

APPENDIX - E3

TECHNICAL SPECIFICATIONS FOR :

PROJECT: MAYFIELD WEST No. 2 PUBLIC SCHOOL

CLIENT:  peel District
School Board

PROJECT No.: 24112

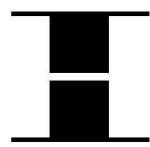
TENDER No.: RFT MA26-5334

DATE: JULY 2026

BINDER:  ARCHITECTURAL DETAILS
& GEOTECHNICAL REPORT



ARCHITECT & CONSULTANTS:

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 **rybka**
Ellard Willson

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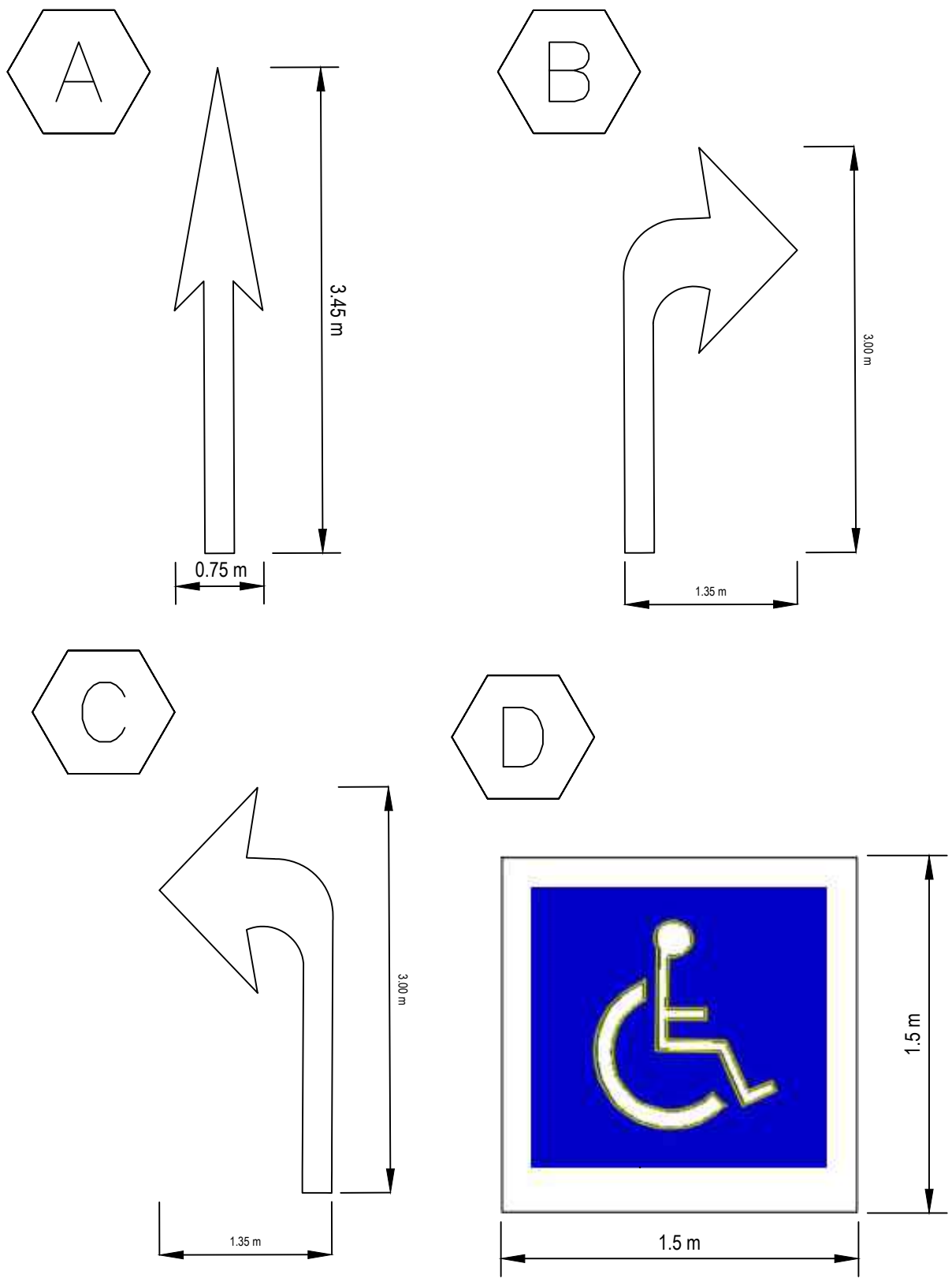
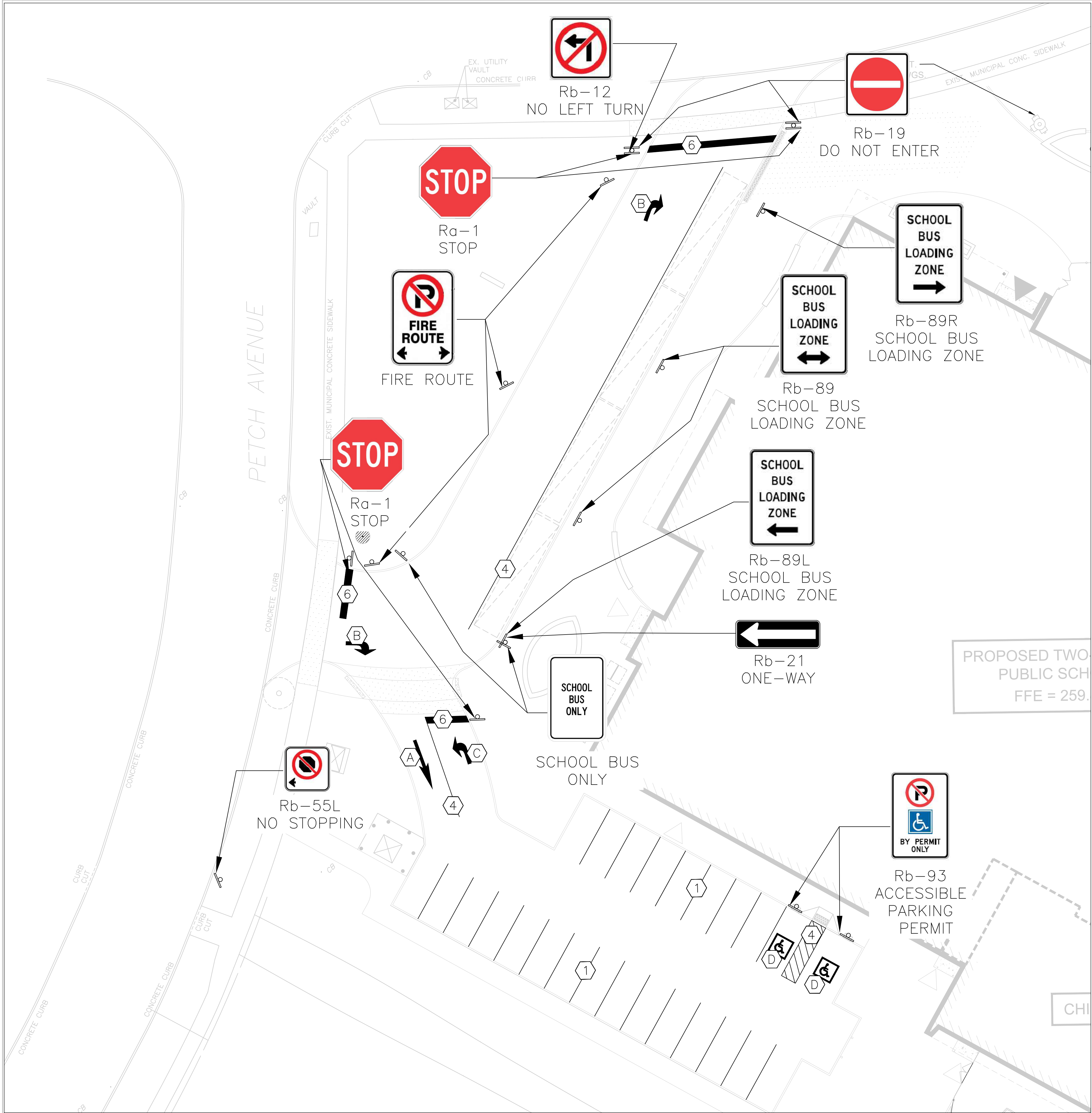
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LEGEND

 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
20	SYMBOLS	WHITE	

- 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  TO DENOTE PAVEMENT MARKING

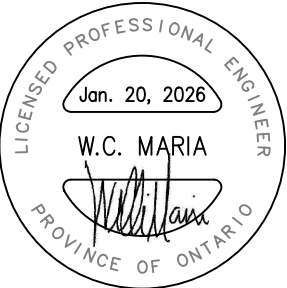
TRAFFIC SIGN SCHEDULE			
SIGN NUMBER	SIGN NAME	QUANTITY	COMMENTS
Ra-1	STOP	4	
Rb-12	NO LEFT TURN	1	
Rb-19	DO NOT ENTER	2	
Rb-21	ONE-WAY	1	
Rb-55L	NO STOPPING	1	LEFT ARROWS
Rb-93	ACCESSIBLE PARKING PERMIT	2	
Rb-89B	SCHOOL BUS LOADING	2	BOTH ARROWS
Rb-89L	SCHOOL BUS LOADING	1	LEFT ARROWS
Rb-89R	SCHOOL BUS LOADING	1	RIGHT ARROWS
CUSTOM	FIRE ACCESS ROUTE	3	
CUSTOM	SCHOOL BUS ONLY	2	
TOTAL		20	



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4	Fourth Submission	W.M	W.M	1/19/26
3	Third Submission	W.M	W.M	11/7/25
2	Second Submission	W.M	W.M	9/10/25
1	First Submission	W.M	W.M	3/21/25

No.	Issue	Checked	Approved	Date
Author	RA		Designer	RA
Drafting	W.M		Design	W.M
Check	W.M		Check	W.M
Project	W.M		Project	W.M
Manager	W.M		Director	W.M

Client

PEEL DISTRICT SCHOOL BOARD

Project

MAYFIELD WEST #2 ELEMENTARY SCHOOL

Date	March 21, 2025	Scale	NTS
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Project No.

Title

PAVEMENT MARKING AND SIGNAGE PLAN (WEST PARKING LOT)

Size
ANSI D

Status Code

Sheet No.
PMP-101

Sheet
of

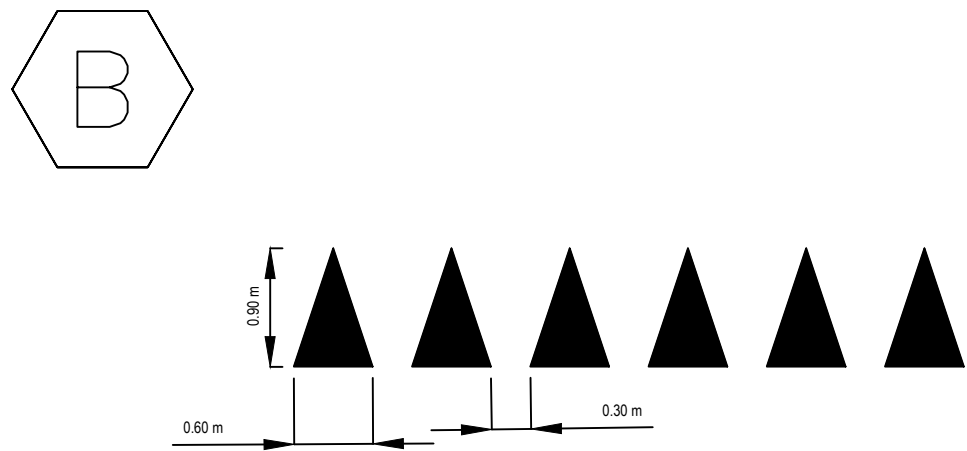
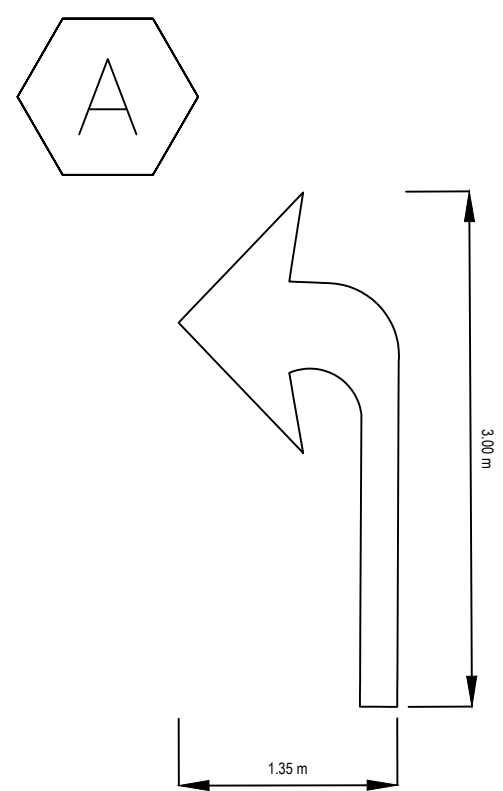
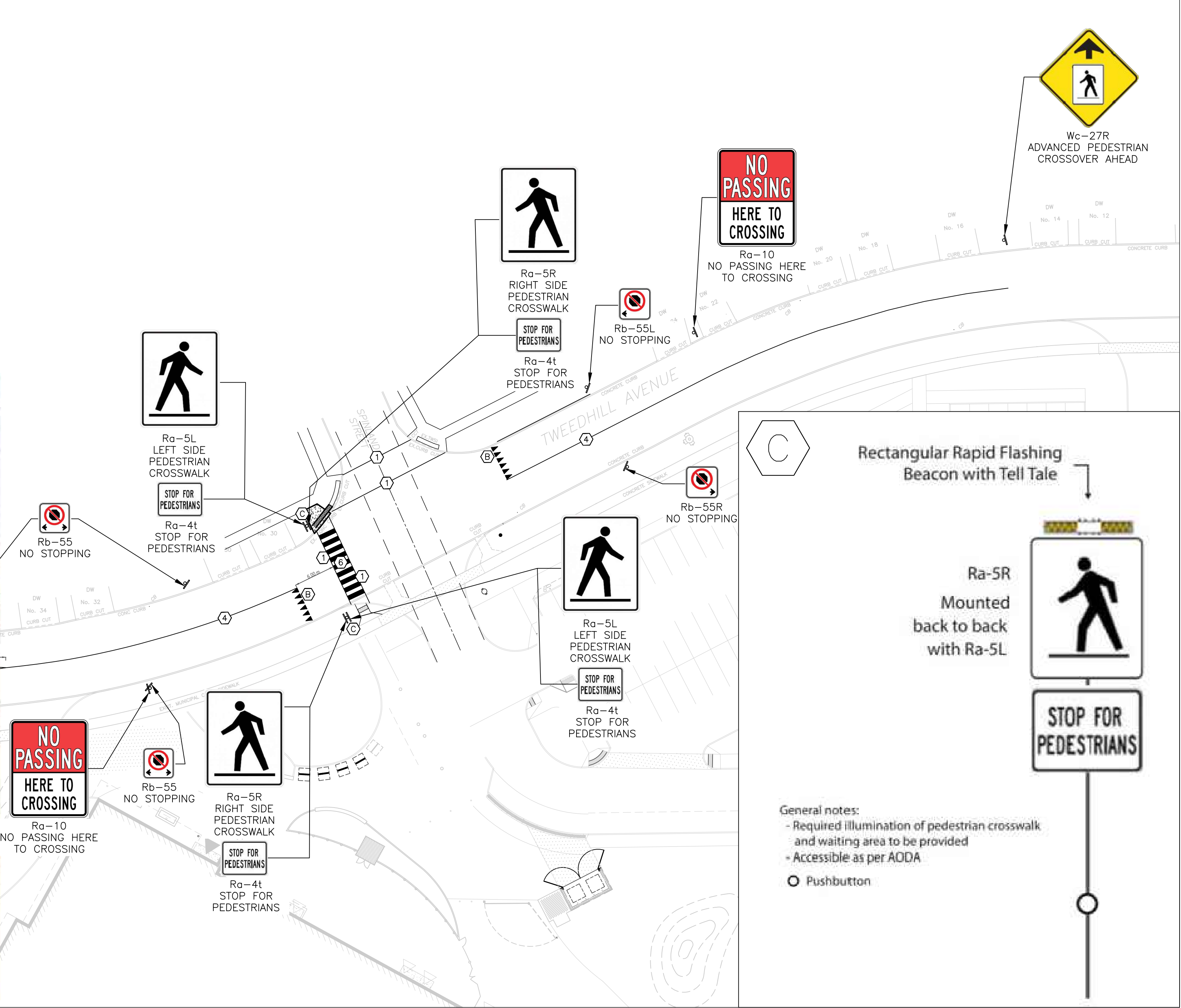
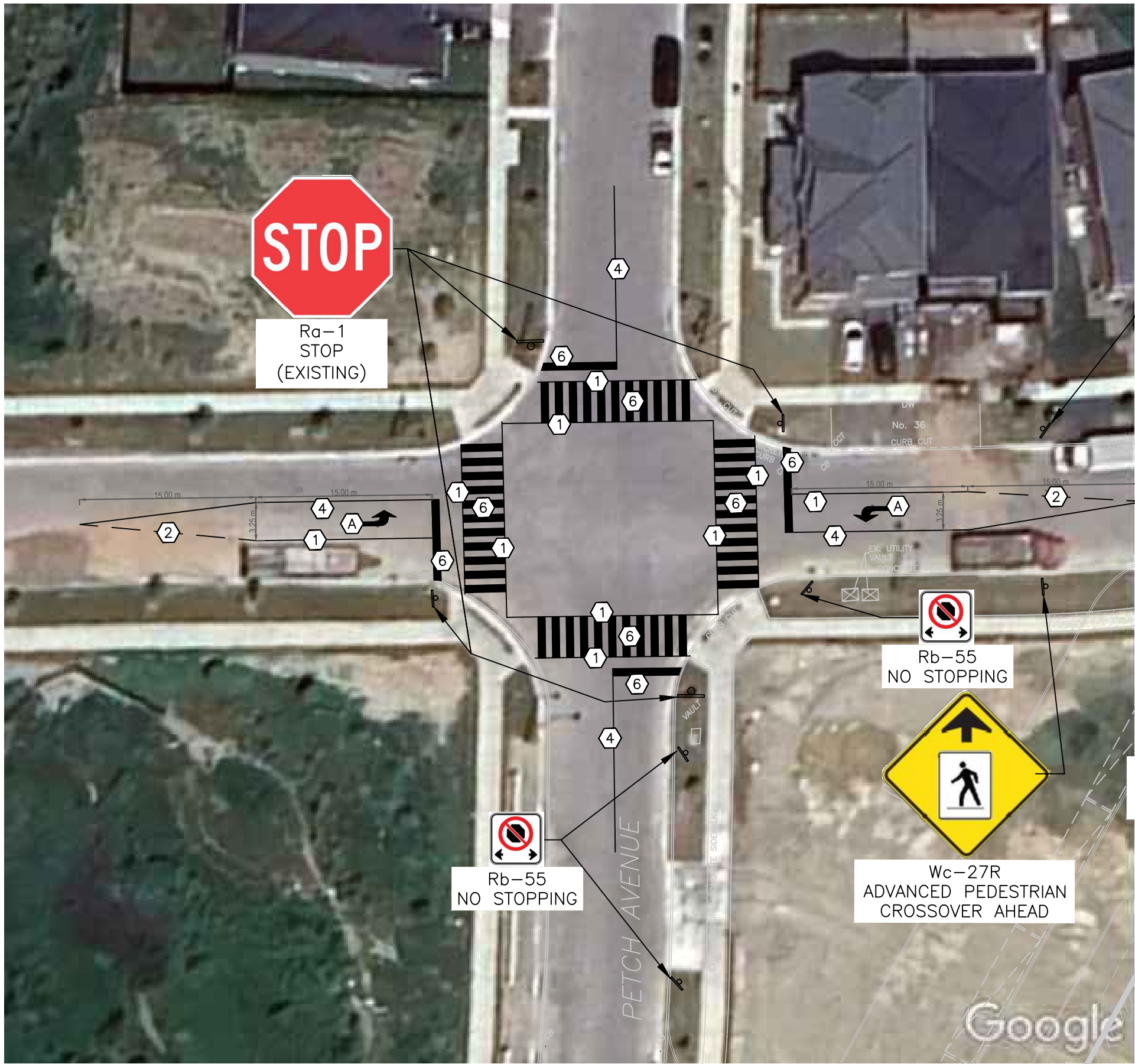


PAVEMENT MARKING LEGEND TABLE NOTES

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

	TOTAL	17	
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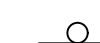




PAVEMENT MARKING LEGEND			
IDENTIFICATION	TYPE	COLOUR	WIDTH (cm)
1	SOLID	WHITE	10
2	1-1-1 BROKEN	YELLOW	10
3	3-3-3 BROKEN	YELLOW	10
4	SOLID	YELLOW	10
5	3-6-3 BROKEN	YELLOW	10
6	SOLID	WHITE	60
20	SYMBOLS	WHITE	

- PAVEMENT MARKING LEGEND TABLE NOTES
- 3-3-3, 3-6-3, 3-9-3, DENOTES PAVEMENT MARKING SPACING (I.E., 3m LINE, 3m GAP, 3m LINE)
 - USE  TO DENOTE PAVEMENT MARKING

TRAFFIC SIGN SCHEDULE			
SIGN NUMBER	SIGN NAME	QUANTITY	COMMENTS
Ra-4t	STOP FOR PEDESTRIANS	4	
Ra-5L	LEFT SIDE PEDESTRIAN CROSSWALK	2	
Ra-5R	RIGHT SIDE PEDESTRIAN CROSSWALK	2	
Ra-10	NO PASSING HERE TO CROSSING	2	
Rb-55	NO STOPPING	6	BOTH ARROWS
Rb-55L	NO STOPPING	1	LEFT ARROW
Rb-55R	NO STOPPING	1	RIGHT ARROW
Wc-27R	ADVANCED PEDESTRIAN CROSSOVER AHEAD	2	
TOTAL		20	

LEGEND	
	SIGNS



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3	Third Submission	W.M	W.M	2/3/26
2	Second Submission	W.M	W.M	1/20/26
1	First Submission	W.M	W.M	11/11/25

No.	Issue	Checked	Approved	Date
Author	RA		Designer	RA
Drafting	W.M		Design	W.M
Check			Check	
Project	W.M		Project	W.M
Manager			Director	

Client
PEEL DISTRICT SCHOOL BOARD

Project
MAYFIELD WEST #2 ELEMENTARY SCHOOL

Date
November 11, 2025

Scale
NTS

Project No.
-

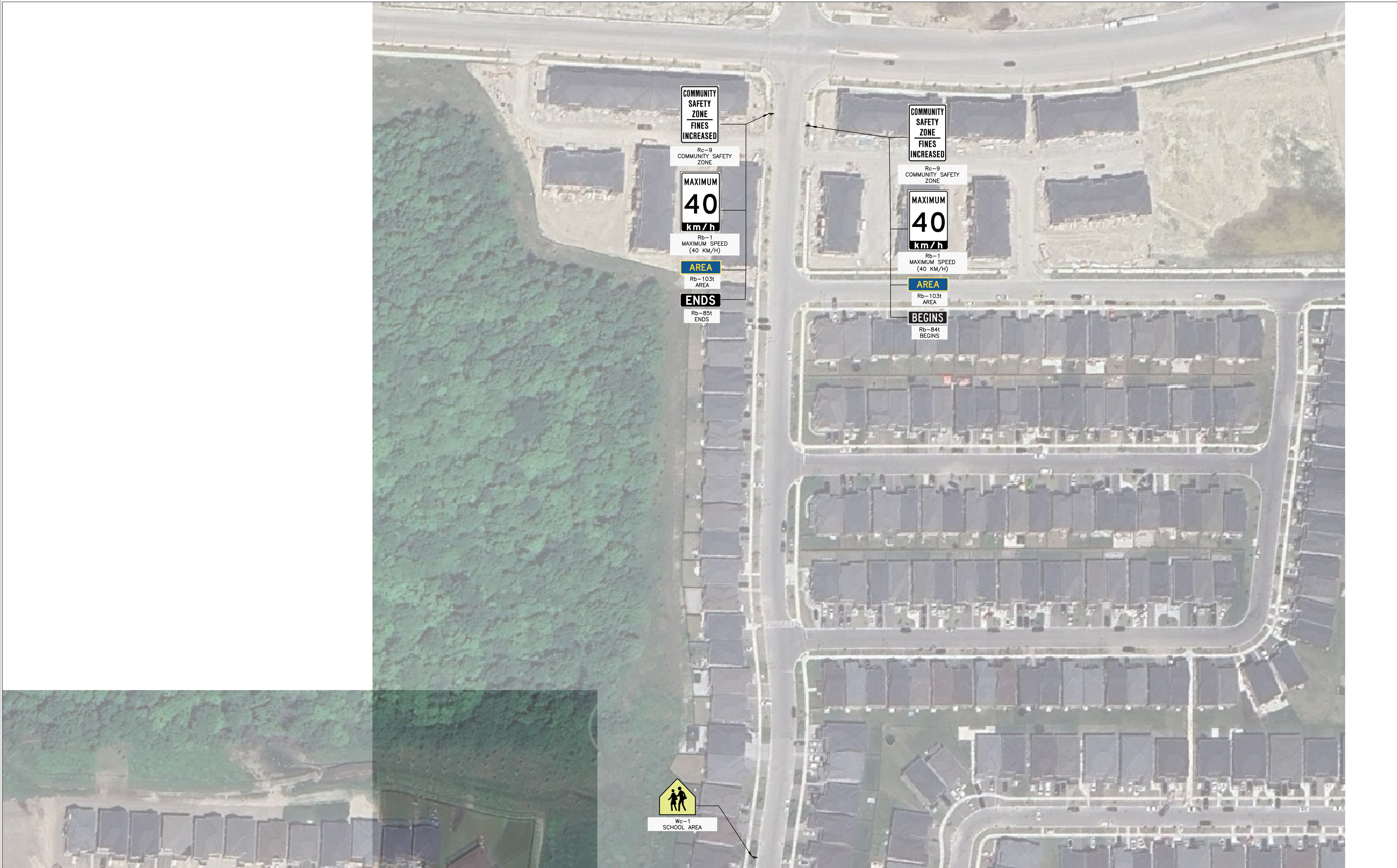
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PAVEMENT MARKING AND SIGNAGE PLAN (PXO)

Size
ANSI D

Status Code

Sheet No.
PMP-201

Sheet
of



TRAFFIC SIGN SCHEDULE			
SIGN NUMBER	SIGN NAME	QUANTITY	COMMENTS
Rb-1	MAXIMUM SPEED	2	
Rb-103t	AREA	2	
Rb-84t	BEGINS	1	
Rb-85t	ENDS	1	
Rc-9	COMMUNITY SAFETY ZONE	2	
Wc-1	SCHOOL AREA	1	
TOTAL		9	

LEGEND

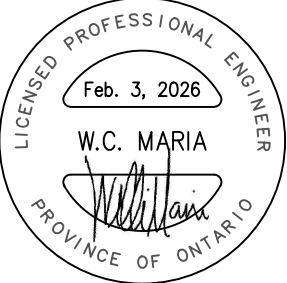
 SIGNS

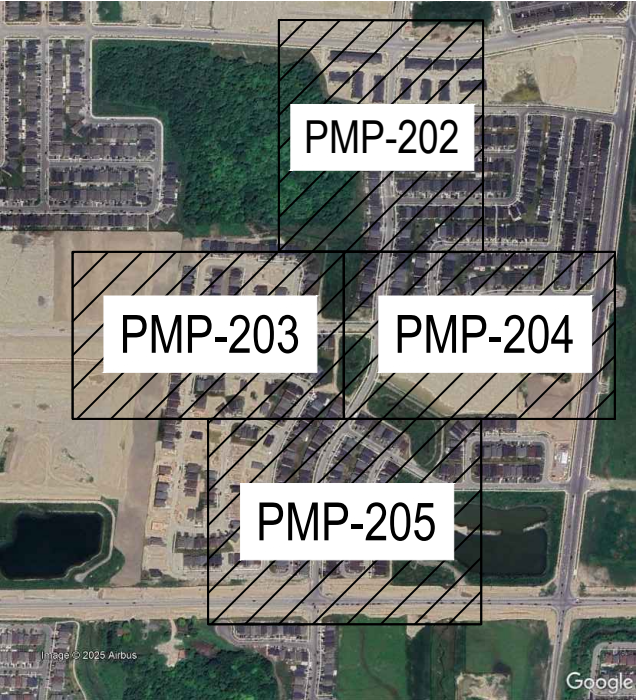


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1	First Submission	W.M	W.M	11/11/25

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Author	RA		Designer	RA
Drafting Check	W.M		Design Check	W.M
Project Manager	W.M		Project Director	W.M

Client

PEEL DISTRICT SCHOOL BOARD

Project

MAYFIELD WEST #2 ELEMENTARY SCHOOL

Date

November 11, 2025

Scale

NTS

Project No.

-

Title

PAVEMENT MARKING AND SIGNAGE PLAN (TRAFFIC CALMING)

Size

ANSI D

Status Code

Sheet No.

