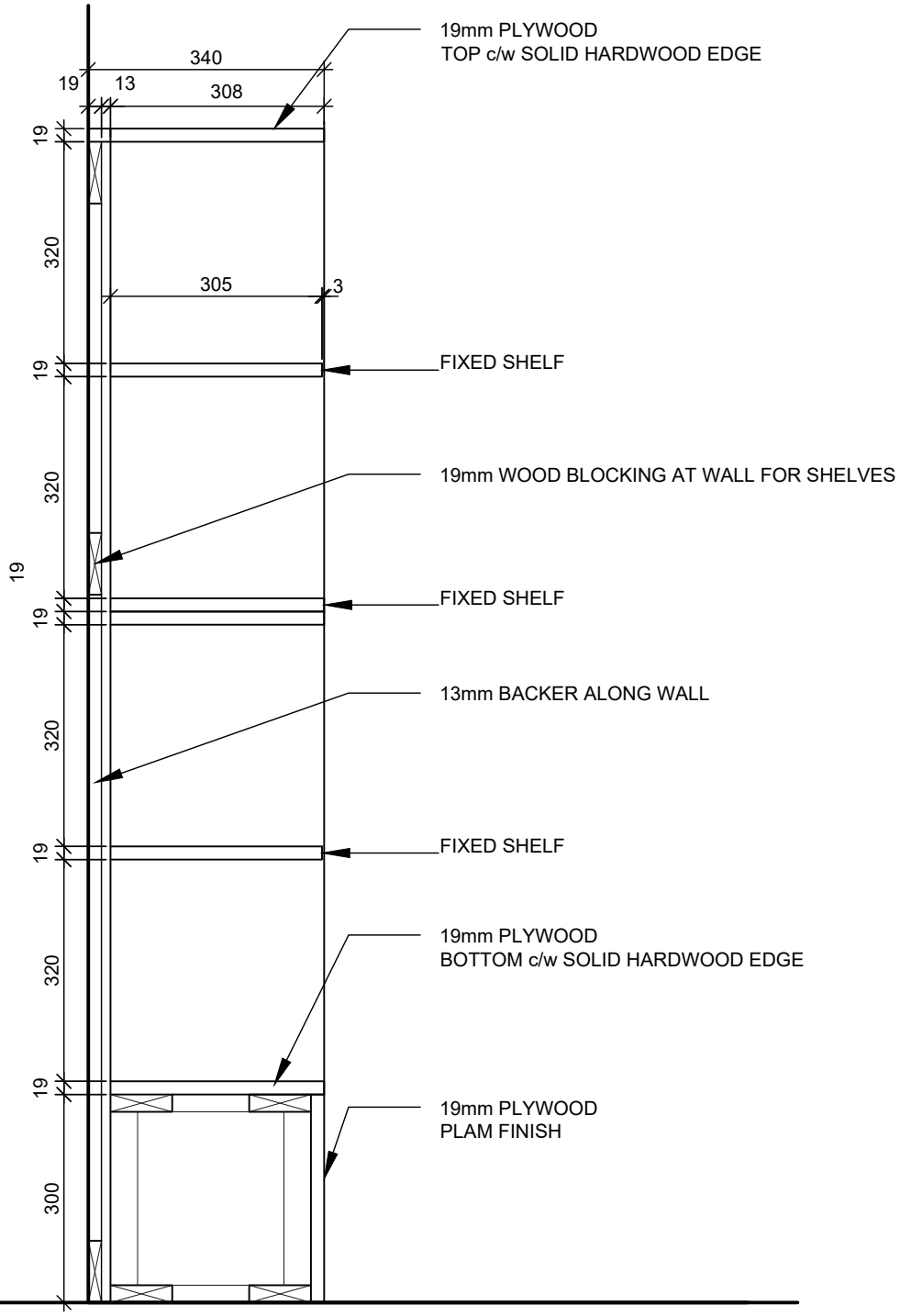
LIBRARY SHELVES ALONG RAMP WALL ELEVATION

PROJ:	24106
SCALE:	1:30
DRAWN:	GB
DATE:	26 01 07

HOSSACK ARCHITECTURE

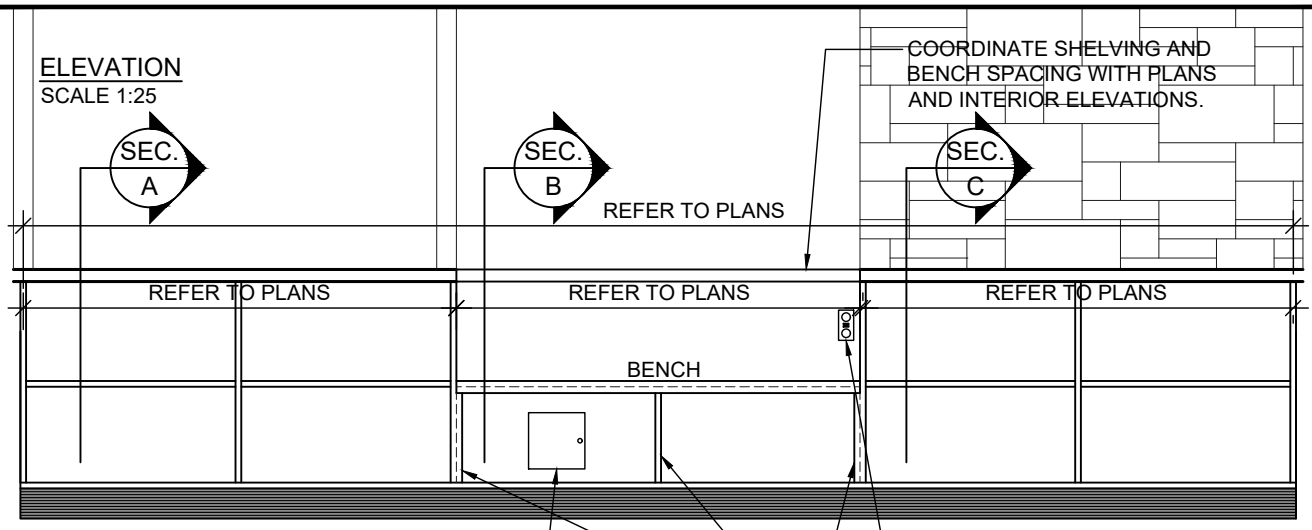
ISSUE/REV. 00

AD 663A

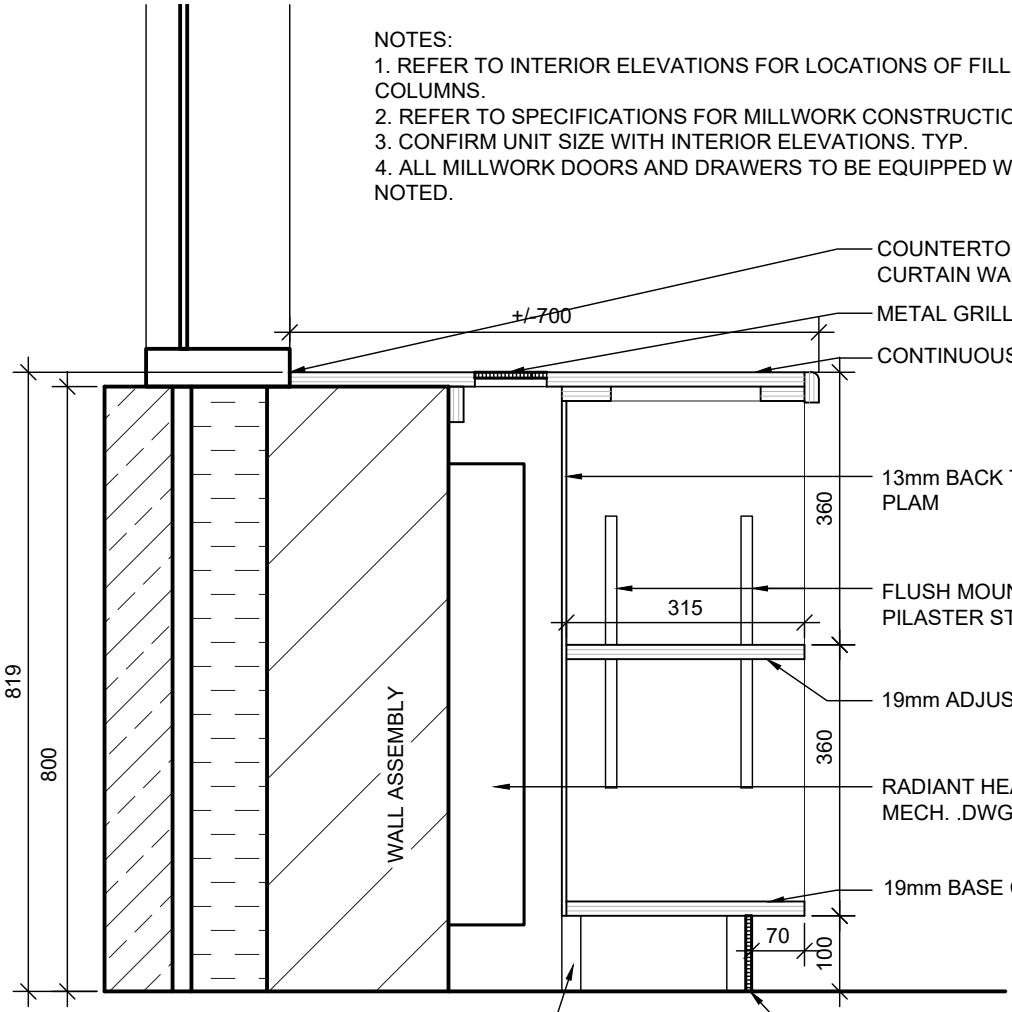


SECTION A

LIBRARY SHELVES ALONG RAMP WALL SECTION	PROJ: 24106 SCALE: 1:20 DRAWN: GB DATE: 26 01 07	HOSSACK ARCHITECTURE	ISSUE/REV. AD 663B



NOTES:
1. REFER TO INTERIOR ELEVATIONS FOR LOCATIONS OF FILLER PANELS IN FRONT OF COLUMNS.
2. REFER TO SPECIFICATIONS FOR MILLWORK CONSTRUCTION AND HARDWARE.
3. CONFIRM UNIT SIZE WITH INTERIOR ELEVATIONS. TYP.
4. ALL MILLWORK DOORS AND DRAWERS TO BE EQUIPPED WITH LOCKS UNLESS OTHERWISE NOTED.



SECTION A
SCALE 1:10

CABINET TYPE L4
SHELVES AT WALL

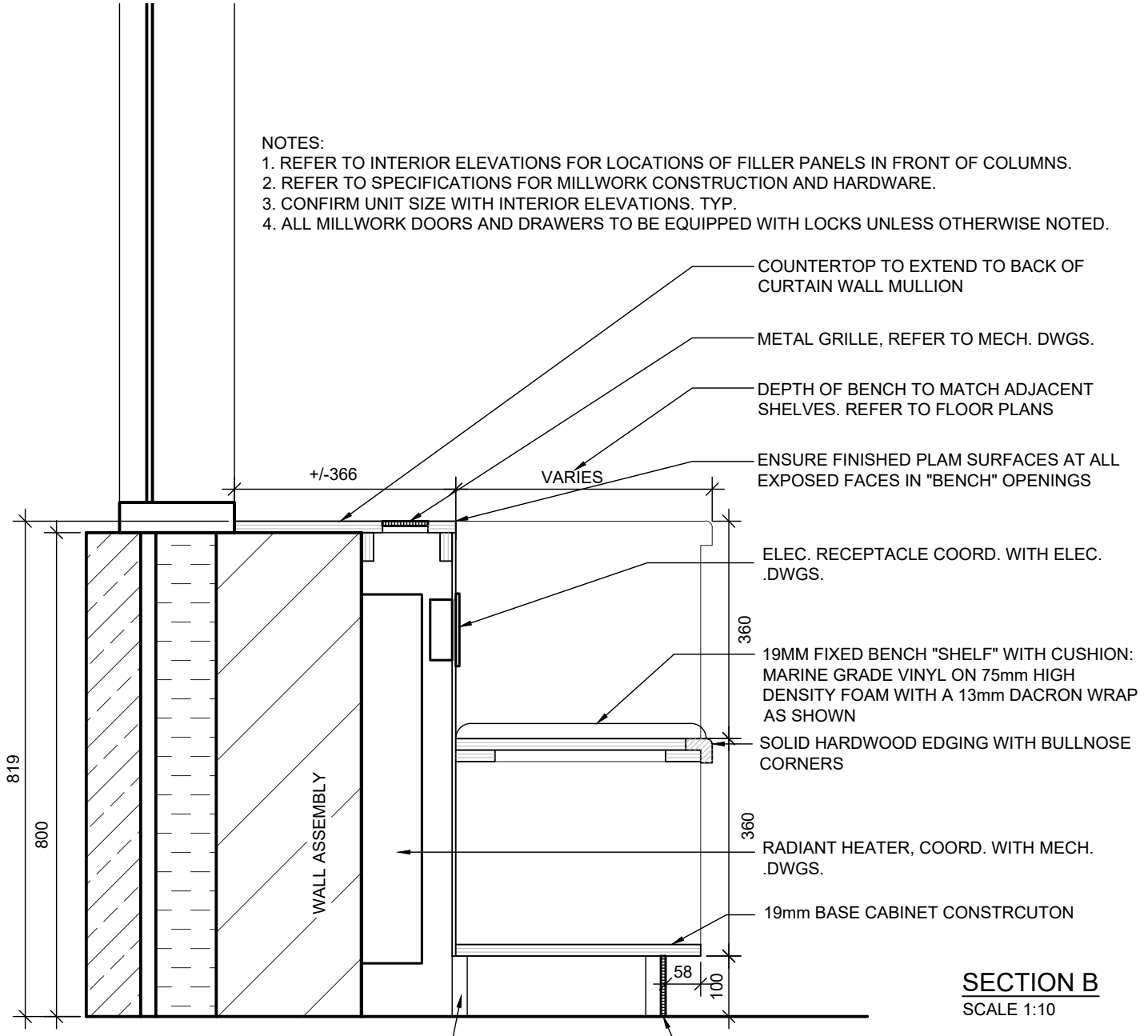
PROJ:	24106
SCALE:	NOTED
DRAWN:	GB
DATE:	26 01 07

HOSSACK ARCHITECTURE

ISSUE/REV. 00

AD 664A

NOTES:
1. REFER TO INTERIOR ELEVATIONS FOR LOCATIONS OF FILLER PANELS IN FRONT OF COLUMNS.
2. REFER TO SPECIFICATIONS FOR MILLWORK CONSTRUCTION AND HARDWARE.
3. CONFIRM UNIT SIZE WITH INTERIOR ELEVATIONS. TYP.
4. ALL MILLWORK DOORS AND DRAWERS TO BE EQUIPPED WITH LOCKS UNLESS OTHERWISE NOTED.