PMP-202

Sheet

of

Plot Date: 2/3/26

Plotted By: Raf Andrenacci

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TRAFFIC SIGN SCHEDULE			
SIGN NUMBER	SIGN NAME	QUANTITY	COMMENTS
Rb-1	MAXIMUM SPEED	2	
Rb-84t	BEGINS	1	
Rb-85t	ENDS	1	
Rc-9	COMMUNITY SAFETY ZONE	2	
Wc-1	SCHOOL AREA	1	
TOTAL		7	

LEGEND

 SIGNS

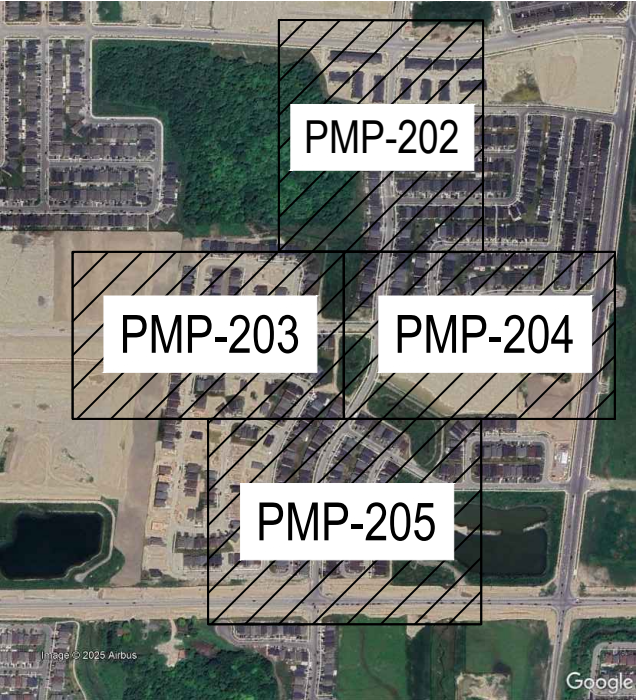


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Author	RA		Designer	RA
Drafting	W.M		Design	W.M
Check			Check	
Project Manager	W.M		Project Director	W.M

Client

PEEL DISTRICT SCHOOL BOARD

Project

MAYFIELD WEST #2 ELEMENTARY SCHOOL

Date

November 11, 2025

Scale

NTS

Project No.

-

Title

PAVEMENT MARKING AND SIGNAGE PLAN (TRAFFIC CALMING)

Size

ANSI D

Status Code

Sheet No.

PMP-203

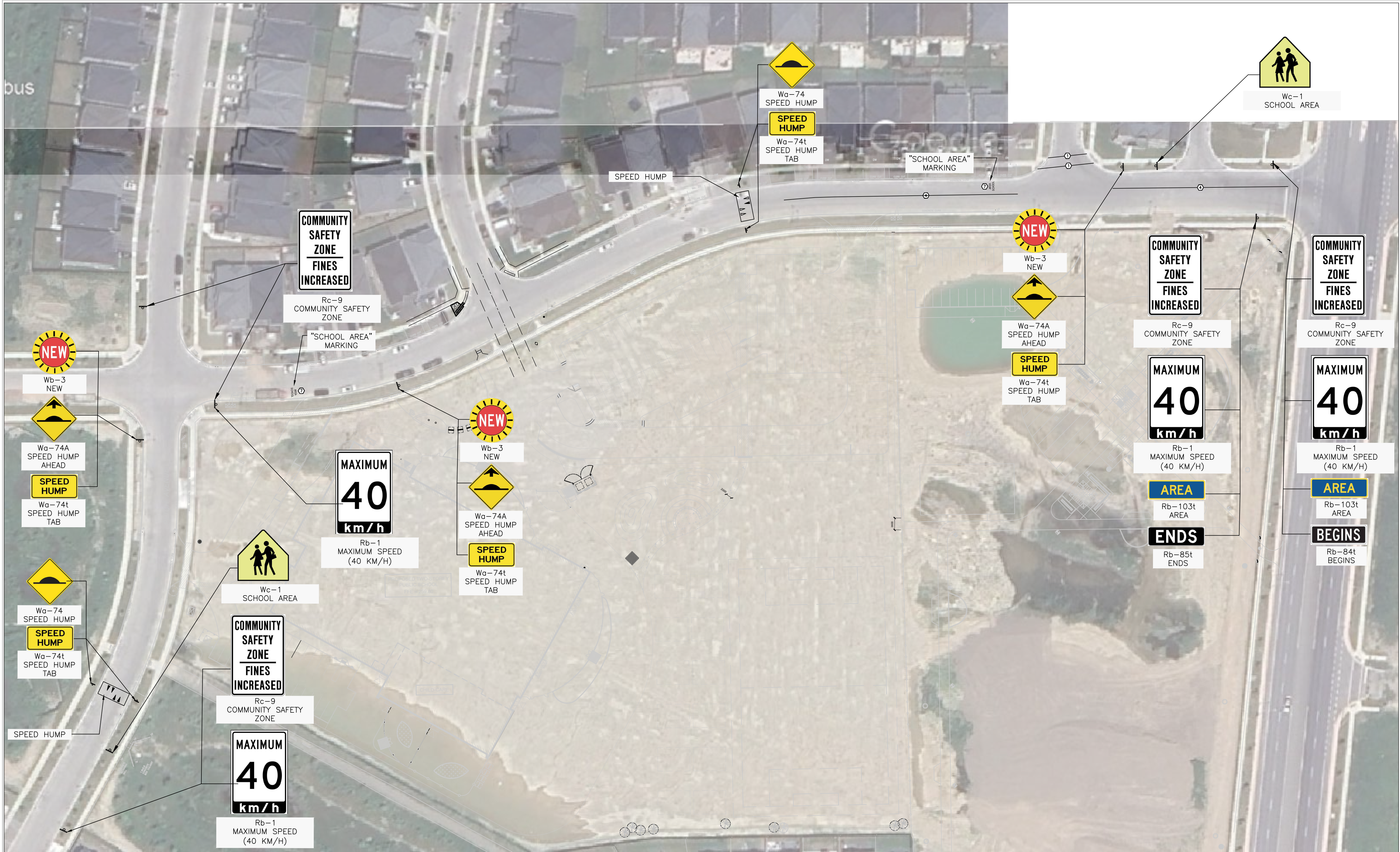
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Plot Date: 2/3/26

Plotted By: Raf Andrenacci

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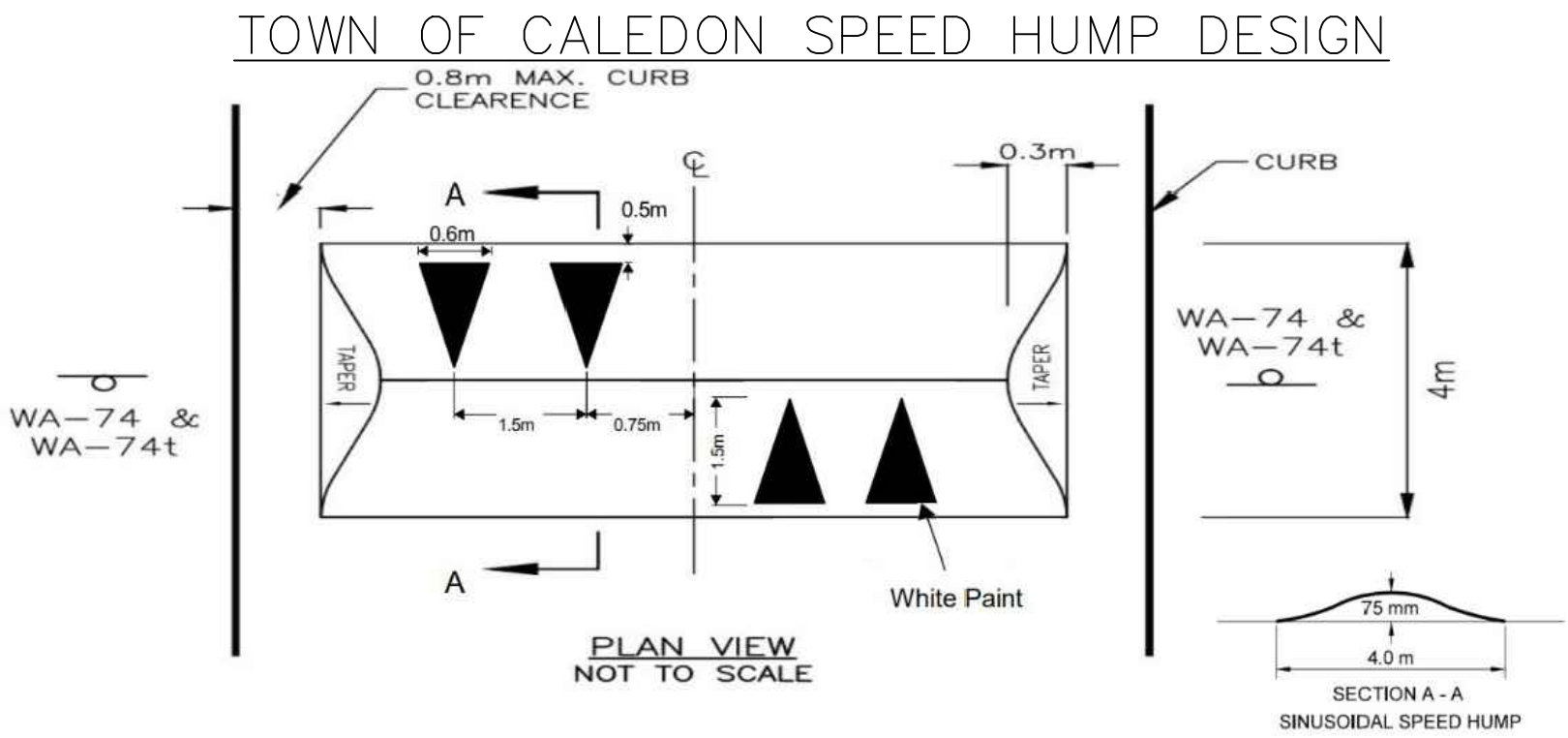


TRAFFIC SIGN SCHEDULE			
SIGN NUMBER	SIGN NAME	QUANTITY	COMMENTS
Rb-1	MAXIMUM SPEED	4	
Rb-103t	AREA	2	
Rb-84t	BEGINS	1	
Rb-85t	ENDS	1	
Rc-9	COMMUNITY SAFETY ZONE	5	
Wa-74	SPEED HUMP	4	
Wa-74A	SPEED HUMP AHEAD	3	
Wa-74t	SPEED HUMP TAB	7	
Wb-3	NEW	3	KEEP SIGN FOR 30 DAYS
Wc-1	SCHOOL AREA	2	
TOTAL		32	



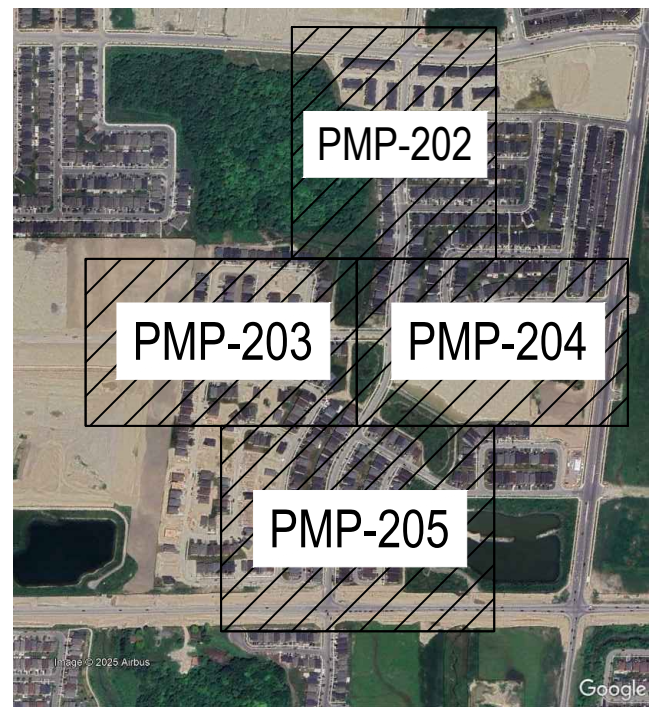
PAVEMENT MARKING LEGEND			
IDENTIFICATION	TYPE	COLOUR	WIDTH (cm)
1	SOLID	WHITE	10
2	1-1-1 BROKEN	YELLOW	10
3	3-3-3 BROKEN	YELLOW	10
4	SOLID	YELLOW	10
5	3-6-3 BROKEN	YELLOW	10
6	SOLID	WHITE	60
7	LETTERS	WHITE	45 WIDE, 20 SPACING

- PAVEMENT MARKING LEGEND TABLE NOTES
- 3-3-3, 3-6-3, 3-9-3, DENOTES PAVEMENT MARKING SPACING (I.E., 3m LINE, 3m GAP, 3m LINE)
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Drafting	W.M		Design	W.M
Check			Check	
Project	W.M		Project	W.M
Manager			Director	

Client
PEEL DISTRICT SCHOOL BOARD

Project
MAYFIELD WEST #2 ELEMENTARY SCHOOL

Date
November 11, 2025

Scale
NTS

Project No.
-

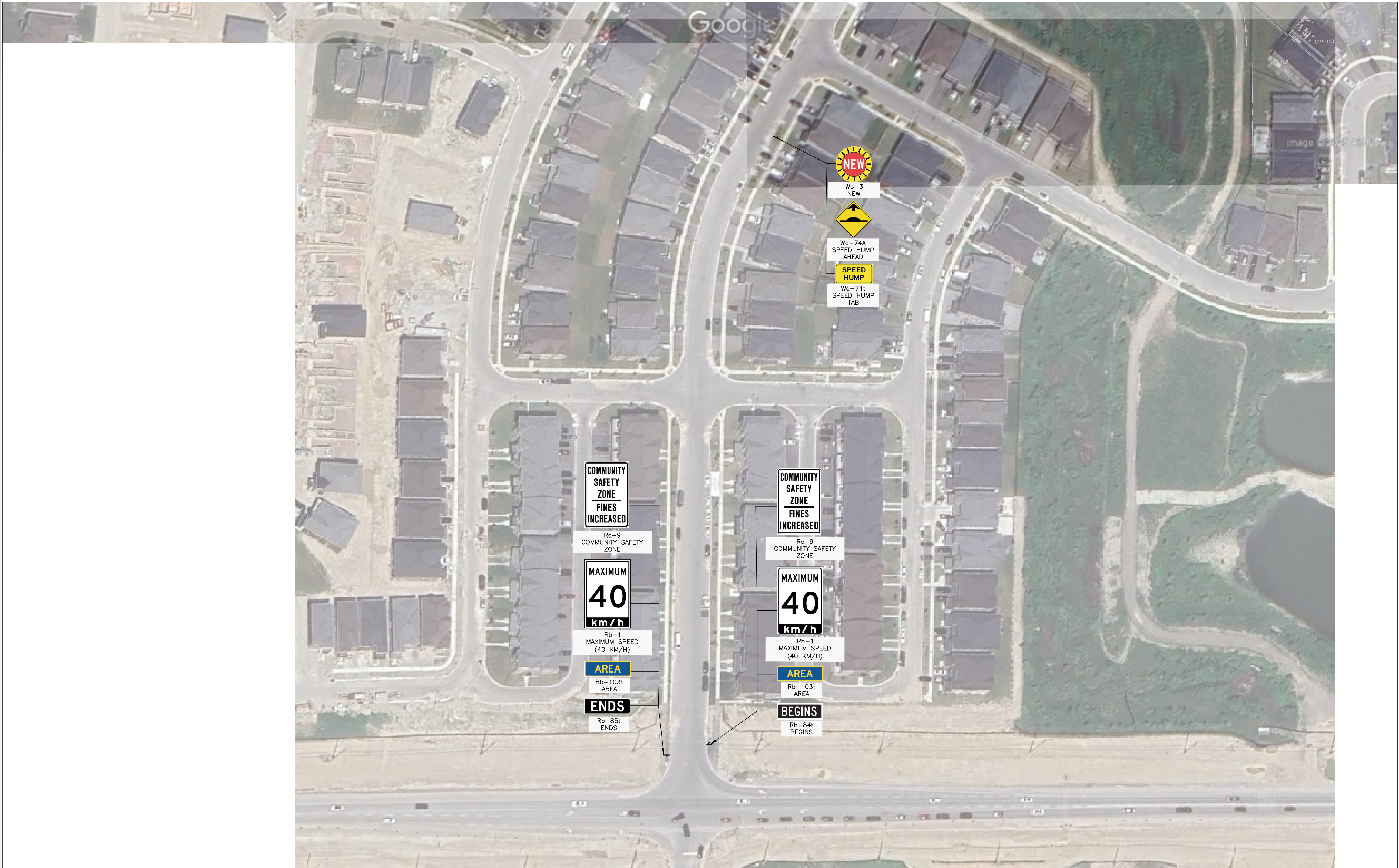
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PAVEMENT MARKING AND SIGNAGE PLAN (TRAFFIC CALMING)

Size
ANSI D

Status Code

Sheet No.
PMP-204

Sheet
of



TRAFFIC SIGN SCHEDULE			
SIGN NUMBER	SIGN NAME	QUANTITY	COMMENTS
Rb-1	MAXIMUM SPEED	2	
Rb-103t	AREA	2	
Rb-84t	BEGINS	1	
Rb-85t	ENDS	1	
Rc-9	COMMUNITY SAFETY ZONE	2	
Wg-74A	SPEED HUMP AHEAD	1	
Wg-74t	SPEED HUMP TAB	1	
Wb-3	NEW	1	KEEP SIGN FOR 30 DAYS
TOTAL		11	

LEGEND

 SIGNS



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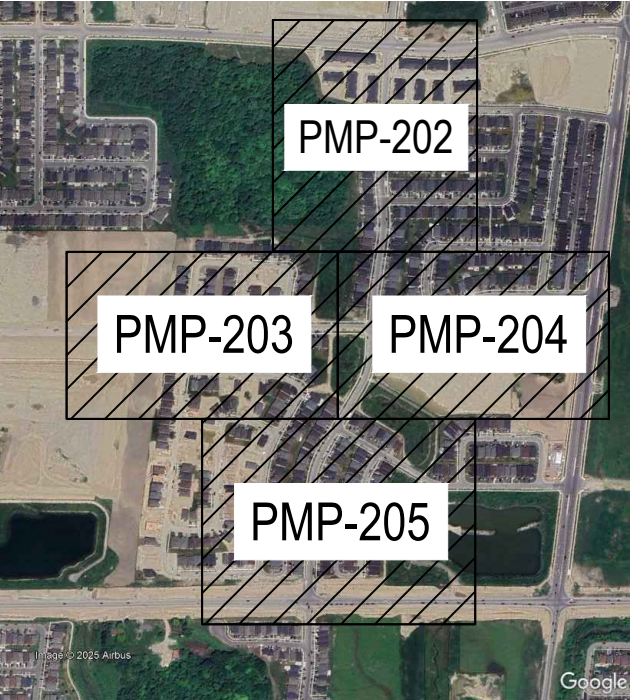
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LICENSED PROFESSIONAL ENGINEER

Feb. 3, 2026

W.C. MARIA

PROVINCE OF ONTARIO



3	Third Submission	W.M	W.M	2/3/26
2	Second Submission	W.M	W.M	1/20/26
1	First Submission	W.M	W.M	11/11/25

No.	Issue	Checked	Approved	Date
Author	RA		Designer	RA
Drafting	W.M		Design	W.M
Check			Check	
Project Manager	W.M		Project Director	W.M

Client

PEEL DISTRICT SCHOOL BOARD

Project

MAYFIELD WEST #2 ELEMENTARY SCHOOL

DateNovember 11, 2025

ScaleNTS

Project No.

Title

PAVEMENT MARKING AND SIGNAGE PLAN (TRAFFIC CALMING)

SizeANSI D

Status Code

Sheet No.

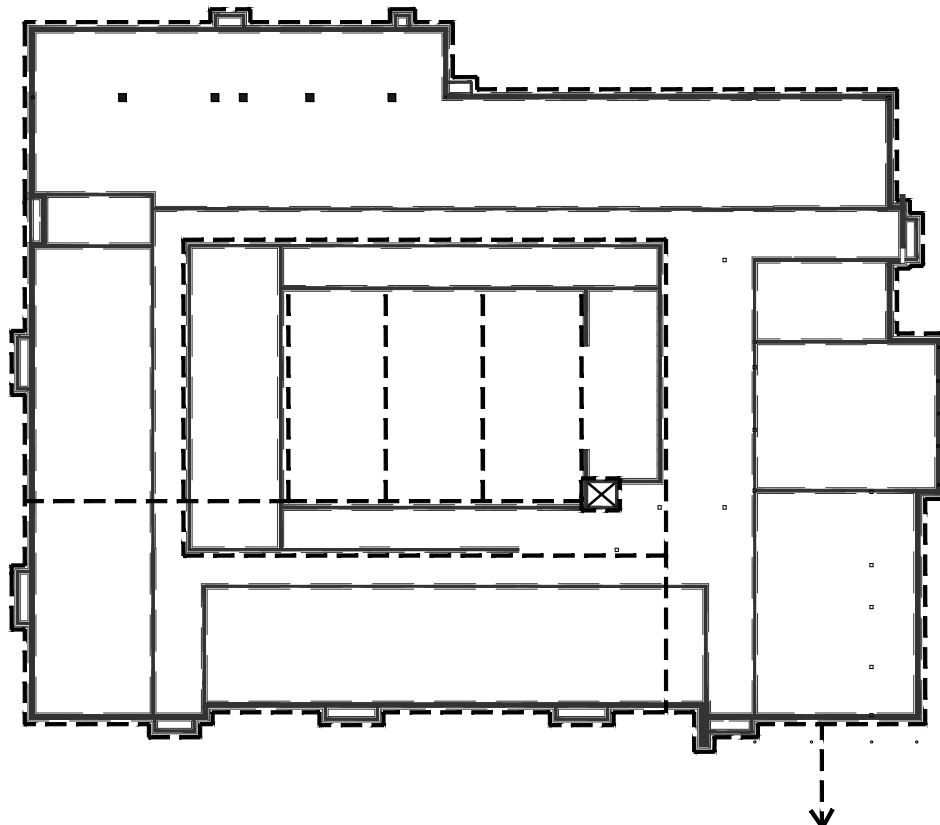
PMP-205

of

Plot Date: 2/3/26

Plotted By: Raf Andrenacci

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CONNECT TO STORM
SEWER CBMH #17.
REF. CIVIL DWGS.

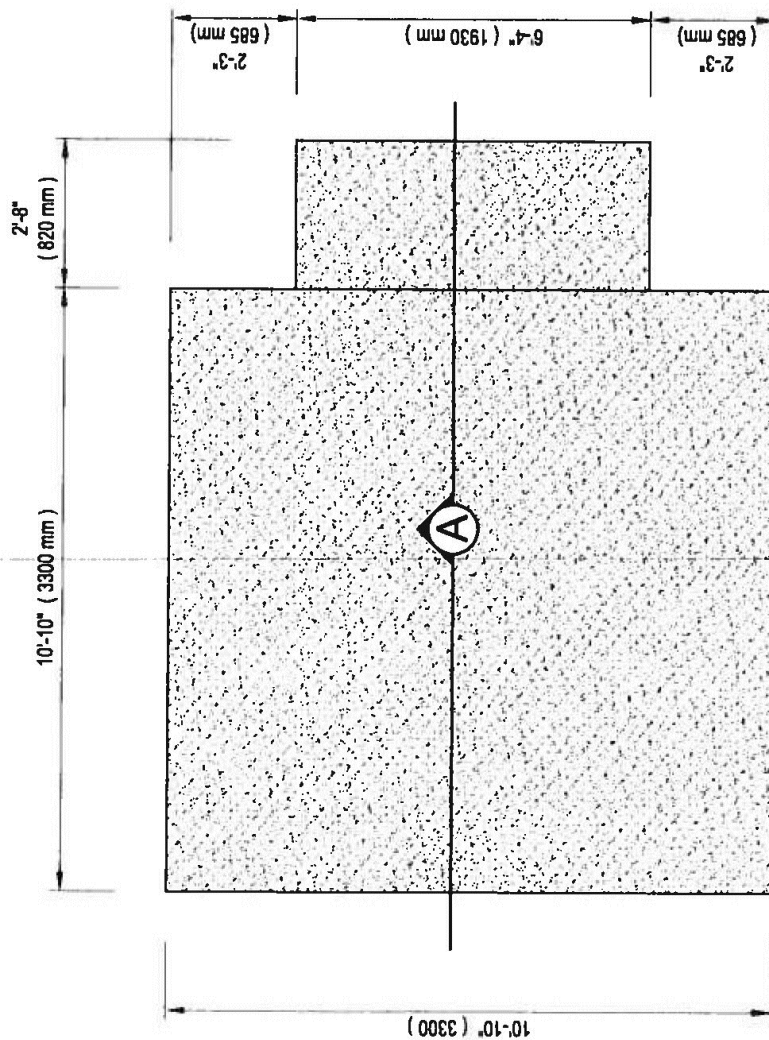
----- WEeping TILE

BUILDING WEEPING TILE LOCATION PLAN

PROJ:	24112
SCALE:	1:700
DRAWN:	KB
DATE:	25 08 25

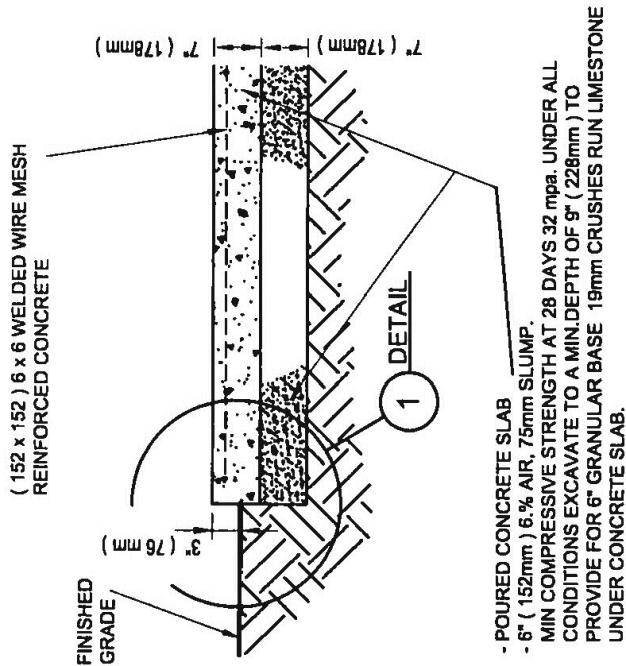


ISSUE/REV. 00
AD 100



PLAN OF SHED PAD

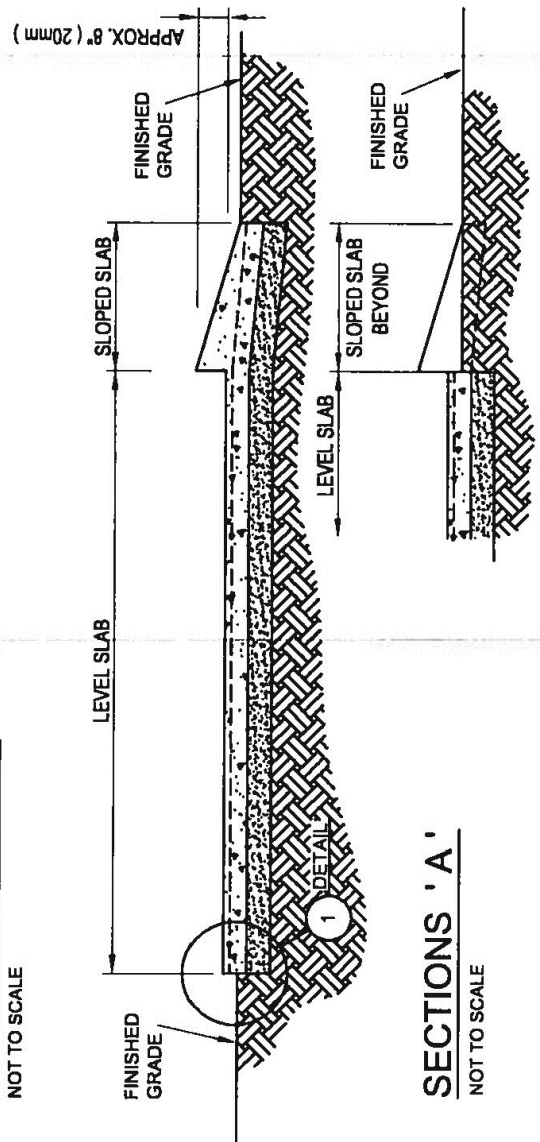
NOT TO SCALE



SECTION DETAIL 1

NOT TO SCALE

- POURED CONCRETE SLAB
- 8" (152mm) 6% AIR, 75mm SLUMP.
MIN COMPRESSIVE STRENGTH AT 28 DAYS 32 mpa. UNDER ALL
CONDITIONS EXCAVATE TO A MIN. DEPTH OF 9" (228mm) TO
PROVIDE FOR 6" GRANULAR BASE 19mm CRUSHES RUN LIMESTONE
UNDER CONCRETE SLAB.



SECTIONS 'A'

NOT TO SCALE

NOTE:
TYPICAL AT ALL CONCRETE
STORAGE BUNKERS.
REFER TO SITE PLAN FOR
LOCATIONS

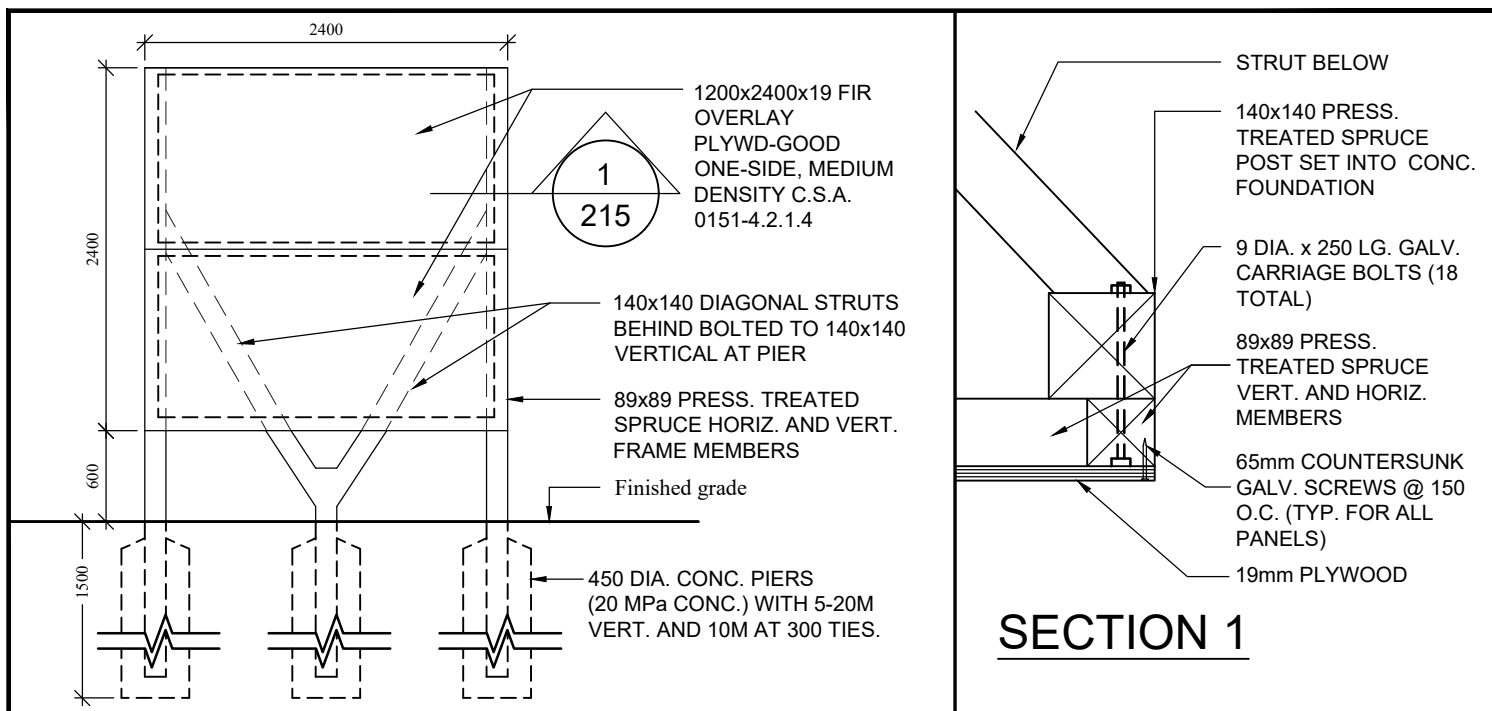
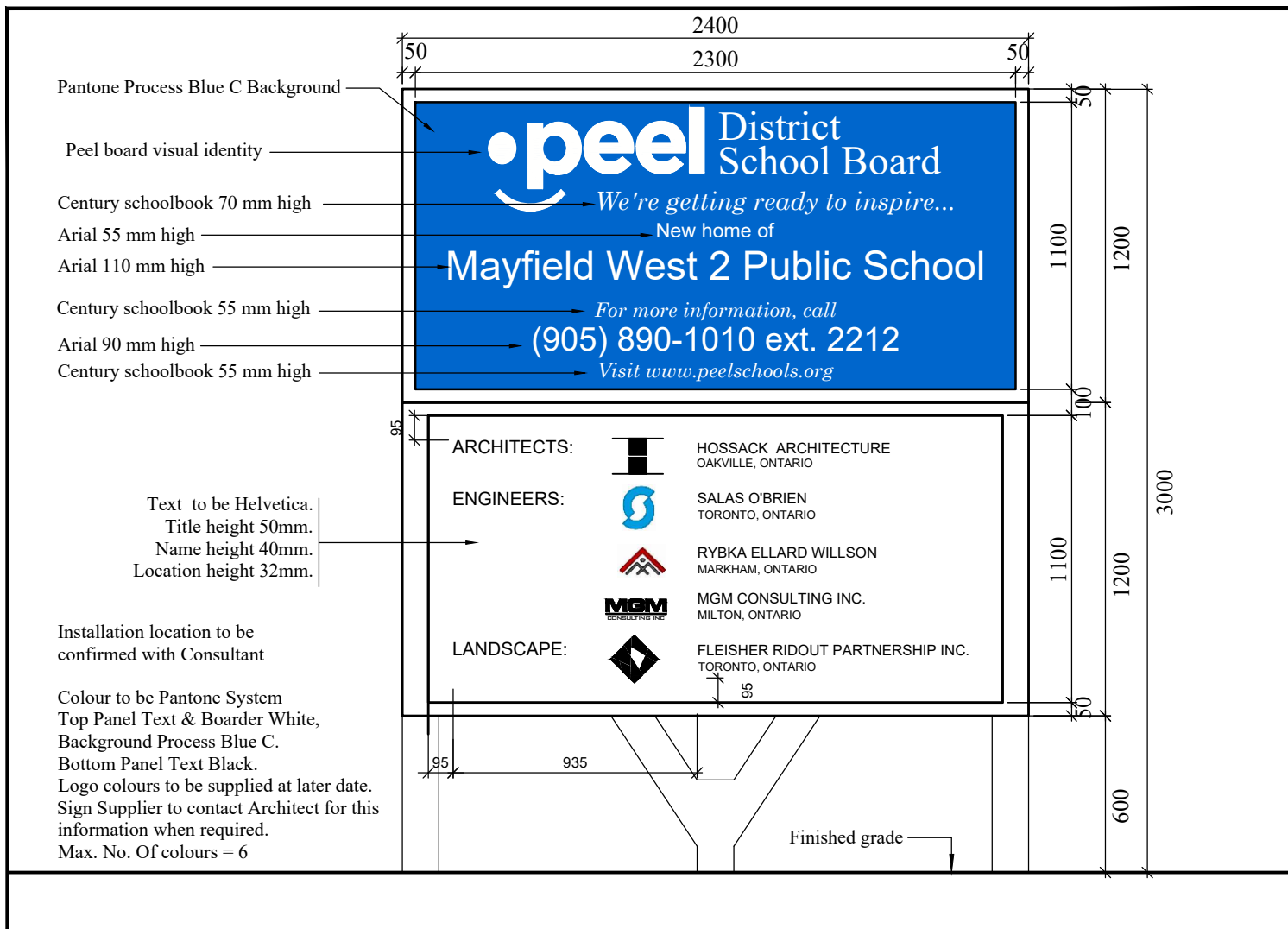
CONCRETE STORAGE UNIT CONCRETE PAD
TYPICAL AT ALL CONCRETE STORAGE BUNKERS. REFER
TO SITE PLAN FOR LOCATIONS

PROJ: 24112
SCALE: N.T.S.
DRAWN: GB
DATE: 22 05 06

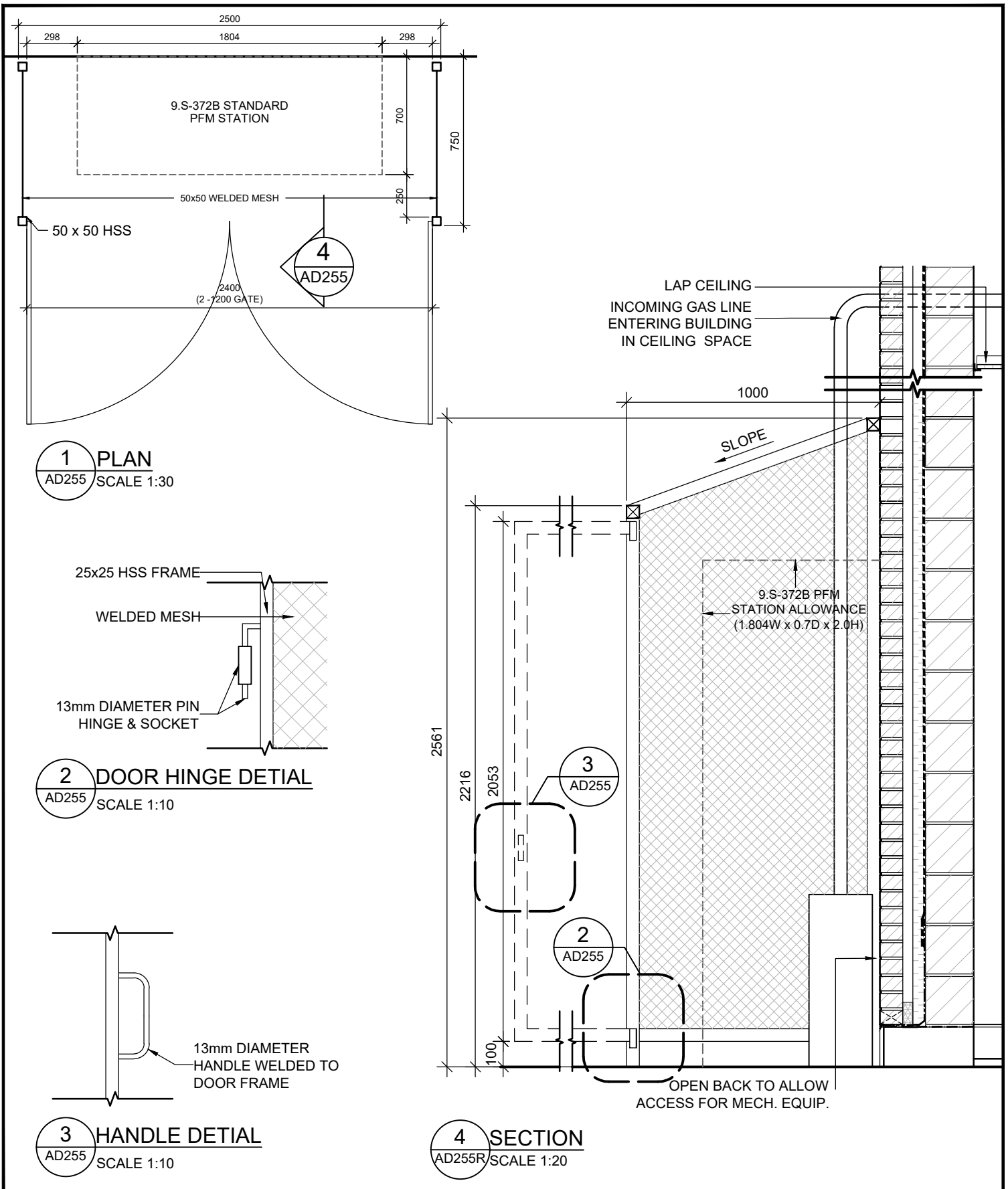


ISSUE/REV.
00

AD
208



JOB SITE SIGN	PROJ: 24112		ISSUE/REV. 00 AD 215
	SCALE: N.T.S.		
	DRAWN: KB		
	DATE: 21 02 12		



GAS METER CAGE

PROJ: 24112

SCALE: NOTED

DRAWN: KB

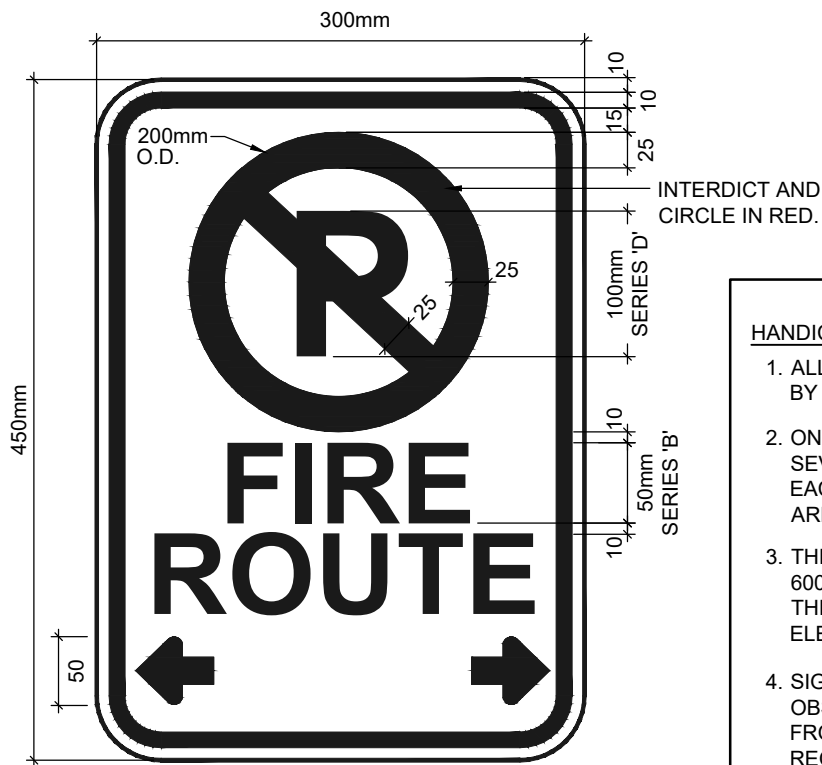
DATE: 21 02 12

HOSSACK
ARCHITECTURE



ISSUE/REV.

AD
255



FIRE ROUTE SIGN NOTES:

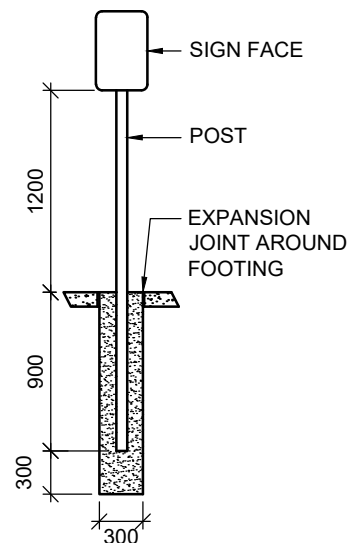
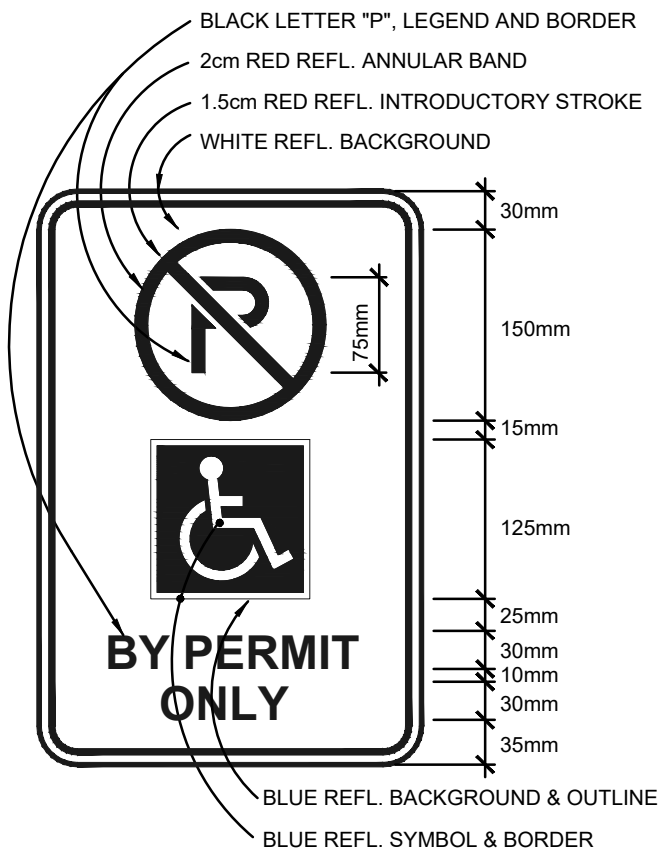
1. All legends in black except where noted.
2. Background material to be 3M "SCOTCHLITE" white or equal.
3. Blank to be galvanized steel.
4. Drawing not drawn to scale.

HANDICAP SIGN REQUIREMENTS:

1. ALL HANDICAP PARKING STALLS SHALL BE DESIGNATED BY SIGNAGE AS PER MUNICIPAL STANDARDS.
2. ONE SIGN PER BAY IS REQUIRED UNLESS A ROW OF SEVERAL BAYS IS PROVIDED IN WHICH CASE, AS SIGN AT EACH END OF THE ROW W/APPROPRIATE DIRECTIONAL ARROWS.
3. THE REQUIRED SIGN(S) SHALL BE MOUNTED AT LEAST 600mm AND NOT MORE THAN 2000mm FROM THE FACE OF THE CURB AT A HEIGHT OF 1200mm ABOVE THE TOP ELEVATION OF THE CURB.
4. SIGN(S) MUST NOT OBSTRUCT THE SIDEWALK. WHERE AN OBSTRUCTED BUILDING FACE IS NO MORE THAN 2.0m FROM THE FACE CURB AT THE HANDICAP BAY, THE REQUIRED SIGN(S) MAY BE MOUNTED ON THE BUILDING FACE.

THE METHOD OF ATTACHMENT TO SURFACES:

1. TO A 75mm GALVIN. STL. POST W/12mm GALVIN. HEX HEAD BOLTS AND BOLT WITH WASHERS BOTH SIDES.
2. TO MASONRY BUILDING FACE WITH TWO GALVIN. 50mm LONG 6mm DIA. HEX HEAD LAD BOLT, NUT AND WASHER(S) INTO MASONRY WALL ANCHORS.



HANDICAP SIGN
MOUNTING DETAIL

SITE SIGNAGE

*Drawing to be read in conjunction to Site
Plan & Landscape Details*

PROJ: 24112

SCALE: N.T.S.

DRAWN: KB

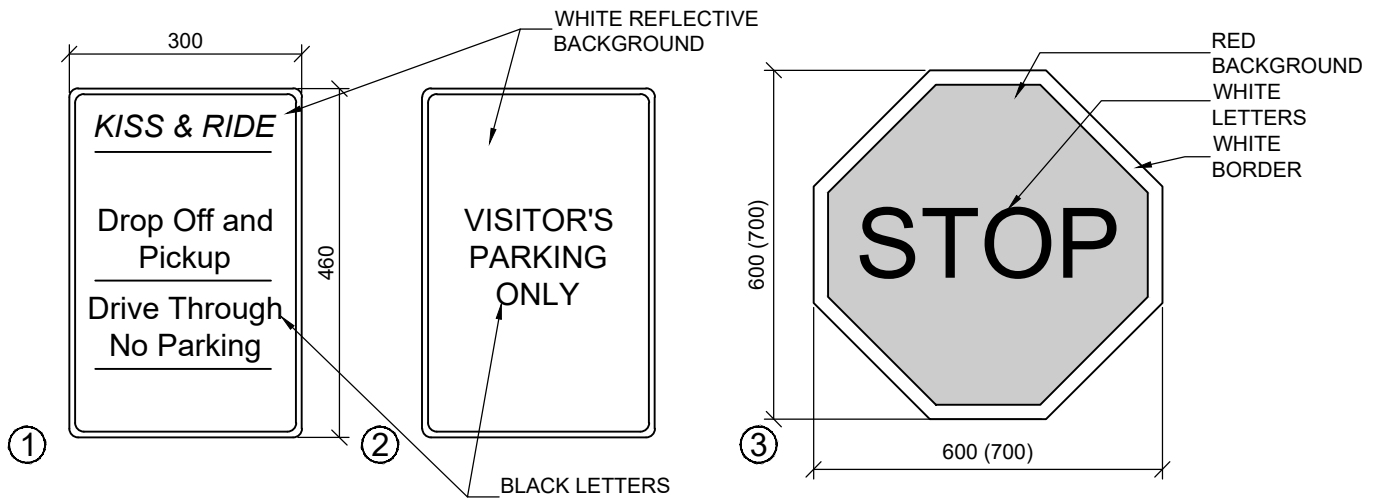
DATE: 21 02 12

HOSSACK
ARCHITECTURE

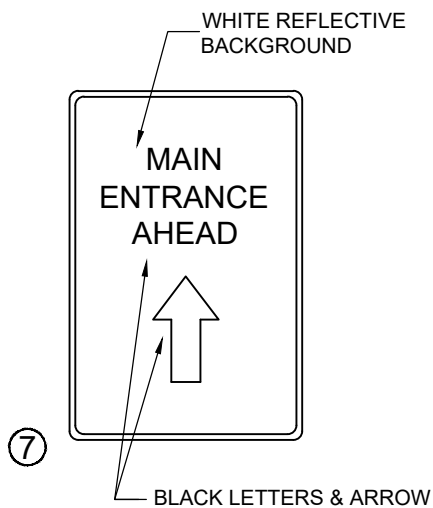
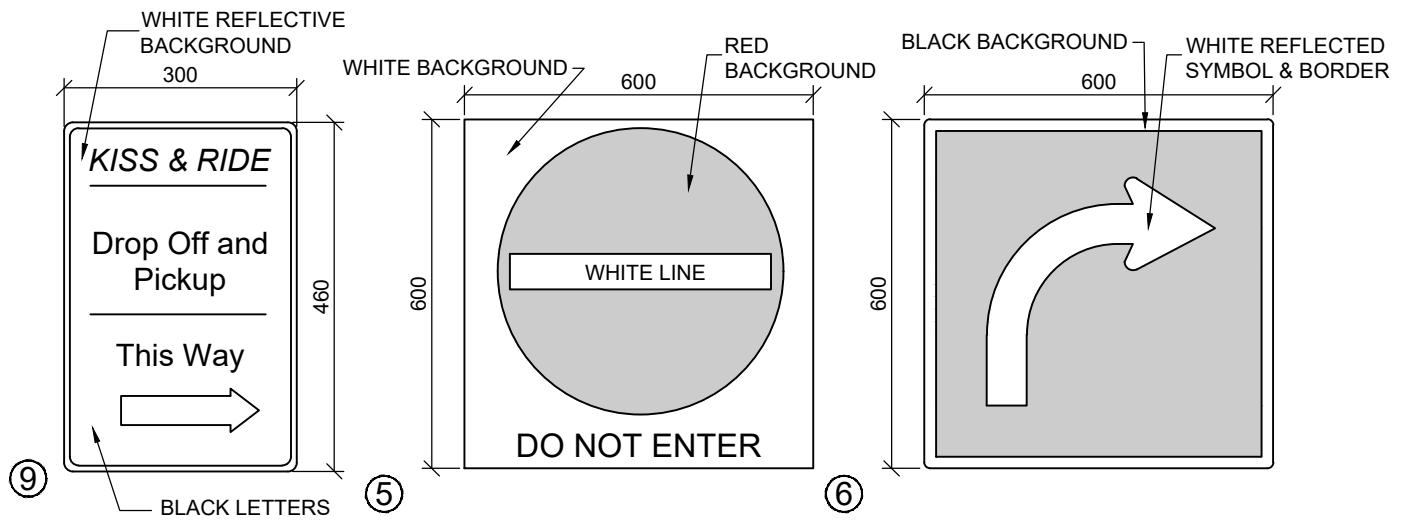
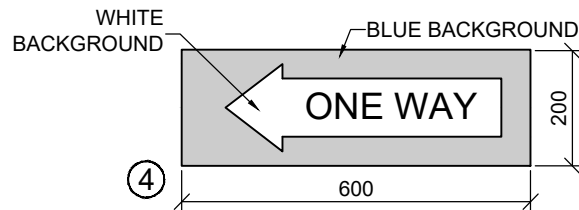


ISSUE/REV.

AD
256A



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



SITE SIGNAGE

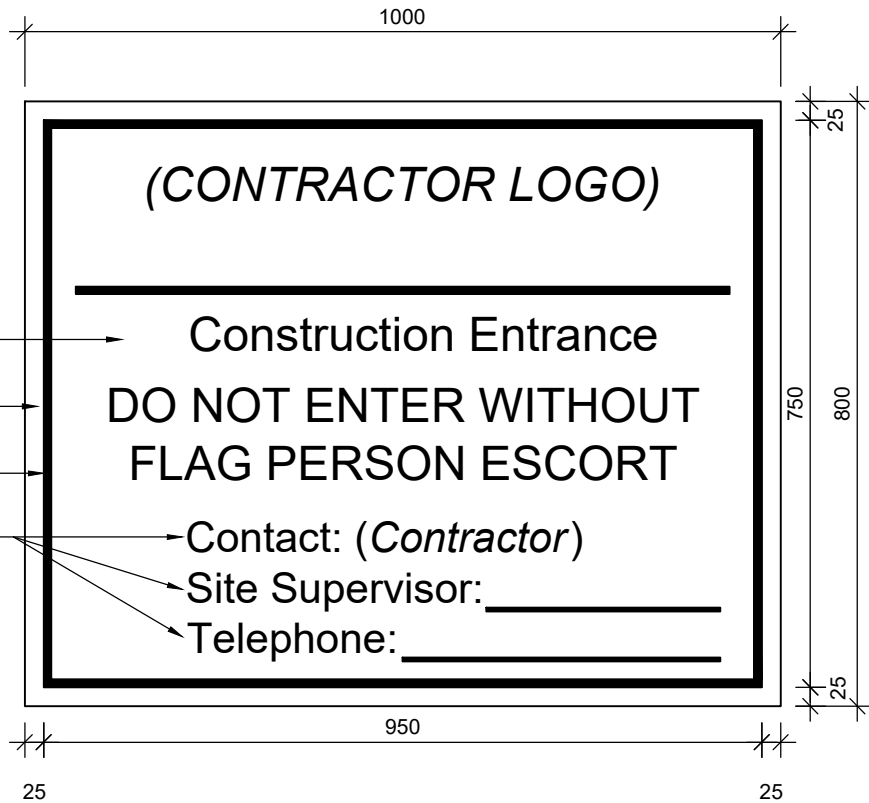
PROJ: 24112
SCALE: N.T.S.
DRAWN: CC
DATE: 21 07 22



ISSUE/REV.

AD
256B

A



Arial 45 mm high (black)

Arial 45 mm high

15mm black band

Arial 40 mm high

(CONTRACTOR LOGO)

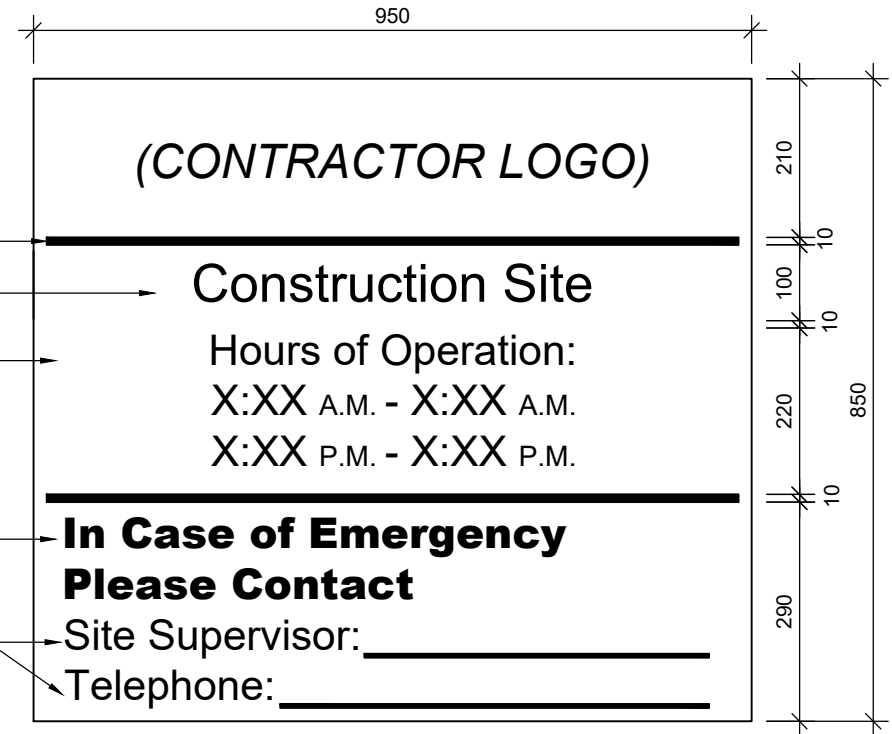
Construction Entrance
DO NOT ENTER WITHOUT
FLAG PERSON ESCORT

Contact: *(Contractor)*

Site Supervisor: _____

Telephone: _____

B



10mm black band

Arial 50 mm high

Arial 40 mm
high (black)

Arial 40 mm
high (black)

Arial 40 mm high

(CONTRACTOR LOGO)

Construction Site

Hours of Operation:
X:XX A.M. - X:XX A.M.
X:XX P.M. - X:XX P.M.