SECTION B
SCALE 1:10

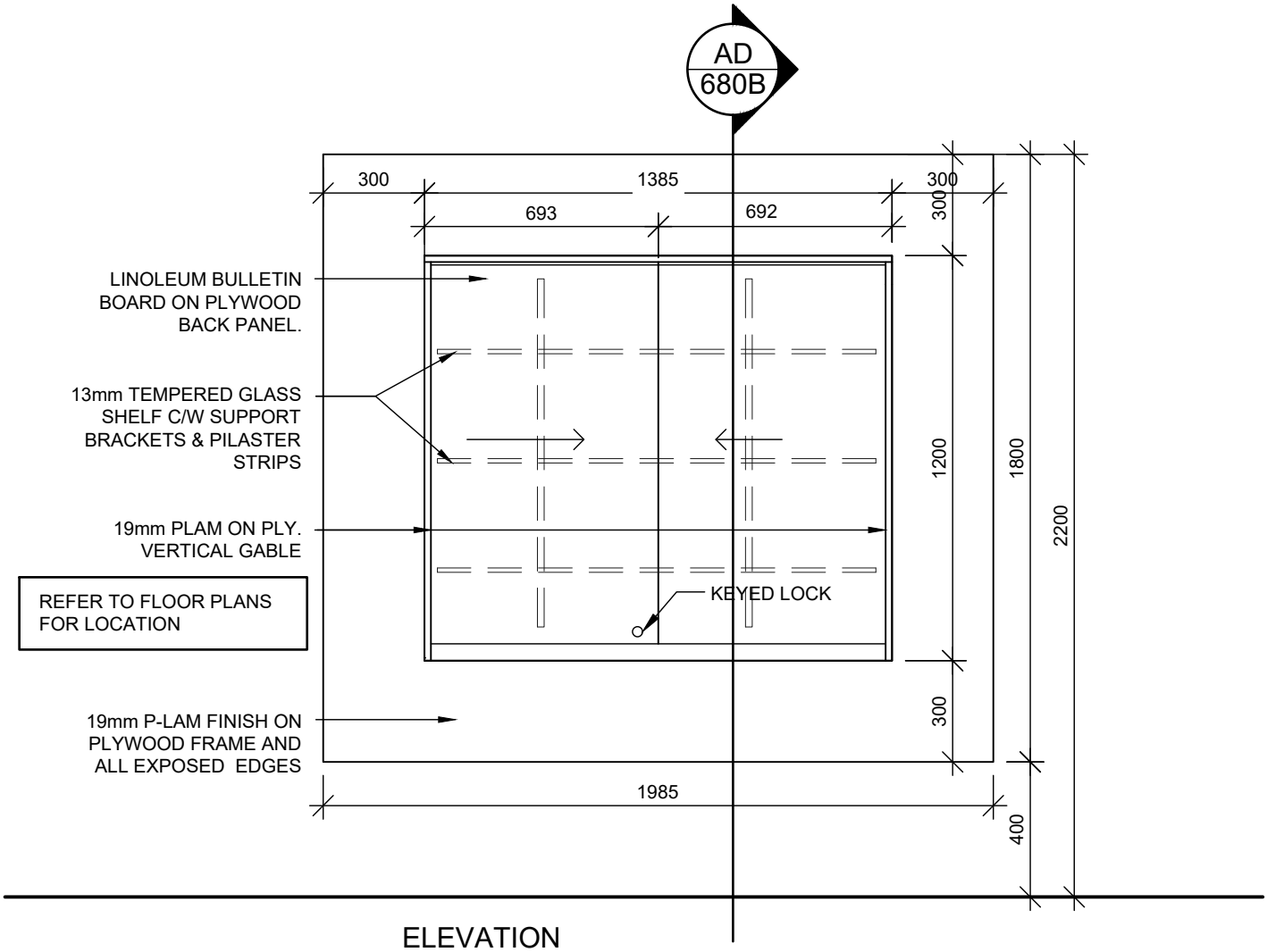
CABINET TYPE L4 - SECTION AT BENCH PORTION SHELVES AT WALL

PROJ:	24106
SCALE:	NOTED
DRAWN:	GB
DATE:	26 01 07

HOSSACK ARCHITECTURE

ISSUE/REV. 00

AD 664B



ELEVATION
SCALE 1:20

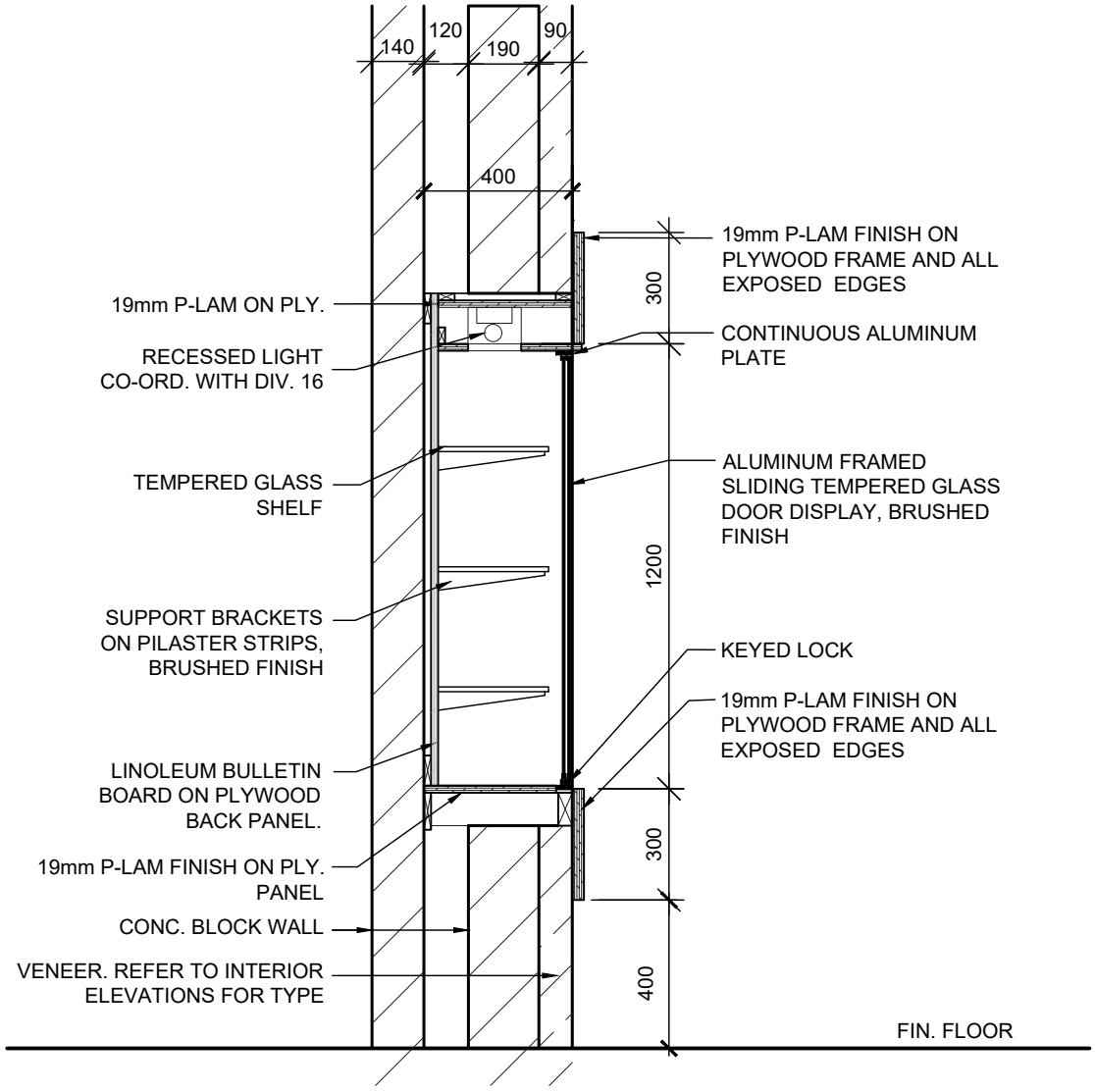
DISPLAY CASE - ELEVATION
TYPE C11

PROJ:	24106
SCALE:	NOTED
DRAWN:	GB
DATE:	26 01 07

HOSSACK ARCHITECTURE

ISSUE/REV. 00

AD
680A



SECTION

SCALE 1:20

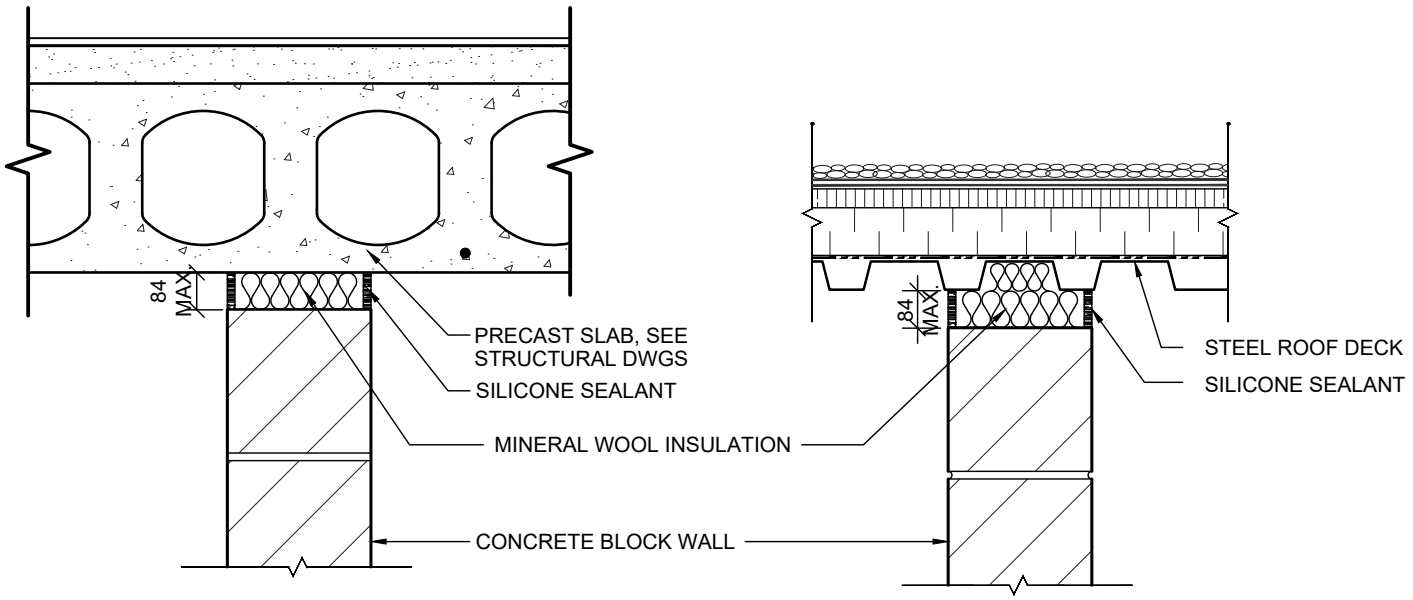
DISPLAY CASE - SECTION
TYPE C11

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DRAWN:	GB
DATE:	26 01 07

HOSSACK ARCHITECTURE

ISSUE/REV. 00

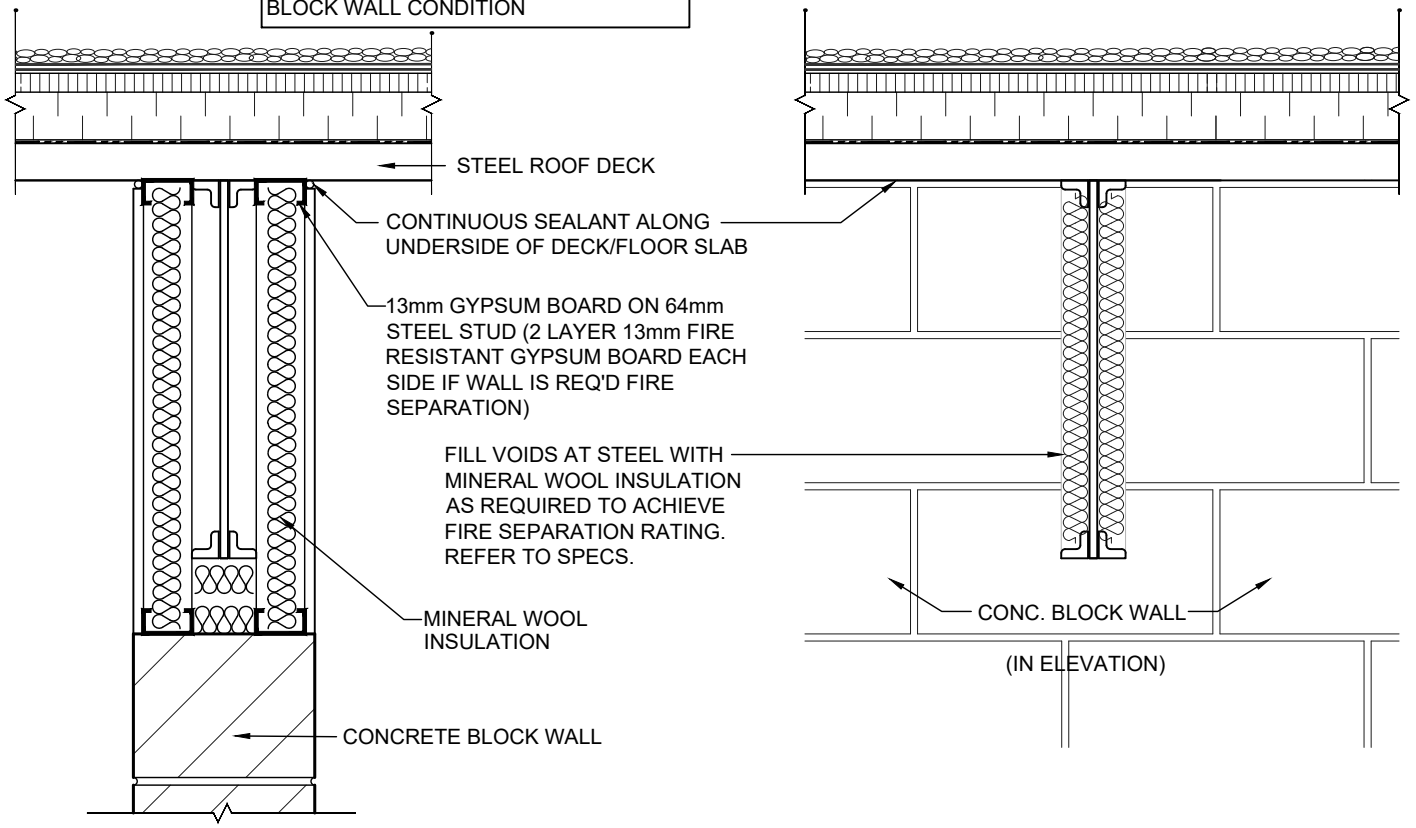
AD 680B



CONDITION AT FLOOR

CONDITION AT ROOF

NOTE:
ADJUST STEEL STUD SIZES TO SUIT BLOCK WALL CONDITION



CONDITION AT PARALLEL JOIST OR BEAM

CONDITION AT PERPENDICULAR JOIST OR BEAM

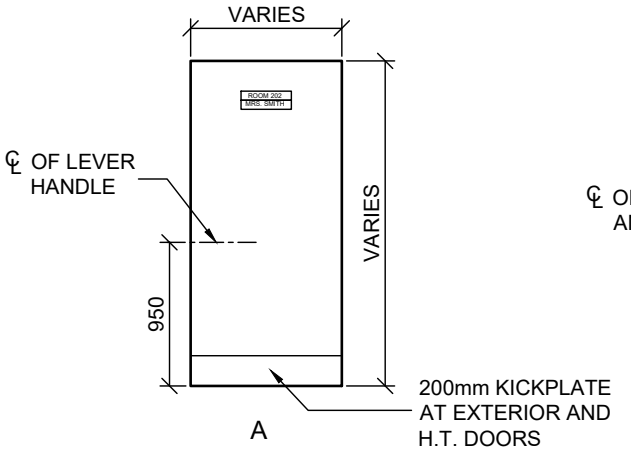
TOP OF WALL FIRE SEPARATION ASSEMBLY

PROJ:	24106
SCALE:	1:5
DRAWN:	GB
DATE:	26 01 07

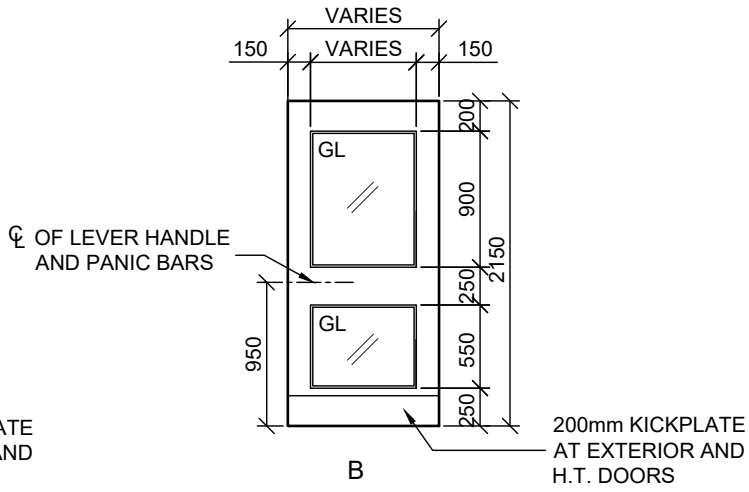
HOSSACK ARCHITECTURE

ISSUE/REV. 00

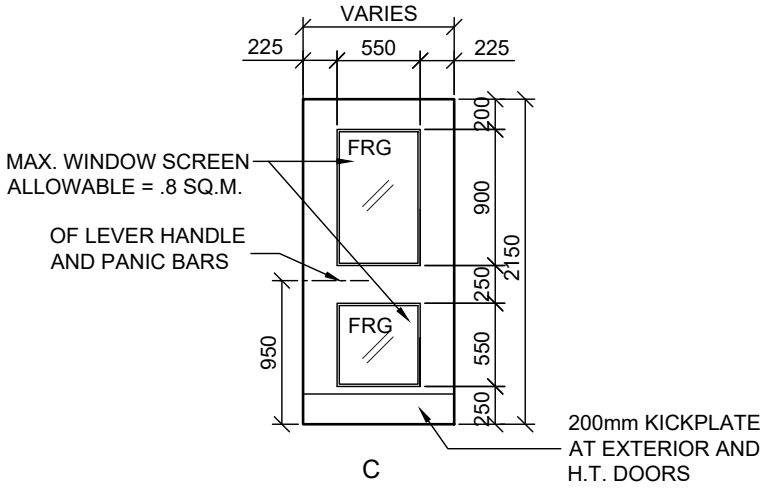
AD 725



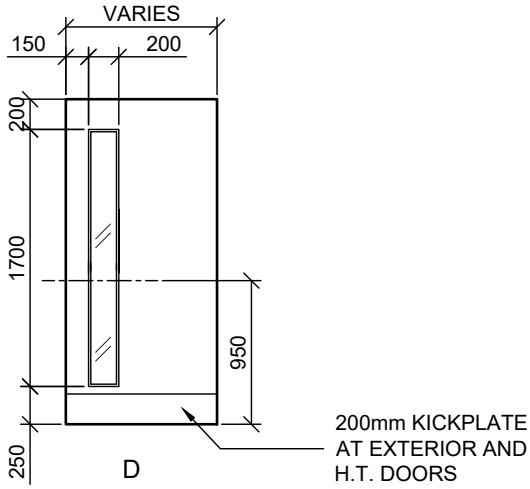
A



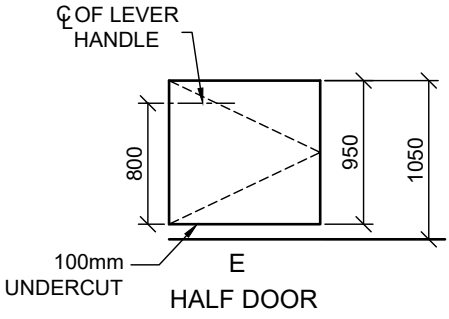
B



C

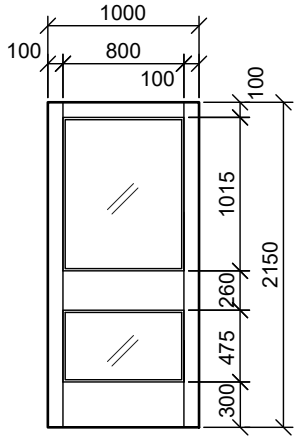


D



E

HALF DOOR



F

ALUM. EXT/INT

NOTES:

1. REFER TO SPECIFICATIONS AND DOOR SCHEDULE FOR GLAZING TYPE
2. ALL DOORS AND FRAMES ARE VIEWED FROM EXTERIOR OF ROOM OR AREA SERVED

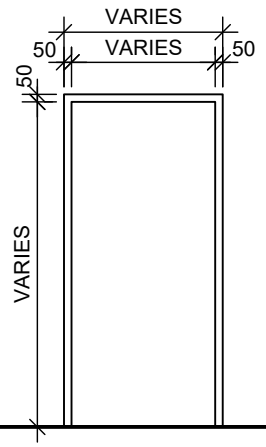
DOOR TYPES

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SCALE:	1:50
DRAWN:	GB
DATE:	26 01 07

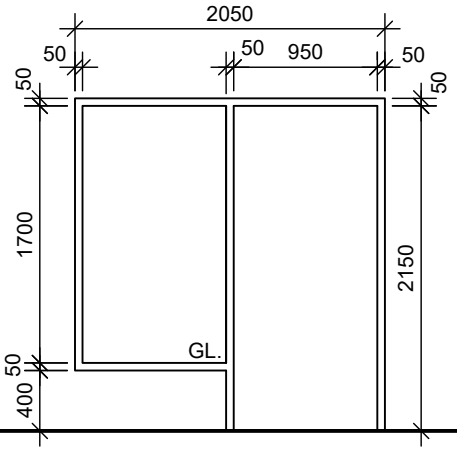
HOSSACK ARCHITECTURE

ISSUE/REV. 00

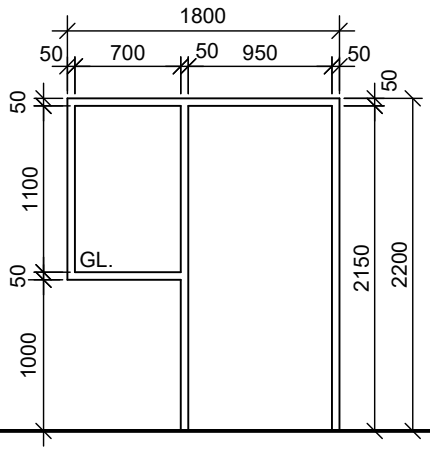
AD 800



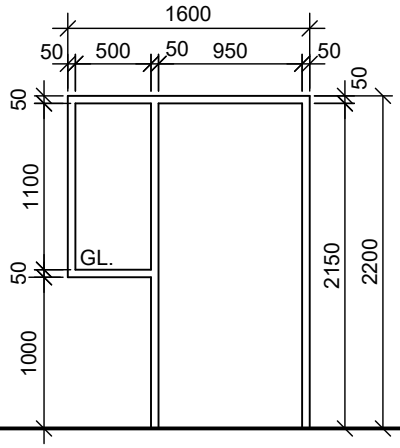
TYPE 1
H.M. INT/EXT



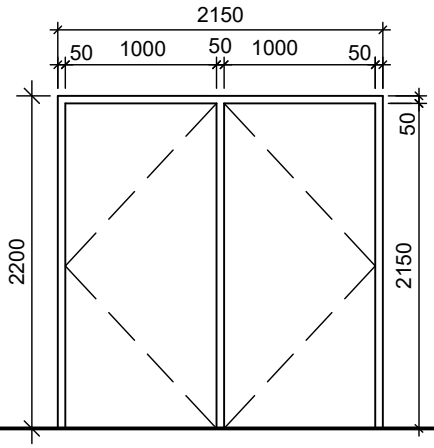
TYPE 2
H.M. INT



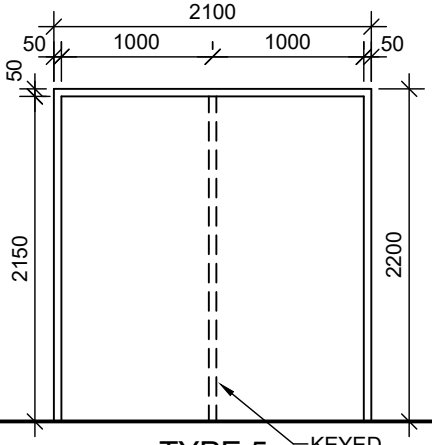
TYPE 3
H.M. INT



TYPE 3A
H.M. INT

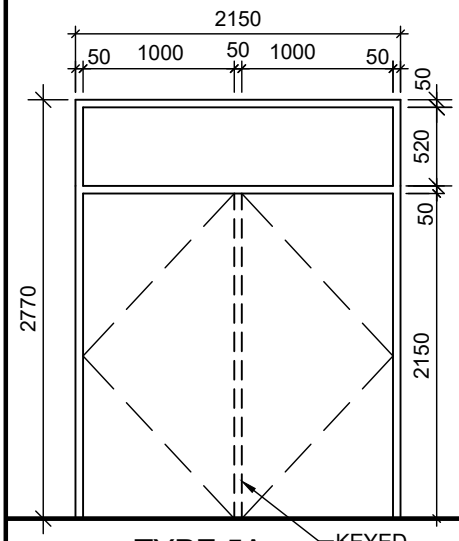


TYPE 4
H.M. INT/EXT



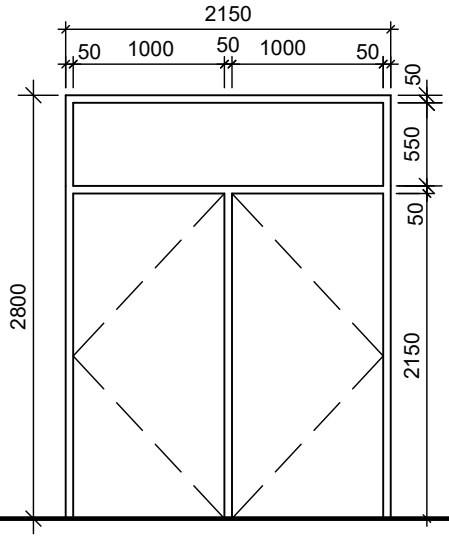
TYPE 5
H.M. INT/EXT

KEYED
REMOVEABLE
MULLION
BEYOND

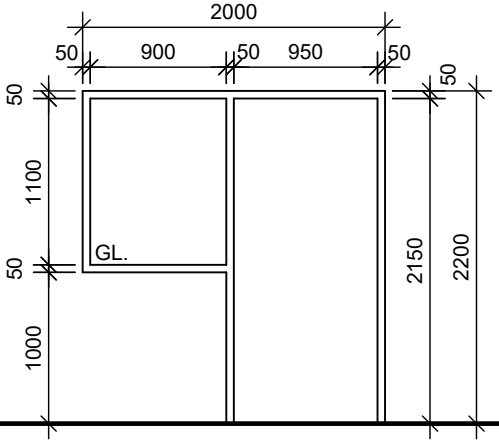


TYPE 5A
H.M. INT

KEYED
REMOVEABLE
MULLION
BEYOND



TYPE 6
H.M. INT/EXT



TYPE 7
H.M. INT

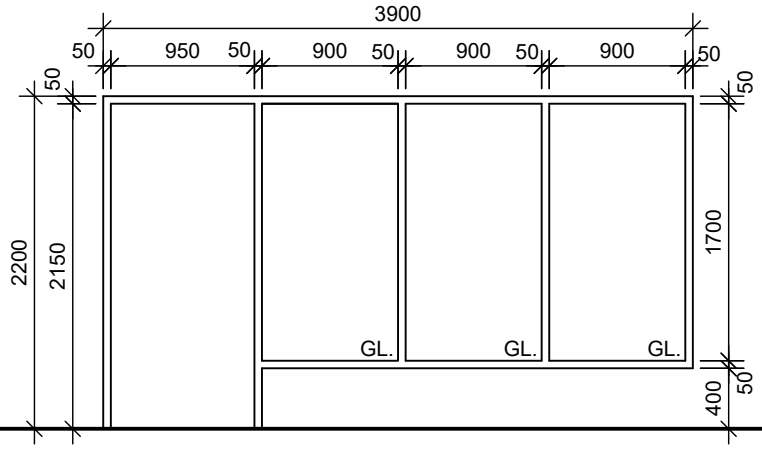
HOLLOW METAL FRAMES & SCREENS

PROJ:	24106
SCALE:	1:60
DRAWN:	GB
DATE:	26 01 07

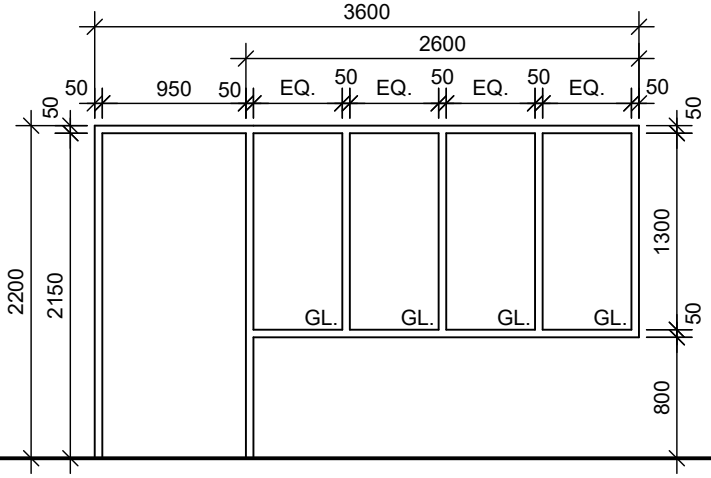
HOSSACK ARCHITECTURE

ISSUE/REV.
00

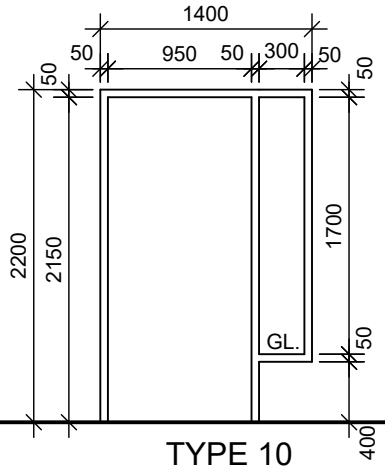
AD
801A



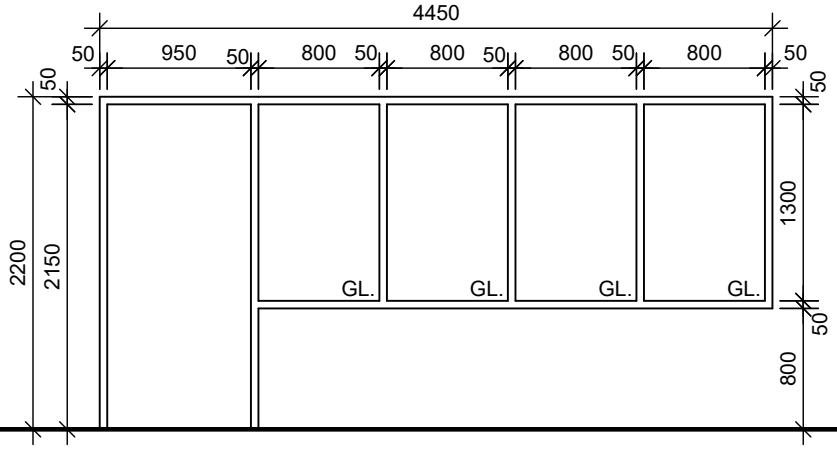
TYPE 8
H.M. INT



TYPE 9
H.M. INT



TYPE 10
H.M. INT



TYPE 11
H.M. INT

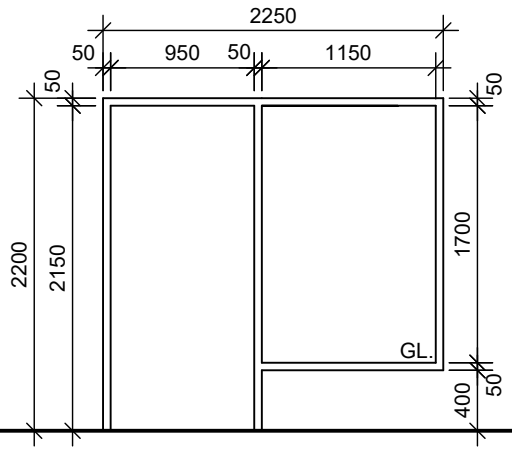
HOLLOW METAL FRAMES & SCREENS

PROJ:	24106
SCALE:	1:60
DRAWN:	GB
DATE:	26 01 07

HOSSACK ARCHITECTURE

ISSUE/REV. 00

AD
801B



TYPE 12

H.M. INT

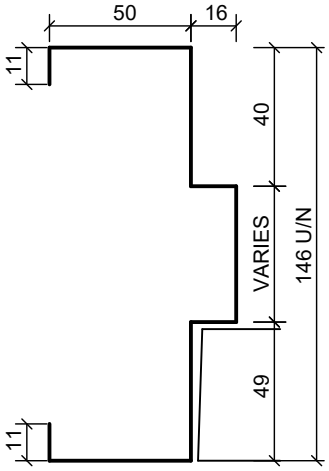
HOLLOW METAL FRAMES & SCREENS

PROJ:	24106
SCALE:	1:60
DRAWN:	RS
DATE:	26 03 13

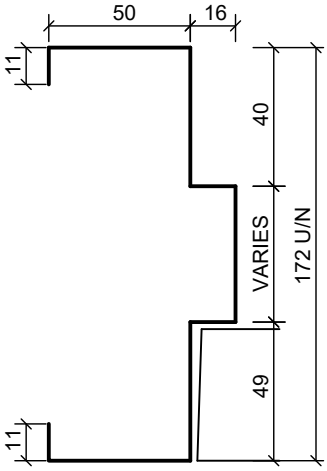
HOSSACK ARCHITECTURE

ISSUE/REV. 00

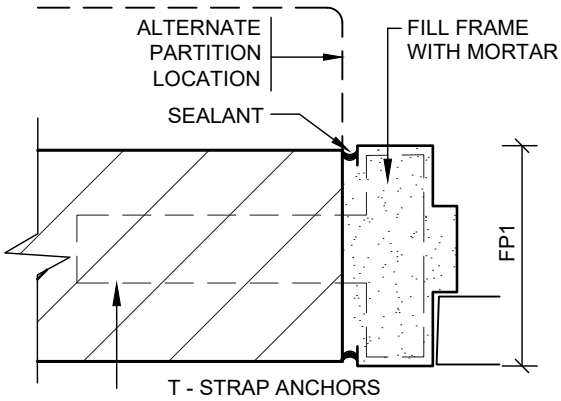
AD 801C



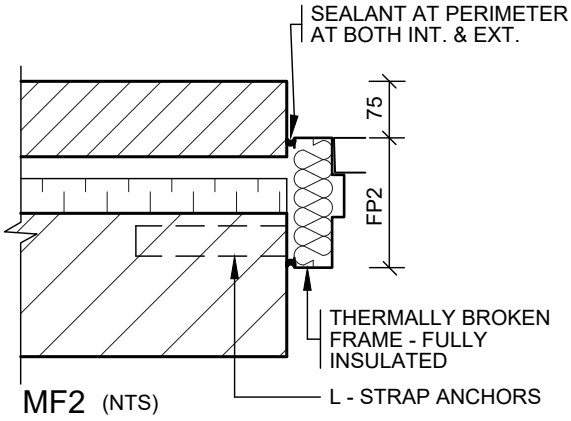
FRAME PROFILE FP1
METAL FRAME SECTION (MASONRY WALLS)
(NTS)



FRAME PROFILE FP2
METAL FRAME SECTION (MASONRY WALLS)
(NTS)



MF1 (NTS)



MF2 (NTS)

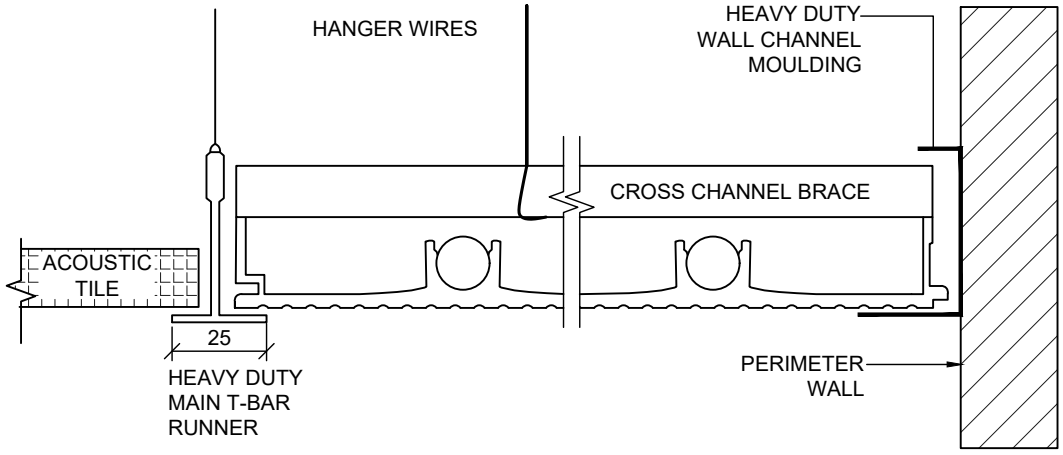
DOOR JAMB SECTIONS

PROJ:	24106
SCALE:	NTS
DRAWN:	GB
DATE:	26 01 07

HOSSACK ARCHITECTURE

ISSUE/REV.

AD
810



NOTE:

T-BAR AND WALL CHANNEL
MOULDING BY SECTION 09510

RADIANT PANEL DETAIL

PROJ:	24106
SCALE:	1:2
DRAWN:	GB
DATE:	26 01 07

HOSSACK ARCHITECTURE

ISSUE/REV.
00

AD
900

NOTES:
1. WHERE APPLICABLE, THE DIMENSION IS TO THE OPERATOR.
2. REFER TO PROJECT FLOOR PLANS AND INTERIOR ELEVATIONS FOR WASHROOM FIXTURE LAYOUT

ABBREVIATIONS

BH	BREAK-AWAY TYPE COAT HOOK
CS	CONVENIENCE SHELF
HD	HAND DRYER
GB	GRAB BAR (STRAIGHT)
GBL	GRAB BAR 'L' SHAPE
GBF	GRAB BAR FOLDING TYPE
PTD	PAPER TOWEL DISPENSER
PTW	PAPER TOWEL DISPENSER / WASTE RECEPTACLE COMBO UNIT
SN	SANITARY NAPKIN DISPOSAL
SND	SANITARY NAPKIN DISPENSER
TM	TILTED MIRROR
TD	TOILET PAPER DISPENSER

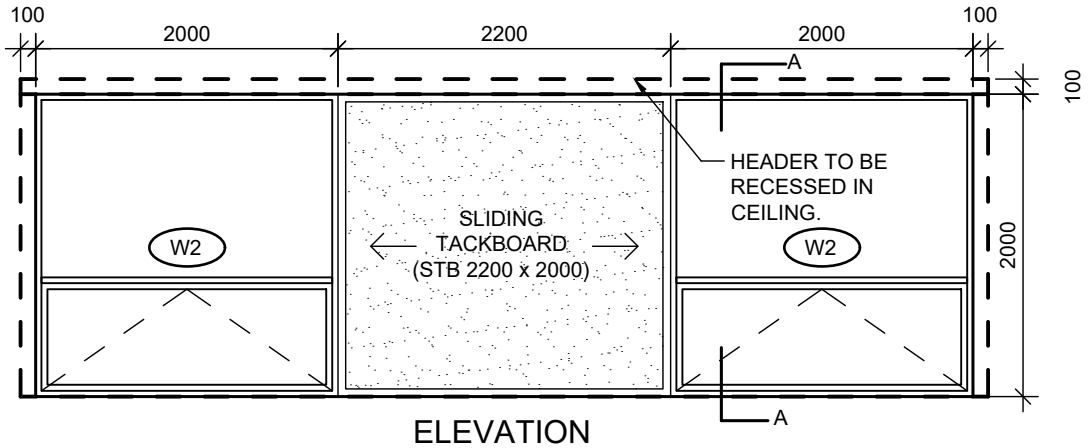
WASHROOM FIXTURE MOUNTING HEIGHTS

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DRAWN:	GB
DATE:	26 01 07

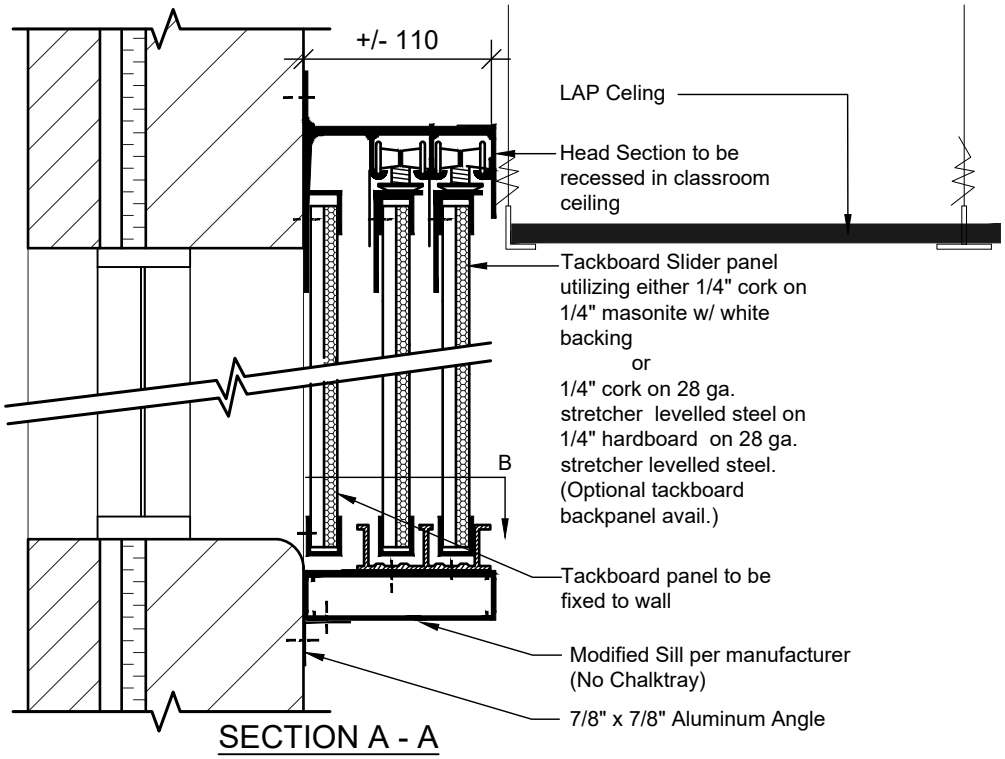
HOSSACK ARCHITECTURE

ISSUE/REV. 00

AD 1000

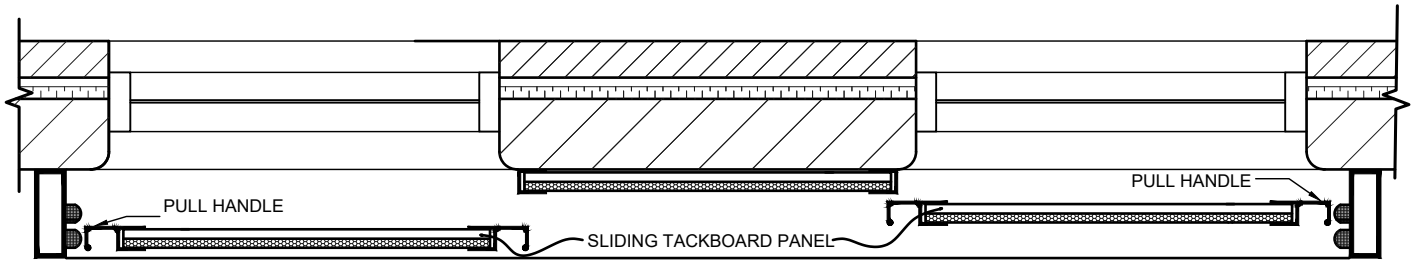


ELEVATION



SECTION A - A

REFER TO SPECIFICATIONS FOR
DOUBLE SLIDING TRACK INFO.



PLAN SECTION B

SLIDING BOARDS DETAILS
(CLASSROOM)

PROJ:	24106
SCALE:	NTS
DRAWN:	GB
DATE:	26 01 07

HOSSACK ARCHITECTURE

ISSUE/REV.
00

AD
2001

Part 1 General

1.1 GEOTECHNICAL INVESTIGATION

.1 A copy of the following reports from investigations of the Site are enclosed in Binder C.

PROJECT NAME: **Geotechnical Investigation**
Proposed North Oakville #3 Catholic School
Oakville, Ontario
Prepared by: Forward Engineering & Associates Ltd.
Project No. : G7565
Date: January 27, 2026

Soil Chemical Testing Report
North Oakville #3 Catholic Elementary School
Post Road and Settlers Road East
Oakville, Ontario
Prepared by: Forward Engineering & Associates Ltd.
Project No. : 7565
Date: December 8, 2025

DISCLAIMER

.1 The Geotechnical Report is not part of the Contract Documents prepared by the Architect or his sub consultants. It is bound into the Specifications set for convenient reference only. The Geotechnical report was not prepared by or under the supervision of the Architect. While every effort has been made to attempt to provide comprehensive geotechnical information for the purposes of design and tendering, the Architect claims no responsibility for the accuracy of the information contained in the report.

.2 Refer to Section 00 21 13 – 'Instruction to Bidders', article 1.24-Examination of the Site.

1.2 CAUTIONARY NOTE REGARDING SITE FILL

.1 The investigation referenced above took place after the site was filled by the subivision developer.

Part 2 Products

2.1 NOT USED

.1 Not used.

Part 3 Execution

3.1 NOT USED

.1 Not used.

END OF SECTION

□

FORWARD ENGINEERING
& ASSOCIATES INC.
Geotechnical, Environmental, Inspection & Material Testing Services
244 Brockport Drive, Unit 15, Toronto, Ontario, M9W 6X9, Tel: (416)798-3500, Fax:(416)798-8481

REPORT
GEOTECHNICAL INVESTIGATION

PROPOSED NORTH OAKVILLE #3 CATHOLIC SCHOOL

POST ROAD & SETTLERS ROAD EAST
OAKVILLE, ONTARIO

PREPARED FOR:
HALTON CATHOLIC DISTRICT SCHOOL BOARD
c/o
HOSSACK & ASSOCIATES ARCHITECTS
4-2150 Dunwin Drive
Mississauga, Ontario
L5L 5M8

January 27, 2026
Ref. No. G7565

Distribution: 1 PDF Copy–HOSSACK & ASSOCIATES ARCHITECTS
1 PDF Copy–FORWARD ENGINEERING & ASSOCIATES INC.

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BOREHOLE LOCATION PLAN - DRAWING NO. 1
PERMANENT DRAINAGE - DRAWING NO. 2
LOG OF BOREHOLE SHEETS (Nos. 1 to 44) - APPENDIX A
ENGINEERED FILL CERTIFICATES - APPENDIX B
SHEAR WAVE REPORT – APPENDIX C

INTRODUCTION

This report presents the results of the geotechnical investigation carried out by Forward Engineering & Associates Inc. for the proposed new North Oakville # 3 Catholic Elementary School, to be located at the northwest corner of Post Road & Settlers Road East in the Town of Oakville, Ontario.

The location of the proposed new building structure in relation to the existing building, site boundaries and adjacent roads are shown on Drawing No. 1. The approximate locations of the boreholes drilled during this investigation are also presented on Drawing No. 1.

This investigation was authorized by Ms. Priscilla Ladouceur of Hossack & Associates Architects Inc., on behalf of the Halton District School Board.

PURPOSE AND SCOPE

The objectives (purpose) of this investigation were to determine the following:

- The extent, depth, and properties of the predominant fill/soil strata as they affect the design and construction of the proposed new school.
- The short-term groundwater levels, if encountered.
- The appropriate geotechnical design criteria for building foundations, excavations, backfill, slab construction, drainage, utilities, and pavement.

To achieve the above noted objectives, the field program of this investigation consisted of thirty-seven [37] boreholes drilled to a depth ranging from about 1.75 to 7.70 m below the Existing Ground Surface Level (EGSL).

On completion of the field and laboratory work, an engineering analysis was carried out, and this summary report was prepared.

PROPOSED DEVELOPMENT

We understand that the proposed development will consist of a new two-storey school building, with no basement.

The remainder of the site will be occupied with access roads, parking areas reserved for the school as well as for childcare, and landscaping spaces.

FIELD AND LABORATORY TESTING

Field Works:

Borehole Investigation:

The field work for the borehole investigation consisted of thirty-seven [37] boreholes (BH-1 to BH-37), drilled during the period between November 13 to 22, 2025, under the supervision of a member of our staff.

The drilled boreholes were located at the approximate locations shown on Drawing No. 1 and extended to a depth ranging from about 1.75 to 7.7 m below the EGSL.

Five [5] of the boreholes (BH/MW-2, BH/MW-8, BH/MW-11, BH/MW-18, and BH/MW-19) were equipped with Water Monitoring Wells (WMW's) to facilitate future measurements of the water levels. Two [2] of the boreholes (BH/MW-33 and BH/MW-36) were equipped with piezometers to facilitate future testing of soil permeability.

Soils were sampled in the boreholes following the Standard Penetration Test (SPT) method using a CME-55 Track Mounted Auger Drill Rig using Rotary Drilling with Split Spoon Samplers. The samples were logged in the field and appropriately stored in plastic bags and re-examined in more detail in the laboratory.

The samples will be stored for a period of three months and then discarded, unless we are instructed differently.

Groundwater observations were made in the open boreholes, during and upon completion of the drilling operation. The results are recorded on the Log of Borehole sheets.

Elevations referred to in this report are metric and geodetic. The ground level elevations at the borehole locations were interpolated from the *Topographic Survey* drawing dated December 3, 2025, prepared by Cunningham McConnell Ltd., and provided to us by the Client.

Laboratory Testing:

Laboratory testing consisted of determination of the in-situ moisture content of the retrieved and representative soil samples.

SITE CONDITIONS

Surface Conditions

For this description it will be assumed that the north bearing is parallel to the nearest road, Post Road, to coincide with Project North. The proposed North Oakville No. 3 Catholic Elementary School site is located north-west of the junction of Post Road & Settlers Road East, Oakville, Ontario.

The site conditions, as observed during our site visit on November 13, 2025, are presented in the following *Table No. 1*.

Table 1 - Site Surface Observations/Conditions

East Boundaries:	Post Road.
North Boundaries:	Future residential dwellings underdevelopment.
West Boundaries:	Public park land.
South Boundaries:	Settlers Road East.
Surface Coverage:	The surface of the site consists mostly of bare earth.
Ground Level:	At the time of our investigation much of the site was somewhat flat with signs of recent grading. A thin stretch of the northern portion of the site was a little more uneven and did not appear to have had recent grading as compared to the larger southern portion. Overall, the site had a slight downward grade from the north-east to the south-west.
Ditches:	None observed.
Berms/Stockpiles:	None observed.
Existing Structures:	None observed.
Proposed/Intended Land Use:	Institutional/recreational.

Subsurface Conditions

The subsurface conditions encountered at the borehole locations are shown on the Log of Borehole sheets, presented in Appendix A, and can be summarized as follows:

Fill/Disturbed Soil	A layer of Fill/Disturbed soil was found at the surface of most of the boreholes and extended to a depth ranging from about 0.1 to 1.5 m below the EGSL. Borehole Nos. 11, 13, 19, 25, 28, 30, 32, and 34 to 37, did not encounter a fill layer, however, the surficial soil layer was observed to be disturbed in the upper 40 to 50 mm. This Fill/Disturbed layer generally consisted of brown, reddish brown and reddish grey clayey silt, occasionally observed to have traces of gravel, stone fragments and rootlets. This layer was observed in mostly moist state and in predominantly compact state of packing. The encountered fill/disturbed soil had been constructed as Engineered Fill (refer to the engineered fill certificates attached in Appendix B).
Clayey Silt Till/Silt Till	Clayey Silt Till/Silt Till was encountered at the surface or below the fill/disturbed soil in all the boreholes and extended to a depth ranging from about 0.76 to 6.10 m below the EGSL. Borehole Nos. 23 to 35 and 37 were terminated within this stratum at a depth ranging from about 1.75 to 5.03 m below EGSL. In some of the boreholes this till encountered stone fragments and occasionally sandy silt layers. This reddish brown till was observed in moist state and found in very stiff to hard consistency.

Silt Till and/or **Silt Till/Sandy Silt Till**	Silt Till and/or Silt Till/Sandy Silt Till was encountered below the clayey silt till/silt till soil stratum in borehole Nos. 1, 2 to 4, 6 to 23 and 36. In all noted boreholes, this stratum extended to the maximum explored depth of investigation, except in borehole Nos. 2, 5, 6, 8 and 19, which extended to the underlaying Shale layer at a depth ranging from about 4.57 to 7.62 m below the EGSL. Occasionally in some of the boreholes, this stratum encountered stone fragments and sandy silt seams/inclusions. This brown, reddish brown/grey, and grey till was observed in moist to very moist state and mainly in very dense state of packing.
Weathered Shale	Hard, reddish brown and grey, and damp to moist Weathered Shale was encountered below the Clayey Silt Till/Silt Till and Silt Till soil layers in borehole Nos. 2, 5, 6, 8 and19, and it extended to the maximum explored depth of this investigation.
Groundwater	Groundwater level observations were made during and immediately upon the completion of the drilling investigation. The results are summarized in the following *Table 2a*, as shown:

Table 2a - Groundwater &Cave-in Observations Upon Completion of drilling

Borehole No.	Borehole Depth (m)	Cave-in Depth Below EGSL (m)	Groundwater Depth Below EGSL (m)
BH-1	4.70	Open	Dry
BH/MW-2	3.68	Open	Dry
BH-3	4.70	Open	Dry
BH-4	4.95	Open	Dry

Borehole No.	Borehole Depth (m)	Cave-in Depth Below EGSL (m)	Groundwater Depth Below EGSL (m)
BH-5	3.68	Open	Dry
BH-6	4.70	Open	Dry
BH-7	6.32	5.9	5.5
BH/MW-8	7.67	Open	7.0
BH-9	4.67	Open	Dry
BH-10	4.70	Open	Dry
BH/MW-11	7.70	Open	7.5
BH-12	6.20	5.9	Dry
BH-13	4.70	Open	4.6
BH-14	4.65	Open	Dry
BH-15	4.67	Open	Dry
BH-16	6.20	Open	Dry
BH-17	5.03	Open	Dry
BH/MW-18	7.70	Open	7.4
BH/MW-19	6.17	Open	Wet at bottom
BH-20	4.67	Open	Dry
BH-21	4.67	Open	Dry
BH-22	4.65	Open	Dry
BH-23	5.03	Open	Dry
BH-24	1.98	Open	Dry
BH-25	1.98	Open	Dry
BH-26	1.98	Open	Dry
BH-27	1.98	Open	Dry
BH-28	1.98	Open	Dry
BH-29	1.98	Open	Dry
BH-30	1.98	Open	Dry
BH-31	1.98	Open	Dry
BH-32	2.74	Open	Dry
BH/MW-33	1.98	Open	Dry
BH-34	1.98	Open	Dry
BH-35	1.98	Open	Dry
BH/MW-36	1.98	Open	Dry
BH-37	1.75	Open	Dry

The water level in boreholes/monitoring BH/MW-2, BH/MW-8, BH/MW-11, BH/MW-18, and BH/MW-19, which were equipped with a standpipe monitoring well, was measured several days after the completion of the drilling operation and our observations are recorded and presented in the following Table 2b, as shown.

Table2b - Groundwater Observation after Extended Period of Time

ID **& Date** of GWL Measurement	**Groundwater Depth Below EGSL** **&** **(elevation)**
BH/MW-2 *November 28, 2025*	Dry (lower than 179.88 m)
BH/MW-8 *November 28, 2025*	3.99 m (179.57 m)
BH/MW-11 *November 28, 2025*	4.38 m (180.51 m)
BH/MW-18 *November 28, 2025*	5.03 m (180.81 m)
BH/MW-19 *November 28, 2025*	3.68 m (179.82 m)

It should be noted, however, that the groundwater levels are subject to seasonal fluctuations. Consequently, definitive information on the long-term groundwater levels could not be obtained at the present time.

GEOTECHNICAL DISCUSSION AND RECOMMENDATIONS

Foundations

We understand that the proposed development consists of a new two-storey school building with no basement. The finished floor elevation (FFE) is to be 186.38 m. The design loads are still unavailable at this stage.

Based on the Engineered Fill Certificates (attached in Appendix B), as well as the subsurface conditions encountered during this investigation, two [2] foundation alternatives/options are to be considered/selected as follows: (1) conventional spread/strip foundations founded on the existing engineered fill and/or the native subgrade soils, and/or (2) conventional spread/strip foundations founded on the native undisturbed soils

1. Footings on the Existing Engineered Fill and/or Native Soils

The proposed school building can be supported on the Existing Engineered Fill and/or Original Undisturbed Native Soils and established at a depth of not less than 1.0 m below the Existing Ground Surface Level (EGSL) at the borehole locations.

The size of the strip/spread footings can be proportioned to the following bearing resistances:

Factored Bearing Resistance at Ultimate Limit State (ULS) = 225 kPa

Bearing Resistance at Serviceability Limit State (SLS) = 150 kPa

Due to expected exposure of the ground surface to freezing, the footings are not to be founded above 1.0 m depth below the surface of the engineered fill.

Additional Fill Construction

In the areas where additional fill is needed, the additional fill must be constructed as engineered fill.

The size of the strip/spread footings founded on the additional engineered fill can be proportioned to the following bearing resistances:

Factored Bearing Resistance at Ultimate Limit State (ULS) = 225 kPa

Bearing Resistance at Serviceability Limit State (SLS) = 150 kPa

The construction of the engineered fill shall be carried out as follows:

1. The engineered fill shall be placed in such a manner so that the specified fill geometry, as shown in Drawing No. 2, is achieved. The fill shall extend at least to 0.5 m below the underside of the footings, and outward laterally 0.5 to 1.5 m from the edge of the footings, at the floor slab level. The fill slopes can be constructed at 1H to 1V.

2. The engineered fill area shall be stripped of any local topsoil, if encountered.

3. The exposed base shall be proof rolled and densified. All soft areas should be sub-excavated and replaced with engineered fill. The exposed base shall be examined and approved by this office prior to placement of fill.

4. Engineered fill, shall consist of inorganic soil with moisture content close to its optimum value (within ± 2 %), as determined by Standard Proctor Maximum Dry Density (SPMDD) testing method.

5. The backfill shall be placed in 300 mm lifts and compacted to 100 percent SPMDD. Fill placement and compaction monitoring on a full-time bases is required to verify that the compaction requirements are met.

6. If the engineered fill is inorganic material (not granular material), which will be exposed to the effects of frost, it shall be placed to at least 0.6 m above the proposed founding level. Furthermore, it shall be protected by a layer of loose fill at least 0.60 m thick for additional frost protection. The on-site generated fill shall not be placed during the wet and freezing conditions. Crushed recycled concrete or Granular B/C material is suggested for construction of engineered fill during the winter period.

7. Generally, when constructed on engineered fill, the strip foundations and the top section of the foundation wall must be continuously reinforced longitudinally with two overlapped No. 6 (20 mm) steel bars, or as directed by the Structural Engineer.

8. Any imported fill must be chemically clean, meeting Reg 406/19 - ***Table 1*** *Residential/Industrial Criteria.*

2. *Footings on Native Undisturbed Soils*

The proposed school building can be supported on conventional strip/spread footings established within the undisturbed, native very stiff to hard clayey silt till/silt till, at or below a depth ranging from 0.75 to 1.80 m below Existing Ground Surface Level (EGSL), as presented in Table 3.

The size of the new strip/spread footings can be proportioned to the following net bearing resistances;

Factored Bearing Resistance at Ultimate Limit State (ULS) = 325 kPa

Bearing Resistance at Serviceability Limit State (SLS) = 225 kPa

Table 3–Founding Depth and Elevation (at or below) for Strip/Spread Footings Founded on Native Soils

Borehole No.	Surface Elevation (m)	Founding Depth (at/or below EGSL) (m)	Founding Elevation (at/or below) (m)
1	184.25	0.90	183.35
2	184.88	1.05	183.83
3	184.33	1.05	183.28
4	184.82	1.80	183.02
5	185.06	1.80	183.26
6	184.45	0.75	183.70
7	185.15	1.05	184.10
8	183.56	1.05	182.51
9	184.03	1.20	182.83
10	184.57	0.75	183.82
11	184.89	0.75	184.14
12	185.27	1.80	183.47
13	183.55	0.75	182.80
14	184.08	1.05	183.03
15	184.65	1.05	183.60
16	185.55	0.90	184.65
17	185.30	1.05	184.25
18	185.84	0.75	185.09
19	183.50	0.75	182.75

20	184.10	0.75	183.35
21	184.95	0.75	184.20
22	184.83	0.90	183.93
23	185.60	1..00	184.60

In areas, where suitable founding soil is lower than typical depth of footings, sub-excavation/backfill below the design founding depth may be carried out following the "trench and pour" method, provided that a test pit is dug during the tender phase, to be coordinated with the bid documents, for the contractor to observe the behaviour of the lower subgrade material.

The following provisions should be observed during the "trench and pour" construction:

- The sides of the trench should be maintained vertical.
- The "trench and pour" will not protrude into the frost zone.

Foundation General Notes:

Adjacent footings, founded at different elevations, should be stepped at 10 horizontal to 7 vertical, with a maximum step of 600 mm. For frost protection requirements, all exterior footings, and footings in unheated areas, must have a minimum soil cover of 1.2 m.

Under no circumstances should the footings be constructed over loose, soft or frozen subgrade soil or within ponded water. During winter construction, the footings must be adequately protected against the effects of frost. Concrete should be placed without delay after excavation to avoid softening of the subgrade surface. Hand cleaning of footing bases should be carried out as directed by the field inspector.

Total settlements of the footings designed and constructed in accordance with the above recommended resistances at SLS should be less than the tolerable limits of 25mm. The differential settlements are expected to be less than 19mm.

Furthermore, the recommended bearing capacity and foundation elevations have been calculated from the limited borehole information and are intended for design purposes only.

More specific information, with respect to founding conditions between the boreholes will become available when the proposed construction is underway.

Therefore, the encountered founding conditions must be verified in the field, and all footings must be inspected by this office, before placement of concrete.

Earthquake Considerations

For structural design seismic consideration, the seismic provisions of the Ontario Building Code (*OBC 2024*) outline the classification of sites for Seismic Site Response in Table 4.1.8.4.(2b) of the National Building Code of Canada (NBC) 2020.

According to Table 4.1.8.4.(2b). of the code, and the conducted Shear Wave Velocity Test report (attached in Appendix C), the subject site Class is **'X_{760}'**.

With additional fill, and having the footings at higher level, a new Shear Wave Velocity Test is recommended after the completion of the construction of the additional fill.

Underground/Retaining Walls

Underground/retaining walls should be designed to resist a pressure "p", at any depth, "h" below the surface, as given by the expression:

$$p = K[\gamma h + q]$$

Where:

1) Soil parameters are as presented in the following Table:

	On-site soil	Granular B
Active lateral earth pressure coefficient, ***Ka***	0.33	0.30
Passive lateral earth pressure coefficient, ***Kp***	3.00	3.33
Unit Weight, γ	20 kN/m^3	21 kN/m^3

2) ***q*** = an allowance for surcharge

The above equation assumes that perimeter drains will be provided, and that the backfill against the subsurface walls would be a free draining granular material, such as Granular B.

Excavation and Backfill

No major problems should be encountered for the anticipated depth of excavation. The excavation should be back-sloped at 45 degrees or flatter in accordance with the current Ontario Occupational Health and Safety Act.

The excavation in the till and weathered shale can be carried out with a heavy duty back-hoe. Some of the relatively harder limestone slabs or seams, interbedded in the weathered shale, may require the use of jack hammer or hoe ram.

For contractual purposes, within area of any borehole where the shale bedrock was not encountered for the entire depth of that borehole, the shale bedrock must be considered to exist immediately below the bottom of the borehole.

The anticipated water seepage, if any, into the excavations from the more permeable seams/lenses or surface run-off can be handled by conventional pumping methods.

The material to be used for backfilling under floor slab should be suitable for compaction, i.e. free of organics and with natural moisture content, which is within 2 percent of the optimum moisture content and no pieces larger than 150 mm in size. The backfill material should be compacted to at least 98 percent of the Standard Proctor Maximum Dry Density (SPMDD).

Selected on site excavated fill and native soils can be used as backfill under the floor slab or in-service trenches, provided the excavated materials are not allowed to become wet. However, the excavated materials will be very sensitive to moisture content, and the use of Granular B/C is preferred.

The backfill against the subsurface walls, and confined spaces, should be free draining granular fill, preferably conforming to the Ontario Provincial Standard Specification for granular base course, Granular B.

Slab Construction and Permanent Drainage

The floor slabs can be constructed on the engineered fill, following the standard slab-on-grade technique, provided that the base is thoroughly proof-rolled. Any soft spots revealed during proof-rolling should be sub-excavated, backfilled and adequately compacted.

In addition, the exposed ground surface should be adequately compacted to densify the near surface disturbed soil.

If upfill is needed to raise the grades to accommodate for the placement of the floor slab on grade, the new fill should be placed in shallow lifts and thoroughly compacted to a minimum 98 % of its maximum dry density, as determined by the Standard Proctor compaction test method.

A vertical modulus or coefficient of subgrade reaction (k_s) of 34 MPa/m (125 psi/in) shall be utilized in the structural design of the concrete floor slab.

The floor slabs should rest on a well compacted layer of "19 mm clear stone" at least 200 mm thick when compacted. The stone bed would act as a barrier and prevent capillary rise of moisture from the subgrade to the floor slab.

No perimeter drainage will be required, if the floor slab is at least 150 mm above the exterior grade, which slopes away from the building at an inclination of 1 to 2 percent, to prevent surface ponding of water close to exterior walls. If this condition cannot be met or complied with, then perimeter drainage as shown on Drawing No. 2 should be provided.

Underground Utilities

The problem areas of pavement settlement largely occur adjacent to manholes, catch basins and service crossings. The on-site materials would generally be difficult to compact in these areas, and it is therefore recommended that a sand backfill be used in confined areas.

The upper 1.0 m of the trench backfill should be compacted to 98 % SPMDD. Below this zone, a 95 % SPMDD compaction is considered acceptable.

Pavement Design

In the proposed pavement areas, the base should be thoroughly proof-rolled. Any soft spots revealed during proof-rolling should be sub-excavated and backfilled with suitable materials, compacted to at least 98 % SPMDD.

The subgrade soil is frost susceptible. The design of pavement is therefore mainly influenced by the need to minimize the effects of freezing and thawing. Consequently, the ground must not be unnecessarily disturbed.

The subgrade should be sloped to facilitate drainage towards catch basins and the final subgrade should be compacted before pavement is constructed.

It should be noted that the subgrade should be dry and firm, not spongy, during compaction and during the construction of the [sub] base. Soft or spongy subgrade areas should also be sub-excavated and properly replaced with suitable approved backfill compacted to 98 % SPMDD.

The subgrade will suffer strength regression if water is allowed to infiltrate into the mantle. Therefore, sub-drains should be installed along the edge of all pavement areas to prevent surface water from infiltrating into the subgrade.

Within the parking lots, sub-drains radiating from the catch basins should also be installed. These sub-drains should be at least 3 m long in each direction and have inverts at least 0.75 m below the pavement surface.

All granular materials used in the construction of pavement should be compacted to 98 % of Standard Proctor maximum dry density.

Based on the engineering properties of the subgrade soil, climatic conditions and the anticipated use of the pavement, typical flexible asphaltic pavement designs for this development are as follows:

Table 4 - Typical Flexible Asphaltic Pavement Design

Pavement Components	Heavy Duty	Medium Duty
Asphaltic Concrete	40 mm HL3	40 mm HL3
	60 mm HL8	40 mm HL8
19 mm Crushed Limestone	150 mm	150 mm
Granular B Sub-base	300 mm	200 mm

If the proposed pavements are to be constructed during wet seasons, the moisture content in the subgrade will probably be above the optimum, and this will render its shear strength inadequate to support paving equipment traffic. In this case, the granular sub/base should be replaced by an equal thickness of compacted size 50 mm Crusher-Run Limestone, or recycled concrete.

General Comments

This geotechnical report is provided based on the terms of reference provided above and, on the assumption, that the design will be in accordance with the applicable codes and standards.