**In Case of Emergency
Please Contact**

Site Supervisor: _____

Telephone: _____

JOB SITE SIGNAGE

PROJ: 24112

SCALE: 1:10

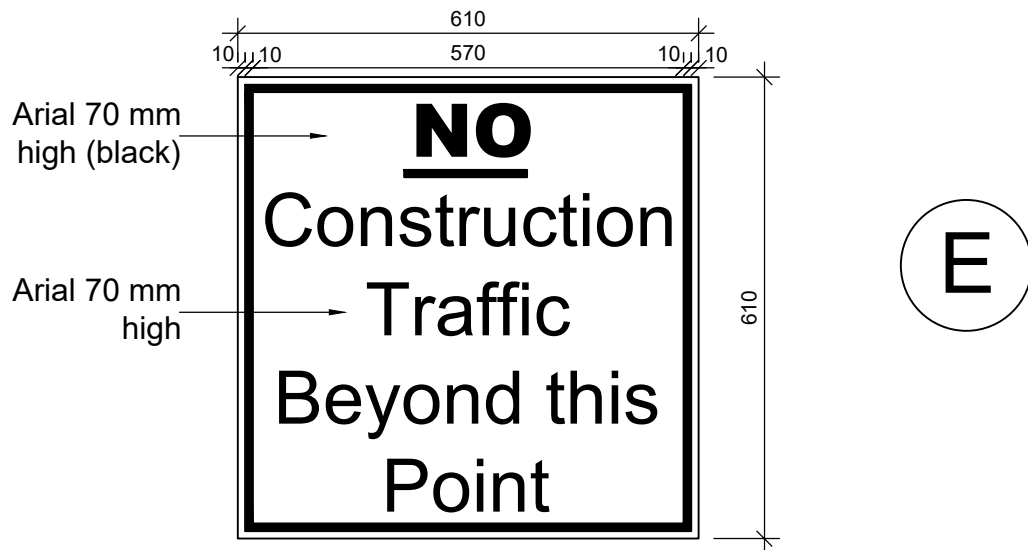
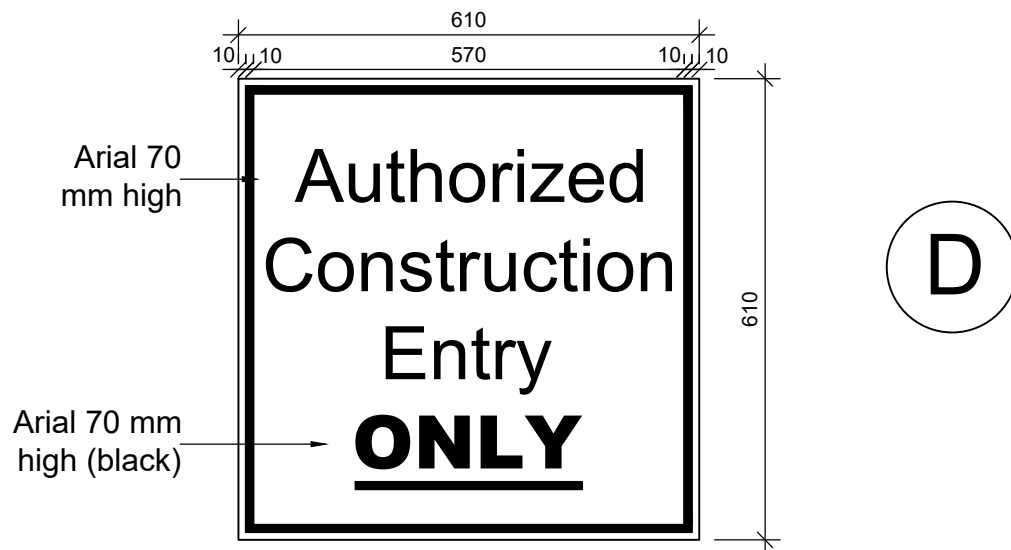
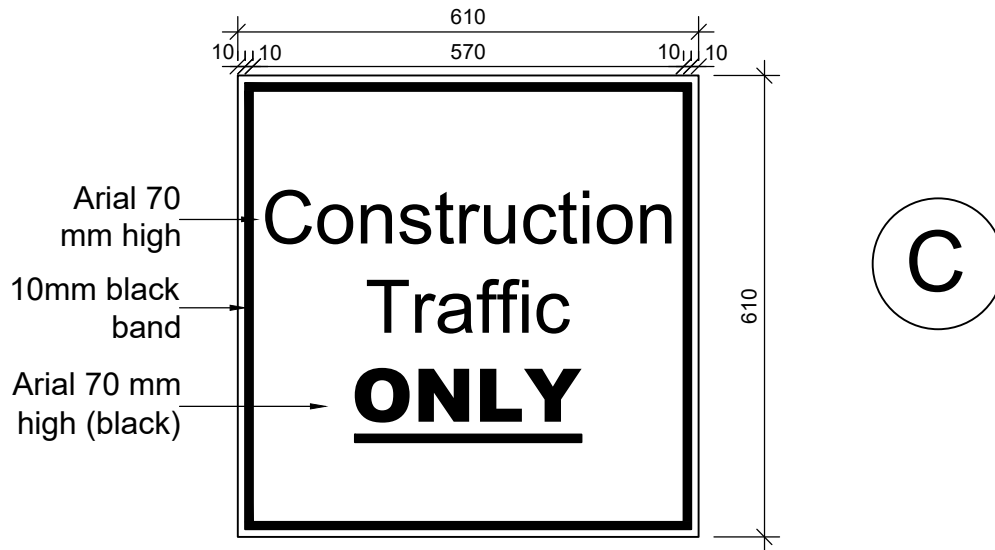
DRAWN: KB

DATE: 21 02 12



ISSUE/REV.
00

AD
257A



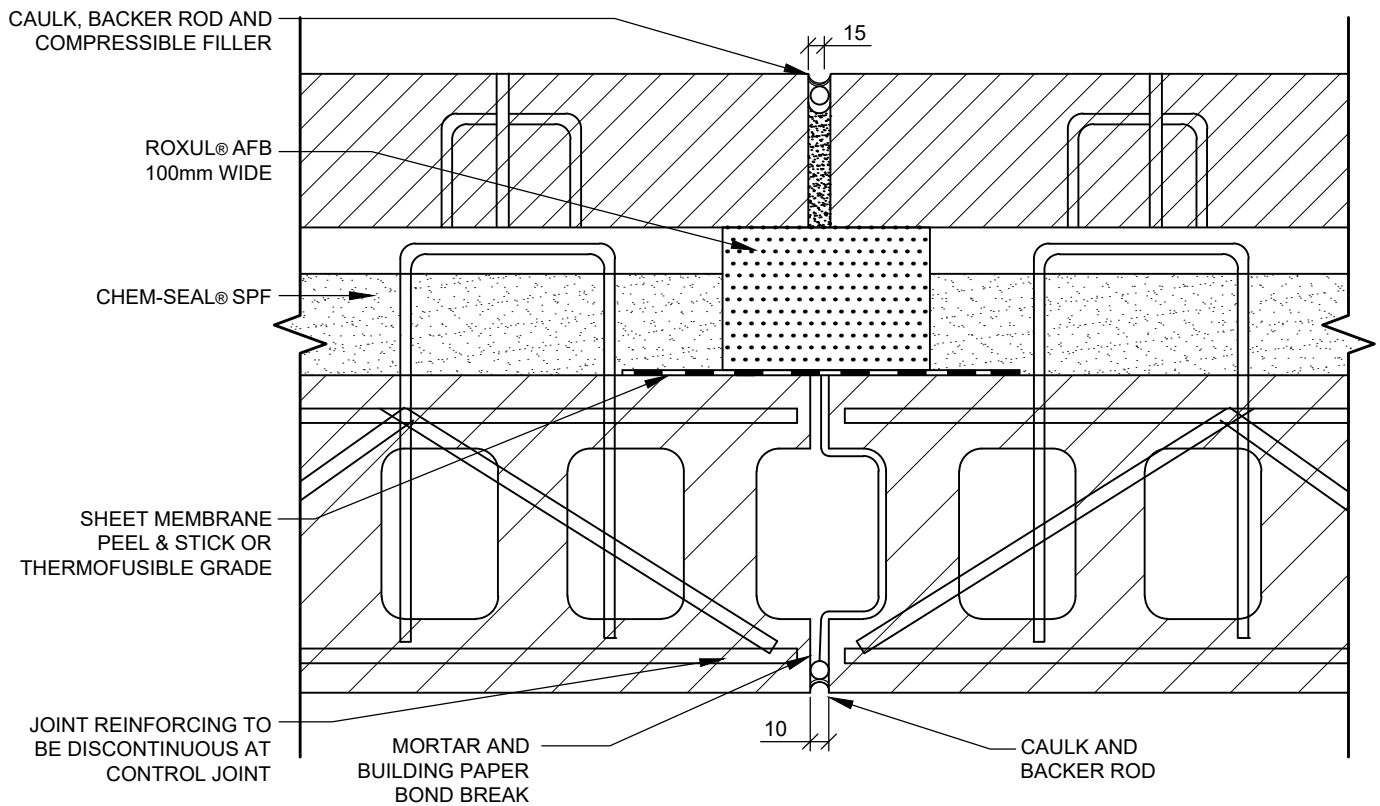
JOB SITE SIGNAGE

PROJ: 24112
SCALE: 1:10
DRAWN: KB
DATE: 21 02 12

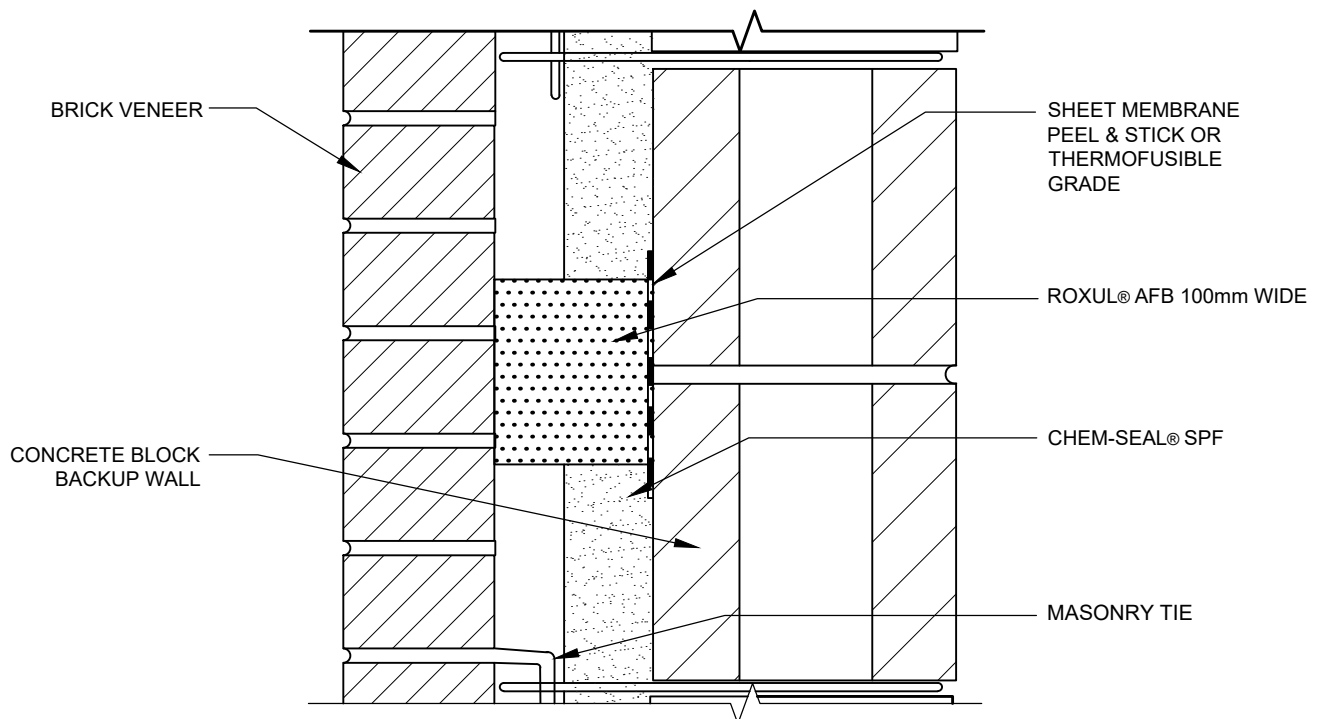


ISSUE/REV.
00

AD
257B



VERTICAL FIRE STOPPING



HORIZONTAL FIRE STOPPING

FIRESTOPPING DETAIL AT CAVITY WALL

PROJ: 24112

SCALE: 1:5

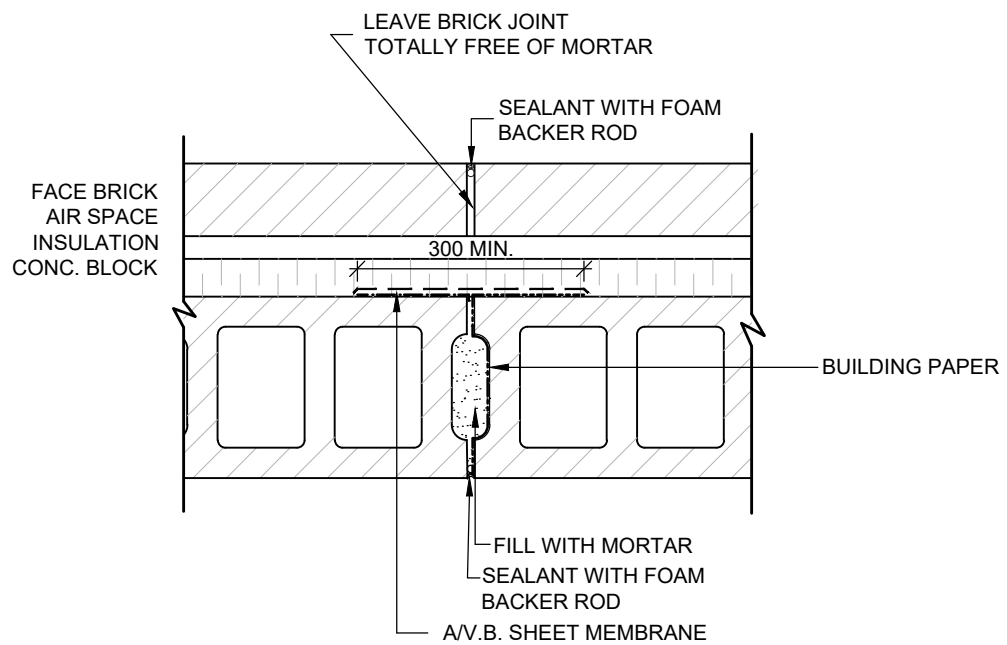
DRAWN: KB

DATE: 21 01 25



ISSUE/REV.
00

AD
400



EXTERIOR CAVITY WALL CONTROL JOINT DETAIL

PROJ: 24112

SCALE: 1:10

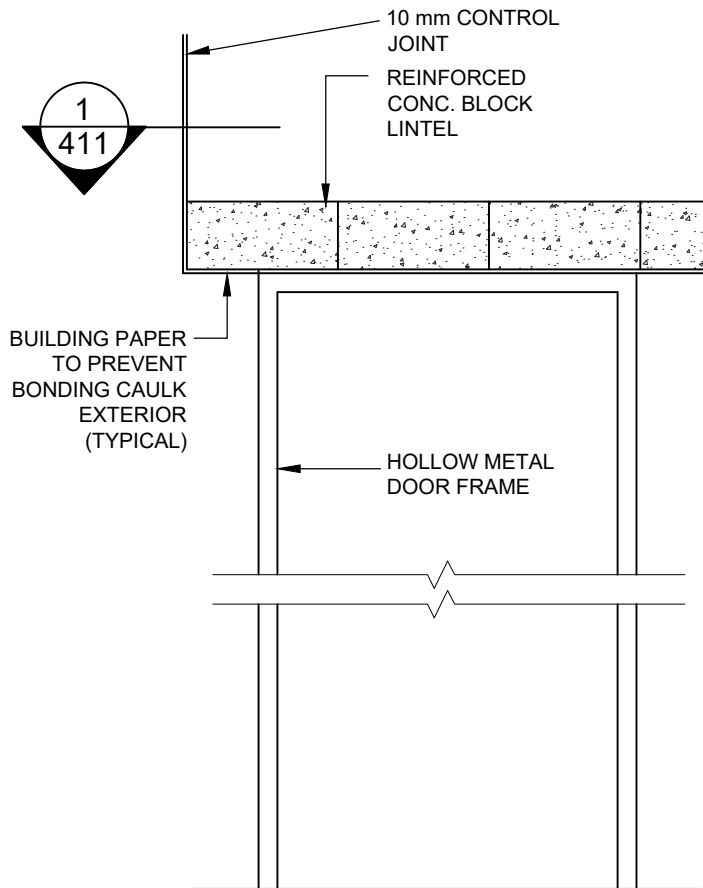
DRAWN: KB

DATE: 21 03 15

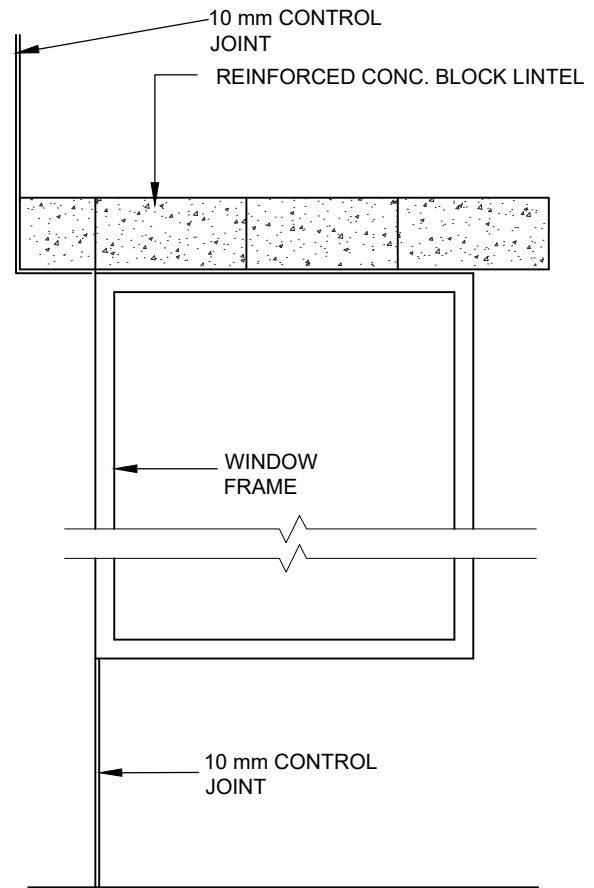


ISSUE/REV.
00

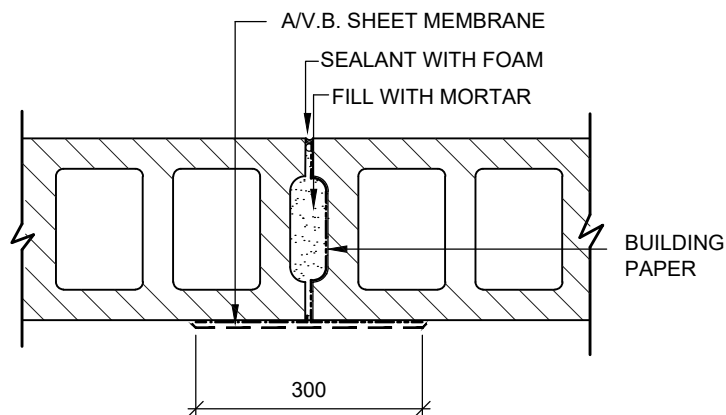
AD
401



1 DOOR CONTROL JOINT
AD411 SCALE 1:20



2 WINDOW CONTROL JOINT
AD411 SCALE 1:20



3 PLAN DETAIL
AD411 SCALE 1:10

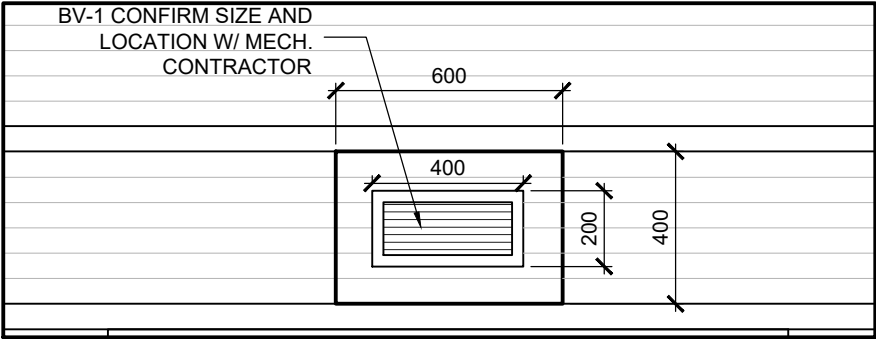
WALL CONTROL JOINT DETAILS INTERIOR SIDE

PROJ: 24112
SCALE: NOTED
DRAWN: KB
DATE: 21 03 15



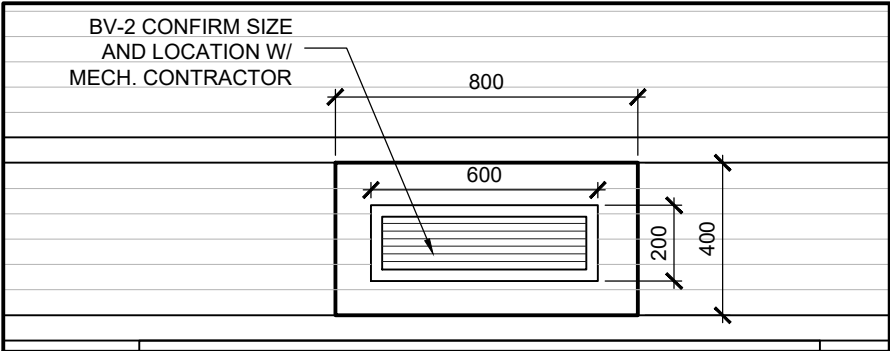
ISSUE/REV.
00

AD
411



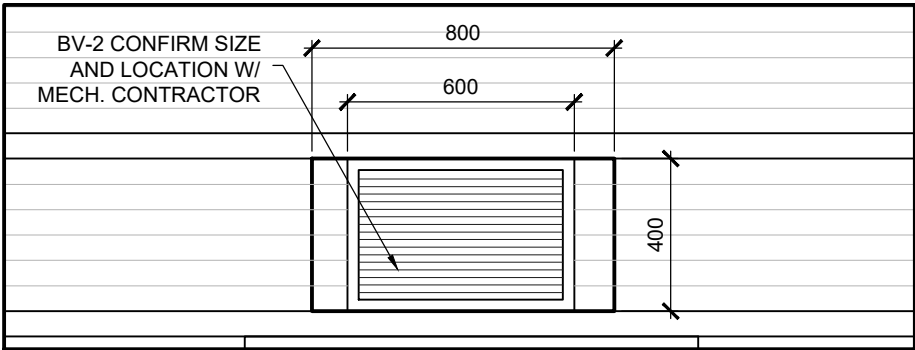
1
AD412

BV-1 DETAIL



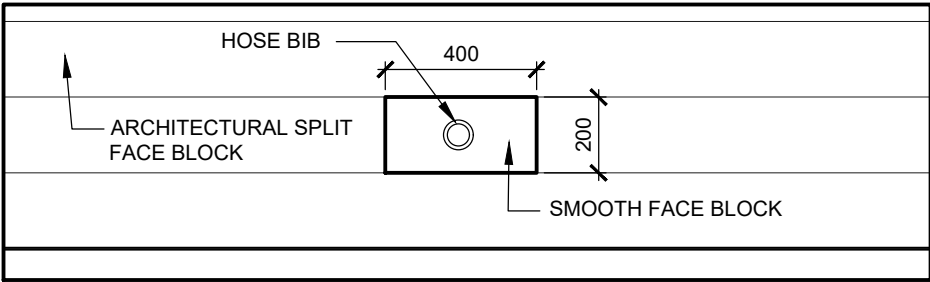
2
AD412

BV-2 DETAIL



3
AD412

WL-5 DETAIL



4
AD412

HOSE BIB DETAIL

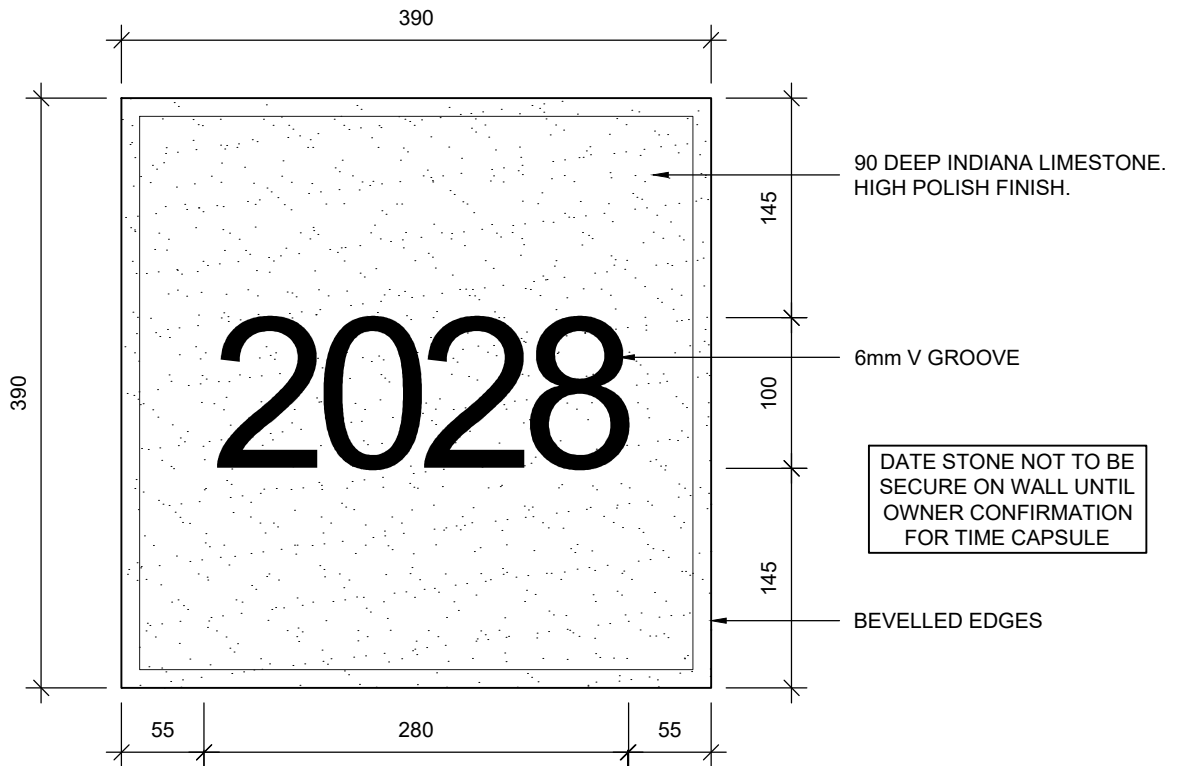
BRICK VENT DETAILS

PROJ: 24112
SCALE: 1:20
DRAWN: KB
DATE: 21 03 15



ISSUE/REV.
00

AD
412



DATE STONE

PROJ: 24112

SCALE: 1:5

DRAWN: GB

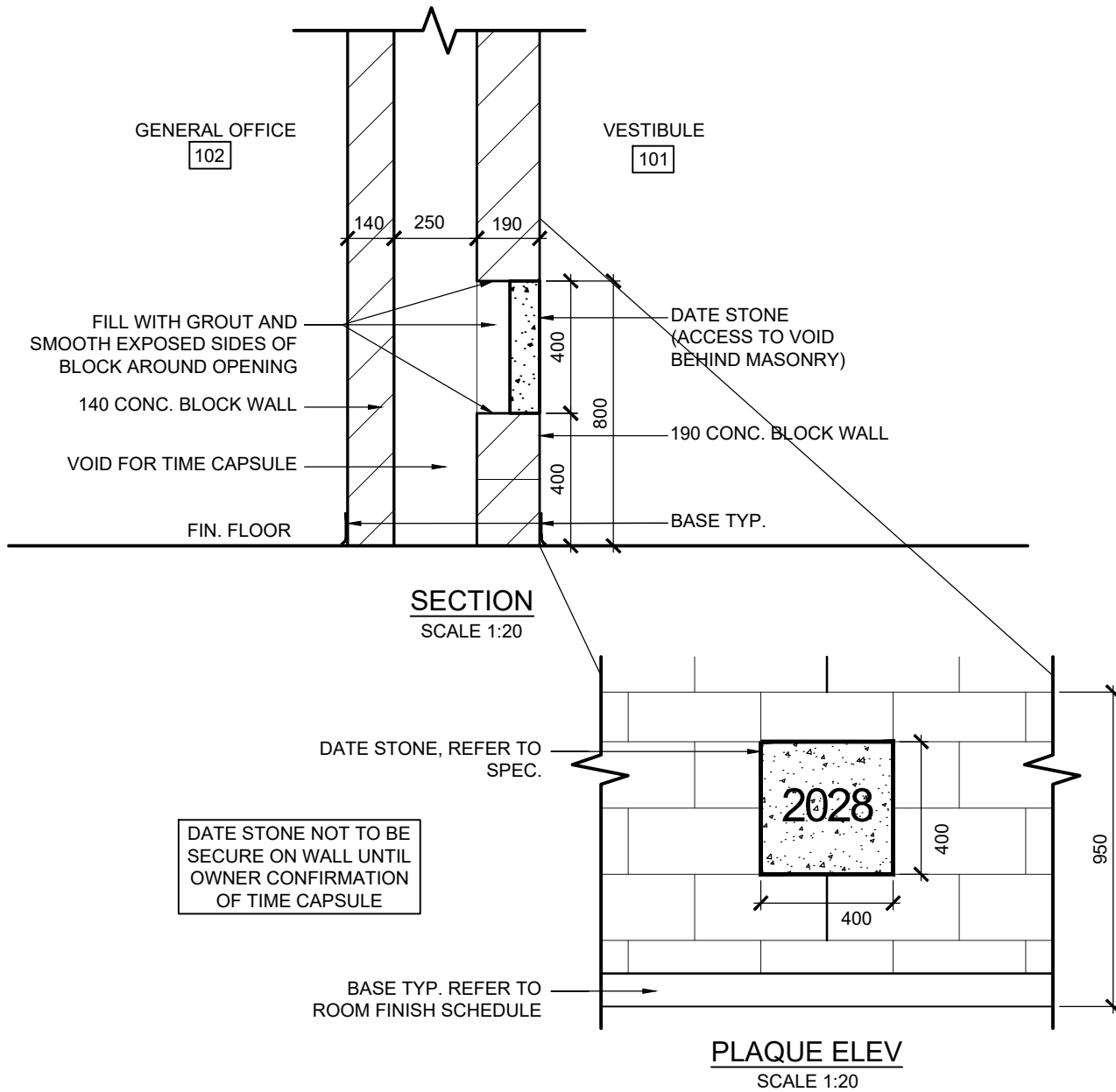
DATE: 21 05 03

HOSSACK
ARCHITECTURE



ISSUE/REV.

AD
413A



DATE STONE AND TIME CAPSULE

PROJ: 24112

SCALE: 1:20

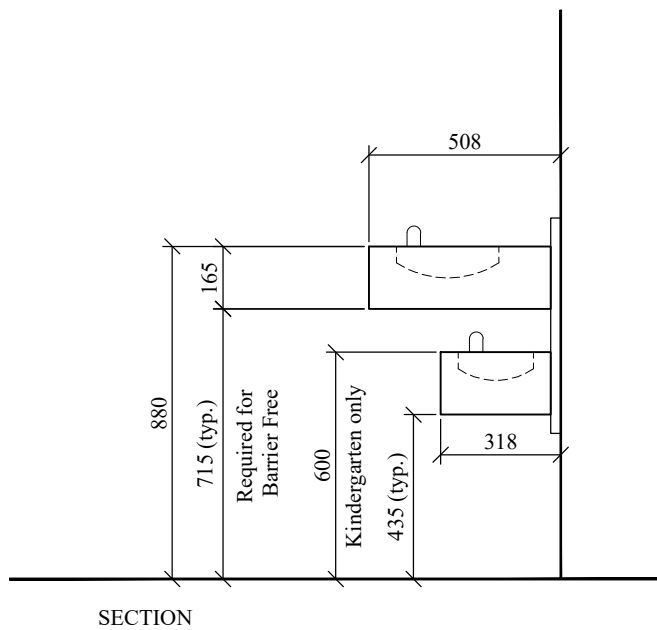
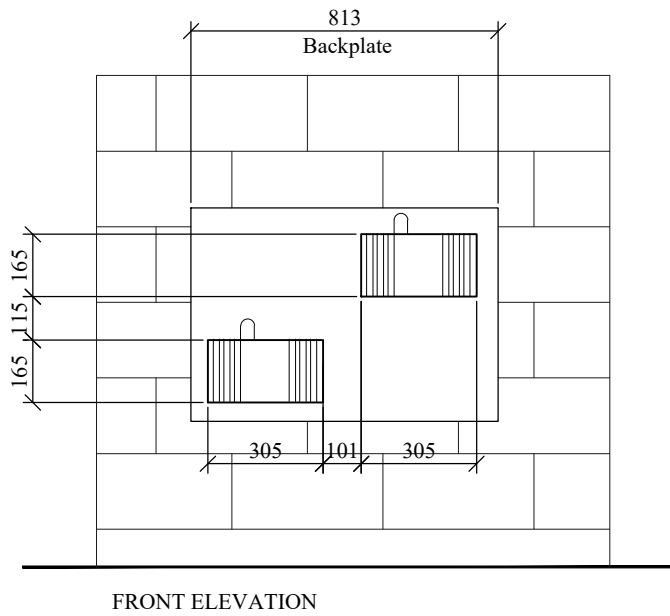
DRAWN: GB

DATE: 26 06 22



ISSUE/REV.

AD
413B



Upper drinking fountain height set for
Barrier Free

Lower drinking fountain is for use by small
children

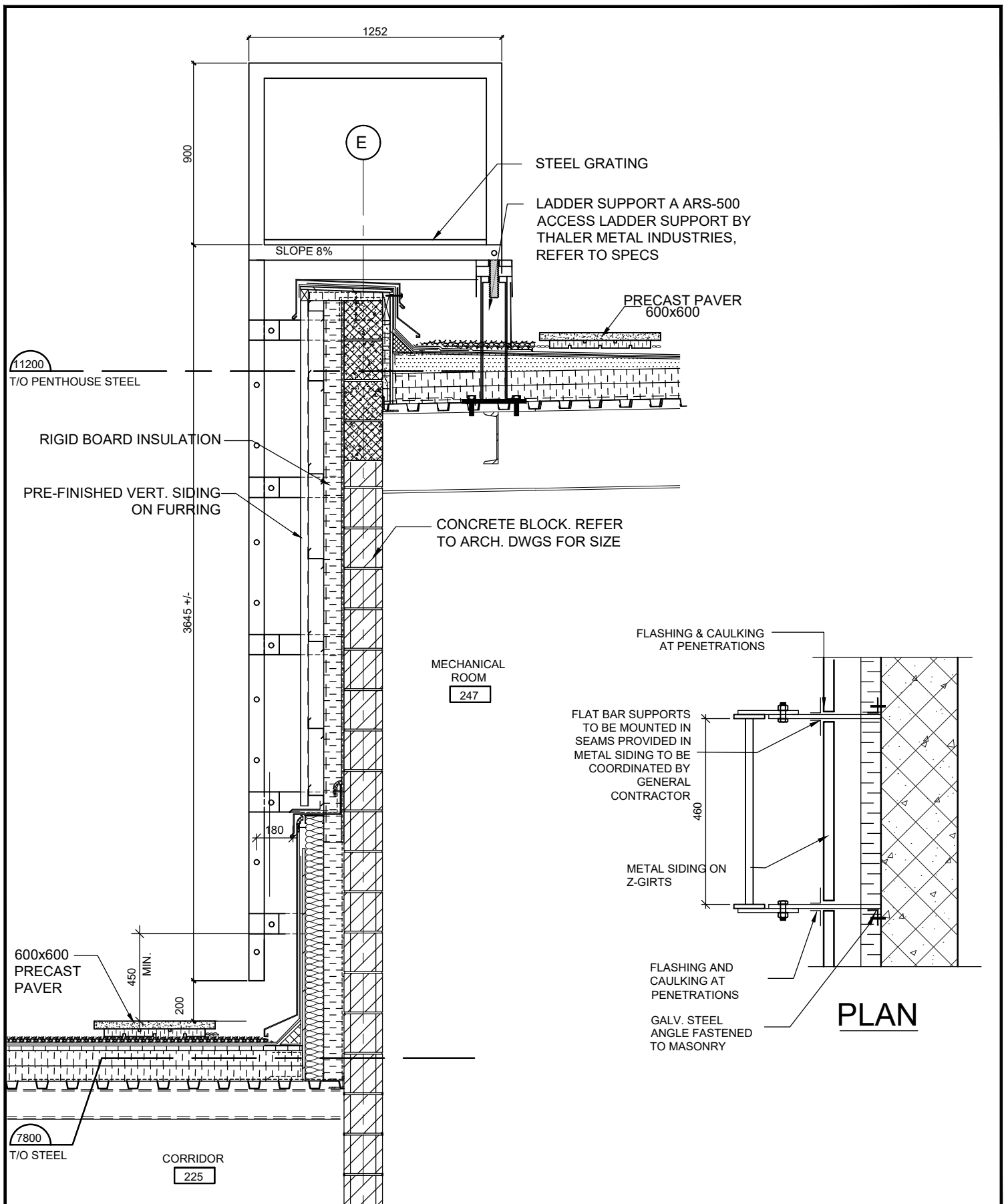
DRINKING FOUNTAINS MOUNTING HEIGHTS

PROJ: 24112
SCALE: N.T.S.
DRAWN: KB
DATE: 21 02 12



ISSUE/REV.
00

AD
503



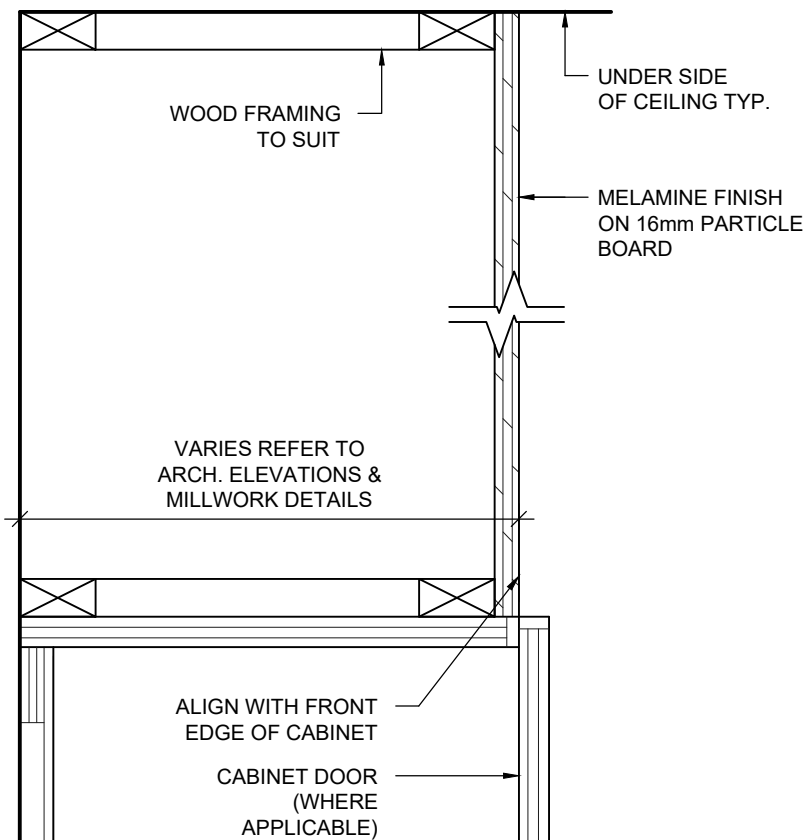
ROOF ACCESS LADDER

PROJ: 24112
SCALE: N.T.S.
DRAWN: GB
DATE: 21 04 30



ISSUE/REV.
00

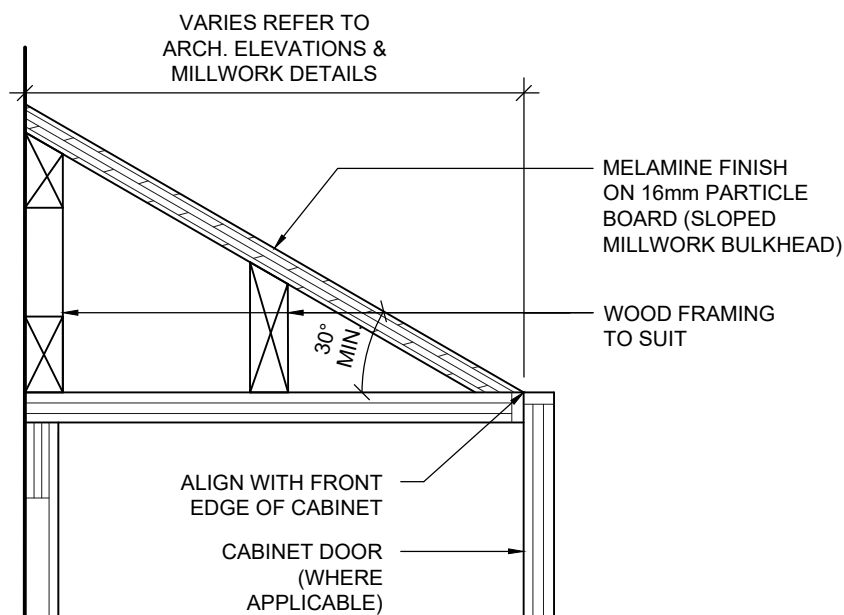
AD
517



1 TYPE 1 - FULL MILLWORK BULKHEAD

NOTE:

- BULKHEAD TO WRAP AT SIDES NOT ADJACENT TO WALL.
- REFER TO ARCH. ELEVATIONS & MILLWORK DETAILS.
- CABINET TYPES: U1, U6, K1, K2, C1, C3, C5 UNLESS OTHERWISE NOTED.



2 TYPE 2 - SLOPED MILLWORK BULKHEAD

NOTE:

- ENSURE CONTINUOUS SLOPED BULKHEAD AT SERIES OF MILLWORK WITH DIFFERENT DEPTH.
- PROVIDE END PANEL AT SIDES NOT ADJACENT TO WALL.
- REFER TO ARCH. ELEVATIONS & MILLWORK DETAILS.
- CABINET TYPES: U1, U2, U3, U4, U5A, U5B, U6, K7, K12, C2, C4, D1 UNLESS OTHERWISE NOTED.

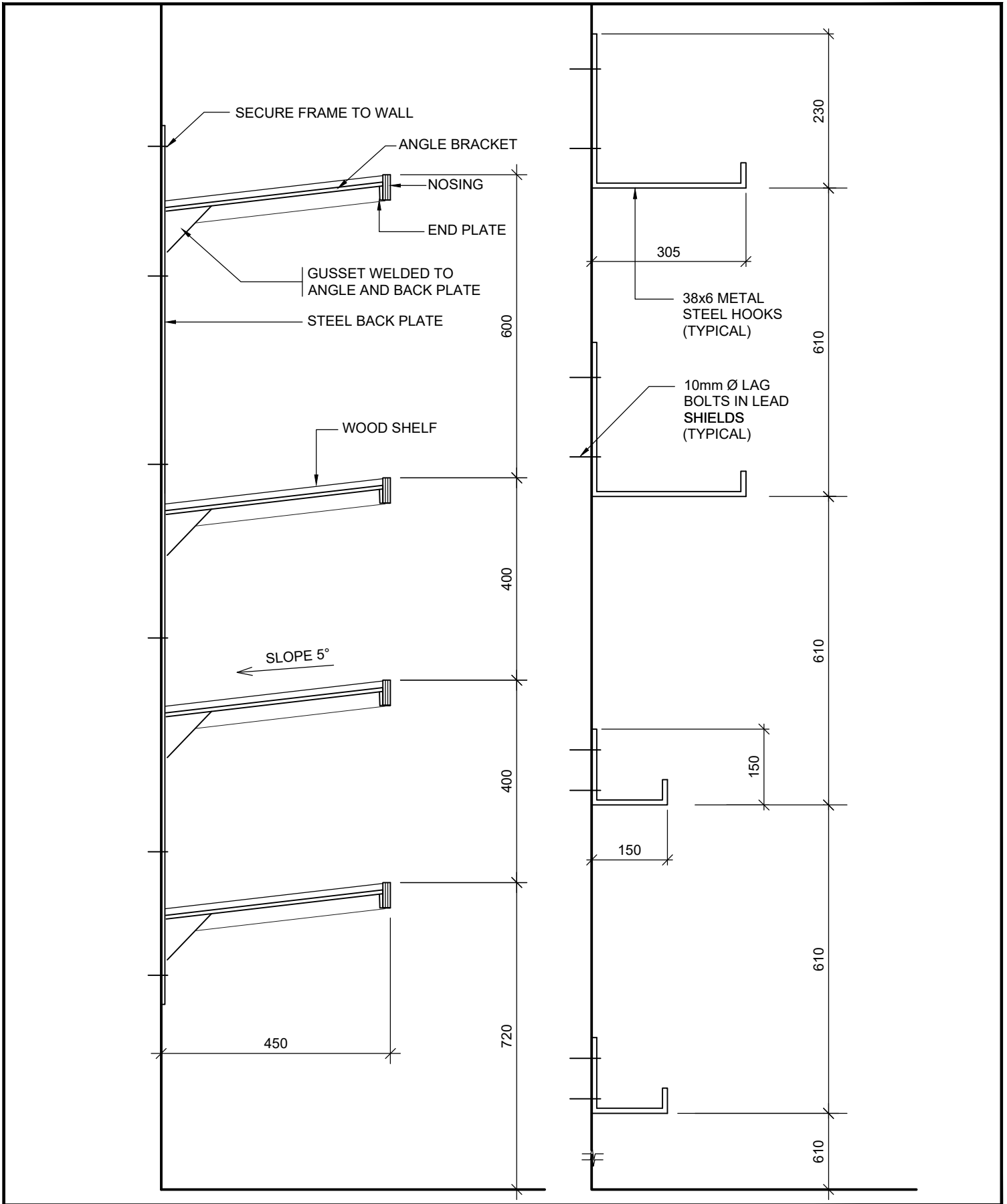
MILLWORK BULKHEAD DETAILS

PROJ: 24112
SCALE: N.T.S.
DRAWN: KB
DATE: 21 02 23



ISSUE/REV.
00

AD
518



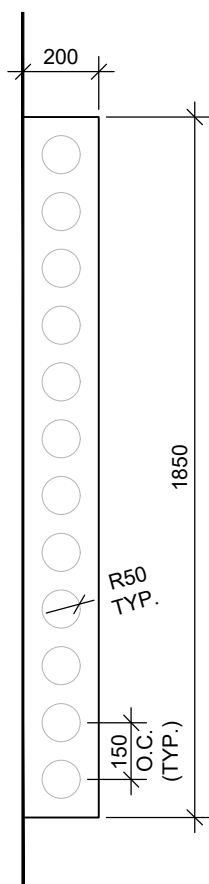
GYM STORAGE ROOM SHELVEING
M4

PROJ: 24112
SCALE: 1:10
DRAWN: KB
DATE: 21 01 25

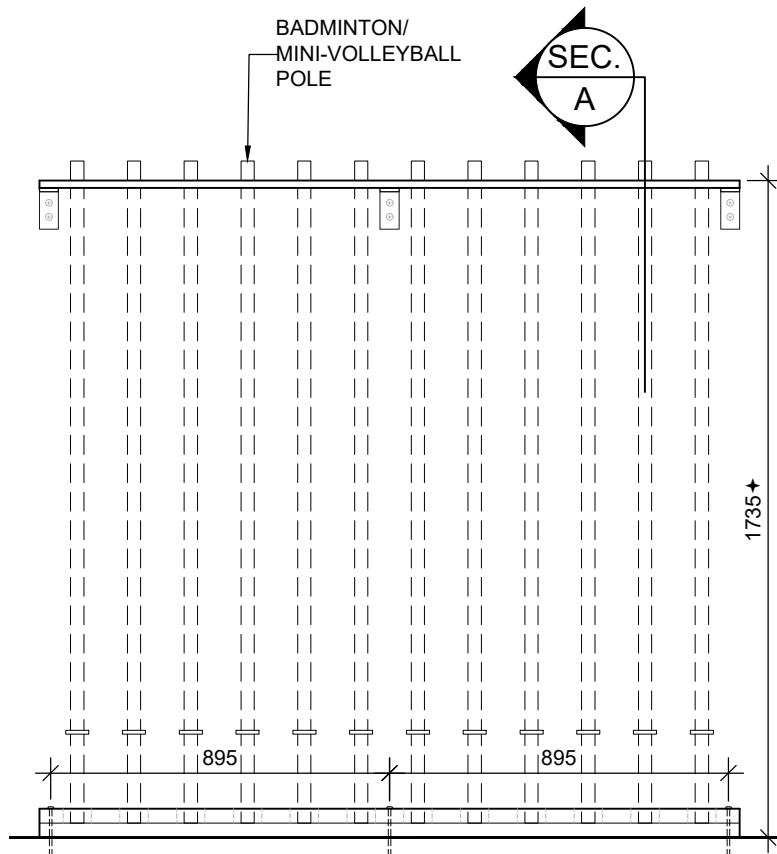


ISSUE/REV.
00

AD
519

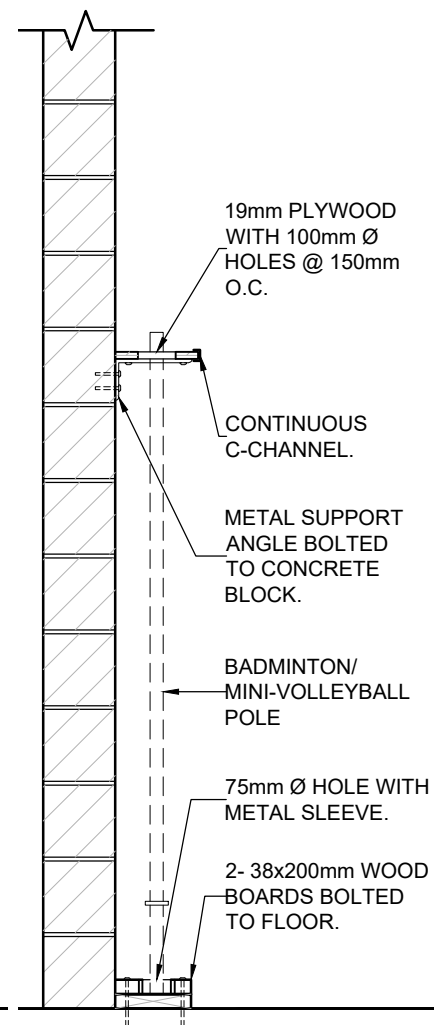


PLAN
SCALE 1:20



ELEVATION
SCALE 1:20

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



SECTION A
SCALE 1:20

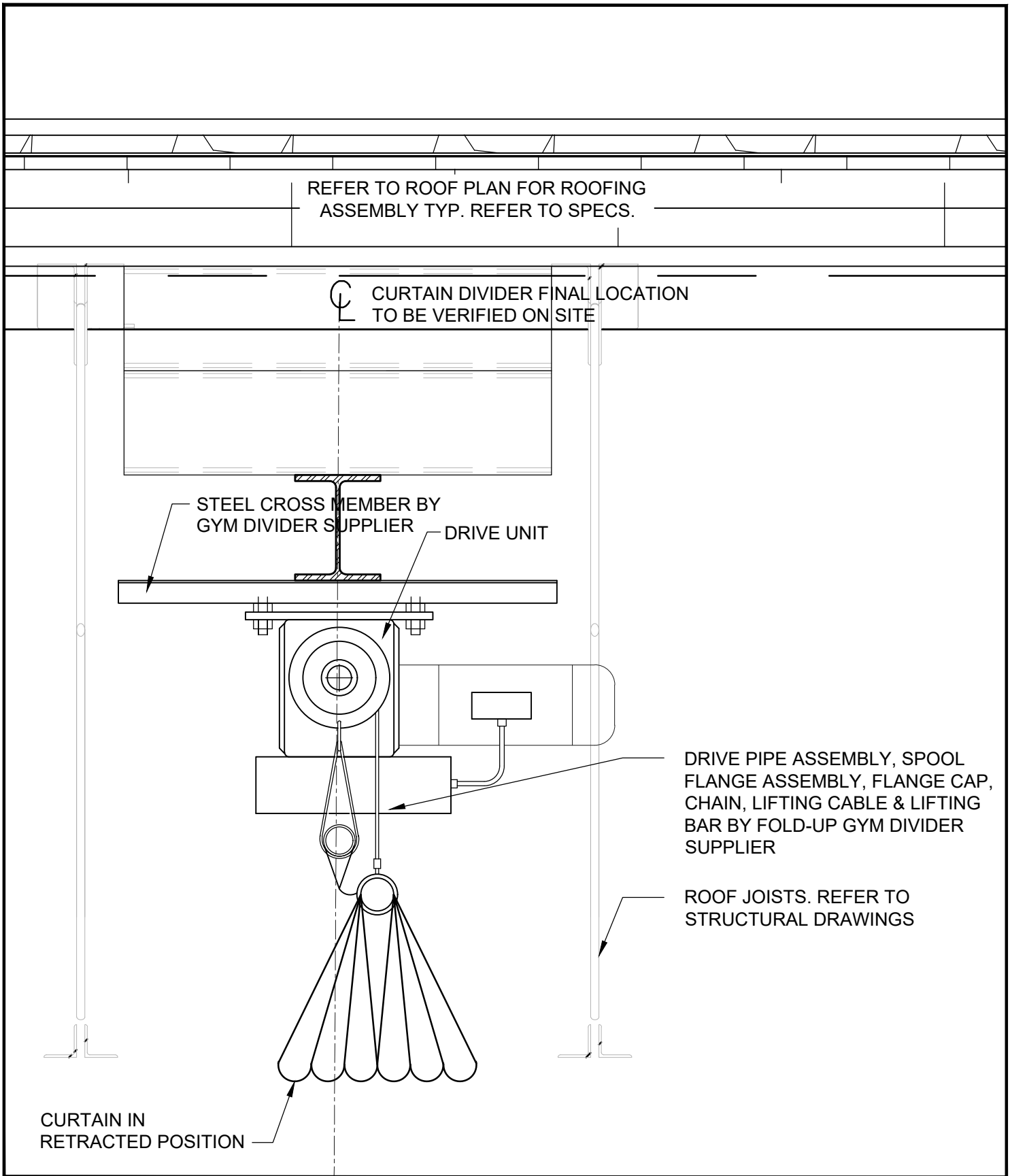
GYM VERTICAL POLE STORAGE RACK

PROJ: 24112
SCALE: NOTED
DRAWN: KB
DATE: 210323



ISSUE/REV.

AD
523



GYM DIVIDER CURTAIN

PROJ: 24112

SCALE: 1:50

DRAWN: GB

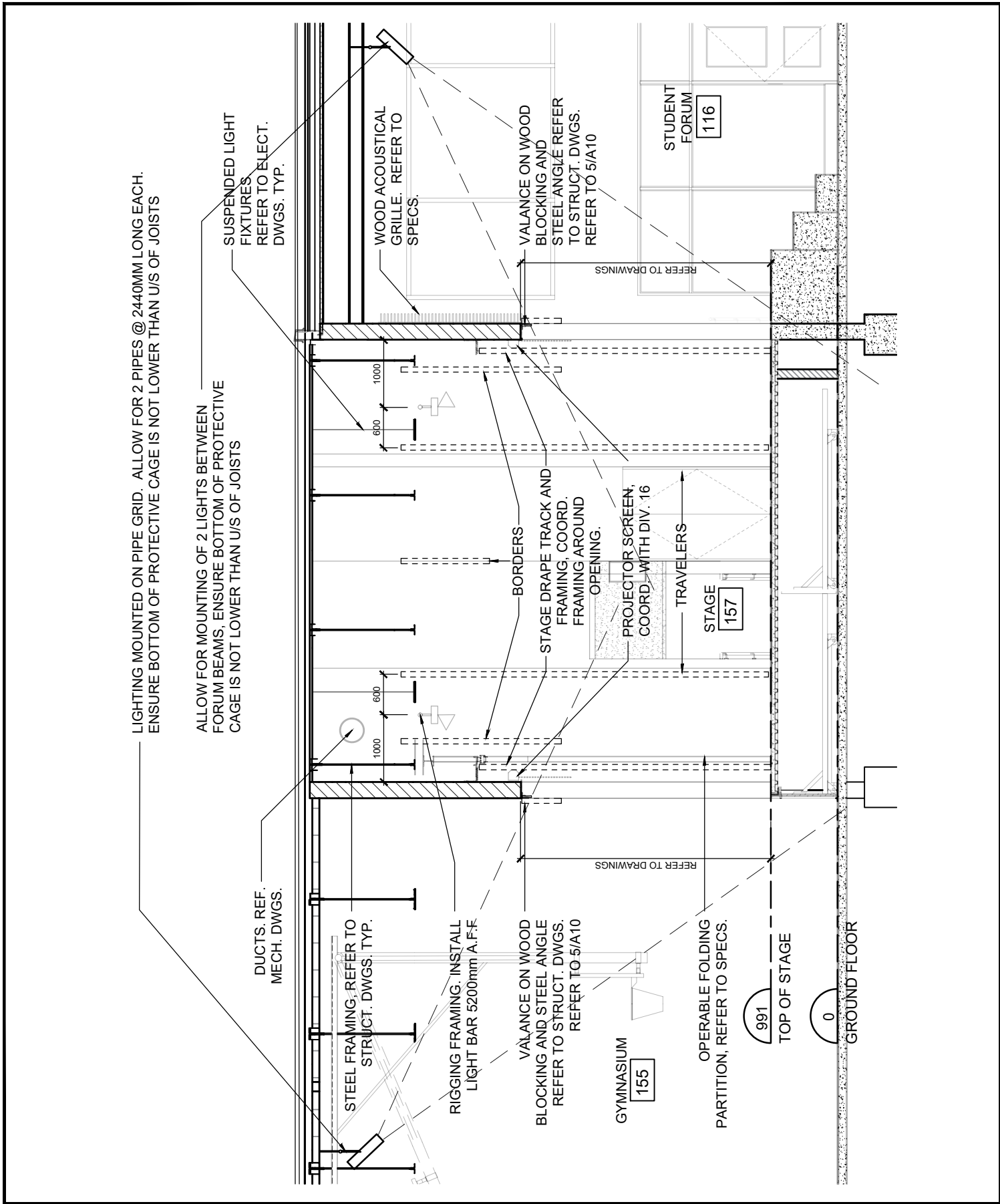
DATE: 22 03 21

HOSSACK
ARCHITECTURE



ISSUE/REV.