If there is any change in the design features relevant to the geotechnical analyses, or if any questions arise regarding the geotechnical aspects of the codes and standards, this office should be contacted to review the new data and design.

The comments given in this report are intended for the guidance of design engineers.

In addition, the purpose of the investigation was to reveal the subsurface conditions, and to determine the various soil properties that are relevant for the construction of the foundations of the school building, the associated site services, the pavements, and the play areas.

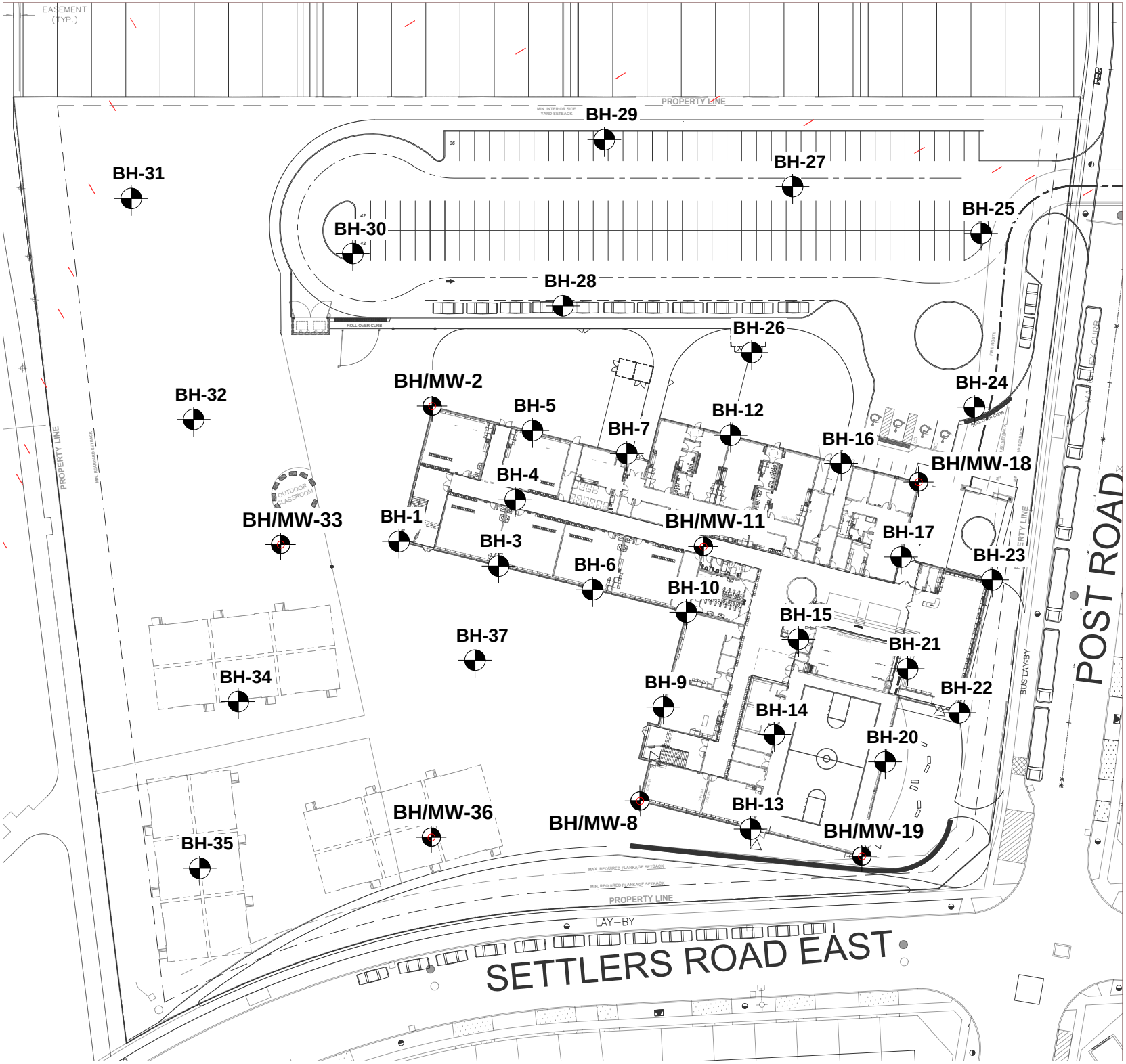
We trust this report contains information requested at this time. However, if any clarification is required, or if we can be of further assistance, please contact this office.

Yours truly,
Forward Engineering & Associates Inc.



Nasser Abdelghani, M.Sc., P.Eng.
Project Geotechnical Engineer

G. S. Semaan, M.Eng., P.Eng.
Principal



NOTES:

BH = BOREHOLE LOCATION

BH/MW = BOREHOLE/ MONITORING WELL LOCATION

DRAWING No. 1

BOREHOLE LOCATION PLAN

Rev.	DATE	REVISION / ISSUE
04		
03		
02		
01		

Project Name:
PROPOSED NORTH OAKVILLE NO. 3
CATHOLIC ELEMENTARY SCHOOL

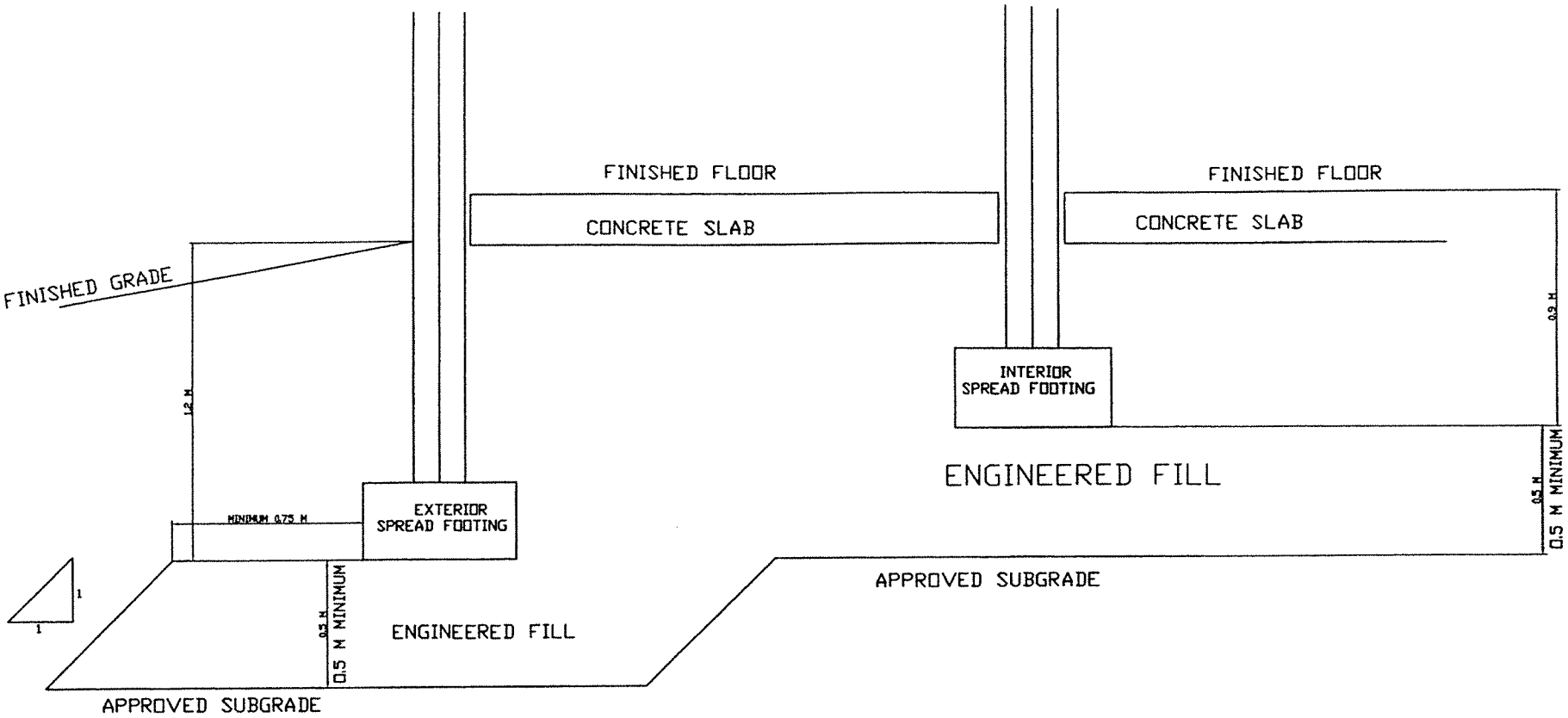
Address:
SETTLERS ROAD EAST &
POST ROAD, OAKVILLE, ONTARIO

PROJECT No.	:7565
DRAWING DATE	:DEC. 8, 2025
DRAWN BY: P.R.	PAGE 1 of 1
CHECKED BY: G.S.	

FORWARD ENGINEERING
& Associates Inc.

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NOTES:

1. The exposed subgrade to be proofrolled by heavy sheep foot equipment - minimum 10 passes.
2. The engineered fill should be placed in 200 mm layers compacted to 100 % SPMDD.
3. The proposed strip and spread footings should be designed for 150 kPa. All dimensions to be provided by the Structural Engineer.
4. Acceptance of the engineered fill is subject to full time compaction control.

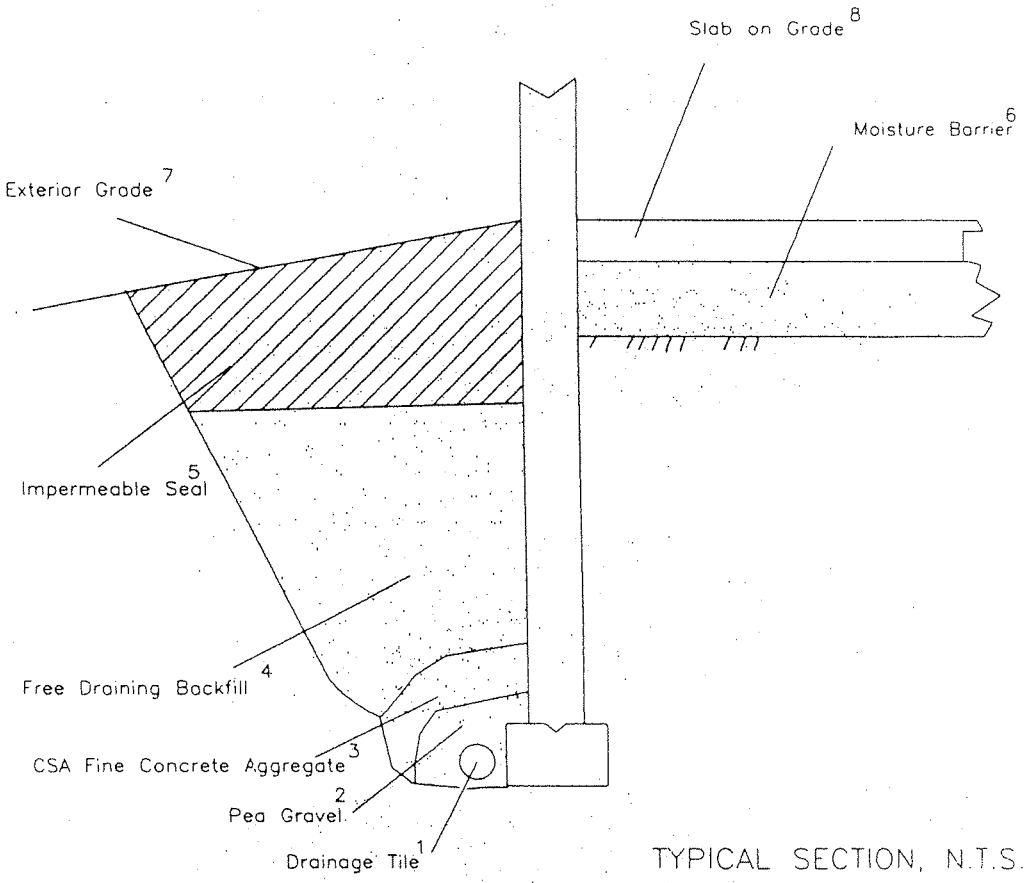
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ENGINEERED FILL PROFILE

N.T.S.	DATE: MAY 2002	DRAWING NO. 2

DRAINAGE AND BACKFILL RECOMMENDATIONS

(Not to Scale)



TYPICAL SECTION, N.T.S.

NOTES:

1. Drainage tile to consist of 100 (4") diam. Weeping tile or equivalent perforated pipe leading to a positive sump or outlet. Invert to be minimum 150mm (6") below underside of floor slab.
2. Pea gravel 150mm (6") top and sides of drain. If drain is not on footing, 100 mm (4") of pea gravel below drain. Clear 20mm (3/4") crushed stone may be used provided it is covered by an approved porous membrane (Terrafix 270R or equivalent).
3. C.S.A. Fine aggregate to act as filter material. Minimum 300 mm (12") top and sides of tile drain. This may be replaced by an approved porous plastic membrane as indicated in 2.
4. Free draining backfill - Class B pit-run gravel or equivalent compacted to 93 – 95 % Standard Proctor Maximum Dry Density (SPMDD).
5. Impermeable backfill seal compacted clay, clay silt or equivalent. If original soil is free draining seal may be omitted.
6. Moisture barrier to consist of 20mm (3/4") compacted crushed stone. Layer to be 200mm (8") thick.
7. Exterior grade to slope away from wall.
8. Slab on grade should not be structurally connected to wall footing.
9. If the 20mm (3/4") stone requires surface blinding, use 6mm (1/4") stone chips.

DRAWING NO. 3

APPENDIX A

BOREHOLE LOG SHEETS

(1 - 37)

Project No: 7565

Log of Borehole BH-1

Project: PROPOSED NORTH OAKVILLE NO. 3 CATHOLIC ELEMENTARY SCHOOL

Client: HDSB c/o HOSSACK ARCHITECTURE

Enclosure: 2

Location: POST ROAD & SETTLERS ROAD EAST, OAKVILLE, ONTARIO

Depth (m)	Description of strata	Elevation (m)	Sample No.	Type	Blows/ft	Recovery	Blows/ft (20 40 60 80)	Water Content % (10 20 30)	Monitoring Well
0	Ground Surface	184.25							
	FILL/DISTURBED SOIL brown and reddish grey clayey silt, compact, moist.	0.00	1	SS	25		25	13.2	
		183.64							
1	**CLAYEY SILT TILL/SILT TILL** very stiff, brown/reddish brown, moist.	0.61	2	SS	25		25	13.4	
			3	SS	26		26	13.2	
2									
		181.96							
	SILT TILL/SANDY SILT TILL very dense, brown and rust brown, moist to very moist.	2.29	4	SS	100		100	12.0	
3			5	SS	100		100	8.9	
4									
		179.55	6	SS	100		100	17.7	
	End of Borehole	4.70							
5									
6									
7									
8									

Remarks: -Upon completion of drilling, the borehole was open and dry.

Drill Method: CME 55 - SOLID

Drill Date: 19 NOV. 2025

Datum: GEODETIC

FORWARD ENGINEERING & ASSOCIATES INC.
244 Brockport Drive, Unit 15, Toronto, Ontario, M9W 6X9

Engineer: G.R.

Checked by: G.S.

Sheet No. 1 of 1

Project No: 7565

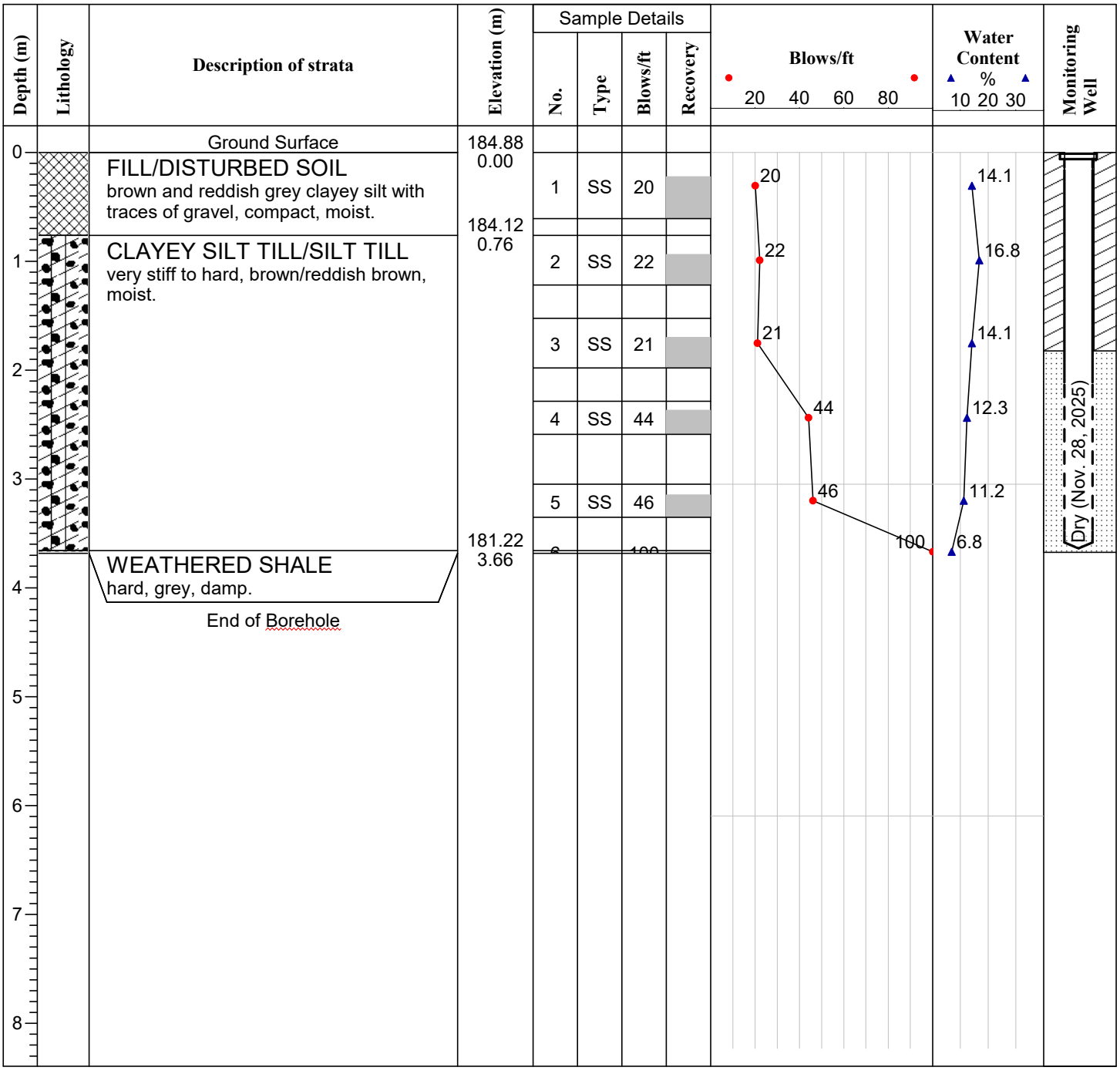
Log of Borehole BH/MW-2

Project: PROPOSED NORTH OAKVILLE NO. 3 CATHOLIC ELEMENTARY SCHOOL

Client: HDSB c/o HOSSACK ARCHITECTURE

Enclosure: 3

Location: POST ROAD & SETTLERS ROAD EAST, OAKVILLE, ONTARIO



Remarks: -Upon completion of drilling, the borehole was open and dry.
-On Nov 28, 2025, the water level in the installed well was measured and was observed to be dry.

Drill Method: CME 55 - SOLID

Drill Date: 13 NOV. 2025

Datum: GEODETIC

FORWARD ENGINEERING & ASSOCIATES INC.
244 Brockport Drive, Unit 15, Toronto, Ontario, M9W 6X9

Engineer: G.R.

Checked by: G.S.

Sheet No. 1 of 1

Project No: 7565

Log of Borehole BH-3

Project: PROPOSED NORTH OAKVILLE NO. 3 CATHOLIC ELEMENTARY SCHOOL

Client: HDSB c/o HOSSACK ARCHITECTURE

Enclosure: 4

Location: POST ROAD & SETTLERS ROAD EAST, OAKVILLE, ONTARIO

Depth (m)	Description of strata	Elevation (m)	Sample No.	Type	Blows/ft	Recovery	Blows/ft (20 40 60 80)	Water Content % (10 20 30)	Monitoring Well
0	Ground Surface	184.33							
	FILL/DISTURBED SOIL brown and reddish grey clayey silt, compact, moist.	0.00	1	SS	22		22	12.9	
		183.57							
1	**CLAYEY SILT TILL/SILT TILL** hard, brown/reddish brown, moist.	0.76	2	SS	38		38	12.1	
			3	SS	39		39	12.0	
2		182.04							
	SILT TILL/SANDY SILT TILL very dense, brown and rust brown, moist.	2.29	4	SS	100		100	9.8	
3			5	SS	100		100	11.1	
4		179.63	6		100		100	6.1	
	End of Borehole	4.70							
5									
6									
7									
8									

Remarks: -Upon completion of drilling, the borehole was open and dry.

Drill Method: CME 55 - SOLID

Drill Date: 19 NOV. 2025

Datum: GEODETIC

FORWARD ENGINEERING & ASSOCIATES INC.
244 Brockport Drive, Unit 15, Toronto, Ontario, M9W 6X9

Engineer: G.R.

Checked by: G.S.

Sheet No. 1 of 1

Project No: 7565

Log of Borehole BH-4

Project: PROPOSED NORTH OAKVILLE NO. 3 CATHOLIC ELEMENTARY SCHOOL

Client: HDSB c/o HOSSACK ARCHITECTURE

Enclosure: 5

Location: POST ROAD & SETTLERS ROAD EAST, OAKVILLE, ONTARIO

Depth (m)	Description of strata	Elevation (m)	Sample No.	Type	Blows/ft	Recovery	Blows/ft (20 40 60 80)	Water Content % (10 20 30)	Monitoring Well
0	Ground Surface	184.82							
	FILL/DISTURBED SOIL brown and reddish grey clayey silt with minor rootlets in the upper zone, loose to compact, moist.	0.00	1	SS	8		8	17.5	
1			2	SS	37		37	11.8	
	CLAYEY SILT TILL/SILT TILL hard, brown/reddish brown, moist.	183.29 1.52	3	SS	47		47	11.7	
2	**SILT TILL/SANDY SILT TILL** very dense, brown and rust brown, moist.	182.53 2.29	4	SS	100		100	10.4	
3			5	SS	100		100	10.7	
4	grey.		6	SS	100		100	8.8	
5	End of Borehole	179.87 4.95							
6									
7									
8									

Remarks: -Upon completion of drilling, the borehole was open and dry.

Drill Method: CME 55 - SOLID

Drill Date: 20 NOV. 2025

Datum: GEODETIC

FORWARD ENGINEERING & ASSOCIATES INC.
244 Brockport Drive, Unit 15, Toronto, Ontario, M9W 6X9

Engineer: G.R.

Checked by: G.S.

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Project No: 7565

Log of Borehole BH-5

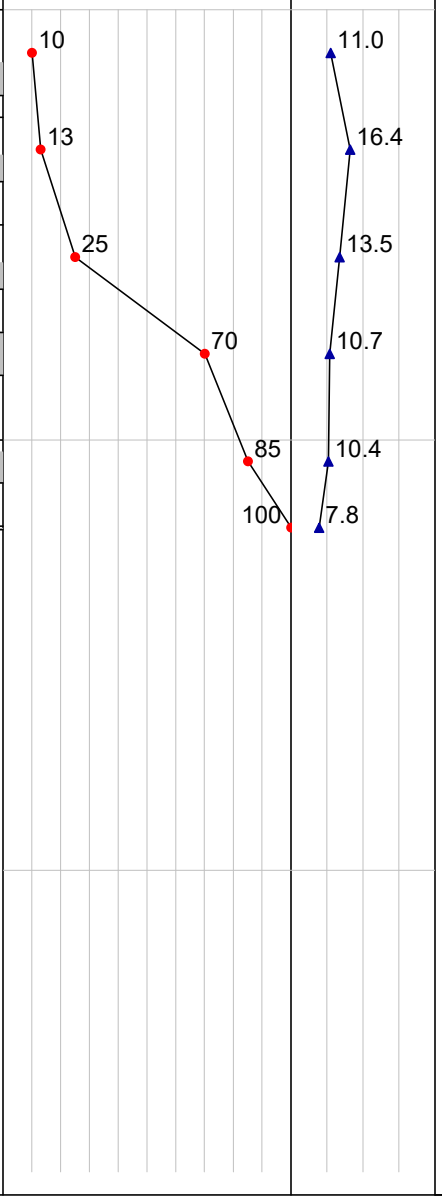
Project: PROPOSED NORTH OAKVILLE NO. 3 CATHOLIC ELEMENTARY SCHOOL

Client: HDSB c/o HOSSACK ARCHITECTURE

Enclosure: 6

Location: POST ROAD & SETTLERS ROAD EAST, OAKVILLE, ONTARIO

Depth (m)	Description of strata	Elevation (m)	Sample No.	Type	Blows/ft	Recovery
0	Ground Surface	185.06				
	FILL/DISTURBED SOIL brown and reddish grey clayey silt with traces of stone fragments, compact, moist.	0.00	1	SS	10	
1			2	SS	13	
	CLAYEY SILT TILL/SILT TILL very stiff to hard, brown/reddish brown, moist.	183.54 1.52	3	SS	25	
2						
			4	SS	70	
3			5	SS	85	
	WEATHERED SHALE hard, reddish brown, moist.	181.40 3.66	6		100	
4	End of Borehole					
5						
6						
7						
8						



Monitoring Well

Remarks: -Upon completion of drilling, the borehole was open and dry.

Drill Method: CME 55 - SOLID

Drill Date: 13 NOV. 2025

Datum: GEODETIC

FORWARD ENGINEERING & ASSOCIATES INC.
244 Brockport Drive, Unit 15, Toronto, Ontario, M9W 6X9

Engineer: G.R.

Checked by: G.S.

Sheet No. 1 of 1

Project No: 7565

Log of Borehole BH-6

Project: PROPOSED NORTH OAKVILLE NO. 3 CATHOLIC ELEMENTARY SCHOOL

Client: HDSB c/o HOSSACK ARCHITECTURE

Enclosure: 7

Location: POST ROAD & SETTLERS ROAD EAST, OAKVILLE, ONTARIO

Depth (m)	Description of strata	Elevation (m)	Sample No.	Type	Blows/ft	Recovery	Blows/ft (20 40 60 80)	Water Content % (10 20 30)
	Ground Surface	184.45						
0	FILL/DISTURBED SOIL brown and reddish grey clayey silt with stone fragments, compact, moist.	0.00	1	SS	25		25	11.6
1	CLAYEY SILT TILL/SILT TILL hard, brown/reddish brown, moist.		2	SS	47		47	11.8
2			3	SS	38		38	12.0
			4	SS	62		62	10.6
3	SILT TILL/SANDY SILT TILL very dense, brown and reddish brown, moist.	181.40 3.05	5	SS	100		100	7.3
4								
	WEATHERED SHALE hard, reddish brown, moist.	179.88 4.57	6		100		100	5.8
5	End of Borehole							
6								
7								
8								

Monitoring Well

Remarks: -Upon completion of drilling, the borehole was open and dry.

Drill Method: CME 55 - SOLID

Drill Date: 20 NOV. 2025

Datum: GEODETIC

FORWARD ENGINEERING & ASSOCIATES INC.
244 Brockport Drive, Unit 15, Toronto, Ontario, M9W 6X9

Engineer: G.R.

Checked by: G.S.