AD
525



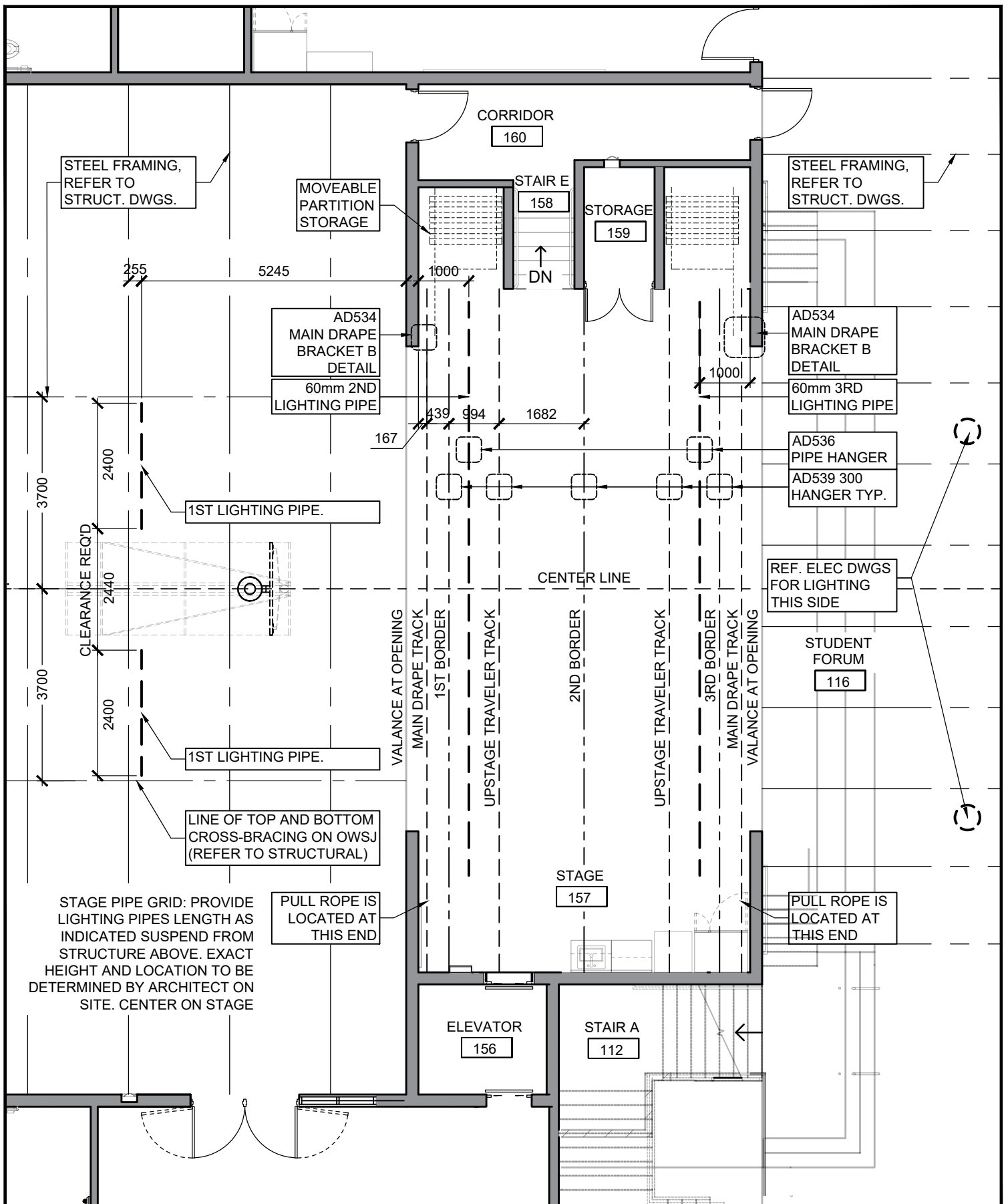
SECTION AT STAGE

PROJ:	24112
SCALE:	1:100
DRAWN:	GB/KB
DATE:	21 11 15



ISSUE/REV.
00

AD
530



STAGE RIGGING

PROJ: 24112

SCALE: 1:100

DRAWN: GB/KB

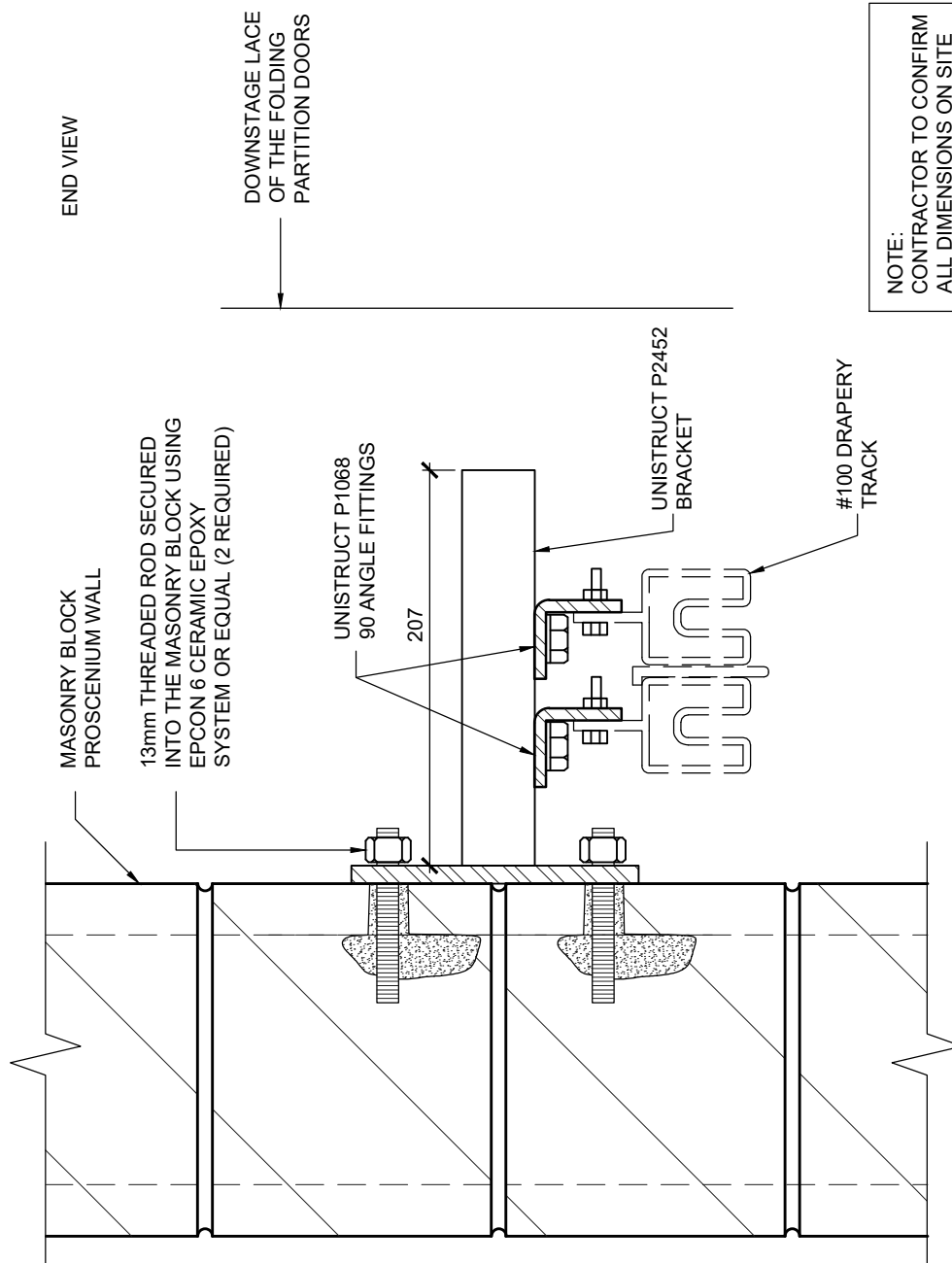
DATE: 21 03 22

HOSSACK
ARCHITECTURE



ISSUE/REV.
00

AD
531



NOTE:
CONTRACTOR TO CONFIRM
ALL DIMENSIONS ON SITE

MAIN DRAPE BACKET 'B' DETAIL

PROJ: 24112
SCALE: N.T.S.
DRAWN: KB
DATE: 21 03 22



ISSUE/REV.
00

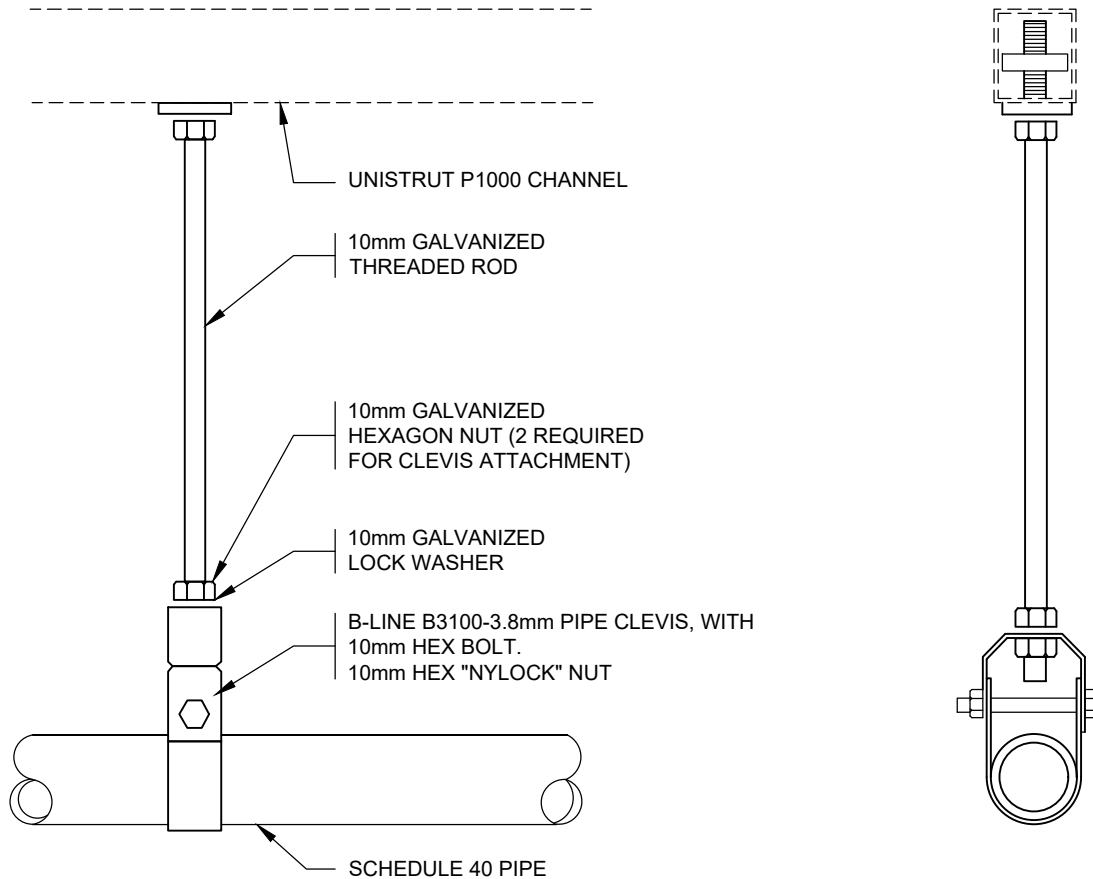
AD
534

(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.

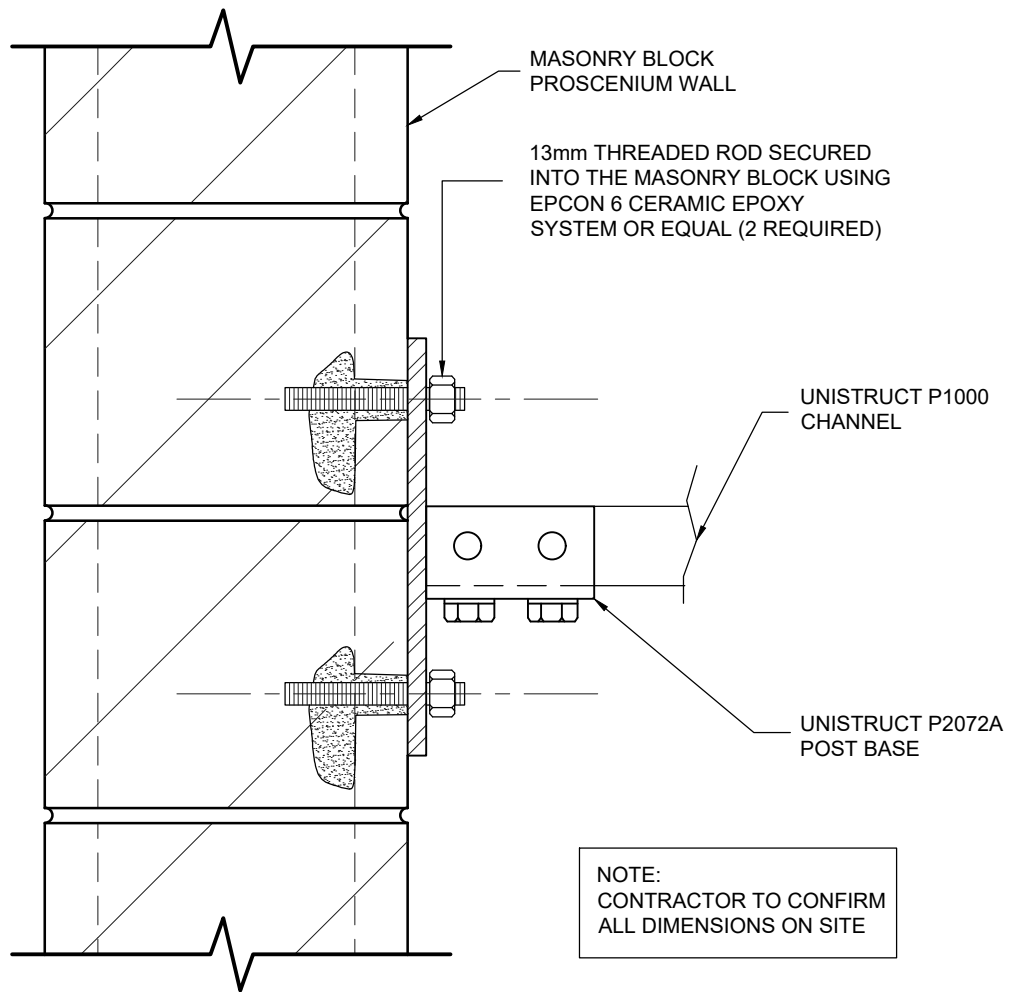
CHANNEL PIPE HANGER

PROJ:	24112
SCALE:	N.T.S.
DRAWN:	KB
DATE:	21 03 22



ISSUE/REV.
00

AD
536



CHANNEL WALL ATTACHMENT

PROJ:	24112
SCALE:	N.T.S.
DRAWN:	KB
DATE:	21 03 22



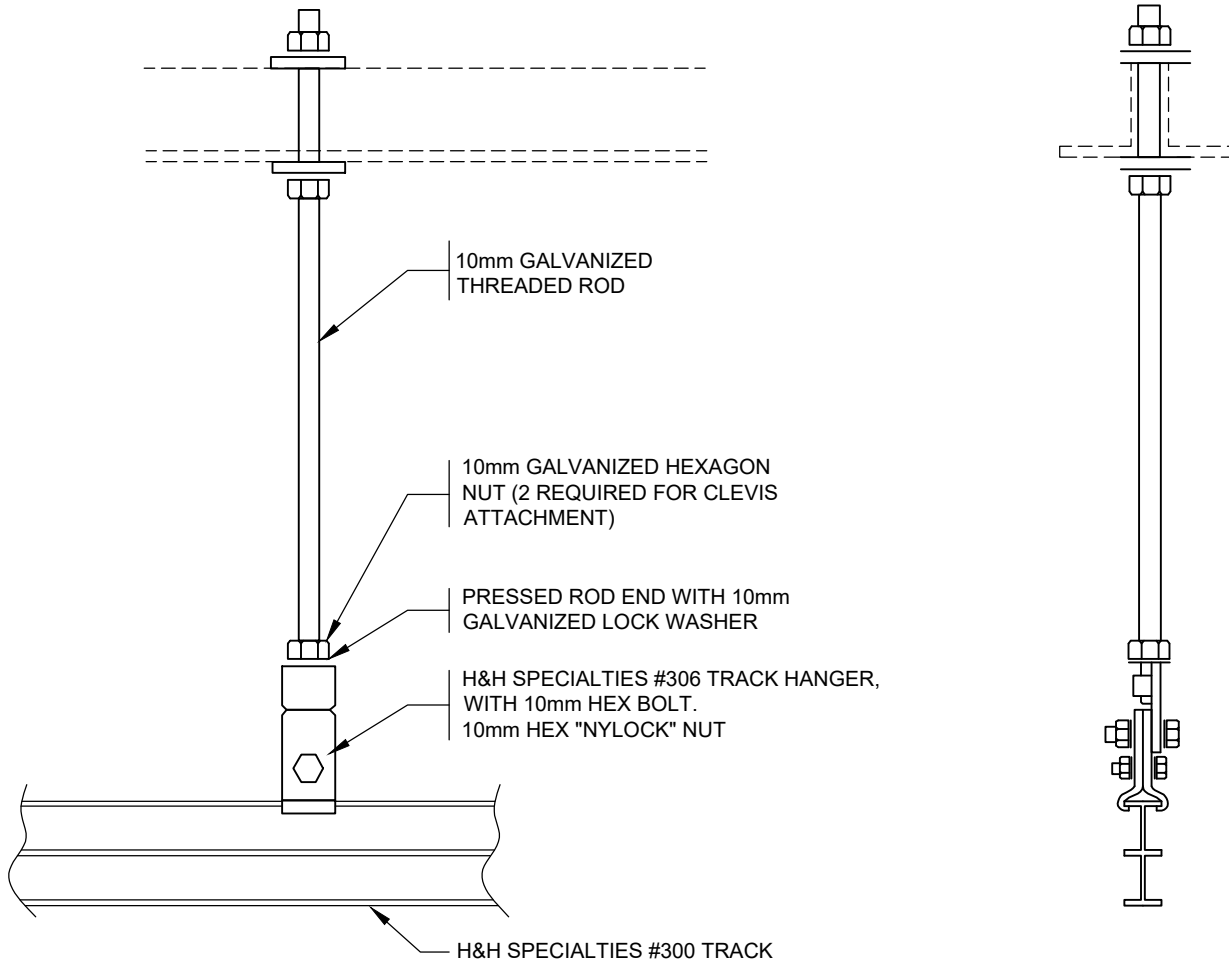
ISSUE/REV.
00

AD
538

(ANGULAR LOADING IS NOT PERMITTED)

T_a

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 T_a 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.

300 HANGER

PROJ:	24112
SCALE:	N.T.S.
DRAWN:	KB
DATE:	21 03 22

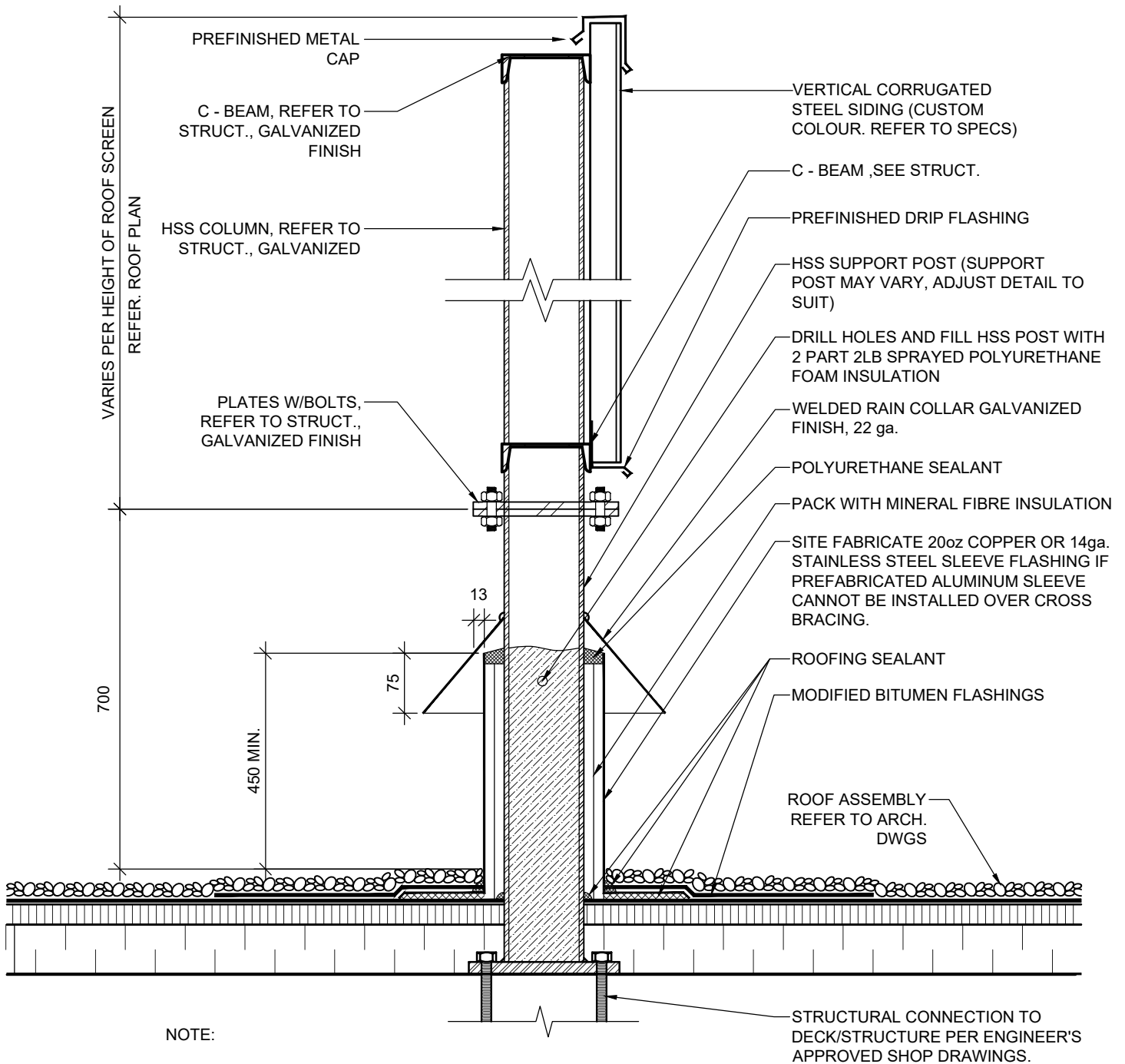
HOSSACK
ARCHITECTURE



ISSUE/REV.
00

AD
539

NOTE: ALL STEEL, INCLUDING NUTS, BOLTS AND WASHERS TO BE HOT-DIPPED GALVANIZED. (TYP.)



NOTE:

1. LOCATE POST MINIMUM 450mm FROM PERIMETERS AND ROOF PENETRATIONS.

ROOF TOP UNIT SCREEN

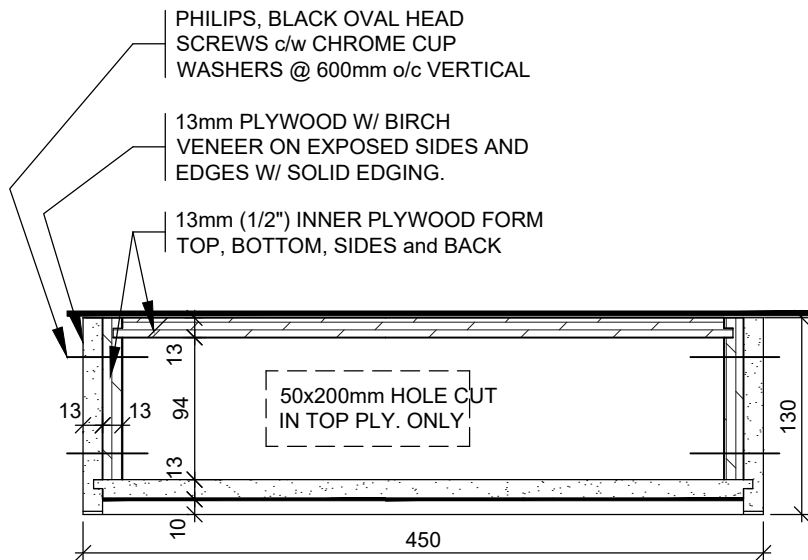
PROJ: 24112
SCALE: 1:10
DRAWN: GB
DATE: 21 03 24



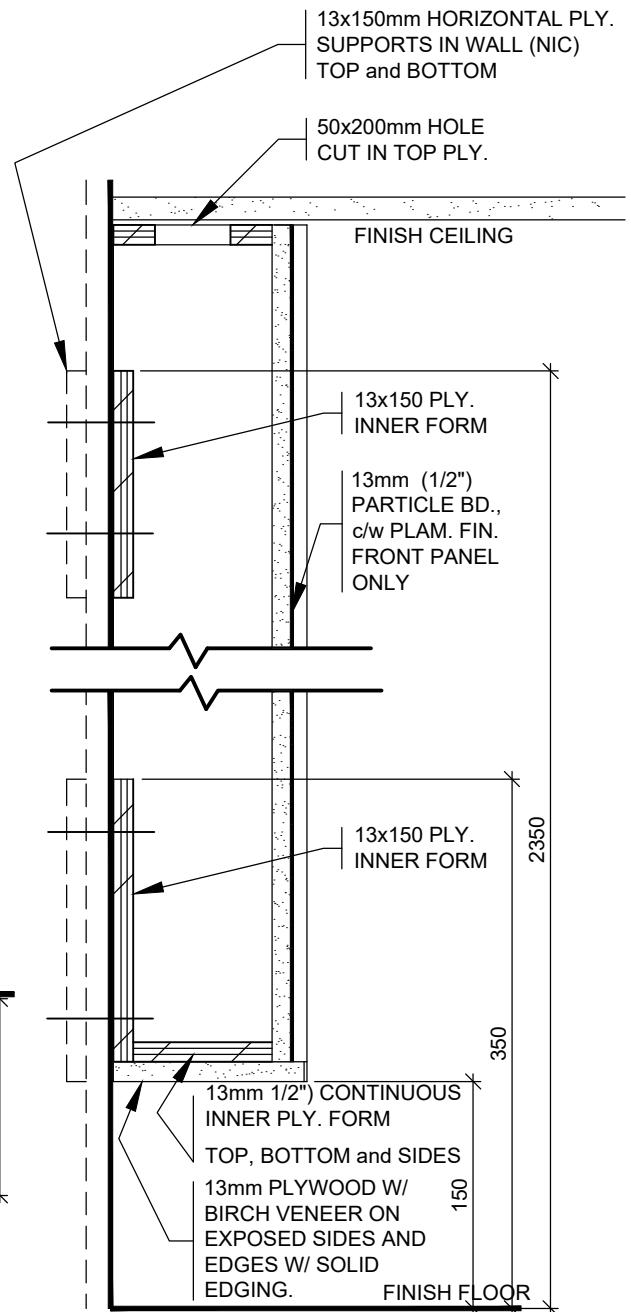
ISSUE/REV.
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AD
550

THIS DRAWING IS TO BE READ IN CONJUNCTION WITH THE SECTIONS AND DETAILS LISTED, AND THE WRITTEN SPECIFICATION.