Sheet No. 1 of 1

Project No: 7565

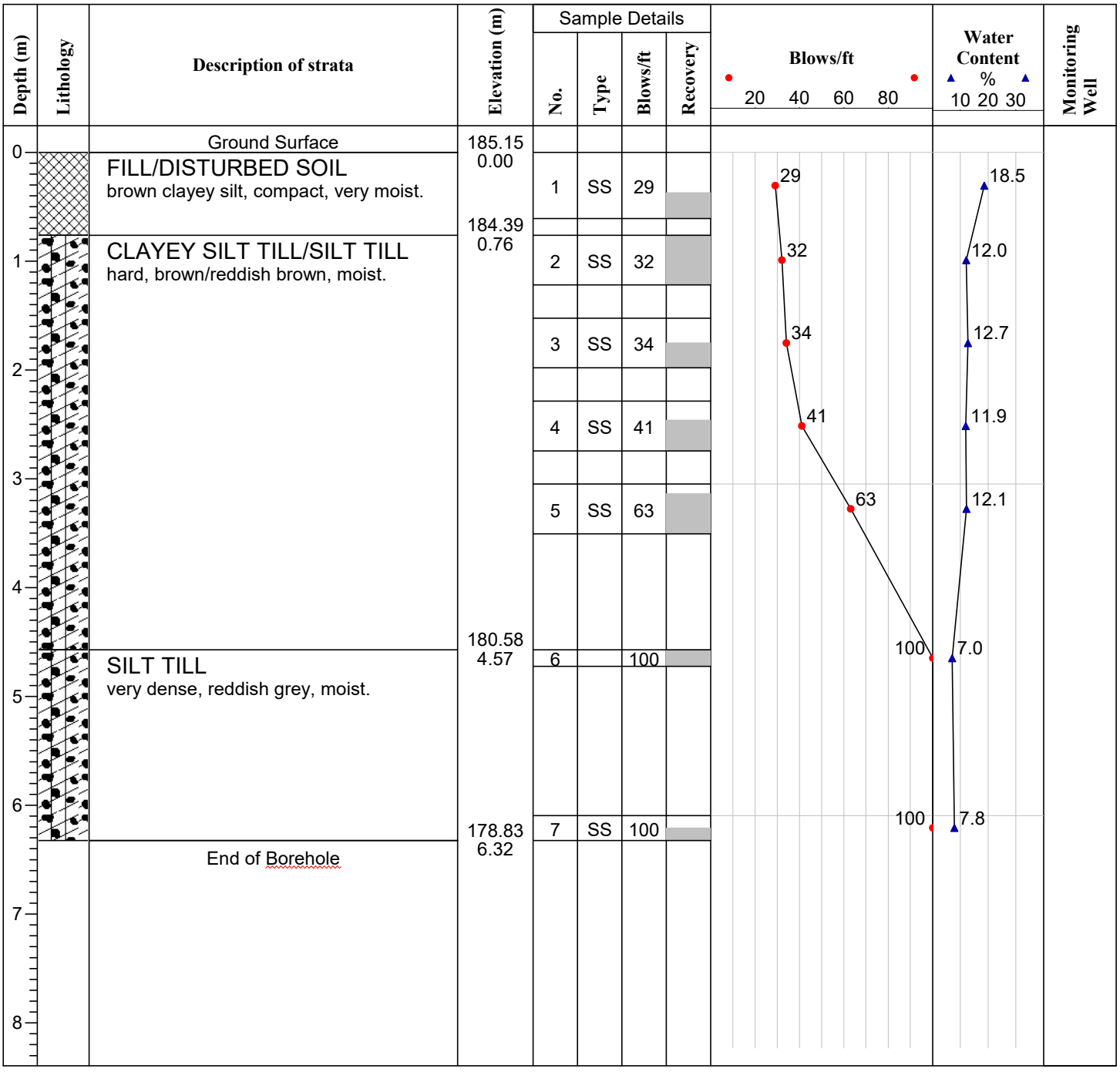
Log of Borehole BH-7

Project: PROPOSED NORTH OAKVILLE NO. 3 CATHOLIC ELEMENTARY SCHOOL

Client: HDSB c/o HOSSACK ARCHITECTURE

Enclosure: 8

Location: POST ROAD & SETTLERS ROAD EAST, OAKVILLE, ONTARIO



Remarks: -Upon completion of drilling, the borehole was open to 5.9 m and water level was measured at 5.5 m below EGSL.

Drill Method: CME 55 - SOLID

Drill Date: 13 NOV. 2025

Datum: GEODETIC

Engineer: G.R.

Checked by: G.S.

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FORWARD ENGINEERING & ASSOCIATES INC.
244 Brockport Drive, Unit 15, Toronto, Ontario, M9W 6X9

Project No: 7565

Log of Borehole BH/MW-8

Project: PROPOSED NORTH OAKVILLE NO. 3 CATHOLIC ELEMENTARY SCHOOL

Client: HDSB c/o HOSSACK ARCHITECTURE

Enclosure: 9

Location: POST ROAD & SETTLERS ROAD EAST, OAKVILLE, ONTARIO

Depth (m)	Description of strata	Elevation (m)	Sample No.	Type	Blows/ft	Recovery	Water Content %
0	Ground Surface	183.56					
	FILL/DISTURBED SOIL brown and reddish grey clayey silt, compact, moist.	0.00	1	SS	26		12.6
		182.80					
1	**CLAYEY SILT TILL/SILT TILL** hard, brown/reddish brown, moist.	0.76	2	SS	34		12.4
			3	SS	100		11.3
2			4	SS	100		16.0
3			5	SS	100		11.1
4							
		178.99					
	SILT TILL/SANDY SILT TILL very dense, grey, very moist.	4.57	6	SS	100		11.1
5							
6			7	SS	100		14.3
7							
		175.94					
	WEATHERED SHALE hard, grey, damp.	7.62	8		100		7.9
8	End of Borehole						

Blows/ft: 20 40 60 80

Water Content %: 10 20 30

Monitoring Well: 3.99 m (Nov. 28, 2025)

Remarks: -Upon completion of drilling, the borehole was open and water level was measured at 7.0 m below EGSL.
-On Nov 28, 2025, the water level in the installed well was measured at 3.99 m below EGSL.

Drill Method: CME 55 - SOLID

Drill Date: 19 NOV. 2025

Datum: GEODETIC

FORWARD ENGINEERING & ASSOCIATES INC.
244 Brockport Drive, Unit 15, Toronto, Ontario, M9W 6X9

Engineer: G.R.

Checked by: G.S.

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Project No: 7565

Log of Borehole BH-9

Project: PROPOSED NORTH OAKVILLE NO. 3 CATHOLIC ELEMENTARY SCHOOL

Client: HDSB c/o HOSSACK ARCHITECTURE

Enclosure: 10

Location: POST ROAD & SETTLERS ROAD EAST, OAKVILLE, ONTARIO

Depth (m)	Description of strata	Elevation (m)	Sample No.	Type	Blows/ft	Recovery	Blows/ft (20 40 60 80)	Water Content % (10 20 30)	Monitoring Well
0	Ground Surface	184.03							
	FILL/DISTURBED SOIL brown and grey clayey silt, compact, moist.	0.00	1	SS	24		24	10.4	
1	**CLAYEY SILT TILL/SILT TILL** hard, brown/reddish brown, moist.	183.11 0.91	2	SS	52		52	11.3	
			3	SS	58		58	8.7	
2			4	SS	100		100	11.0	
	with traces of shale fragments.		5	SS	100		100	1.0	
3									
4		179.46 4.57	6		100		100	6.1	
	SILT TILL very dense, grey, moist.								
5	End of Borehole								
6									
7									
8									

Remarks: -Upon completion of drilling, the borehole was open and dry.

Drill Method: CME 55 - SOLID

Drill Date: 19 NOV. 2025

Datum: GEODETIC

FORWARD ENGINEERING & ASSOCIATES INC.
244 Brockport Drive, Unit 15, Toronto, Ontario, M9W 6X9

Engineer: G.R.

Checked by: G.S.

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Project No: 7565

Log of Borehole BH-10

Project: PROPOSED NORTH OAKVILLE NO. 3 CATHOLIC ELEMENTARY SCHOOL

Client: HDSB c/o HOSSACK ARCHITECTURE

Enclosure: 11

Location: POST ROAD & SETTLERS ROAD EAST, OAKVILLE, ONTARIO

Depth (m)	Description of strata	Elevation (m)	No.	Type	Blows/ft	Recovery	Blows/ft (20 40 60 80)	Water Content % (10 20 30)	Monitoring Well
0	Ground Surface	184.57							
	FILL/DISTURBED SOIL brown clayey silt with traces of wood debris, compact, very moist.	0.00 184.11 0.46	1	SS	8		8	22.7	
1	CLAYEY SILT TILL/SILT TILL stiff to hard, brown and reddish brown, moist.		2	SS	38		38	12.4	
2			3	SS	39		39	12.6	
			4	SS	64		64	11.4	
3	SILT TILL/SANDY SILT TILL very dense, brown and reddish brown, moist.	181.52 3.05	5	SS	100		100	6.6	
4	grey.								
		179.87	6		100		100	5.6	
5	End of Borehole	4.70							
6									
7									
8									

Remarks: -Upon completion of drilling, the borehole was open and dry.

Drill Method: CME 55 - SOLID

Drill Date: 20 NOV. 2025

Datum: GEODETIC

FORWARD ENGINEERING & ASSOCIATES INC.
244 Brockport Drive, Unit 15, Toronto, Ontario, M9W 6X9

Engineer: G.R.

Checked by: G.S.

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Project No: 7565

Log of Borehole BH/MW-11

Project: PROPOSED NORTH OAKVILLE NO. 3 CATHOLIC ELEMENTARY SCHOOL

Client: HDSB c/o HOSSACK ARCHITECTURE

Enclosure: 12

Location: POST ROAD & SETTLERS ROAD EAST, OAKVILLE, ONTARIO

Depth (m)	Description of strata	Elevation (m)	No.	Type	Blows/ft	Recovery	Blows/ft (20 40 60 80)	Water Content % (10 20 30)	Monitoring Well
0	Ground Surface	184.89							
	CLAYEY SILT TILL/SILT TILL disturbed in the upper ±40 mm. very stiff to hard, brown/reddish brown, moist.	0.00	1	SS	24		24	13.7	
1			2	SS	34		34	13.0	
	with very moist layer.		3	SS	33		33	12.8	
2			4	SS	45		45	12.9	
3			5	SS	39		39	12.1	
4									4.38 m (Nov. 28, 2025)
	SILT TILL/SANDY SILT TILL with very moist sandy silt seams in the upper zone. very dense, grey, very moist.	180.32 4.57	6	SS	100		100	8.3	
5									
6			7	SS	100		100	8.6	
7			8	SS	100		100	8.9	
	End of Borehole	177.19 7.70							
8									

Remarks: -Upon completion of drilling, the borehole was open and water level was measured at 7.5 m below EGSL.
-On Nov 28, 2025, the water level in the installed well was measured at 4.38 m below EGSL.

Drill Method: CME 55 - SOLID

Drill Date: 18 NOV. 2025

Datum: GEODETIC

FORWARD ENGINEERING & ASSOCIATES INC.
244 Brockport Drive, Unit 15, Toronto, Ontario, M9W 6X9

Engineer: G.R.

Checked by: G.S.

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Project No: 7565

Log of Borehole BH-12

Project: PROPOSED NORTH OAKVILLE NO. 3 CATHOLIC ELEMENTARY SCHOOL

Client: HDSB c/o HOSSACK ARCHITECTURE

Enclosure: 13

Location: POST ROAD & SETTLERS ROAD EAST, OAKVILLE, ONTARIO

Depth (m)	Description of strata	Elevation (m)	No.	Type	Blows/ft	Recovery	Water Content %
	Ground Surface	185.27					
0	FILL/DISTURBED SOIL brown clayey silt, compact, moist.	0.00	1	SS	23		12.2
1	with minor traces of rootlets.		2	SS	19		19.7
		183.75					
2	CLAYEY SILT TILL/SILT TILL very stiff to hard, brown, moist.	1.52	3	SS	26		11.7
			4	SS	49		11.4
3			5	SS	58		12.0
4							
		180.39	6	SS	48		10.1
5	SILT TILL dense to very dense, reddish grey and grey, moist.	4.88					
6		179.07	7		100		7.7
	End of Borehole	6.20					
7							
8							

Blows/ft: 20 40 60 80

Water Content %: 10 20 30

Monitoring Well

Remarks: -Upon completion of drilling, the borehole was open to 5.9 m and dry.

Drill Method: CME 55 - SOLID

Drill Date: 13 NOV. 2025

Datum: GEODETIC

FORWARD ENGINEERING & ASSOCIATES INC.
244 Brockport Drive, Unit 15, Toronto, Ontario, M9W 6X9

Engineer: G.R.

Checked by: G.S.

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Project No: 7565

Log of Borehole BH-13

Project: PROPOSED NORTH OAKVILLE NO. 3 CATHOLIC ELEMENTARY SCHOOL

Client: HDSB c/o HOSSACK ARCHITECTURE

Enclosure: 14

Location: POST ROAD & SETTLERS ROAD EAST, OAKVILLE, ONTARIO

Depth (m)	Description of strata	Elevation (m)	Sample No.	Type	Blows/ft	Recovery	Blows/ft (20 40 60 80)	Water Content % (10 20 30)	Monitoring Well
0	Ground Surface	183.55							
	CLAYEY SILT TILL/SILT TILL disturbed in the upper ±50 mm. very stiff to hard, brown and reddish brown, moist.	0.00	1	SS	19		19	12.1	
1			2	SS	35		35	13.5	
	with sandy silt layer.		3	SS	60		60	13.3	
2		181.26							
	SILT TILL/SANDY SILT TILL very dense, brown and reddish brown, moist.	2.29	4	SS	59		59	9.6	
3	with traces of stone fragments.		5	SS	100		100	5.7	
4		178.85	6		100		100	5.2	
	End of Borehole	4.70							
5									
6									
7									
8									

Remarks: -Upon completion of drilling, the borehole was open and water level was measured at 4.6 m.

Drill Method: CME 55 - SOLID

Drill Date: 19 NOV. 2025

Datum: GEODETIC

FORWARD ENGINEERING & ASSOCIATES INC.
244 Brockport Drive, Unit 15, Toronto, Ontario, M9W 6X9

Engineer: G.R.

Checked by: G.S.

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Project No: 7565

Log of Borehole BH-14

Project: PROPOSED NORTH OAKVILLE NO. 3 CATHOLIC ELEMENTARY SCHOOL

Client: HDSB c/o HOSSACK ARCHITECTURE

Enclosure: 15

Location: POST ROAD & SETTLERS ROAD EAST, OAKVILLE, ONTARIO

Depth (m)	Description of strata	Elevation (m)	Sample Details: No.	Type	Blows/ft	Recovery	Blows/ft (20 40 60 80)	Water Content % (10 20 30)	Monitoring Well
0	Ground Surface	184.08							
	FILL/DISTURBED SOIL brown clayey silt, compact, moist.	0.00	1	SS	27		27	11.3	
		183.32							
1	**CLAYEY SILT TILL/SILT TILL** hard, brown and reddish brown, moist.	0.76	2	SS	52		52	10.8	
			3	SS	71		71	10.5	
2			4	SS	77		77	9.9	
3	**SILT TILL/SANDY SILT TILL** very dense, brown and reddish brown, moist.	181.03 3.05	5	SS	100		100	7.5	
4	grey/reddish grey.		6		100		100	8.3	
	End of Borehole	179.43 4.65							
5									
6									
7									
8									

Remarks: -Upon completion of drilling, the borehole was open and dry.

Drill Method: CME 55 - SOLID

Drill Date: 19 NOV. 2025

Datum: GEODETIC

FORWARD ENGINEERING & ASSOCIATES INC.
244 Brockport Drive, Unit 15, Toronto, Ontario, M9W 6X9

Engineer: G.R.

Checked by: G.S.

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Project No: 7565

Log of Borehole BH-15

Project: PROPOSED NORTH OAKVILLE NO. 3 CATHOLIC ELEMENTARY SCHOOL

Client: HDSB c/o HOSSACK ARCHITECTURE

Enclosure: 16

Location: POST ROAD & SETTLERS ROAD EAST, OAKVILLE, ONTARIO

Depth (m)	Description of strata	Elevation (m)	Sample No.	Type	Blows/ft	Recovery	Blows/ft (20 40 60 80)	Water Content % (10 20 30)	Monitoring Well
0	Ground Surface	184.65							
	FILL/DISTURBED SOIL brown clayey silt, compact, moist.	0.00	1	SS	26		26	12.8	
		183.89							
1	CLAYEY SILT TILL/SILT TILL hard, brown and reddish brown, moist.	0.76	2	SS	37		37	9.4	
			3	SS	36		36	10.2	
2			4	SS	43		43	10.9	
3	with traces of stone fragments.		5	SS	67		67	10.7	
4		180.08	6		100		100	7.0	
	SILT TILL/SANDY SILT TILL very dense, grey, moist.	4.57							
5	End of Borehole								
6									
7									
8									

Remarks: -Upon completion of drilling, the borehole was open and dry.

Drill Method: CME 55 - SOLID

Drill Date: 20 NOV. 2025

Datum: GEODETIC

FORWARD ENGINEERING & ASSOCIATES INC.
244 Brockport Drive, Unit 15, Toronto, Ontario, M9W 6X9

Engineer: G.R.

Checked by: G.S.

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Project No: 7565

Log of Borehole BH-16

Project: PROPOSED NORTH OAKVILLE NO. 3 CATHOLIC ELEMENTARY SCHOOL

Client: HDSB c/o HOSSACK ARCHITECTURE

Enclosure: 17

Location: POST ROAD & SETTLERS ROAD EAST, OAKVILLE, ONTARIO

Depth (m)	Description of strata	Elevation (m)	Sample No.	Type	Blows/ft	Recovery	Blows/ft (20 40 60 80)	Water Content % (10 20 30)	Monitoring Well
0	Ground Surface	185.55							
	FILL/DISTURBED SOIL brown clayey silt, compact, moist.	0.00	1	SS	28		28	10.0	
		184.94							
1	CLAYEY SILT TILL/SILT TILL very stiff to hard, brown, moist.	0.61	2	SS	18		18	11.3	
			3	SS	45		45	11.2	
2			4	SS	53		53	10.8	
3			5	SS	50		50	11.2	
4	very stiff, reddish brown.		6	SS	25		25	12.3	
5									
6		179.45	7		100		100	7.2	
	SILT TILL very dense, grey, moist.	6.10							
	End of Borehole								
7									
8									

Remarks: -Upon completion of drilling, the borehole was open and dry.

Drill Method: CME 55 - SOLID

Drill Date: 13 NOV. 2025

Datum: GEODETIC

FORWARD ENGINEERING & ASSOCIATES INC.
244 Brockport Drive, Unit 15, Toronto, Ontario, M9W 6X9

Engineer: G.R.

Checked by: G.S.

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Project No: 7565

Log of Borehole BH-17

Project: PROPOSED NORTH OAKVILLE NO. 3 CATHOLIC ELEMENTARY SCHOOL

Client: HDSB c/o HOSSACK ARCHITECTURE

Enclosure: 18

Location: POST ROAD & SETTLERS ROAD EAST, OAKVILLE, ONTARIO

Depth (m)	Description of strata	Elevation (m)	Sample Details: No.	Type	Blows/ft	Recovery	Blows/ft (20 40 60 80)	Water Content % (10 20 30)	Monitoring Well
0	Ground Surface	185.30							
	FILL/DISTURBED SOIL brown clayey silt, compact, very moist.	0.00	1	SS	15		15	22.6	
		184.54							
1	**CLAYEY SILT TILL/SILT TILL** hard, brown and reddish brown, moist.	0.76	2	SS	41		41	11.3	
			3	SS	43		43	12.2	
2			4	SS	49		49	11.4	
3	**SILT TILL** dense, grey, moist.	182.25 3.05	5	SS	34		34	10.5	
4	with occasional sandy silt seams.		6	SS	48		48	10.1	
5	End of Borehole	180.27 5.03							
6									
7									
8									

Remarks: -Upon completion of drilling, the borehole was open and dry.

Drill Method: CME 55 - SOLID

Drill Date: 18 NOV. 2025

Datum: GEODETIC

FORWARD ENGINEERING & ASSOCIATES INC.
244 Brockport Drive, Unit 15, Toronto, Ontario, M9W 6X9

Engineer: G.R.

Checked by: G.S.

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Project No: 7565

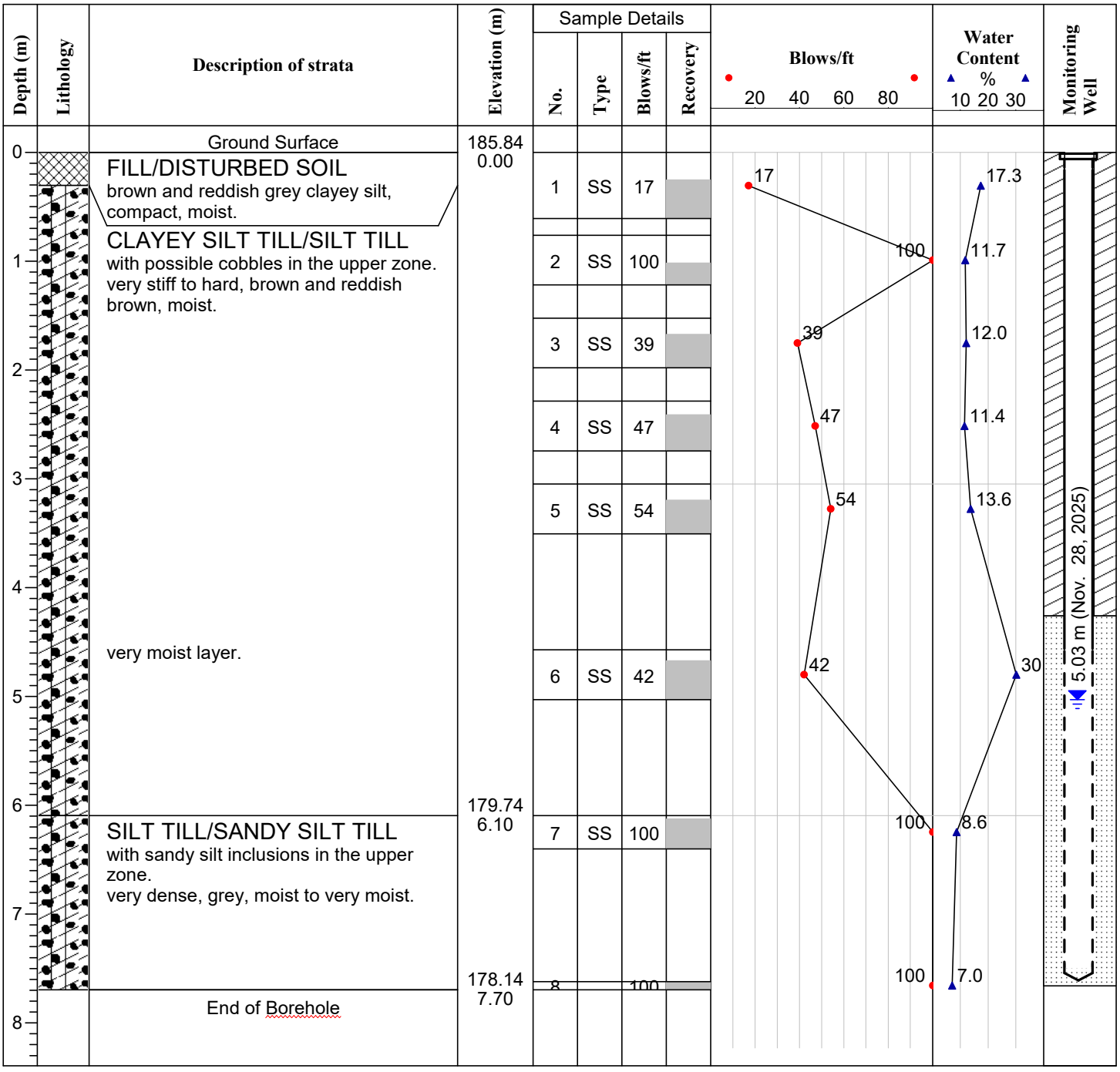
Log of Borehole BH/MW-18

Project: PROPOSED NORTH OAKVILLE NO. 3 CATHOLIC ELEMENTARY SCHOOL

Client: HDSB c/o HOSSACK ARCHITECTURE

Enclosure: 19

Location: POST ROAD & SETTLERS ROAD EAST, OAKVILLE, ONTARIO



Remarks: -Upon completion of drilling, the borehole was open and water level was measured at 7.4 m below EGSL.
-On Nov 28, 2025, the water level in the installed well was measured at 5.03 m below EGSL.

Drill Method: CME 55 - SOLID

Drill Date: 18 NOV. 2025

Datum: GEODETIC

FORWARD ENGINEERING & ASSOCIATES INC.
244 Brockport Drive, Unit 15, Toronto, Ontario, M9W 6X9

Engineer: G.R.

Checked by: G.S.

Sheet No. 1 of 1

Project No: 7565

Log of Borehole BH/MW-19

Project: PROPOSED NORTH OAKVILLE NO. 3 CATHOLIC ELEMENTARY SCHOOL

Client: HDSB c/o HOSSACK ARCHITECTURE

Enclosure: 20

Location: POST ROAD & SETTLERS ROAD EAST, OAKVILLE, ONTARIO

Depth (m)	Description of strata	Elevation (m)	No.	Type	Blows/ft	Recovery	Water Content %
	Ground Surface	183.50					
0	**CLAYEY SILT TILL/SILT TILL** disturbed in the upper ±50 mm. very stiff to hard, brown and reddish brown, moist.	0.00	1	SS	23		13.7
1			2	SS	39		11.4
2			3	SS	55		9.3
	SILT TILL/SANDY SILT TILL very dense, brown and reddish brown, moist.	181.21 2.29	4	SS	100		8.1
3			5	SS	100		8.1
4	grey.		6	SS	100		8.2
5							
6	**WEATHERED SHALE** hard, grey, damp.	177.40 6.10	7		100		5.3
	End of Borehole						
7							
8							

Blows/ft: 20 40 60 80

Water Content %: 10 20 30

Monitoring Well: 5.03 m (Nov. 28, 2025)

Remarks: -Upon completion of drilling, the borehole was open and was wet at the bottom.
-On Nov 28, 2025, the water level in the installed well was measured at 3.68 m below EGSL.

Drill Method: CME 55 - SOLID

Drill Date: 19 NOV. 2025

Datum: GEODETIC

FORWARD ENGINEERING & ASSOCIATES INC.
244 Brockport Drive, Unit 15, Toronto, Ontario, M9W 6X9

Engineer: G.R.

Checked by: G.S.

Sheet No. 1 of 1

Project No: 7565

Log of Borehole BH-20

Project: PROPOSED NORTH OAKVILLE NO. 3 CATHOLIC ELEMENTARY SCHOOL

Client: HDSB c/o HOSSACK ARCHITECTURE

Enclosure: 21

Location: POST ROAD & SETTLERS ROAD EAST, OAKVILLE, ONTARIO

Depth (m)	Description of strata	Elevation (m)	Sample No.	Type	Blows/ft	Recovery	Water Content %
0	Ground Surface	184.10					
	FILL/DISTURBED SOIL brown clayey silt, compact, moist.	0.00	1	SS	12		22.3
1	**CLAYEY SILT TILL/SILT TILL** stiff to hard, brown and reddish brown, moist.		2	SS	35		11.9
2			3	SS	42		11.4
			4	SS	64		10.5
3	**SILT TILL/SANDY SILT TILL** very dense, brown, moist.	181.05 3.05	5	SS	100		6.7
4	grey.		6		100		6.8
	End of Borehole	179.43 4.67					
5							
6							
7							
8							

Blows/ft: 20 40 60 80

Water Content %: 10 20 30

Monitoring Well

Remarks: -Upon completion of drilling, the borehole was open and dry.

Drill Method: CME 55 - SOLID

Drill Date: 19 NOV. 2025

Datum: GEODETIC

FORWARD ENGINEERING & ASSOCIATES INC.
244 Brockport Drive, Unit 15, Toronto, Ontario, M9W 6X9

Engineer: G.R.

Checked by: G.S.

Sheet No. 1 of 1

Project No: 7565

Log of Borehole BH-21

Project: PROPOSED NORTH OAKVILLE NO. 3 CATHOLIC ELEMENTARY SCHOOL

Client: HDSB c/o HOSSACK ARCHITECTURE

Enclosure: 22

Location: POST ROAD & SETTLERS ROAD EAST, OAKVILLE, ONTARIO

Depth (m)	Description of strata	Elevation (m)	Sample No.	Type	Blows/ft	Recovery	Water Content %
	Ground Surface	184.95					
0	FILL/DISTURBED SOIL brown clayey silt, compact, moist.	0.00	1	SS	29		12.9
1	CLAYEY SILT TILL/SILT TILL very stiff to hard, brown and reddish brown, moist.		2	SS	36		11.1
2			3	SS	45		4.8
			4	SS	41		11.0
3	very stiff.		5	SS	28		12.1
4		180.38	6		100		4.8
	SILT TILL/SANDY SILT TILL very dense, grey, damp.	4.57					
5	End of Borehole						
6							
7							
8							

Blows/ft: 20 40 60 80

Water Content %: 10 20 30

Monitoring Well

Remarks: -Upon completion of drilling, the borehole was open and dry.

Drill Method: CME 55 - SOLID

Drill Date: 21 NOV. 2025

Datum: GEODETIC

FORWARD ENGINEERING & ASSOCIATES INC.
244 Brockport Drive, Unit 15, Toronto, Ontario, M9W 6X9

Engineer: G.R.

Checked by: G.S.

Sheet No. 1 of 1

Project No: 7565

Log of Borehole BH-22

Project: PROPOSED NORTH OAKVILLE NO. 3 CATHOLIC ELEMENTARY SCHOOL

Client: HDSB c/o HOSSACK ARCHITECTURE

Enclosure: 23

Location: POST ROAD & SETTLERS ROAD EAST, OAKVILLE, ONTARIO

Depth (m)	Description of strata	Elevation (m)	Sample No.	Type	Blows/ft	Recovery	Blows/ft (20 40 60 80)	Water Content % (10 20 30)	Monitoring Well
0	Ground Surface	184.83							
	FILL/DISTURBED SOIL brown clayey silt, loose, moist.	0.00	1	SS	7		7	20.2	
	CLAYEY SILT TILL/SILT TILL very stiff to hard, brown and reddish brown, moist.	184.22 0.61	2	SS	30		30	12.4	
			3	SS	43		43	11.7	
			4	SS	52		52	11.1	
			5	SS	49		49	10.0	
			6		100		100	8.6	
	SILT TILL/SANDY SILT TILL very dense, grey, moist.	180.26 4.57							
	End of Borehole								

Remarks: -Upon completion of drilling, the borehole was open and dry.

Drill Method: CME 55 - SOLID

Drill Date: 19 NOV. 2025

Datum: GEODETIC

FORWARD ENGINEERING & ASSOCIATES INC.
244 Brockport Drive, Unit 15, Toronto, Ontario, M9W 6X9

Engineer: G.R.

Checked by: G.S.

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Project No: 7565

Log of Borehole BH-23

Project: PROPOSED NORTH OAKVILLE NO. 3 CATHOLIC ELEMENTARY SCHOOL

Client: HDSB c/o HOSSACK ARCHITECTURE

Enclosure: 24

Location: POST ROAD & SETTLERS ROAD EAST, OAKVILLE, ONTARIO

Depth (m)	Description of strata	Elevation (m)	Sample No.	Type	Blows/ft	Recovery	Blows/ft (20 40 60 80)	Water Content % (10 20 30)	Monitoring Well
0	Ground Surface	185.60							
	FILL/DISTURBED SOIL brown and reddish brown clayey silt with traces of rootlets in the upper zone, compact, moist.	0.00	1	SS	14		14	12.5	
		184.84							
1	CLAYEY SILT TILL/SILT TILL very stiff to hard, brown and reddish brown, moist.	0.76	2	SS	48		48	12.5	
			3	SS	27		27	12.1	
2			4	SS	52		52	11.0	
3			5	SS	32		32	11.7	
4	with wet clayey silt/silty clay layer. very stiff, grey and reddish grey.		6	SS	23		23	12.9	
		180.57							
5	End of Borehole	5.03							
6									
7									
8									

Remarks: -Upon completion of drilling, the borehole was open and dry.

Drill Method: CME 55 - SOLID

Drill Date: 18 NOV. 2025

Datum: GEODETIC

Engineer: G.R.

Checked by: G.S.

Sheet No. 1 of 1

FORWARD ENGINEERING & ASSOCIATES INC.
244 Brockport Drive, Unit 15, Toronto, Ontario, M9W 6X9

Project No: 7565

Log of Borehole BH-24

Project: PROPOSED NORTH OAKVILLE NO. 3 CATHOLIC ELEMENTARY SCHOOL

Client: HDSB c/o HOSSACK ARCHITECTURE

Enclosure: 25

Location: POST ROAD & SETTLERS ROAD EAST, OAKVILLE, ONTARIO

Depth (m)	Description of strata	Elevation (m)	Sample Details: No.	Type	Blows/ft	Recovery	Blows/ft (20 40 60 80)	Water Content % (10 20 30)	Monitoring Well
0	Ground Surface	186.60							
	FILL/DISTURBED SOIL brown clayey silt with minor asphalt traces, compact, moist.	0.00	1	SS	17		17	16.2	
1	CLAYEY SILT TILL/SILT TILL very stiff to hard, brown and reddish brown, moist.		2	SS	41		41	11.6	
2			3	SS	41		41	12.1	
	End of Borehole	184.62 1.98							
3									
4									
5									
6									
7									
8									

Remarks: -Upon completion of drilling, the borehole was open and dry.

Drill Method: CME 55 - SOLID

Drill Date: 21 NOV. 2025

Datum: GEODETIC

FORWARD ENGINEERING & ASSOCIATES INC.
244 Brockport Drive, Unit 15, Toronto, Ontario, M9W 6X9

Engineer: G.R.

Checked by: G.S.

Sheet No. 1 of 1

Project No: 7565

Log of Borehole BH-25

Project: PROPOSED NORTH OAKVILLE NO. 3 CATHOLIC ELEMENTARY SCHOOL

Client: HDSB c/o HOSSACK ARCHITECTURE

Enclosure: 26

Location: POST ROAD & SETTLERS ROAD EAST, OAKVILLE, ONTARIO

Depth (m)	Description of strata	Elevation (m)	Sample Details: No.	Type	Blows/ft	Recovery	Blows/ft (20 40 60 80)	Water Content % (10 20 30)	Monitoring Well
0	Ground Surface	187.02							
	CLAYEY SILT TILL/SILT TILL disturbed and with minor rootlets in the upper ±50 mm. very stiff, brown and reddish brown, moist.	0.00	1	SS	17		17	13.0	
1			2	SS	29		29	11.7	
2			3	SS	28		28	12.5	
	End of Borehole	185.04 1.98							
3									
4									
5									
6									
7									
8									

Remarks: -Upon completion of drilling, the borehole was open and dry.

Drill Method: CME 55 - SOLID

Drill Date: 21 NOV. 2025

Datum: GEODETIC

FORWARD ENGINEERING & ASSOCIATES INC.
244 Brockport Drive, Unit 15, Toronto, Ontario, M9W 6X9

Engineer: G.R.

Checked by: G.S.

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Project No: 7565

Log of Borehole BH-26

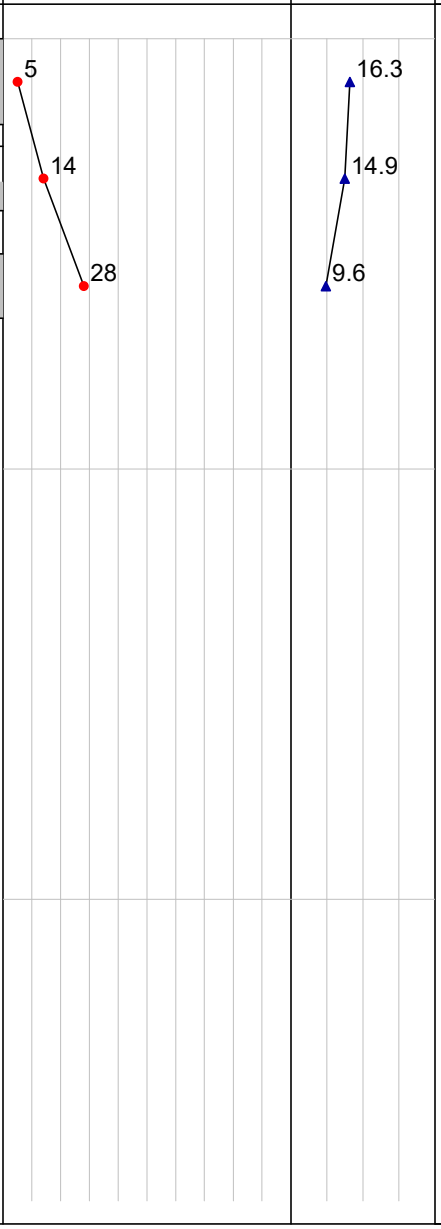
Project: PROPOSED NORTH OAKVILLE NO. 3 CATHOLIC ELEMENTARY SCHOOL

Client: HDSB c/o HOSSACK ARCHITECTURE

Enclosure: 27

Location: POST ROAD & SETTLERS ROAD EAST, OAKVILLE, ONTARIO

Depth (m)	Description of strata	Elevation (m)	Sample Details: No.	Type	Blows/ft	Recovery
0	Ground Surface	185.85				
	FILL/DISTURBED SOIL brown and grey clayey silt, loose, moist.	0.00	1	SS	5	
1	**CLAYEY SILT TILL/SILT TILL** stiff to very stiff, brown and reddish brown, moist.	185.09 0.76	2	SS	14	
			3	SS	28	
2	End of Borehole	183.87 1.98				
3						
4						
5						
6						
7						
8						



Monitoring Well

Remarks: -Upon completion of drilling, the borehole was open and dry.

Drill Method: CME 55 - SOLID

Drill Date: 21 NOV. 2025

Datum: GEODETIC

FORWARD ENGINEERING & ASSOCIATES INC.
244 Brockport Drive, Unit 15, Toronto, Ontario, M9W 6X9

Engineer: G.R.

Checked by: G.S.

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Project No: 7565

Log of Borehole BH-27

Project: PROPOSED NORTH OAKVILLE NO. 3 CATHOLIC ELEMENTARY SCHOOL

Client: HDSB c/o HOSSACK ARCHITECTURE

Enclosure: 28

Location: POST ROAD & SETTLERS ROAD EAST, OAKVILLE, ONTARIO

Depth (m)	Description of strata	Elevation (m)	Sample Details: No.	Type	Blows/ft	Recovery	Blows/ft (20 40 60 80)	Water Content % (10 20 30)	Monitoring Well
0	Ground Surface	186.68							
	FILL/DISTURBED SOIL brown and grey clayey silt, loose, moist.	0.00	1	SS	4		4	14.2	
1	CLAYEY SILT TILL/SILT TILL with occasional stone fragments. hard, brown and reddish brown, moist.	185.92 0.76	2	SS	50		50	10.7	
2			3	SS	36		36	10.4	
	End of Borehole	184.70 1.98							
3									
4									
5									
6									
7									
8									

Remarks: -Upon completion of drilling, the borehole was open and dry.

Drill Method: CME 55 - SOLID

Drill Date: 21 NOV. 2025

Datum: GEODETIC

FORWARD ENGINEERING & ASSOCIATES INC.
244 Brockport Drive, Unit 15, Toronto, Ontario, M9W 6X9

Engineer: G.R.

Checked by: G.S.

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Project No: 7565

Log of Borehole BH-28

Project: PROPOSED NORTH OAKVILLE NO. 3 CATHOLIC ELEMENTARY SCHOOL

Client: HDSB c/o HOSSACK ARCHITECTURE

Enclosure: 29

Location: POST ROAD & SETTLERS ROAD EAST, OAKVILLE, ONTARIO

Depth (m)	Description of strata	Elevation (m)	Sample Details: No.	Type	Blows/ft	Recovery	Blows/ft (20 40 60 80)	Water Content % (10 20 30)	Monitoring Well
0	Ground Surface	185.77							
0	CLAYEY SILT TILL/SILT TILL disturbed in the upper ±50 mm. very stiff, brown and reddish brown, moist.	0.00	1	SS	30		30	10.4	
1			2	SS	28		28	13.6	
2			3	SS	21		21	20.5	
2	End of Borehole	183.79 1.98							
3									
4									
5									
6									
7									
8									

Remarks: -Upon completion of drilling, the borehole was open and dry.

Drill Method: CME 55 - SOLID

Drill Date: 21 NOV. 2025

Datum: GEODETIC

FORWARD ENGINEERING & ASSOCIATES INC.
244 Brockport Drive, Unit 15, Toronto, Ontario, M9W 6X9

Engineer: G.R.

Checked by: G.S.

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Project No: 7565

Log of Borehole BH-29

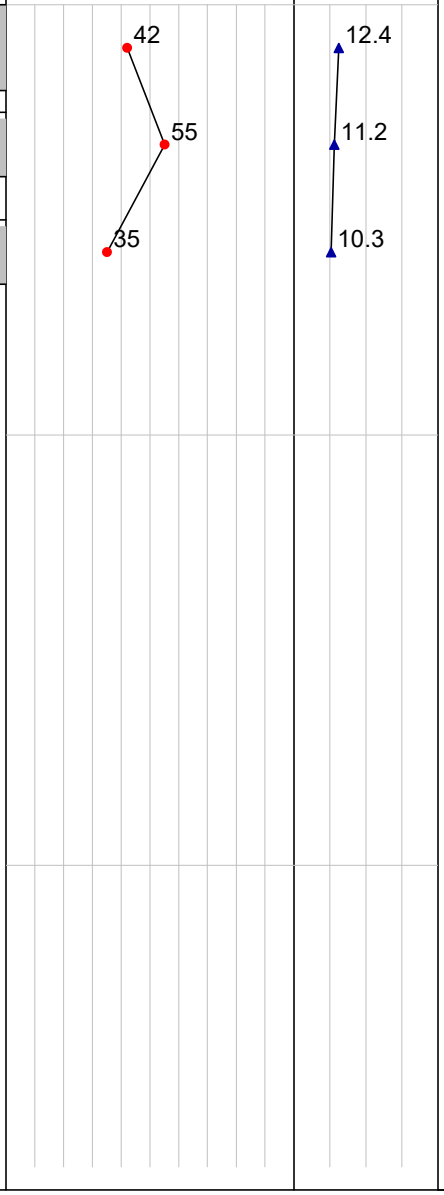
Project: PROPOSED NORTH OAKVILLE NO. 3 CATHOLIC ELEMENTARY SCHOOL

Client: HDSB c/o HOSSACK ARCHITECTURE

Enclosure: 30

Location: POST ROAD & SETTLERS ROAD EAST, OAKVILLE, ONTARIO

Depth (m)	Description of strata	Elevation (m)	Sample No.	Sample Type	Blows/ft	Recovery
0	Ground Surface	186.68				
	FILL/DISTURBED SOIL brown and grey clayey silt with traces of sand, compact, moist.	0.00	1	SS	42	
1	CLAYEY SILT TILL/SILT TILL hard, brown and reddish brown, moist.		2	SS	55	
2		184.70	3	SS	35	
	End of Borehole	1.98				
3						
4						
5						
6						
7						
8						



Remarks: -Upon completion of drilling, the borehole was open and dry.

Drill Method: CME 55 - SOLID

Drill Date: 21 NOV. 2025

Datum: GEODETIC

FORWARD ENGINEERING & ASSOCIATES INC.
244 Brockport Drive, Unit 15, Toronto, Ontario, M9W 6X9

Engineer: G.R.

Checked by: G.S.

Sheet No. 1 of 1

Project No: 7565

Log of Borehole BH-30

Project: PROPOSED NORTH OAKVILLE NO. 3 CATHOLIC ELEMENTARY SCHOOL

Client: HDSB c/o HOSSACK ARCHITECTURE

Enclosure: 31

Location: POST ROAD & SETTLERS ROAD EAST, OAKVILLE, ONTARIO

Depth (m)	Lithology	Description of strata	Elevation (m)	Sample Details: No.	Type	Blows/ft	Recovery	Blows/ft (20 40 60 80)	Water Content % (10 20 30)	Monitoring Well
0		Ground Surface	185.46							
		CLAYEY SILT TILL/SILT TILL disturbed in the upper ±50 mm. very stiff to hard, brown and reddish brown, moist.	0.00	1	SS	18		18	11.7	
1				2	SS	33		33	12.3	
		very stiff.		3	SS	25		25	13.8	
2			183.48							
		End of Borehole	1.98							
3										
4										
5										
6										
7										
8										

Remarks: -Upon completion of drilling, the borehole was open and dry.

Drill Method: CME 55 - SOLID

Drill Date: 21 NOV. 2025

Datum: GEODETIC

FORWARD ENGINEERING & ASSOCIATES INC.
244 Brockport Drive, Unit 15, Toronto, Ontario, M9W 6X9

Engineer: G.R.

Checked by: G.S.

Sheet No. 1 of 1

Project No: 7565

Log of Borehole BH-31

Project: PROPOSED NORTH OAKVILLE NO. 3 CATHOLIC ELEMENTARY SCHOOL

Client: HDSB c/o HOSSACK ARCHITECTURE

Enclosure: 32

Location: POST ROAD & SETTLERS ROAD EAST, OAKVILLE, ONTARIO

Depth (m)	Description of strata	Elevation (m)	Sample No.	Sample Type	Blows/ft	Recovery	Water Content %
	Ground Surface	184.95					
0	FILL/DISTURBED SOIL brown and grey clayey silt with traces of silty sand, compact, moist.	0.00	1	SS	10		12.9
1	CLAYEY SILT TILL/SILT TILL with traces of rootlets in the upper zone. very stiff to stiff, brown and reddish brown, moist.	184.19 0.76	2	SS	21		17.1
2			3	SS	14		14.1
	End of Borehole	182.97 1.98					
3							
4							
5							
6							
7							
8							

Blows/ft: 20 40 60 80

Water Content %: 10 20 30

Monitoring Well

Remarks: -Upon completion of drilling, the borehole was open and dry.

Drill Method: CME 55 - SOLID

Drill Date: 21 NOV. 2025

Datum: GEODETIC

FORWARD ENGINEERING & ASSOCIATES INC.
244 Brockport Drive, Unit 15, Toronto, Ontario, M9W 6X9

Engineer: G.R.

Checked by: G.S.

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Project No: 7565

Log of Borehole BH-32

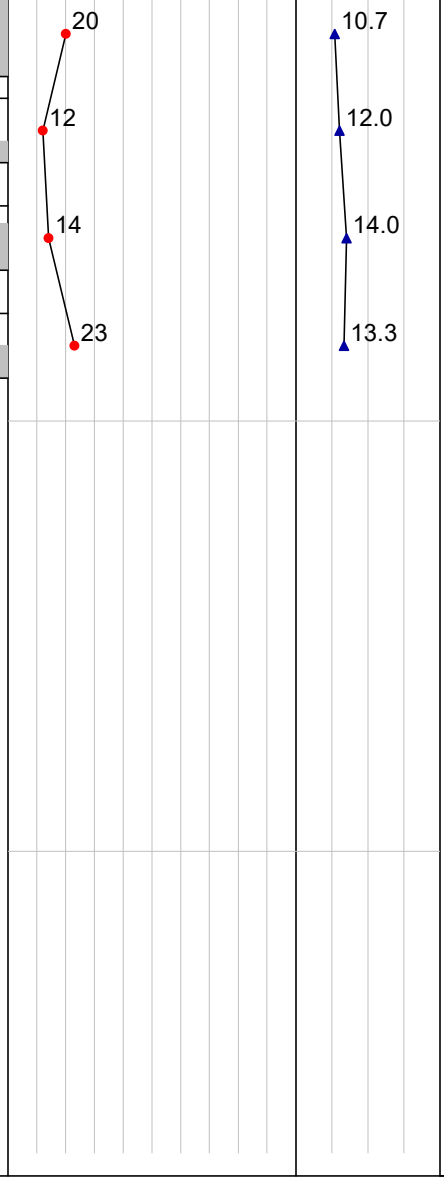
Project: PROPOSED NORTH OAKVILLE NO. 3 CATHOLIC ELEMENTARY SCHOOL

Client: HDSB c/o HOSSACK ARCHITECTURE

Enclosure: 33

Location: POST ROAD & SETTLERS ROAD EAST, OAKVILLE, ONTARIO

Depth (m)	Description of strata	Elevation (m)	Sample No.	Type	Blows/ft	Recovery
0	Ground Surface	184.60				
	CLAYEY SILT TILL/SILT TILL disturbed in the upper ±50 mm. very stiff to stiff, brown and reddish brown, moist.	0.00	1	SS	20	
1			2	SS	12	
2	very stiff.		3	SS	14	
			4	SS	23	
3	End of Borehole	181.86 2.74				
4						
5						
6						
7						
8						



Monitoring Well

Remarks: -Upon completion of drilling, the borehole was open and dry.

Drill Method: CME 55 - SOLID

Drill Date: 21 NOV. 2025

Datum: GEODETIC

FORWARD ENGINEERING & ASSOCIATES INC.
244 Brockport Drive, Unit 15, Toronto, Ontario, M9W 6X9

Engineer: G.R.

Checked by: G.S.

Sheet No. 1 of 1

Project No: 7565

Log of Borehole BH/MW-33

Project: PROPOSED NORTH OAKVILLE NO. 3 CATHOLIC ELEMENTARY SCHOOL

Client: HDSB c/o HOSSACK ARCHITECTURE

Enclosure: 34

Location: POST ROAD & SETTLERS ROAD EAST, OAKVILLE, ONTARIO

Depth (m)	Description of strata	Elevation (m)	Sample Details: No.	Type	Blows/ft	Recovery	Blows/ft (20 40 60 80)	Water Content % (10 20 30)	Monitoring Well
0	Ground Surface	184.31							
	FILL/DISTURBED SOIL brown and grey clayey silt with traces of rootlets, compact, moist.	0.00	1	SS	15		15	12.3	
1	CLAYEY SILT TILL/SILT TILL hard to very stiff, brown and reddish brown, moist.	183.55 0.76	2	SS	37		37	13.4	
			3	SS	25		25	11.5	
2	End of Borehole	182.33 1.98							
3									
4									
5									
6									
7									
8									

Remarks: -Upon completion of drilling, the borehole was open and dry.

Drill Method: CME 55 - SOLID

Drill Date: 21 NOV. 2025

Datum: GEODETIC

FORWARD ENGINEERING & ASSOCIATES INC.
244 Brockport Drive, Unit 15, Toronto, Ontario, M9W 6X9

Engineer: G.R.

Checked by: G.S.

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Project No: 7565

Log of Borehole BH-34

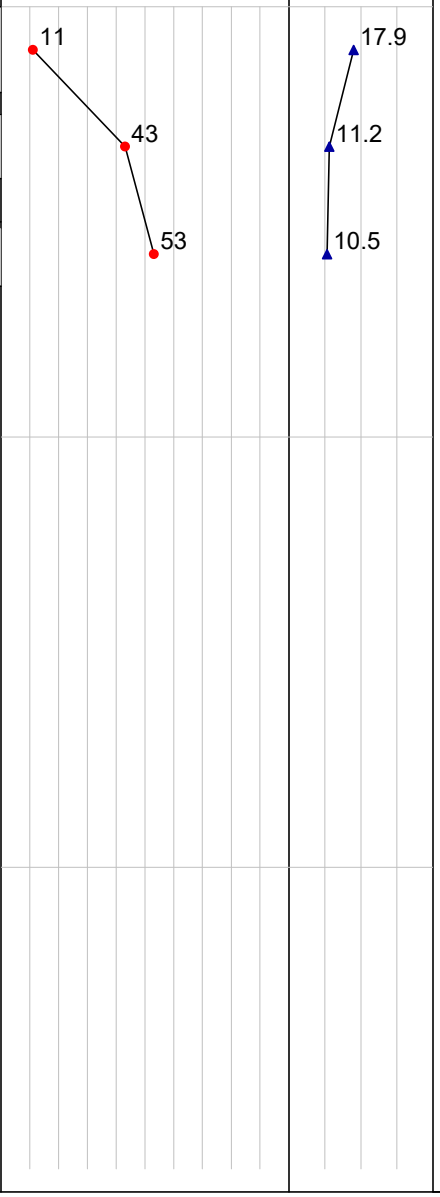
Project: PROPOSED NORTH OAKVILLE NO. 3 CATHOLIC ELEMENTARY SCHOOL

Client: HDSB c/o HOSSACK ARCHITECTURE

Enclosure: 35

Location: POST ROAD & SETTLERS ROAD EAST, OAKVILLE, ONTARIO

Depth (m)	Description of strata	Elevation (m)	Sample No.	Type	Blows/ft	Recovery
0	Ground Surface	183.40				
	CLAYEY SILT TILL/SILT TILL disturbed in the upper ±50 mm. stiff to hard, brown and reddish brown, moist.	0.00	1	SS	11	
1			2	SS	43	
2			3	SS	53	
	End of Borehole	181.42 1.98				
3						
4						
5						
6						
7						
8						



Monitoring Well

Remarks: -Upon completion of drilling, the borehole was open and dry.

Drill Method: CME 55 - SOLID

Drill Date: 20 NOV. 2025

Datum: GEODETIC

FORWARD ENGINEERING & ASSOCIATES INC.
244 Brockport Drive, Unit 15, Toronto, Ontario, M9W 6X9

Engineer: G.R.

Checked by: G.S.

Sheet No. 1 of 1

Project No: 7565

Log of Borehole BH-35

Project: PROPOSED NORTH OAKVILLE NO. 3 CATHOLIC ELEMENTARY SCHOOL

Client: HDSB c/o HOSSACK ARCHITECTURE

Enclosure: 36

Location: POST ROAD & SETTLERS ROAD EAST, OAKVILLE, ONTARIO

Depth (m)	Description of strata	Elevation (m)	Sample Details: No.	Type	Blows/ft	Recovery
0	Ground Surface	182.44				
	CLAYEY SILT TILL/SILT TILL disturbed in the upper ±50 mm. very stiff to hard, brown and reddish brown, moist.	0.00	1	SS	25	
1			2	SS	38	
2			3	SS	57	
	End of Borehole	180.46 1.98				

Blows/ft: 20 40 60 80 — 25, 38, 57

Water Content % (▲): 10 20 30 — 11.3, 11.0, 8.4

Monitoring Well

Remarks: -Upon completion of drilling, the borehole was open and dry.

Drill Method: CME 55 - SOLID

Drill Date: 20 NOV. 2025

Datum: GEODETIC

FORWARD ENGINEERING & ASSOCIATES INC.
244 Brockport Drive, Unit 15, Toronto, Ontario, M9W 6X9

Engineer: G.R.

Checked by: G.S.

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Project No: 7565

Log of Borehole BH/MW-36

Project: PROPOSED NORTH OAKVILLE NO. 3 CATHOLIC ELEMENTARY SCHOOL

Client: HDSB c/o HOSSACK ARCHITECTURE

Enclosure: 37

Location: POST ROAD & SETTLERS ROAD EAST, OAKVILLE, ONTARIO

Depth (m)	Description of strata	Elevation (m)	Sample No.	Sample Type	Blows/ft	Recovery	Water Content %
0	Ground Surface	182.84					
	CLAYEY SILT TILL/SILT TILL disturbed in the upper ±50 mm. very stiff, brown, moist.	0.00	1	SS	18		12.8
1	SILT TILL/SANDY SILT TILL very dense, brownish grey, very moist.	182.08 0.76	2	SS	47		8.3
2	End of Borehole	180.86 1.98	3	SS	61		10.1
3							
4							
5							
6							
7							
8							

Blows/ft: 20 40 60 80

Water Content %: 10 20 30

Monitoring Well

Remarks: -Upon completion of drilling, the borehole was open and dry.