1 SECTION
600B PLAN VIEW



2 SECTION
600B

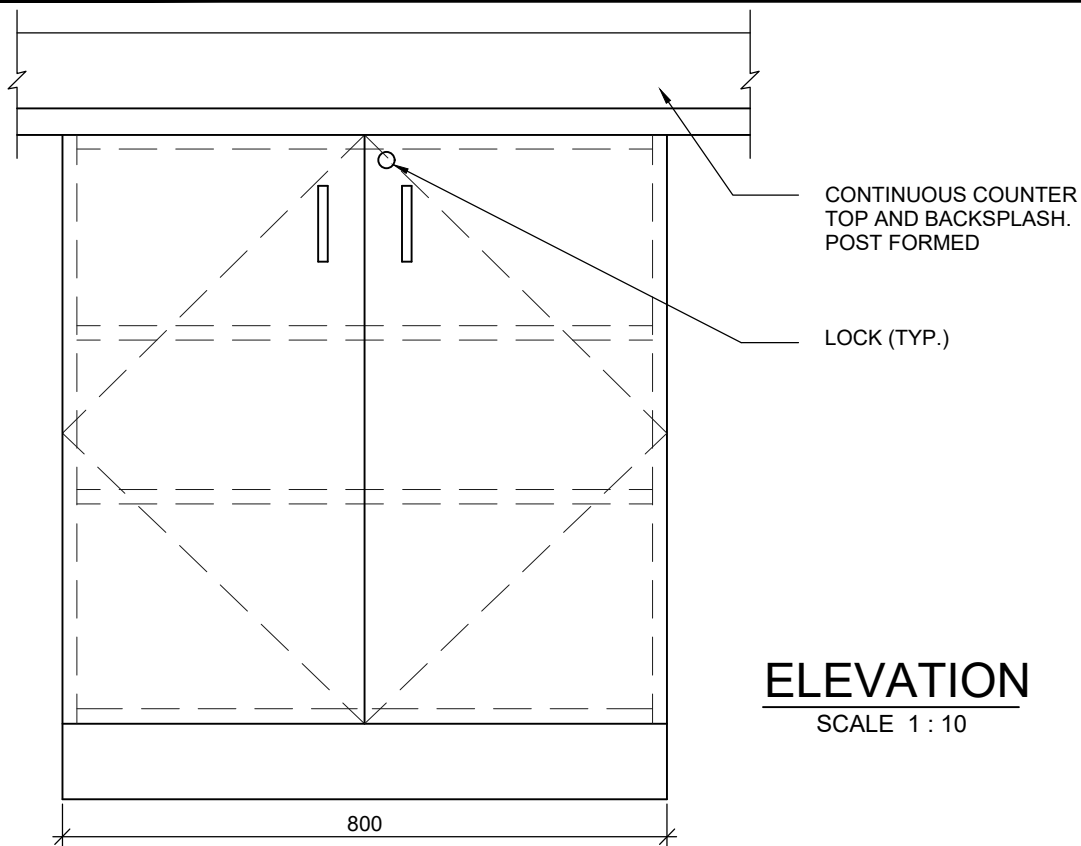
MODULAR CONTROL PANEL SECTIONS

PROJ: 24112
SCALE: 1:5
DRAWN: KB
DATE: 21 01 25



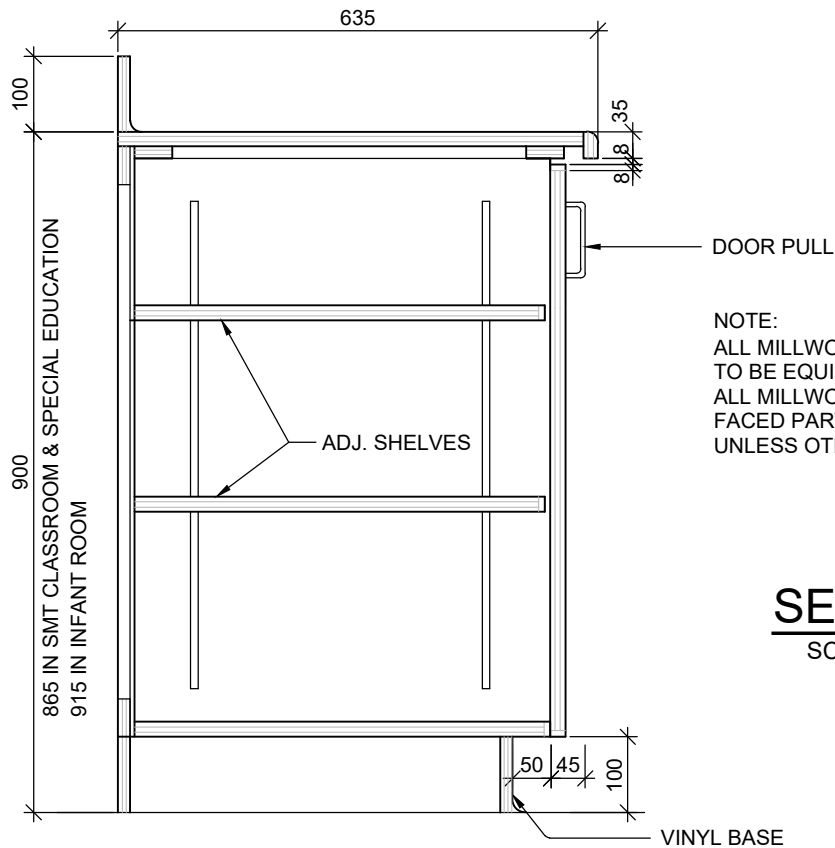
ISSUE/REV.
00

AD
600B



ELEVATION
SCALE 1 : 10

NOTE: CUT SPLASHBACK
AT WINDOWS



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

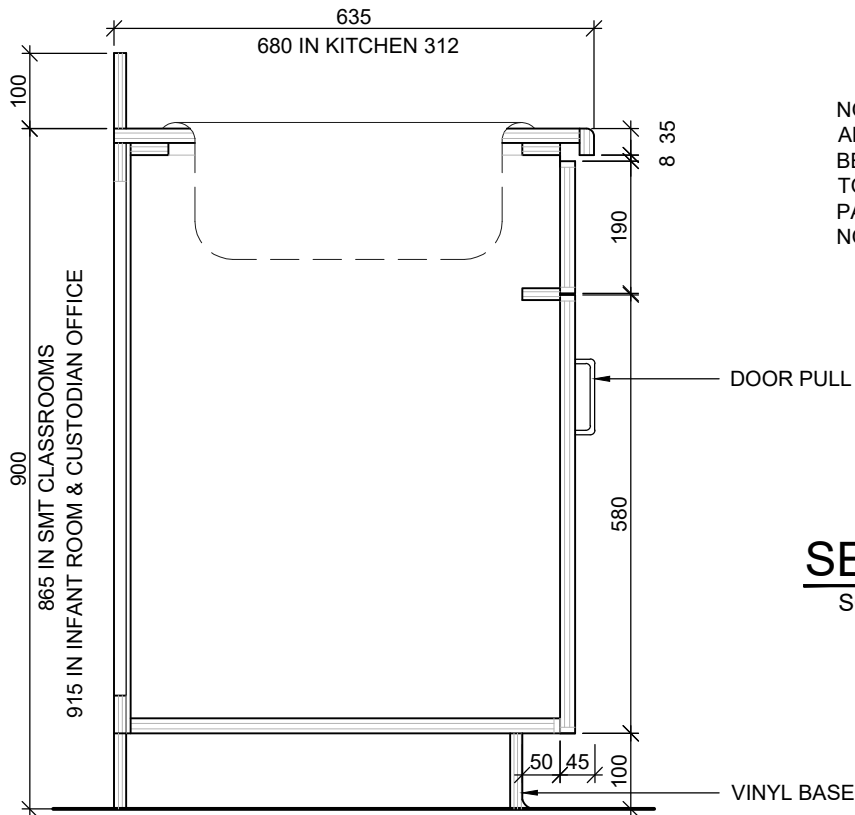
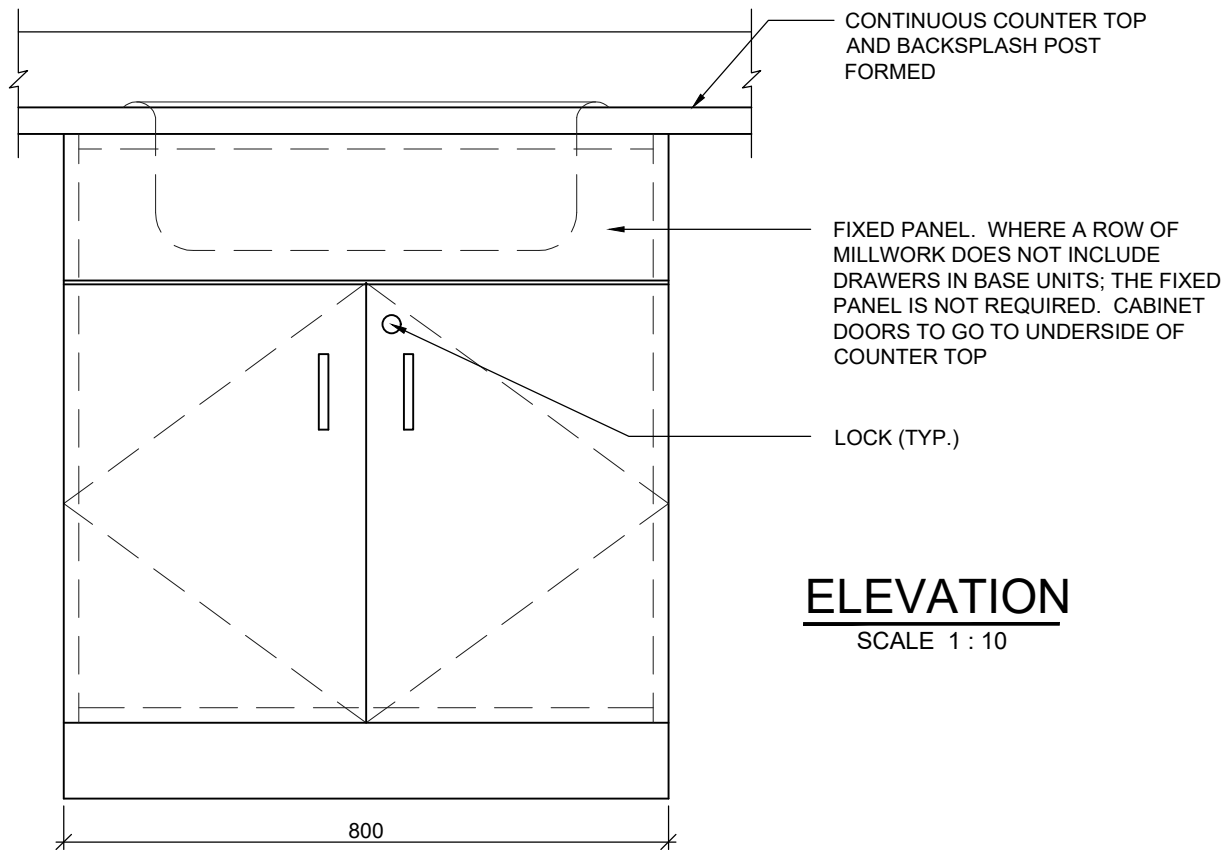
CABINET TYPE B1

PROJ:	24112
SCALE:	1:10
DRAWN:	KB
DATE:	21 01 25



ISSUE/REV.
00

AD
601



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

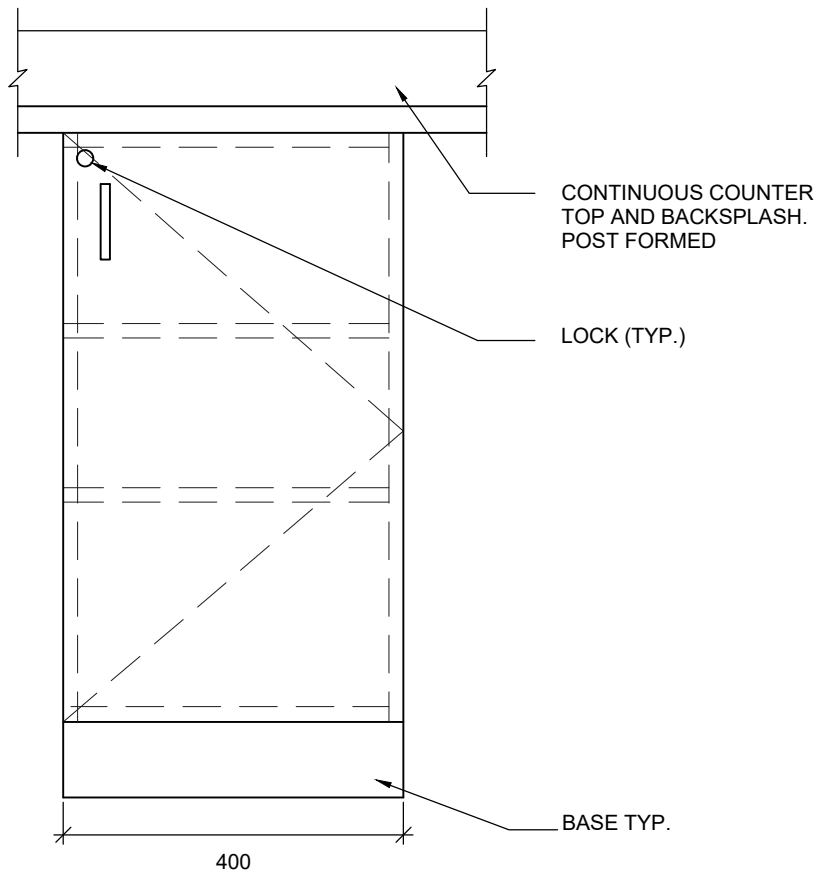
CABINET TYPE B2

PROJ:	24112
SCALE:	1:10
DRAWN:	KB
DATE:	21 01 25



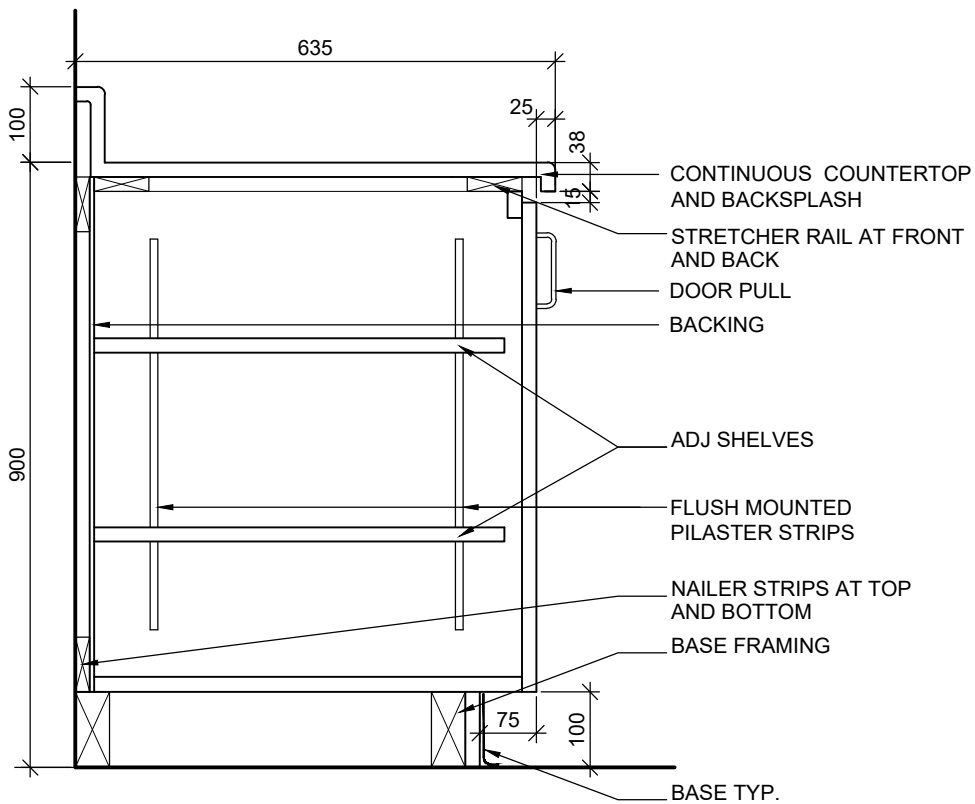
ISSUE/REV.
00

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: 24112

SCALE: 1:10

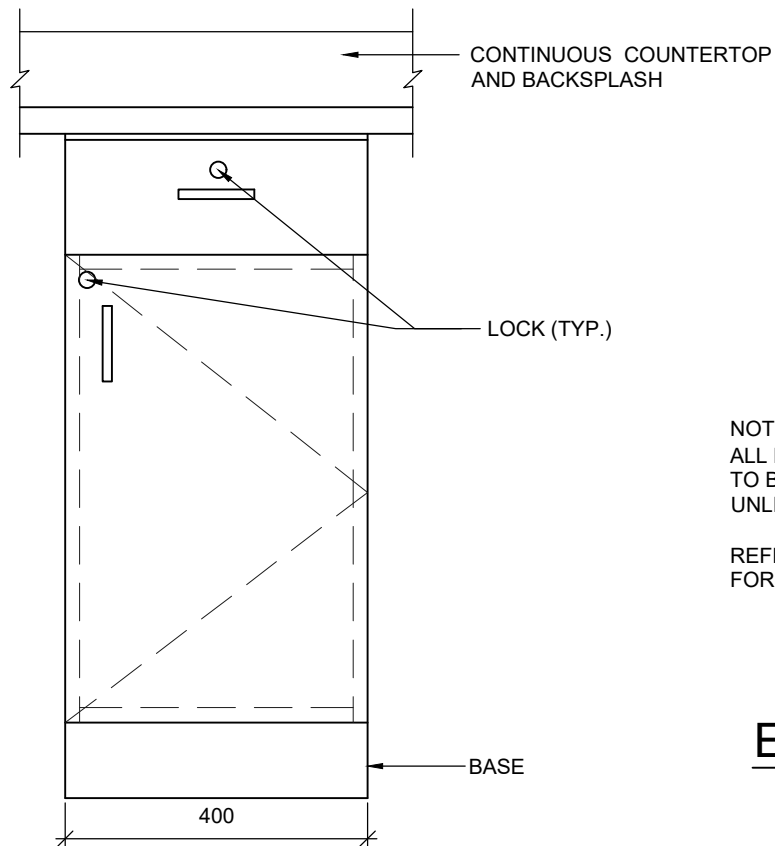
DRAWN: KB

DATE: 210208



ISSUE/REV.
00

AD
603A

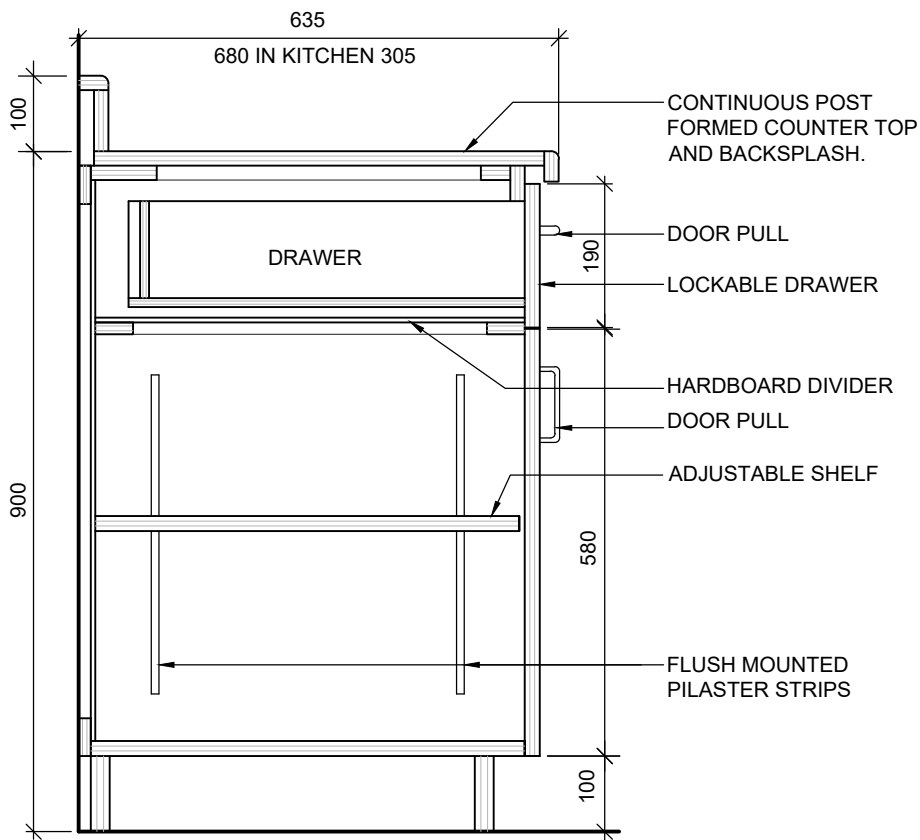


NOTE:
ALL MILLWORK DOORS AND DRAWERS
TO BE EQUIPPED WITH LOCKS
UNLESS OTHERWISE NOTED.

REFER TO INTERIOR ELEVATIONS
FOR DOOR SWING DIRECTION

ELEVATION

SCALE 1 : 10



SECTION

SCALE 1: 10

CABINET TYPE B3B

PROJ: 24112

SCALE: 1:10

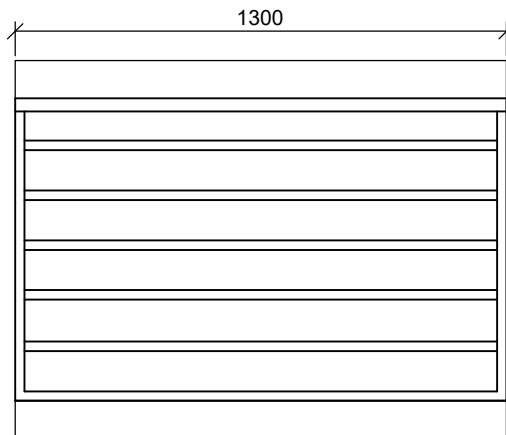
DRAWN: KB

DATE: 210208



ISSUE/REV.
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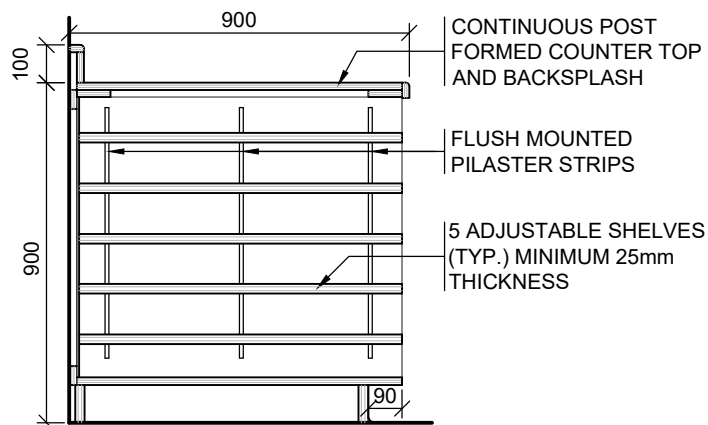
AD
603B



ELEVATION

SCALE 1 : 20

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



SECTION

SCALE 1: 20

CABINET TYPE B4

PROJ: 24112

SCALE: 1:20

DRAWN: KB

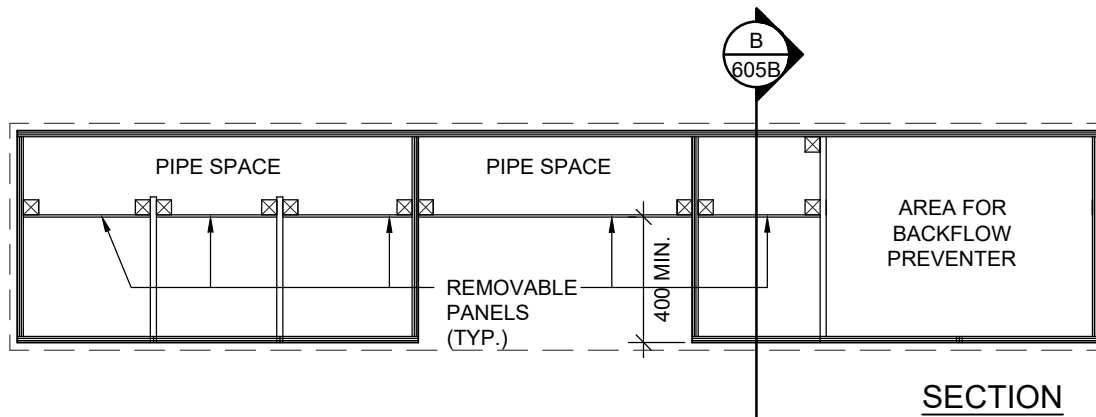
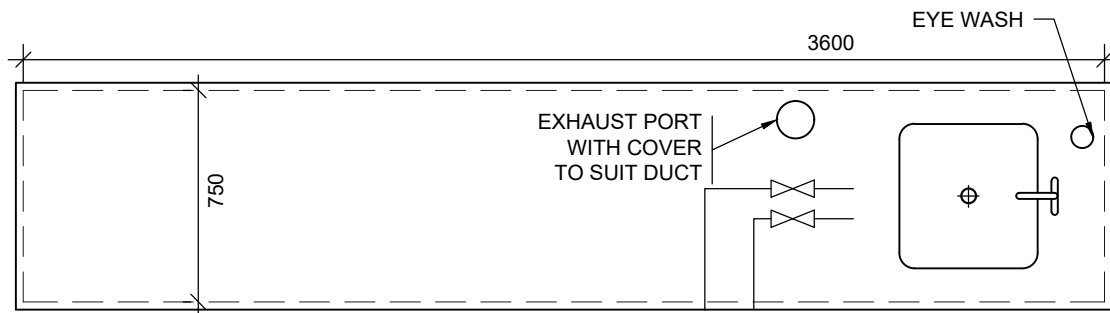
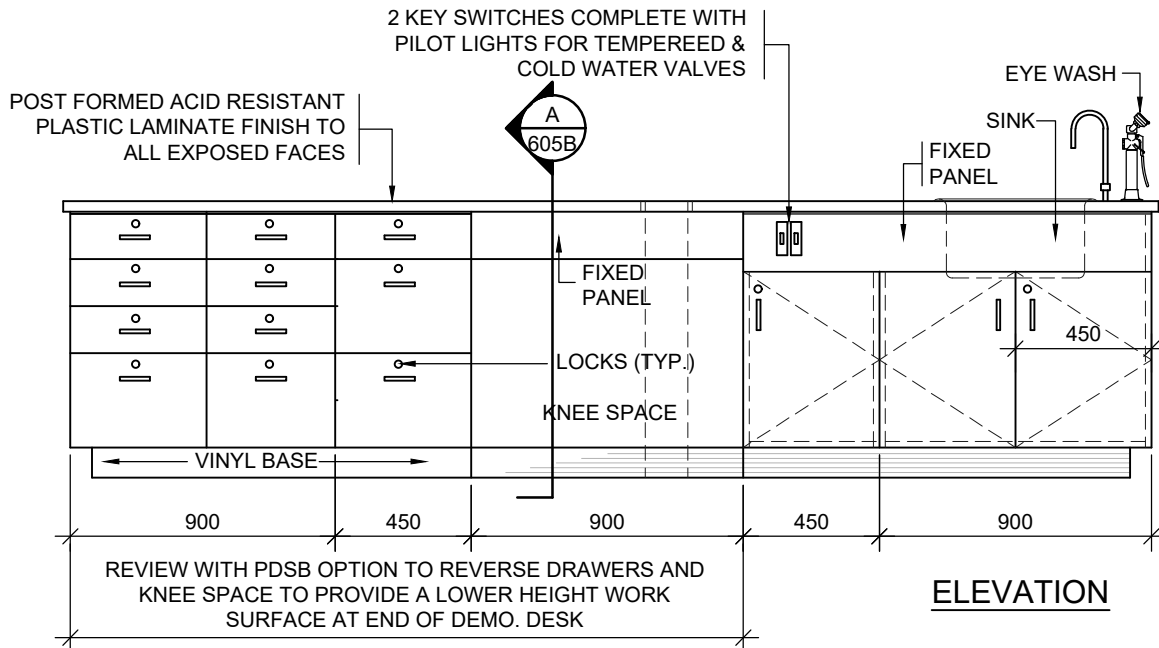
DATE: 21 01 25

HOSSACK
ARCHITECTURE



ISSUE/REV.
00

AD
604



CABINET TYPE B5

PROJ: 24112

SCALE: 1:25

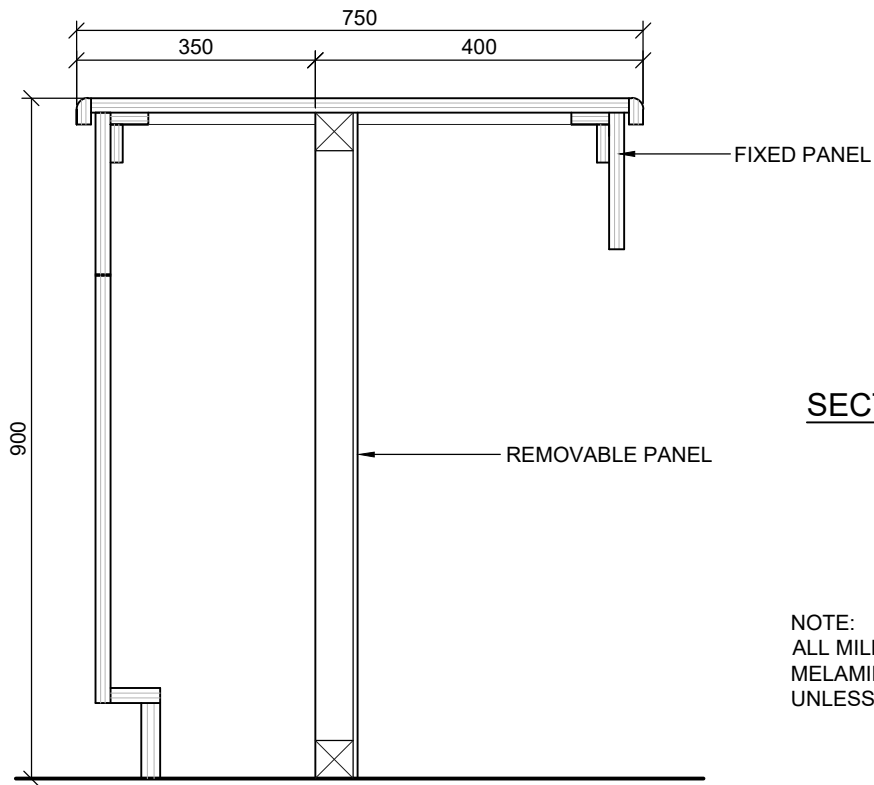
DRAWN: KB

DATE: 21 01 25



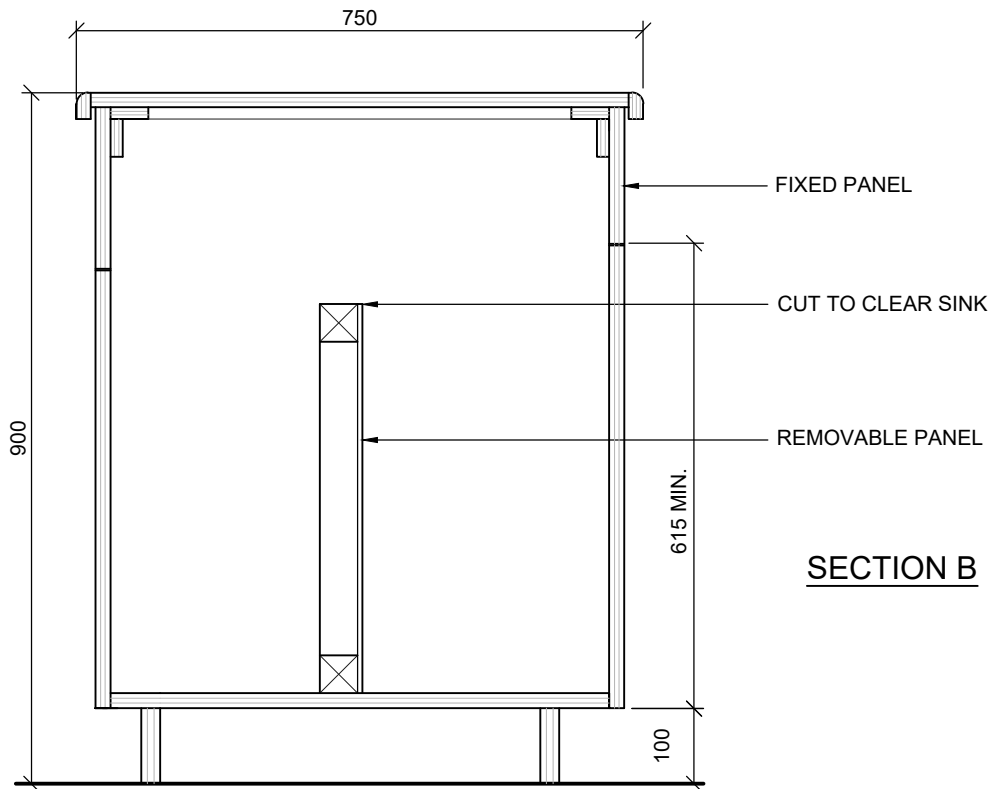
ISSUE/REV.
00

AD
605A



SECTION A

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



SECTION B

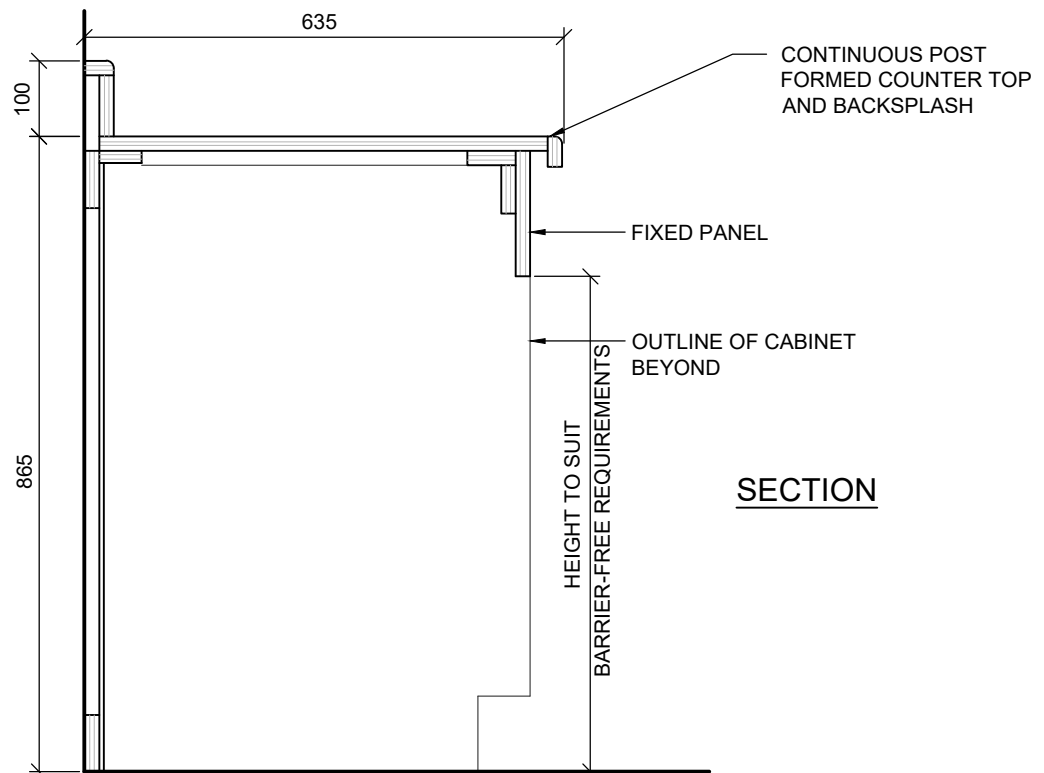
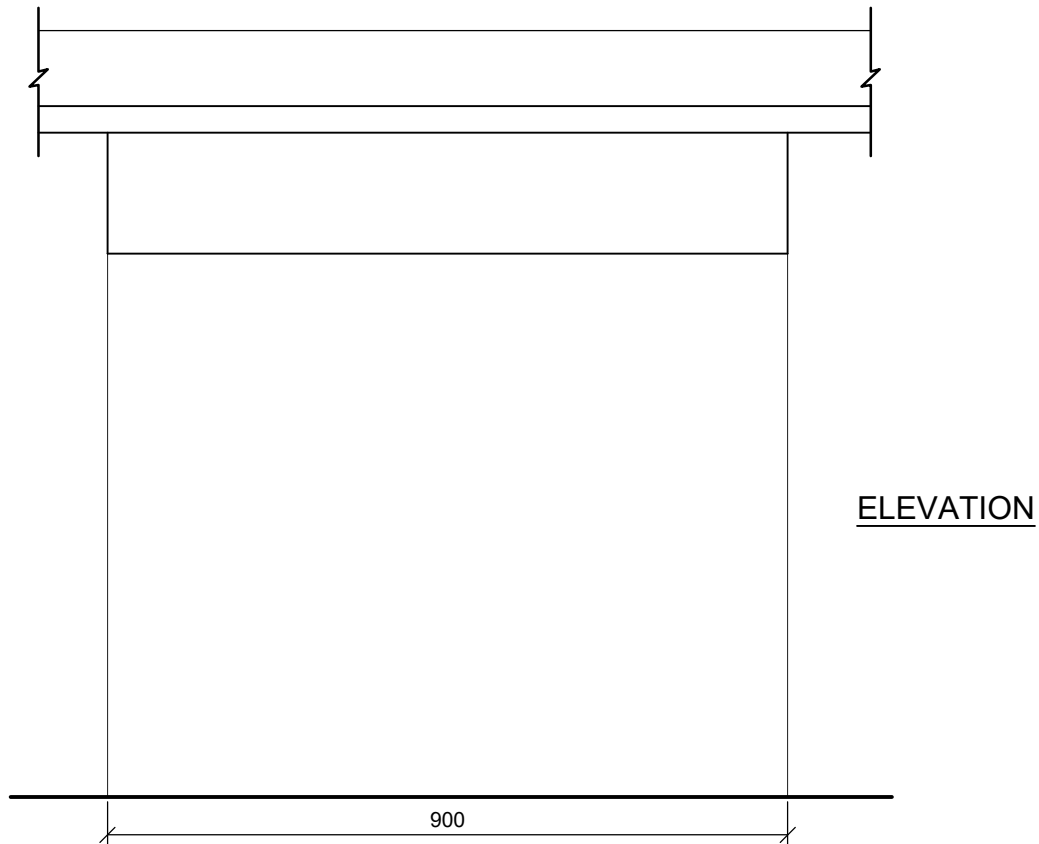
CABINET TYPE B5 SECTIONS