Drill Method: CME 55 - SOLID

Drill Date: 20 NOV. 2025

Datum: GEODETIC

FORWARD ENGINEERING & ASSOCIATES INC.
244 Brockport Drive, Unit 15, Toronto, Ontario, M9W 6X9

Engineer: G.R.

Checked by: G.S.

Sheet No. 1 of 1

Project No: 7565

Log of Borehole BH-37

Project: PROPOSED NORTH OAKVILLE NO. 3 CATHOLIC ELEMENTARY SCHOOL

Client: HDSB c/o HOSSACK ARCHITECTURE

Enclosure: 38

Location: POST ROAD & SETTLERS ROAD EAST, OAKVILLE, ONTARIO

Depth (m)	Lithology	Description of strata	Elevation (m)	Sample Details: No.	Type	Blows/ft	Recovery	Blows/ft (20 40 60 80)	Water Content % (10 20 30)	Monitoring Well
0		Ground Surface	183.95							
		CLAYEY SILT TILL/SILT TILL disturbed in the upper ±50 mm. very stiff to hard, brown and reddish brown, moist.	0.00	1	SS	25		25	11.5	
1				2	SS	39		39	11.0	
				3	SS	100		100	11.5	
			182.20							
2		End of Borehole	1.75							
3										
4										
5										
6										
7										
8										

Remarks: -Upon completion of drilling, the borehole was open and dry.

Drill Method: CME 55 - SOLID

Drill Date: 20 NOV. 2025

Datum: GEODETIC

FORWARD ENGINEERING & ASSOCIATES INC.
244 Brockport Drive, Unit 15, Toronto, Ontario, M9W 6X9

Engineer: G.R.

Checked by: G.S.

Sheet No. 1 of 1

APPENDIX B

CERTIFICATES OF ENGINEERED FILL

Soil Engineers Ltd.
CONSULTING ENGINEERS
GEOTECHNICAL • ENVIRONMENTAL • HYDROGEOLOGICAL • BUILDING SCIENCE
90 WEST BEAVER CREEK ROAD, SUITE 100, RICHMOND HILL, ONTARIO L4B 1E7 · TEL: (416) 754-8515 · FAX: (905) 881-8335

BARRIE	MISSISSAUGA	OSHAWA	NEWMARKET	MUSKOKA	HAMILTON
TEL: (705) 721-7863	TEL: (905) 542-7605	TEL: (905) 440-2040	TEL: (905) 853-0647	TEL: (705) 721-7863	TEL: (905) 777-7956
FAX: (705) 721-7864	FAX: (905) 542-2769	FAX: (905) 725-1315	FAX: (905) 881-8335	FAX: (705) 721-7864	FAX: (905) 542-2769

August 28, 2025

Reference No. 2306-M141.12

Urbantech Consulting
3760 14th Avenue
Suite 301
Markham, Ontario
L3R 3T7

Attention: Mr. David Walker, C.E.T.

Re: Engineered Fill Certification
Crosstrail Estates Inc./TWKD Developments Inc.
Block 11 – School Block
Town File No. 24T-21001/1315
Town of Oakville

Dear Sir:

We have inspected the earth fill placement on the sound natural soil at the captioned block and the placement meets our engineered fill requirements. The as-built engineered fill elevations shall form part of the certification.

We hereby confirm that the earth fill had been compacted to its maximum Standard Proctor dry density (100% compaction) and is suitable for normal slab-on-grade school building construction without the need of piers, caissons or any other techniques, with a Maximum Allowable Soil Bearing Pressure of 150 kPa, with the following qualifications:

1) Proper surface drainage must be maintained within the engineered fill areas. Soil Engineers Ltd. must be informed of any construction activities within the engineered fill envelope which may cause disturbance and loosening of the engineered fill mantle. If construction on the engineered fill does not commence within a period of 2 years from the date of certification, the condition of the engineered fill must be assessed for re-certification.

2) If the engineered fill is to be left over the winter months, adequate earth cover, or equivalent, must be provided to protect it against frost action. Otherwise, the finished engineered fill will require inspection to assess the extent of the frost loosening, and to determine the measures for rectification before foundation construction.

This letter/report/certification was prepared by Soil Engineers Ltd. for the account of the captioned clients and may be relied upon by regulatory agencies. The material in it reflects the writer's best judgment in light of the information available to it at the time of preparation. Any use which a third party makes of this letter/report/certification, or any reliance on or decisions to be made based upon it, are the responsibility of such third parties. Soil Engineers Ltd. accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this letter/report/certification.

3) Footings adjacent to easements for services within the engineered fill envelope must be placed on the undisturbed engineered fill or natural soil at or below the invert level of the pipe, or at a safe level as determined by our field inspection.

4) The footing subgrade must be founded on the engineered fill that has not been compromised by the construction disturbance and/or environmental degradation and are a minimum of 3.0m from the limits of the controlled engineered fill envelope.

5) Despite stringent control in the placement of engineered fill, variations in soil type and density may occur in the engineered fill. Therefore, foundations founded on engineered fill may require steel reinforcement which should be designed by a structural engineer.

If any one of the above qualifications is not met, Soil Engineers Ltd. cannot warrant the condition of the engineered fill and explicitly accepts no liability for any damage resulting from placement of foundations or structures on the engineered fill.

Should any queries arise, please feel free to contact this office.

Yours very truly,
SOIL ENGINEERS LTD.

Gagandeep Bajwa, P. Eng.
BL/GB:ak

Benjamin Lee, P. Eng.

C: Crosstrail Estates Inc. c/o Fernbrook Homes
Attn: Mr. Steve Malovic / Mr. Harjit Bhatti / Mr. Nelson Goncalves

TWKD Developments Inc. c/o Crystal Homes
Attn: Mr. Muaadh Solomah, P. Eng., M. Eng. / Mr. Ben Cowey

Urbantech Consulting
Attn: Mr. Sudip Roy

DS CONSULTANTS LTD.
Geotechnical ◆ Environmental ◆ Materials ◆ Hydrogeology

Project No.: 20-020-100 **January 8, 2026**

Halton Catholic District School Board
802 Drury Lane, Burlington, On L7R 2Y2

Attention: Mr. Branko Vidovic
Email: VidovicB@hcdsb.org

Re: Engineered Fill Certificate
Block 7- Elementary School Block
Northwest corner of Settlers Road and Post Road
EMGO III Residential Development
Oakville, Ontario
Town File No. 24T-20005, Region File No. DO-1082

This letter provides certification of the engineered fill placed at the above-mentioned site in the Town of Oakville, Ontario. It is understood a public elementary school and associated paved areas will be constructed on this site.

Controlled fill placement to the design pre-grade elevations was monitored on a full-time basis by representatives of DS Consultants Ltd. (DS) in 2022. The pre-grade elevations were provided on Grading Plans prepared by Urbantech Consulting (Project 21-365, dated July26, 2021). The earthworks contractor for the project was G. Gordon Enterprises. The individual test results undertaken have been reported separately.

Based on the continuous supervision of engineered fill operations, the following observations were made regarding the placement of engineered fill:

- Prior to placing the engineered fill all topsoil, loose fill soils, organic soils and debris was removed. The subgrade was visually inspected and assessed with 12.5mm diameter hand-probe rod. The subgrade was found to be stable and suitable to receive the engineered fill materials.
- The quality of onsite soils utilized as engineered fill was visually inspected during their placement to ensure that the materials were suitable for use.
- The engineered fill operations were carried out using native soils.
- The engineered fill was placed in uniform thin layers with lift thickness not exceeding 200 mm.
- The compaction of the engineered fill materials met the project specification of 100% of the Standard Proctor Maximum Dry Density (SPMDD) for engineered fill up to the design pre-grade elevations.

Based on the information obtained, the proposed building may rest on engineered fill that can support the structural loads of the proposed school building. Foundations comprised of conventional (strip and spread) footings may be designed using a net geotechnical bearing resistance of 150 kPa for Serviceability Limit States (SLS)

and a factored geotechnical bearing resistance of 225 kPa for Ultimate Limit States (ULS). The geotechnical bearing resistance values noted above are for vertical loads (no inclination) and no eccentricity. The total and differential settlements of spread and strip footing foundations designed accordingly, should not exceed the conventional limits of 25mm and 19mm respectively.

Prior to pouring footing concrete, the subsoil at the footing founding level must be inspected by qualified geotechnical personnel to confirm that the footings are founded within an undisturbed and competent bearing stratum.

The underside of footings should be kept at minimum of 1.2 meters below top of pre-grade elevations to prevent disturbance of the founding soils by frost action. Proper surface drainage must be maintained within the engineered fill areas to prevent the accumulation of ponding water.

Based on the above, DS certifies the engineered fill placed as suitable for the sustained foundation support of the proposed school building. This certification has been made on the best available information and professional judgment. The sampling and testing techniques used for this work were consistent with those normally exercised by DS and other engineering practitioners working under similar conditions.

This certification must not be construed as a guarantee or warranty that in any way relieves the Contractor, the Owner or any third parties of their responsibilities. It must be recognized with the passage of time, natural occurrences and direct or indirect human intervention at or near the site have the potential to alter subsurface conditions. In particular, caution needs to be exercised in the consideration of contractual responsibilities as they relate to the disturbance of soils by excavation and other works, changes in the drainage, ground water conditions and frost damage.

We trust the foregoing information is sufficient for your present requirements. Should you have any questions regarding this matter, please do not hesitate to contact this office.

Yours truly,

DS Consultants Ltd.

Keith Buth
Vice President, Land Developments



Mohamad Sulaiman, P.Eng.
Project Engineer

APPENDIX C

REPORT BY
FRONTWAVE GEOPHYSICS INC.

FRONTWAVE
GEOPHYSICS

OAKVILLE # 3 PUBLIC SCHOOL
SETTLERS ROAD EAST AND POST ROAD, OAKVILLE, ONTARIO

Submitted to:

244 Brockport Drive, Unit 15
Toronto, Ontario M9W 6X9

Attention:

Mr. Pablo Rios

Email: pablo@forwardengineering.ca

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Frontwave Geophysics Inc.
Brampton, ON
(647) 514-4724
www.frontwave.ca

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1 INTRODUCTION 1
2 INVESTIGATION METHODOLOGY 1
2.1 Multichannel Analysis of Surface Waves (MASW) 1
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Frontwave Geophysics Inc. was retained by Forward Engineering & Associates Inc. to carry out a geophysical investigation for the proposed Oakville NE #3 Public School to be constructed west of the intersection of Settlers Road East and Post Road in Oakville, Ontario.

The objective of the survey was to determine site designation for seismic site response based on the average shear wave velocity value measured over the upper 30 m (V_S30). The multi-channel analysis of surface waves (MASW) and seismic refraction methods were employed for this investigation. The MASW aimed to obtain shear wave velocity depth profiles in the overburden; the purpose of the seismic refraction survey was to obtain shear wave velocity values for the top of bedrock.

The fieldwork was conducted on December 3, 2025. The location of the seismic survey line is shown in Figure 1.

This report describes the basic principles of the seismic refraction and MASW methods, survey design, interpretation method, and presents the results of the investigation in the chart and table format.

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Overview

The Multi-channel Analysis of Surface Waves (MASW) is a seismic method widely applied to produce shear wave velocity (V_S) profiles. It is based on the dispersive nature of Rayleigh or Love surface waves in layered media. Surface waves with longer wavelengths propagate deeper in the subsurface, hence, their phase velocity is more influenced by the elastic properties of deeper layers. The velocity of surface waves depends mainly on the shear wave velocity of the medium. The distribution of surface waves phase velocities as a function of wavelength (or frequency) can be visualized as a dispersion curve. The inverse problem is then solved by modelling the experimental data with a theoretical dispersion curve; the model parameters are typically limited to layer thickness and shear wave velocity with an assumption of horizontally layered strata. As a result of the inversion, a shear wave velocity depth profile is obtained. Figure 2 illustrates the overall procedure of the MASW method.

Survey Design

The acquisition layout consisted of 24 receivers in a linear array (spread), connected with a multicore cable to a DAQLink 4 seismograph. 4.5 Hz natural frequency vertical geophones were used for this survey. The measurements were conducted with a spread length of 23 m (1 m spacing between geophones).

An 8-kg sledgehammer was used as an energy source. Shots were executed at three locations: one shot in the middle of the spreadand two shots close to the ends of the spread. The record length was set to 1500 ms with a 0.05 ms sampling interval.



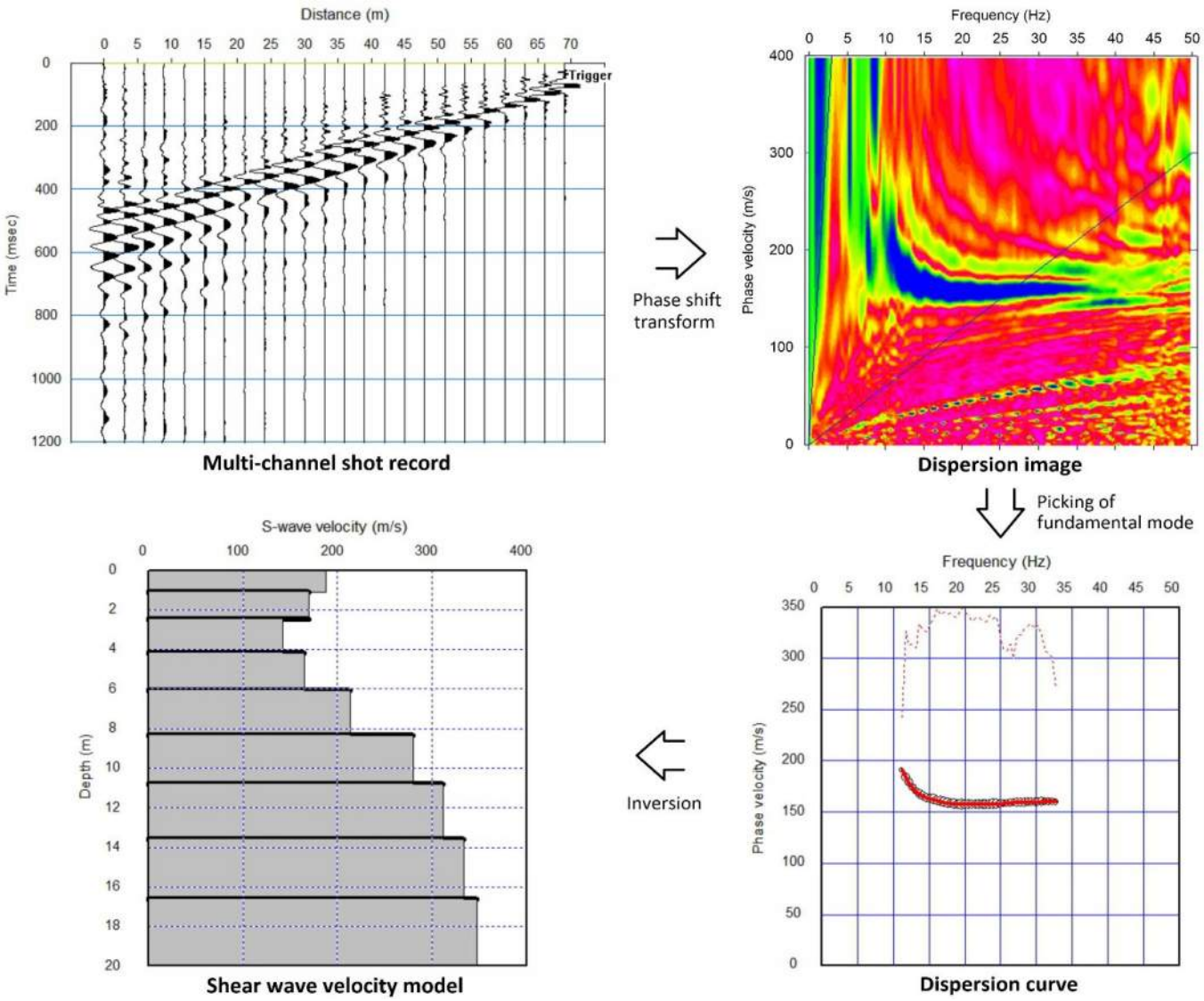
Legend

Location of 23 m, 24-geophone MASW spread

Location of 46 m, 24-geophone seismic refraction spread

Image: Google Earth 2025

& ~¨8	2025-12-09	FRONTWAVE GEOPHYSICS
ˆ!' 8	F-25452	
~~!'8	Survey location plan	
° ~~ ˇ8	Settlers Rd E & Post Rd Oakville, ON	Figure: /



Interpretation

A dispersion curve is obtained from each field record by converting the shot gather into a dispersion image and then identifying and picking the fundamental mode. A shear wave velocity profile is obtained through inversion of the dispersion curve by modelling the subsurface as a horizontally layered medium with the model parameters limited to the number of layers, their thickness and shear-wave velocity.

ZondST2D software package was used for processing, picking and inversion of the MASW data.

Accuracy of the results

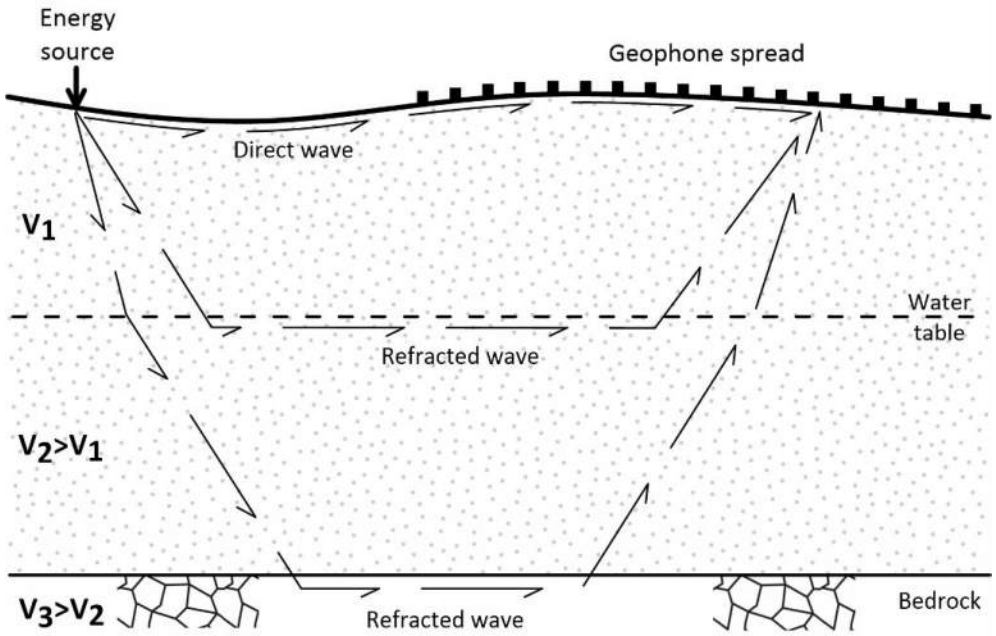
The accuracy of MASW generally depends on the complexity of the subsurface and specific site conditions (noise levels, topography, etc.). Lateral velocity variations and steeper bedrock topography increase the dispersion uncertainty. The presence of high-velocity contrast layers such as bedrock will require the use of a-priory information to optimize model parameters for more accurate results. Hence, if the a-priory information is not available (e.g. when the data are overly noisy to carry out refraction analysis), the accuracy decreases.

At bedrock sites and sites with very shallow overburden overlying bedrock, the MASW method performs poorly. Very strong velocity contrast between layers at shallow depths often results in a superposition of fundamental and higher Rayleigh wave modes which, when superimposed, cannot be distinguished. At sites where the thickness of the overburden is sufficient to obtain a coherent dispersion, the inversion would significantly underestimate the S-wave velocity within the rock. For this reason, it is preferred to supplement the MASW with shear wave refraction data which provide accurate shear wave velocity values for bedrock.

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Overview

The seismic refraction method is based on the measurement of arrival times of seismic waves refracted at interfaces between geological layers. The method is used to obtain velocity depth models and to map interfaces between layers with significant velocity contrast such as water table and bedrock surface. Compressional (P) wave or shear (S) wave refracted arrivals can be recorded using vertically or horizontally oriented sensors and sources, respectively. Figure 3 is a schematic of a simplified seismic model showing the basic principle of the refraction method.



Survey Design

The acquisition layout consisted of 24 receivers in a linear array (spread), connected with a multicore cable to a DAQLink 4 seismograph. 10 Hz natural frequency horizontal geophones were used for this survey. The measurements were conducted with a spread length of 46 m (2 m spacing between geophones).

An 8-kg sledgehammer was used as an energy source. Shots were executed at four locations per spread: two shots at the ends of the spread and two shots with an offset of 25 m from the ends of the spread. Preferential S-wave energy was generated by horizontally striking a metal bar in a direction perpendicular to the survey line. Shots in two opposite directions were recorded at each shot location to record S-wave arrivals of opposite polarity. The record length was set to 500 ms with a 0.1 ms sampling interval.

Interpretation

The reciprocal (plus-minus) method was used for the interpretation of the seismic refraction data. The method assumes the subsurface as a series of discrete layers (refractors) with simple velocity distributions. It allows calculating the depth and velocity of a continuous undulating refractor, providing the target layer is of sufficient thickness and the dip angles are moderate.

ZondST2D software package was used for processing of the refraction data. The processing involved stacking of shot records obtained with opposite source directions, identification and picking of S-wave first arrivals.

Accuracy of the results

The accuracy of bedrock velocity determination at this site was estimated to be within 10%.

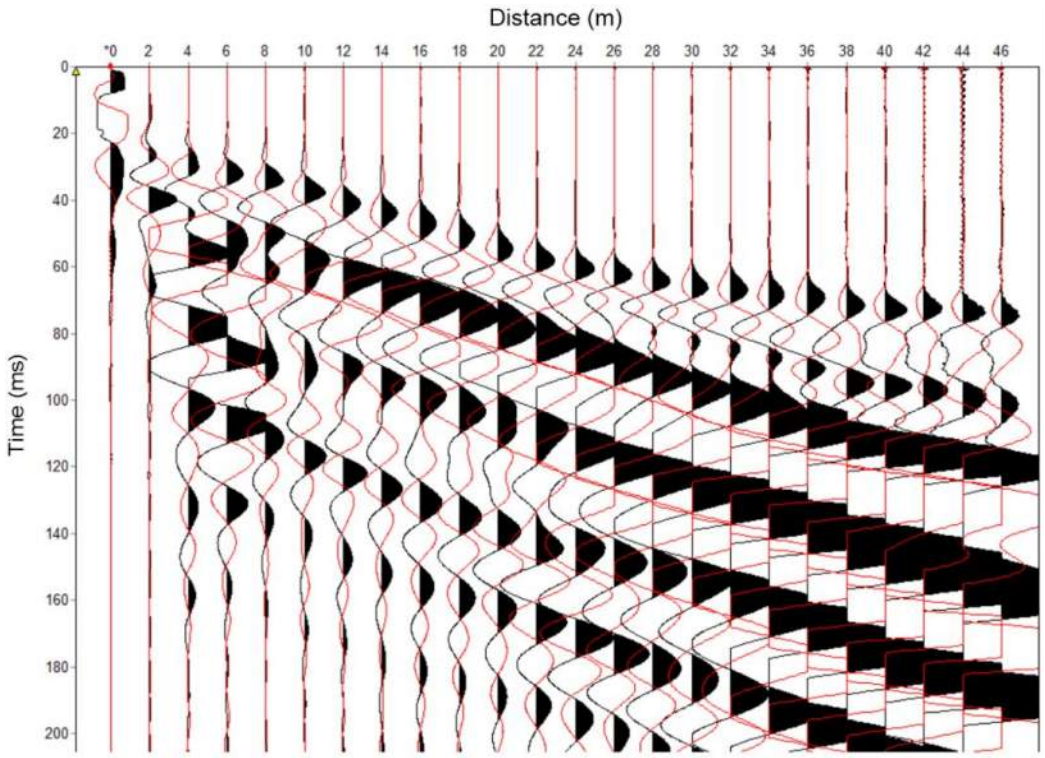
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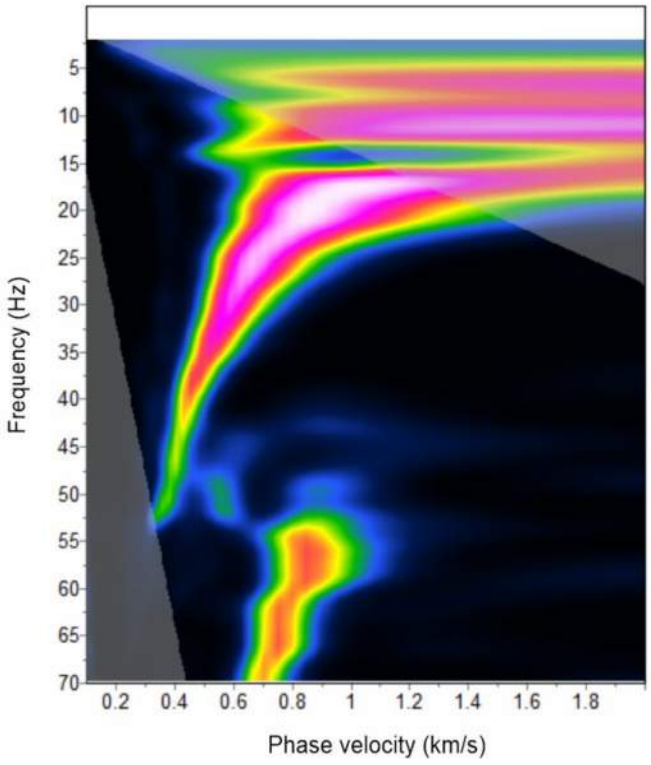
The quality of seismic shot records was very good; first arrivals of refracted waves and MASW dispersion curves were well defined. Example shot records and an MASW dispersion image obtained at this site are presented in Figure 4.

The results of the interpretation of S-wave refraction data are presented in Figure 5 in the form of a bedrock profile. The interpreted depth to bedrock ranged approximately from 8 to 10 m below the ground surface. The shear wave velocity in the competent bedrock measured using the refraction method was 1900 m/s.

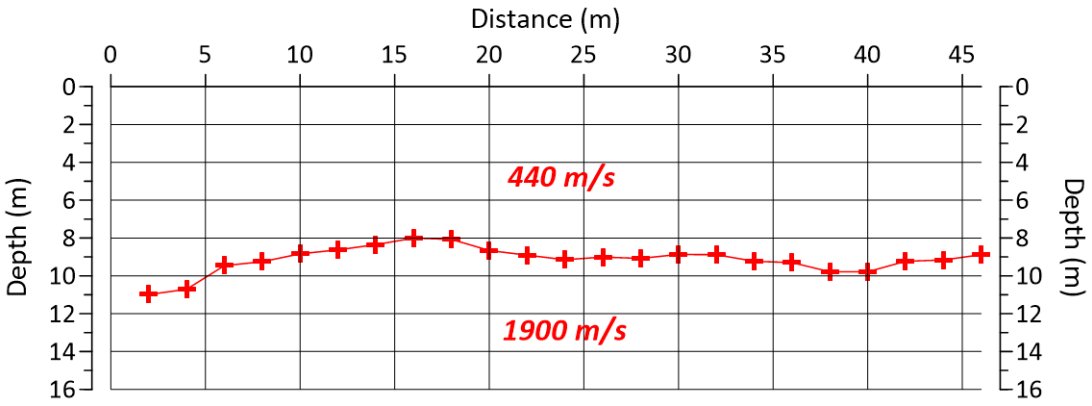
Refraction data were used for parameterization of the initial MASW inversion model. The measured shear wave velocity for the bedrock is representative of the top of competent rock. According to Commentary J (Paragraph 145) of the National Building Code of Canada 2020 (NBC 2020), the measured value may be extrapolated if the rock conditions are known to be continuous to a depth of 30 m.

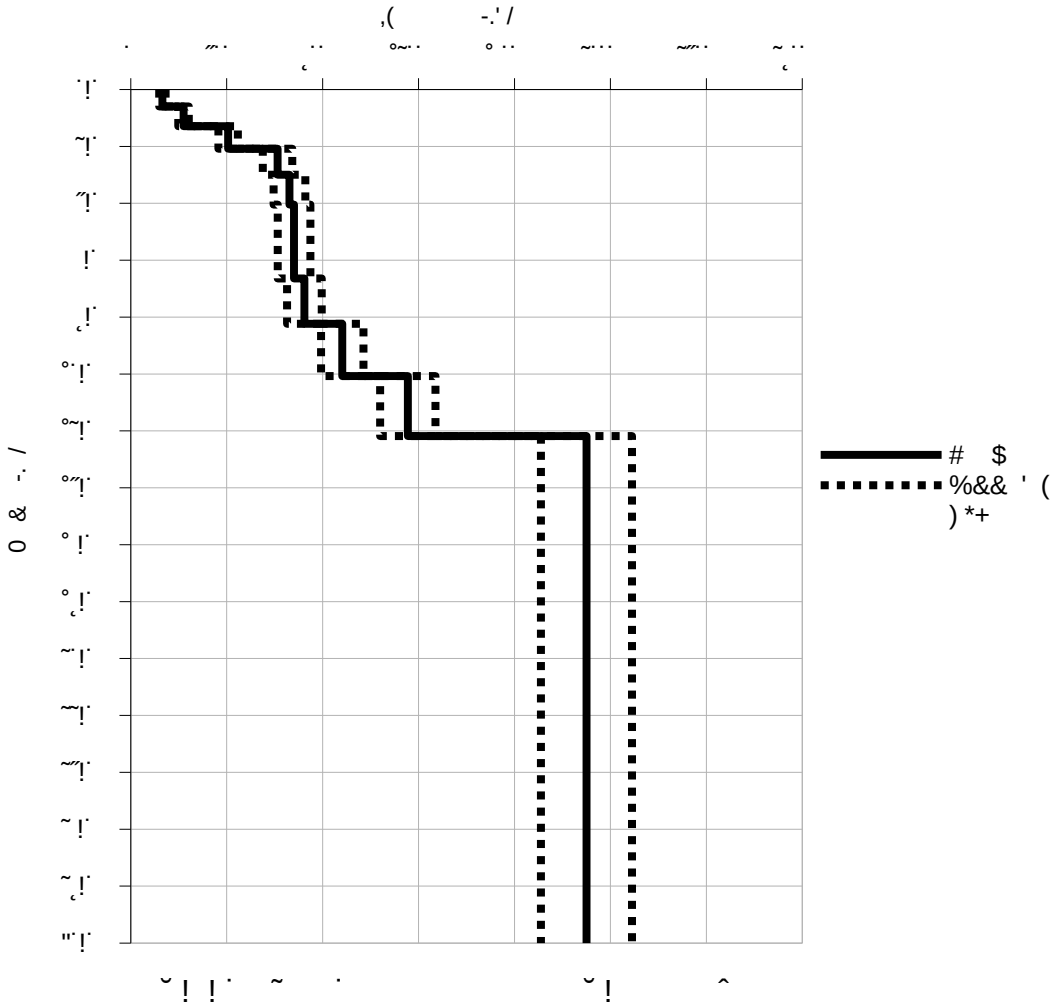
The resulting shear wave velocity depth profile is presented in Figure 6.


Distance (m)
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46
Time (ms)
0 20 40 60 80 100 120 140 160 180 200


Frequency (Hz)
5 10 15 20 25 30 35 40 45 50 55 60 65 70
0.2 0.4 0.6 0.8 1 1.2 1.4 1.6 1.8
Phase velocity (km/s)

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Distance (m)
0
5
10
15
20
25
30
35
40
45
Depth (m)
0
2
4
6
8
10
12
14
16
440 m/s
1900 m/s


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The tabulated shear wave velocity model is presented in Table 1.

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The average shear wave velocity within the upper 30 meters (V_S30) is defined as the travel-time weighted average velocity from surface to a depth of 30 m and calculated using the following formula:

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where is the thickness of any layer and $ is the layer S-wave velocity. In other words, V_S30 is calculated as 30 m divided by the sum of the S-wave travel times for each layer within the topmost 30 m.

The calculated V_S30 values are presented in Table 2.

$ %& ! ˙ ˘ ! ^

Depth Range (m)	Minimum V_S30 (m/s)	Average V_S30 (m/s)	Maximum V_S30 (m/s)	NBC 2020 Site Designation
0 to 30	843	)09	1031	: 91+

The V_S30 values obtained from the S-wave sounding varied from 843 m/s to 1031 m/s with an average of 937 m/s.

According to the National Building Code of Canada 2020 (NBC 2020), site designation for seismic hazard assessment is determined by a V_S30 value. Based on the requirements of Table 4.1.8.4.-A of NBC 2020, if the ground profile contains more than 3 m of soil between rock and the underside of footing or mat foundations, ~2˙ ;;!^° (!˙ ~~˙ &˙ ˛~~ ~^ ˘ ^ ˛ : 91+ even if the calculated V_S30 value is greater than 760 m/s.

% -

Shear wave velocity testing involving the MASW and seismic refraction methodologies was carried out for the proposed Oakville NE #3 Public School to be constructed west of the intersection of Settlers Road East and Post Road in Oakville, Ontario.

The average shear wave velocity (V_S30) value calculated from in situ shear wave velocity measurements was)09 '<¸ . Based on Sentence 4.1.8.4.(2b) and Table 4.1.8.4.-A of the National Building Code of Canada 2020 (NBC 2020), taking into consideration the presence of more than 3 m of overburden, ˜2¨ ;;!˚ (!¨ ˜˜¨ &¨¸˚˜˜ ˜˚ ˇ ˚¸ : 91+

We hope you find this report satisfactory. Should you have any questions or require additional information, please do not hesitate to contact the undersigned.

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!ˆ ˙¸ = 5* > ¨
Geophysicist
(647) 514-4724
ilia.gusakov@frontwave.ca

PROFESSIONAL GEOSCIENTIST
ILIA GUSAKOV
PRACTISING MEMBER
3161
ONTARIO

7565

December 08, 2025

HOSSACK ARCHITECTURE
105-1939 Ironoak Way
Oakville, Ontario
L6H 3V8

Attention: Ms. Rabab Saghir
B.Arch., Intern Architect OAA

Dear Mdm:

Re: Soil Chemical Testing Report
North Oakville # 3 Catholic Elementary School
Post Road and Settlers Road East
Oakville, Ontario

1.0 INTRODUCTION

As requested, Forward Engineering & Associates Inc. (**Forward)** conducted a chemical testing program for the above project site.

The report of the chemical testing program is to be used for Characterization of the materials for disposal purposes only.

2.0 BACKGROUND

The purpose of this program is to test the materials to be excavated during the construction of the proposed school.

3.0 FIELD WORKS

3.1 Sampling

The field sampling was carried out from the boreholes drilled for geotechnical investigation.

Examination of the soil samples did not indicate visual and/or olfactory evidence of contamination.

Six [6] representative samples, obtained from the boreholes, were prepared for laboratory chemical testing.

4.0 ANALYTICAL TESTING PROGRAM

4.1 Soil Testing

The samples were prepared, and chemically tested, as presented in the following table:

Laboratory Sample ID	Field Sample ID	Tested Parameters
2549059-01	BH6/SS1	Metals and Inorganics
2549059-02	BH8/SS1	Metals and Inorganics
2549059-03	BH10/SS1	Metals and Inorganics
2549059-04	BH13/SS1	Metals and Inorganics
2549059-05	BH19/SS1	Metals and Inorganics
2549059-06	BH25/SS1	Metals and Inorganics

* SS1 stands for Split Spoon No. (1).

The soil samples were submitted to PARACEL Laboratories, Mississauga, Ontario, which are independent laboratories and are certified by the Canadian Association of Environmental Analytical Laboratories (CAEAL).

5.0 FINDINGS AND DISCUSSIONS

5.1 Soils Type and Condition

The tested materials consisted of fine texture materials (Clayey silt).

5.2 Analytical Testing Results

5.2.1 Results Compared to Table 1 Residential/Parkland/ Industrial/Commercial Criteria

The results, enclosed in Appendix A, were compared to *Reg 406/19-Table1 Residential/Parkland/Industrial/Commercial/Community* Criteria.

The results met the above Table 1 Criteria with no exceptions.

For disposal purposes, it should be noted that the acceptance of fill materials depends on the discretion of the receiving site.

We trust this report meets our terms of reference. However, if any clarification is required, or if we can be of further assistance, please contact this office.

Sincerely yours,
FORWARD ENGINEERING & ASSOCIATES INC.

J. Chahine

Juan Chahine, P. Eng.
Senior Project Manager

APPENDIX A

Laboratory Chemical Testing Results Compared to Table 1 Residential/Parkland/Industrial/Commercial /Community Criteria

TABLE 1		CLIENT: Forward Engineering & Associates Inc.								
PARACEL LABORATORIES LTD.		ATTENTION: George Semaan								
WORKORDER: 2549059		PROJECT: 7565								
REPORT DATE: 12/05/2025		REFERENCE: SO Forward Engineering & Associates Inc. - ENV								
Parameter	**Units**	**MDL**	**Regulation**	**Sample**						
				BH6/SS1 2549059-01	**BH8/SS1 2549059-02**	**BH10/SS1 2549059-03**	**BH13/SS1 2549059-04**	**BH19/SS1 2549059-05**	**BH25/SS1 2549059-06**	
Sample Date (m/d/y)			**Reg 406/19 -T1 Res/Park/Ind/Com**	**12/01/2025**	**12/01/2025**	**12/01/2025**	**12/01/2025**	**12/01/2025**	**12/01/2025**	
Physical Characteristics										
% Solids	% by Wt.	0.1		89.0	91.1	83.2	89.0	88.7	87.6	
General Inorganics										
SAR	N/A	0.01	2.4	0.13	0.28	0.24	0.12	0.12	0.17	
Conductivity	mS/cm	0.005	0.57	0.115	0.155	0.192	0.116	0.117	0.151	
Cyanide, free	ug/g dry	0.03	0.051	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	
pH	pH Units	0.05		7.81	7.52	7.21	7.18	7.30	7.37	
Metals										
Antimony	ug/g dry	1.0	1.3	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
Arsenic	ug/g dry	1.0	18	5.7	5.6	5.0	5.2	5.1	5.6	
Barium	ug/g dry	1.0	220	83.5	83.4	86.1	77.8	76.1	87.9	
Beryllium	ug/g dry	0.5	2.5	0.8	0.9	0.8	0.8	0.7	0.8	
Boron, available	ug/g dry	0.5		<0.5	<0.5	0.8	0.6	<0.5	<0.5	
Boron	ug/g dry	5.0	36	13.6	20.4	8.7	12.0	9.8	11.4	
Cadmium	ug/g dry	0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
Chromium (VI)	ug/g dry	0.2	0.66	0.2	0.2	<0.2	<0.2	0.2	0.4	
Chromium	ug/g dry	5.0	70	21.7	22.4	22.2	20.7	20.4	22.4	
Cobalt	ug/g dry	1.0	21	11.8	11.3	9.8	11.1	11.6	11.1	
Copper	ug/g dry	5.0	92	26.5	16.7	20.7	22.9	23.2	20.7	
Lead	ug/g dry	1.0	120	12.4	13.5	14.4	9.6	10.1	11.1	
Mercury	ug/g dry	0.1	0.27	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
Molybdenum	ug/g dry	1.0	2	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
Nickel	ug/g dry	5.0	82	24.1	23.6	20.2	23.1	24.9	22.4	
Selenium	ug/g dry	1.0	1.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
Silver	ug/g dry	0.3	0.5	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	
Thallium	ug/g dry	1.0	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
Uranium	ug/g dry	1.0	2.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
Vanadium	ug/g dry	10.0	86	30.8	30.9	32.8	28.8	28.6	32.3	
Zinc	ug/g dry	20.0	290	69.8	73.7	72.1	63.5	76.8	61.3	

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Certificate of Analysis

Forward Engineering & Associates Inc.
244 Brockport Dr., Unit 15
Toronto, ON M9W 6X9
Attn: George Semaan

Client PO:
Project: 7565
Custody:

Report Date: 5-Dec-2025
Order Date: 1-Dec-2025

Order #: 2549059

This Certificate of Analysis contains analytical data applicable to the following samples as submitted:

Paracel ID	Client ID
2549059-01	BH6/SS1
2549059-02	BH8/SS1
2549059-03	BH10/SS1
2549059-04	BH13/SS1
2549059-05	BH19/SS1
2549059-06	BH25/SS1

Approved By:



Alex Enfield, MSc
Lab Manager

Analysis Summary Table

Analysis	Method Reference/Description	Extraction Date	Analysis Date
Boron, available	MOE (HWE), EPA 200.8 - ICP-MS	3-Dec-25	3-Dec-25
Chromium, hexavalent - soil	MOE E3056 - Extraction, colourimetric	3-Dec-25	4-Dec-25
Conductivity	MOE E3138 - probe @25 °C, water ext	3-Dec-25	3-Dec-25
Cyanide, free	MOE E3015 - Auto Colour, water extraction	2-Dec-25	2-Dec-25
Mercury by CVAA	EPA 7471B - CVAA, digestion	4-Dec-25	4-Dec-25
pH, soil	EPA 150.1 - pH probe @ 25 °C, CaCl buffered ext.	5-Dec-25	5-Dec-25
REG 153: Metals by ICP/MS, soil	EPA 6020 - Digestion - ICP-MS	4-Dec-25	4-Dec-25
SAR	Calculated	3-Dec-25	4-Dec-25
Solids, %	CWS Tier 1 - Gravimetric	4-Dec-25	5-Dec-25

Certificate of Analysis

Report Date: 05-Dec-2025

Client: **Forward Engineering & Associates Inc.**

Order Date: 1-Dec-2025

Client PO:

Project Description: 7565

	Client ID:	BH6/SS1	BH8/SS1	BH10/SS1	BH13/SS1	-	-
	Sample Date:	01-Dec-25 00:00	01-Dec-25 00:00	01-Dec-25 00:00	01-Dec-25 00:00		
	Sample ID:	2549059-01	2549059-02	2549059-03	2549059-04		
	Matrix:	Soil	Soil	Soil	Soil		
	MDL/Units						
Physical Characteristics							
% Solids	0.1 % by Wt.	89.0	91.1	83.2	89.0	-	-
General Inorganics							
SAR	0.01 N/A	0.13	0.28	0.24	0.12	-	-
Conductivity	0.005 mS/cm	0.115	0.155	0.192	0.116	-	-
Cyanide, free	0.03 ug/g	<0.03	<0.03	<0.03	<0.03	-	-
pH	0.05 pH Units	7.81	7.52	7.21	7.18	-	-
Metals							
Antimony	1.0 ug/g	<1.0	<1.0	<1.0	<1.0	-	-
Arsenic	1.0 ug/g	5.7	5.6	5.0	5.2	-	-
Barium	1.0 ug/g	83.5	83.4	86.1	77.8	-	-
Beryllium	0.5 ug/g	0.8	0.9	0.8	0.8	-	-
Boron	5.0 ug/g	13.6	20.4	8.7	12.0	-	-
Boron, available	0.5 ug/g	<0.5	<0.5	0.8	0.6	-	-
Cadmium	0.5 ug/g	<0.5	<0.5	<0.5	<0.5	-	-
Chromium	5.0 ug/g	21.7	22.4	22.2	20.7	-	-
Chromium (VI)	0.2 ug/g	0.2	0.2	<0.2	<0.2	-	-
Cobalt	1.0 ug/g	11.8	11.3	9.8	11.1	-	-
Copper	5.0 ug/g	26.5	16.7	20.7	22.9	-	-
Lead	1.0 ug/g	12.4	13.5	14.4	9.6	-	-
Mercury	0.1 ug/g	<0.1	<0.1	<0.1	<0.1	-	-
Molybdenum	1.0 ug/g	<1.0	<1.0	<1.0	<1.0	-	-
Nickel	5.0 ug/g	24.1	23.6	20.2	23.1	-	-
Selenium	1.0 ug/g	<1.0	<1.0	<1.0	<1.0	-	-
Silver	0.3 ug/g	<0.3	<0.3	<0.3	<0.3	-	-
Thallium	1.0 ug/g	<1.0	<1.0	<1.0	<1.0	-	-

Certificate of Analysis

Report Date: 05-Dec-2025

Client: **Forward Engineering & Associates Inc.**

Order Date: 1-Dec-2025

Client PO:

Project Description: 7565

	Client ID:	BH6/SS1	BH8/SS1	BH10/SS1	BH13/SS1	-	-
	Sample Date:	01-Dec-25 00:00	01-Dec-25 00:00	01-Dec-25 00:00	01-Dec-25 00:00		
	Sample ID:	2549059-01	2549059-02	2549059-03	2549059-04		
	Matrix:	Soil	Soil	Soil	Soil		
	MDL/Units						
Metals							
Uranium	1.0 ug/g	<1.0	<1.0	<1.0	<1.0	-	-
Vanadium	10.0 ug/g	30.8	30.9	32.8	28.8	-	-
Zinc	20.0 ug/g	69.8	73.7	72.1	63.5	-	-

	Client ID:	BH19/SS1	BH25/SS1			-	-
	Sample Date:	01-Dec-25 00:00	01-Dec-25 00:00				
	Sample ID:	2549059-05	2549059-06				
	Matrix:	Soil	Soil				
	MDL/Units						
Physical Characteristics							
% Solids	0.1 % by Wt.	88.7	87.6	-	-	-	-
General Inorganics							
SAR	0.01 N/A	0.12	0.17	-	-	-	-
Conductivity	0.005 mS/cm	0.117	0.151	-	-	-	-
Cyanide, free	0.03 ug/g	<0.03	<0.03	-	-	-	-
pH	0.05 pH Units	7.30	7.37	-	-	-	-
Metals							
Antimony	1.0 ug/g	<1.0	<1.0	-	-	-	-
Arsenic	1.0 ug/g	5.1	5.6	-	-	-	-
Barium	1.0 ug/g	76.1	87.9	-	-	-	-
Beryllium	0.5 ug/g	0.7	0.8	-	-	-	-
Boron, available	0.5 ug/g	<0.5	<0.5	-	-	-	-
Boron	5.0 ug/g	9.8	11.4	-	-	-	-
Cadmium	0.5 ug/g	<0.5	<0.5	-	-	-	-
Chromium	5.0 ug/g	20.4	22.4	-	-	-	-
Chromium (VI)	0.2 ug/g	0.2	0.4	-	-	-	-
Cobalt	1.0 ug/g	11.6	11.1	-	-	-	-
Copper	5.0 ug/g	23.2	20.7	-	-	-	-
Lead	1.0 ug/g	10.1	11.1	-	-	-	-
Mercury	0.1 ug/g	<0.1	<0.1	-	-	-	-
Molybdenum	1.0 ug/g	<1.0	<1.0	-	-	-	-
Nickel	5.0 ug/g	24.9	22.4	-	-	-	-
Selenium	1.0 ug/g	<1.0	<1.0	-	-	-	-
Silver	0.3 ug/g	<0.3	<0.3	-	-	-	-
Thallium	1.0 ug/g	<1.0	<1.0	-	-	-	-

	Client ID:	BH19/SS1	BH25/SS1			-	-
	Sample Date:	01-Dec-25 00:00	01-Dec-25 00:00				
	Sample ID:	2549059-05	2549059-06				
	Matrix:	Soil	Soil				
	MDL/Units						
Metals							
Uranium	1.0 ug/g	<1.0	<1.0	-	-	-	-
Vanadium	10.0 ug/g	28.6	32.3	-	-	-	-
Zinc	20.0 ug/g	76.8	61.3	-	-	-	-

Method Quality Control: Blank

Analyte	Result	Reporting Limit	Units	%REC	%REC Limit	RPD	RPD Limit	Notes
General Inorganics								
Conductivity	ND	0.005	mS/cm					
Cyanide, free	ND	0.03	ug/g					
SAR	ND	0.01	N/A					
Metals								
Boron, available	ND	0.5	ug/g					
Chromium (VI)	ND	0.2	ug/g					
Mercury	ND	0.1	ug/g					
Antimony	ND	1.0	ug/g					
Arsenic	ND	1.0	ug/g					
Barium	ND	1.0	ug/g					
Beryllium	ND	0.5	ug/g					
Boron	ND	5.0	ug/g					
Cadmium	ND	0.5	ug/g					
Chromium	ND	5.0	ug/g					
Cobalt	ND	1.0	ug/g					
Copper	ND	5.0	ug/g					
Lead	ND	1.0	ug/g					
Molybdenum	ND	1.0	ug/g					
Nickel	ND	5.0	ug/g					
Selenium	ND	1.0	ug/g					
Silver	ND	0.3	ug/g					
Thallium	ND	1.0	ug/g					
Uranium	ND	1.0	ug/g					
Vanadium	ND	10.0	ug/g					
Zinc	ND	20.0	ug/g					

Method Quality Control: Duplicate

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
General Inorganics									
SAR	0.13	0.01	N/A	0.13			0.0	30	
Conductivity	0.117	0.005	mS/cm	0.115			1.3	5	
Cyanide, free	ND	0.03	ug/g	ND			NC	35	
pH	7.45	0.05	pH Units	7.51			0.8	10	
Metals									
Antimony	ND	1.0	ug/g	ND			NC	30	
Arsenic	5.2	1.0	ug/g	5.1			0.6	30	
Barium	59.4	1.0	ug/g	52.6			12.0	30	
Beryllium	ND	0.5	ug/g	ND			NC	30	
Boron, available	ND	0.5	ug/g	ND			NC	35	
Boron	8.0	5.0	ug/g	8.2			2.5	30	
Cadmium	ND	0.5	ug/g	ND			NC	30	
Chromium (VI)	ND	0.2	ug/g	ND			NC	35	
Chromium	15.0	5.0	ug/g	15.3			2.2	30	
Cobalt	4.8	1.0	ug/g	4.6			5.2	30	
Copper	36.9	5.0	ug/g	41.1			10.7	30	
Lead	32.1	1.0	ug/g	34.4			7.1	30	
Mercury	ND	0.1	ug/g	ND			NC	30	
Molybdenum	ND	1.0	ug/g	ND			NC	30	
Nickel	10.1	5.0	ug/g	10.6			4.3	30	
Selenium	ND	1.0	ug/g	ND			NC	30	
Silver	ND	0.3	ug/g	ND			NC	30	
Thallium	ND	1.0	ug/g	ND			NC	30	
Uranium	ND	1.0	ug/g	ND			NC	30	
Vanadium	19.4	10.0	ug/g	19.2			1.1	30	
Zinc	146	20.0	ug/g	147			1.0	30	
Physical Characteristics									
% Solids	93.5	0.1	% by Wt.	92.5			1.0	25	

Method Quality Control: Spike

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
General Inorganics									
Cyanide, free	0.338	0.03	ug/g	ND	106	70-130			
Metals									
Antimony	46.2	1.0	ug/g	ND	91.7	70-130			
Arsenic	48.9	1.0	ug/g	2.1	93.7	70-130			
Barium	67.8	1.0	ug/g	21.1	93.4	70-130			
Beryllium	46.9	0.5	ug/g	ND	93.5	70-130			
Boron, available	4.20	0.5	ug/g	ND	83.9	70-122			
Boron	48.7	5.0	ug/g	ND	90.7	70-130			
Cadmium	45.8	0.5	ug/g	ND	91.3	70-130			
Chromium (VI)	5.1	0.2	ug/g	ND	98.5	70-130			
Chromium	54.2	5.0	ug/g	6.1	96.1	70-130			
Cobalt	48.3	1.0	ug/g	1.8	93.0	70-130			
Copper	59.8	5.0	ug/g	16.4	86.8	70-130			
Lead	60.2	1.0	ug/g	13.8	92.8	70-130			
Mercury	1.74	0.1	ug/g	ND	116	70-130			
Molybdenum	45.7	1.0	ug/g	ND	90.6	70-130			
Nickel	48.5	5.0	ug/g	ND	88.5	70-130			
Selenium	43.5	1.0	ug/g	ND	86.6	70-130			
Silver	43.6	0.3	ug/g	ND	87.2	70-130			
Thallium	45.6	1.0	ug/g	ND	91.0	70-130			
Uranium	47.1	1.0	ug/g	ND	93.8	70-130			
Vanadium	57.0	10.0	ug/g	ND	98.7	70-130			
Zinc	103	20.0	ug/g	58.8	87.4	70-130			

Certificate of Analysis

Report Date: 05-Dec-2025

Client: **Forward Engineering & Associates Inc.**

Order Date: 1-Dec-2025

Client PO:

Project Description: 7565

Qualifier Notes:

Sample Data Revisions:

None

Work Order Revisions / Comments:

None

Other Report Notes:

n/a: not applicable

ND: Not Detected

MDL: Method Detection Limit

Source Result: Data used as source for matrix and duplicate samples

%REC: Percent recovery.

RPD: Relative percent difference.

NC: Not Calculated

Soil results are reported on a dry weight basis unlesss otherwise noted.

Where %Solids is reported, moisture loss includes the loss of volatile hydrocarbons.

Any use of these results implies your agreement that our total liabilty in connection with this work, however arising, shall be limited to the amount paid by you for this work, and that our employees or agents shall not under any circumstances be liable to you in connection with this work.

PARACEL LABORATORIES LTD.

Paracel ID: 2549059

Paracel Order Number (Lab Use Only)	Chain Of Custody (Lab Use Only)

Client Name: Forward Engineering & Associates Inc.	Project Ref: 7565	Page 1 of 1
Contact Name: George Semaan	Quote #:	**Turnaround Time**
Address: 244 Brockport Dr., Unit 15 Toronto ON M9W 6X9	PO #:	☐ 1 day ☐ 3 day ☐ 2 day ☑ Regular
Telephone: (416) 798-3500	E-mail: george@forwardengineering.ca	Date Required:

☐ REG 153/04 ☑ REG 406/19

☐ Table 1 ☐ Res/Park ☐ Med/Fine
☐ Table 2 ☐ Ind/Comm ☐ Coarse
☐ Table 3 ☐ Agri/Other
☐ Table ___
For RSC: ☐ Yes ☐ No

Other Regulation
☐ REG 558 ☐ PWQO
☐ CCME ☐ MISA
☐ SU - Sani ☐ SU - Storm
Mun: ___
☐ Other:

Matrix Type: S (Soil/Sed.) GW (Ground Water) SW (Surface Water) SS (Storm/Sanitary Sewer) P (Paint) A (Air) O (Other)

	Sample ID/Location Name	Matrix	Air Volume	# of Containers	Sample Taken: Date	Sample Taken: Time	PHCs F1-F4+BTEX	VOCs	PAHs	Metals by ICP	Hg	CrVI	B (HWS)	METALS & INORGANICS				
1	BH6/SS1	S		1	DEC 01, 2025	AM	☐	☐	☐	☐	☐	☐	☐	✓	☐	☐	☐	☐
2	BH 8/SS1	↓		1	↓	↓	☐	☐	☐	☐	☐	☐	☐	✓	☐	☐	☐	☐
3	BH 10/SS1			1			☐	☐	☐	☐	☐	☐	☐	✓	☐	☐	☐	☐
4	BH 13/SS1			1			☐	☐	☐	☐	☐	☐	☐	✓	☐	☐	☐	☐
5	BH 19/SS1			1			☐	☐	☐	☐	☐	☐	☐	✓	☐	☐	☐	☐
6	BH 25/SS1	↓		1	↓	↓	☐	☐	☐	☐	☐	☐	☐	✓	☐	☐	☐	☐
7							☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
8							☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
9							☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
10							☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Comments:

Method of Delivery: RABBEx

Relinquished By (Sign):	Received By Driver/Depot: JW	Received at Lab: VM	Verified By: VM
Relinquished By (Print): JUAN CHAHINE	Date/Time: 12/01/2025 1133	Date/Time: 12/2/25 1057	Date/Time: 12/2/25 1101
Date/Time: DEC 01, 2025 9:00 AM	Temperature: 5.6 °C	Temperature: 11.9	pH Verified: ☐ By: NA