PROJ: 24112
SCALE: 1:10
DRAWN: KB
DATE: 21 01 25



ISSUE/REV.
00

AD
605B



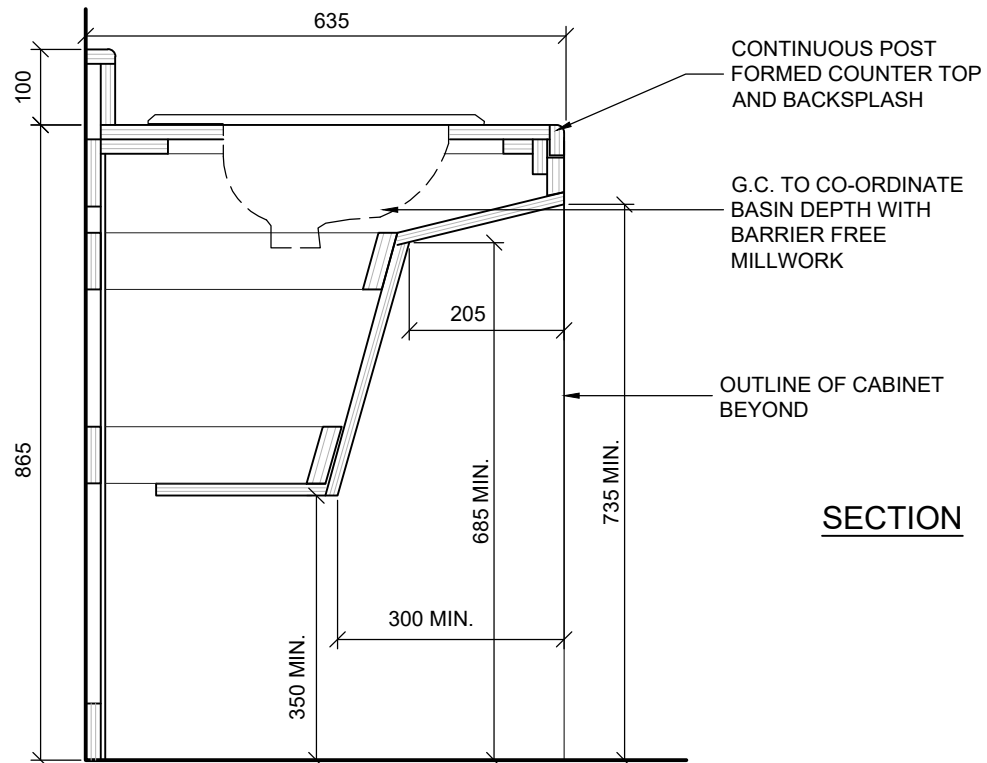
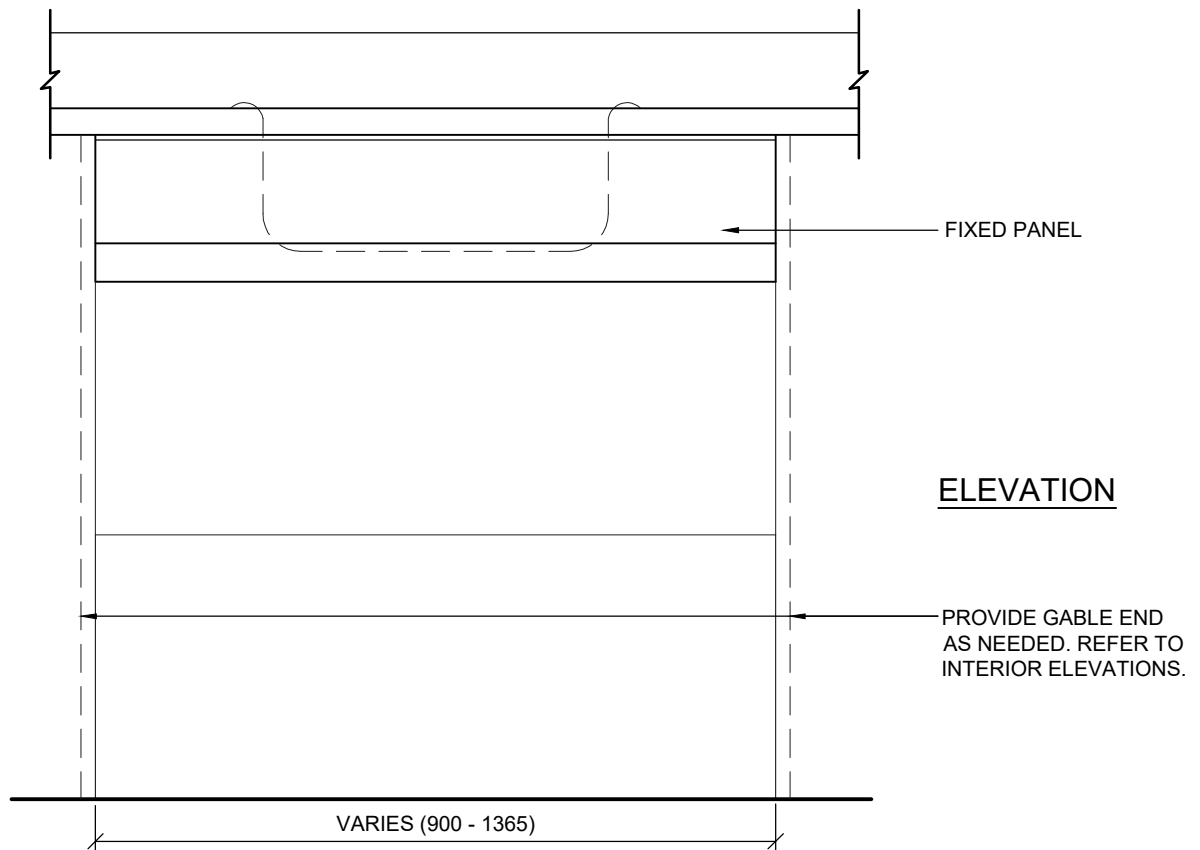
CABINET TYPE B6
S.M.T. ROOM

PROJ:	24112
SCALE:	1:10
DRAWN:	KB
DATE:	21 01 25



ISSUE/REV.
00

AD
606



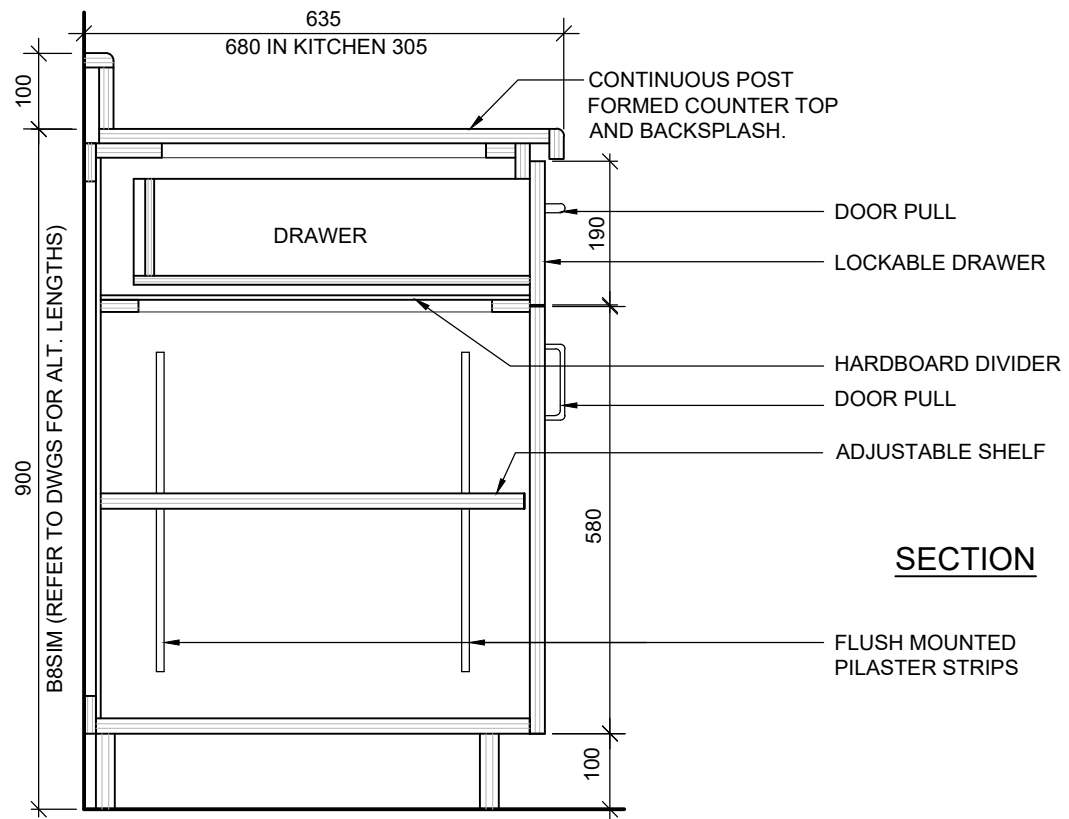
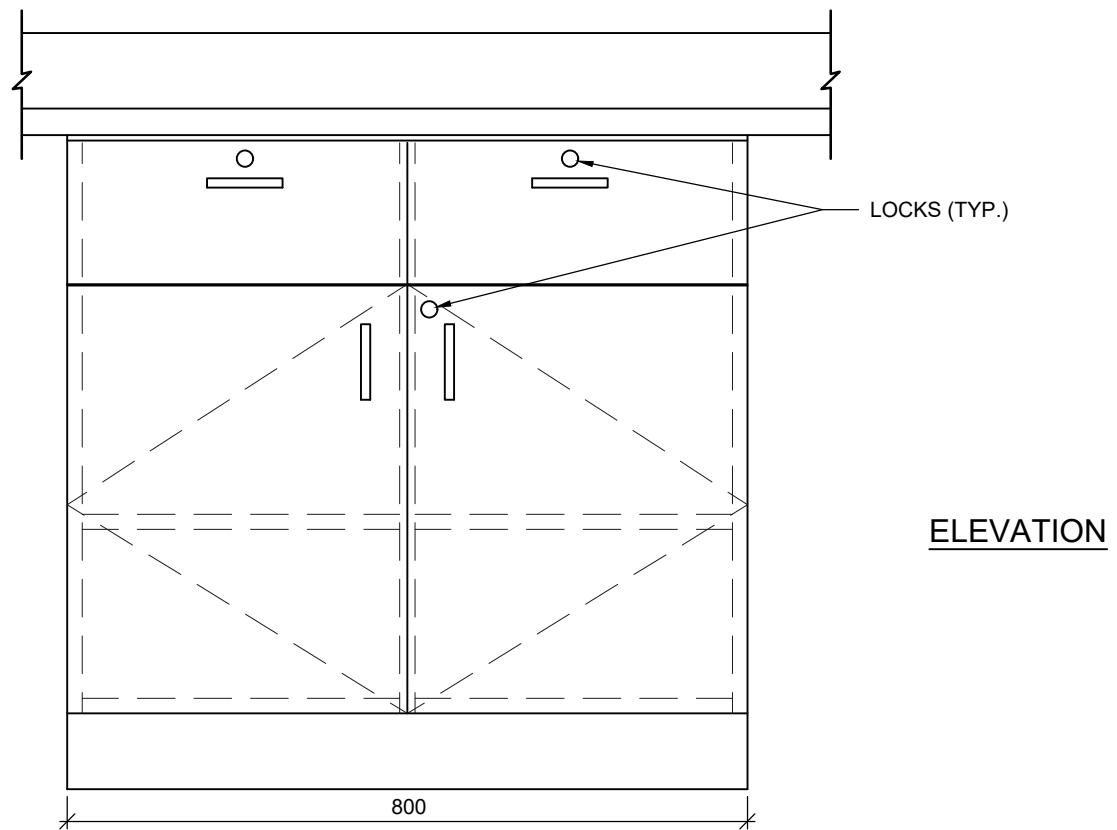
CABINET TYPE B7

PROJ: 24112
SCALE: 1:10
DRAWN: KB
DATE: 21 01 25



ISSUE/REV.

AD
607



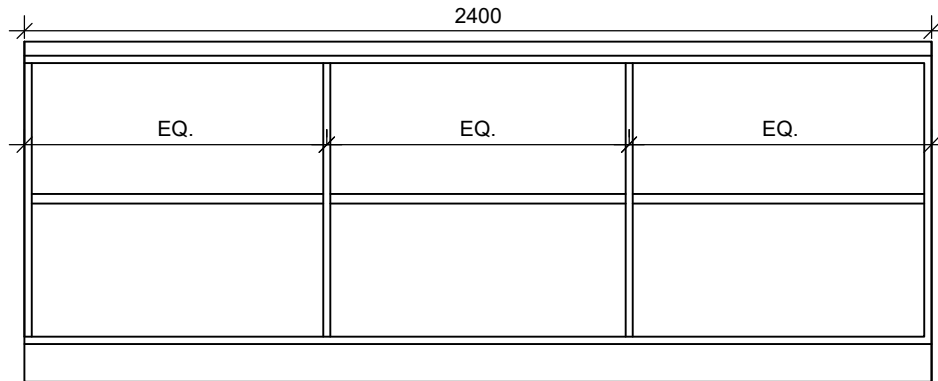
CABINET TYPE B8

PROJ: 24112
SCALE: 1:10
DRAWN: KB
DATE: 21 01 25

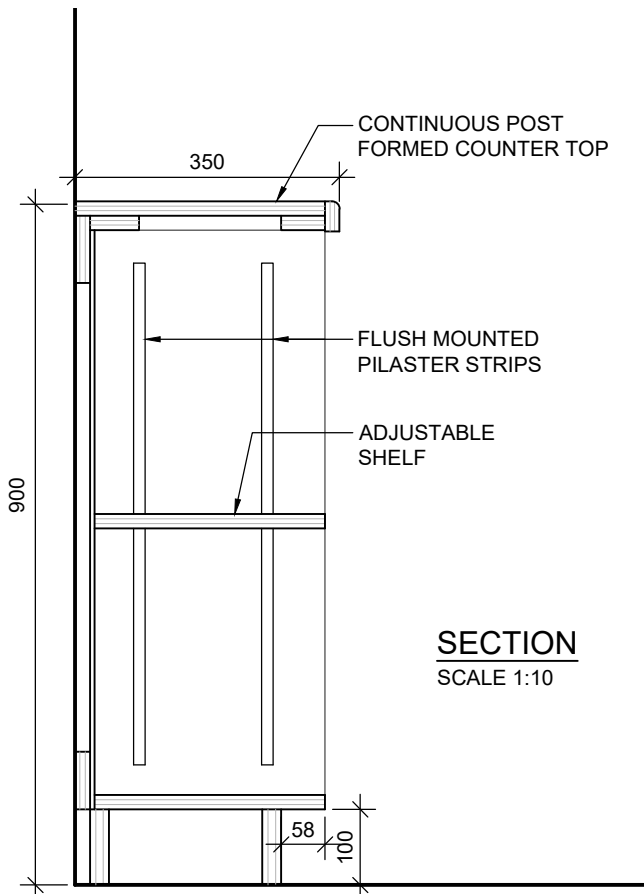


ISSUE/REV.
00

AD
608



ELEVATION
SCALE 1:25



SECTION
SCALE 1:10

NOTE:
PROVIDE CABINET TYPE
B9 WHERE SHOWN FOR
JUNIOR SCHOOLS ONLY.

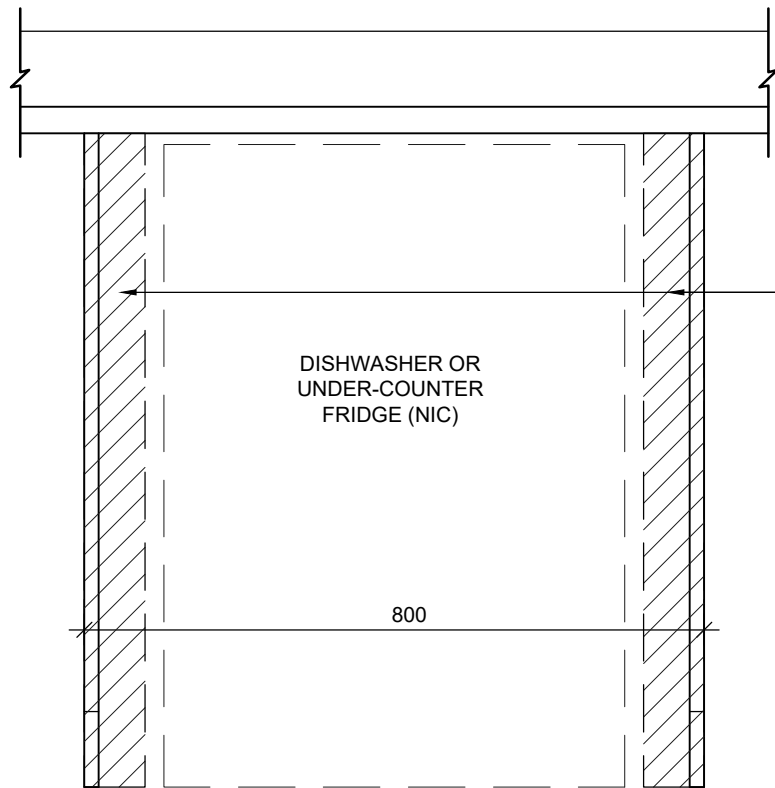
CABINET TYPE B9

PROJ:	24112
SCALE:	NOTED
DRAWN:	KB
DATE:	21 01 25



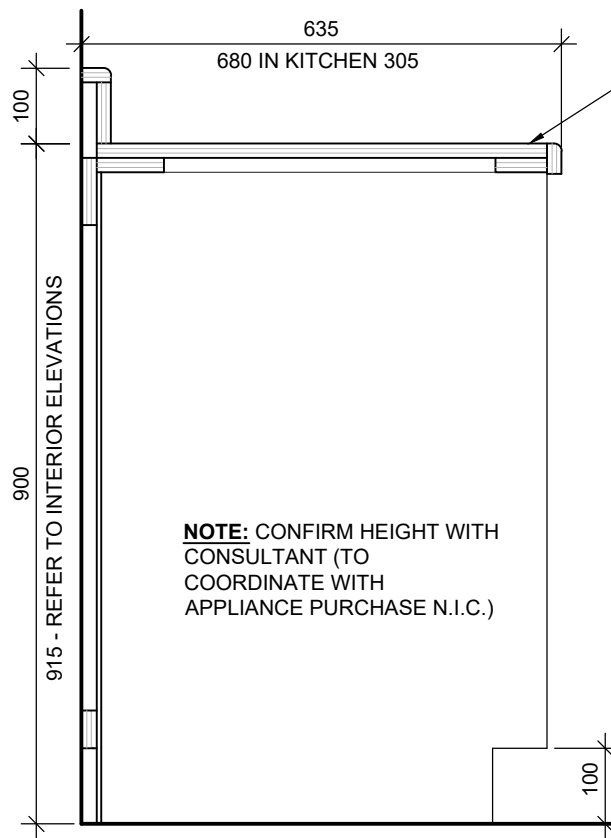
ISSUE/REV.
00

AD
609



COORDINATE WITH
SPECIFICATIONS TO CONFIRM
OVERALL DIMENSIONS OF
APPLIANCE. PROVIDE FIXED
PANELS TO ENSURE CLEAN AND
FINISHED FIT.

ELEVATION



CONTINUOUS POST
FORMED COUNTER TOP
AND BACKSPLASH

NOTE: CONFIRM HEIGHT WITH
CONSULTANT (TO
COORDINATE WITH
APPLIANCE PURCHASE N.I.C.)

SECTION

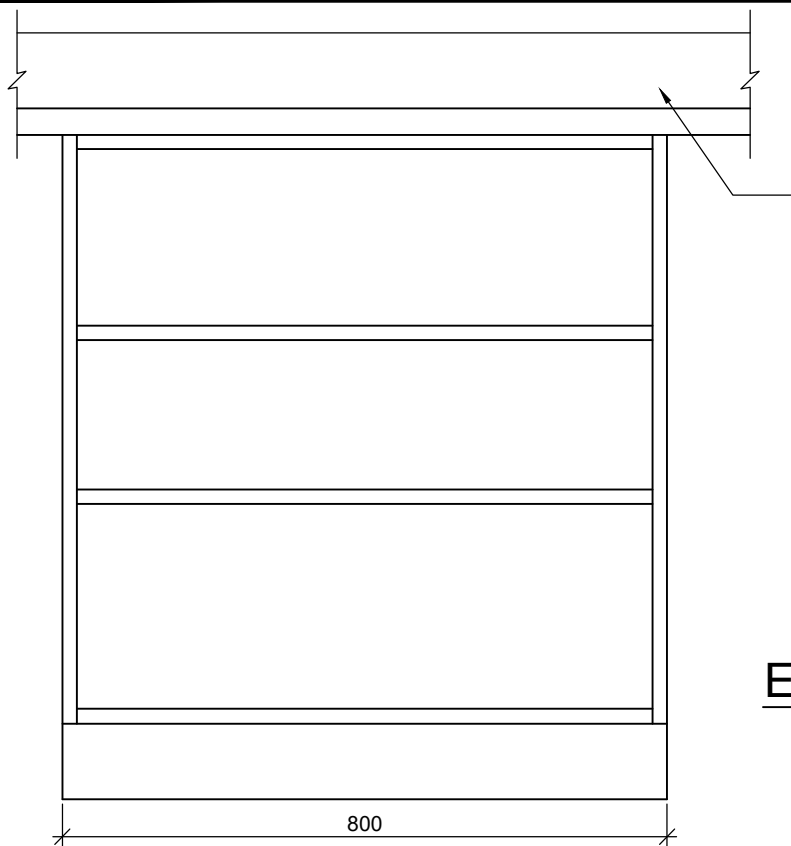
CABINET TYPE B10

PROJ: 24112
SCALE: 1:10
DRAWN: KB
DATE: 21 01 25



ISSUE/REV.
00

AD
610

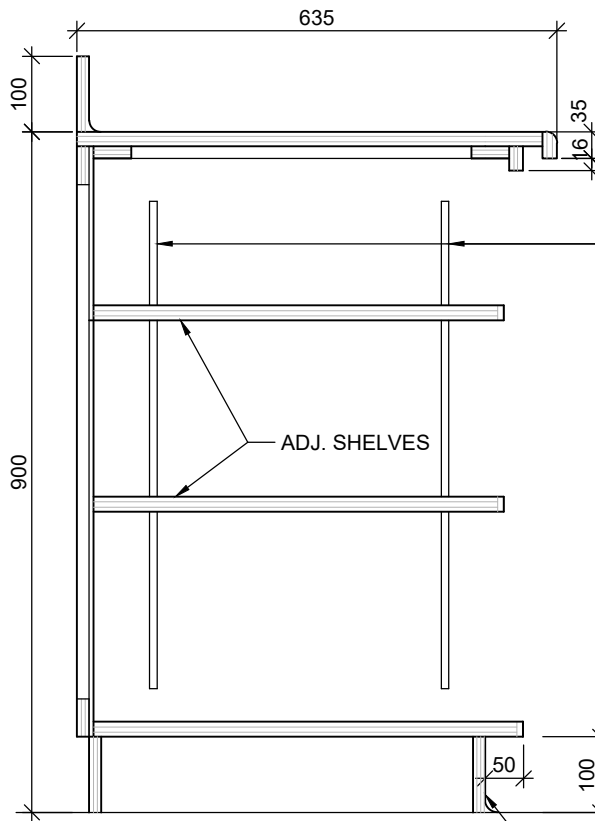


CONTINUOUS COUNTER
TOP AND BACKSPLASH.
POST FORMED

ELEVATION

SCALE 1 : 10

NOTE: CUT SPLASHBACK
AT WINDOWS



FLUSH MOUNTED PILASTER STRIPS

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

SECTION

SCALE 1: 10

CABINET TYPE B11

PROJ: 24112

SCALE: 1:10

DRAWN: KB

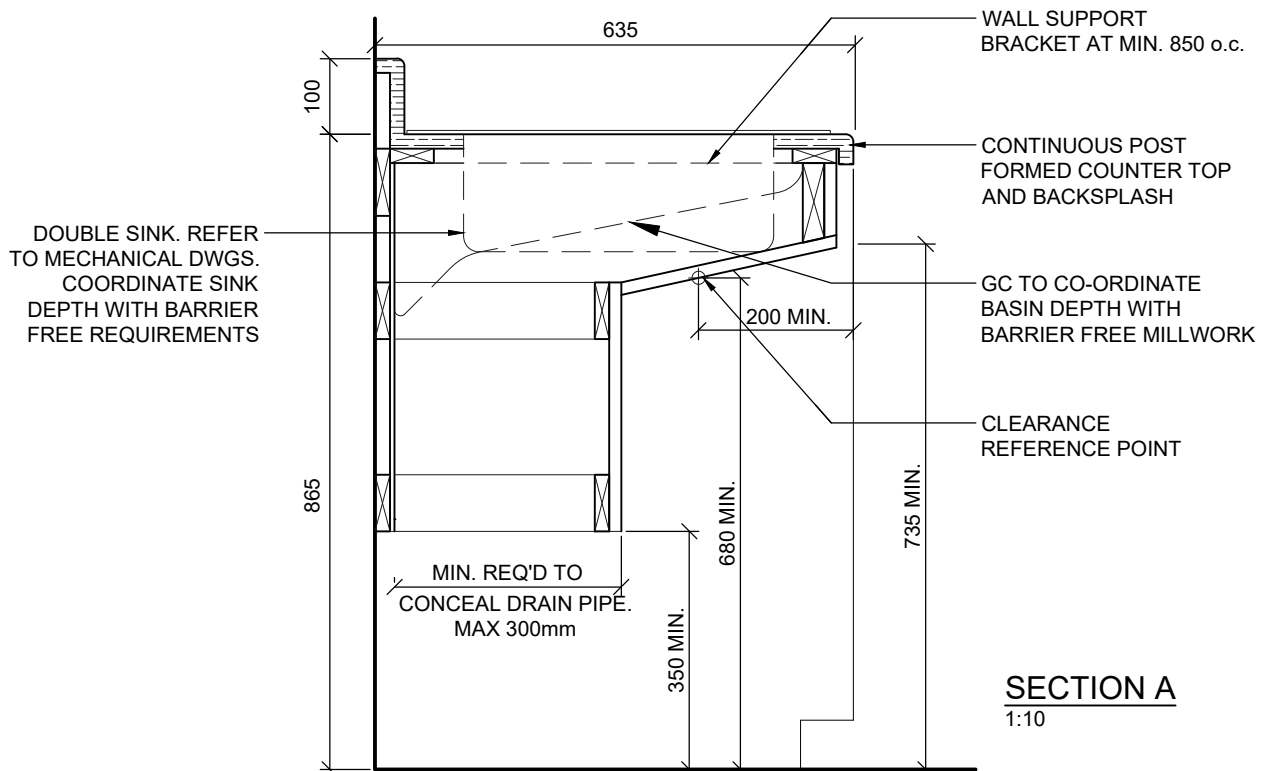
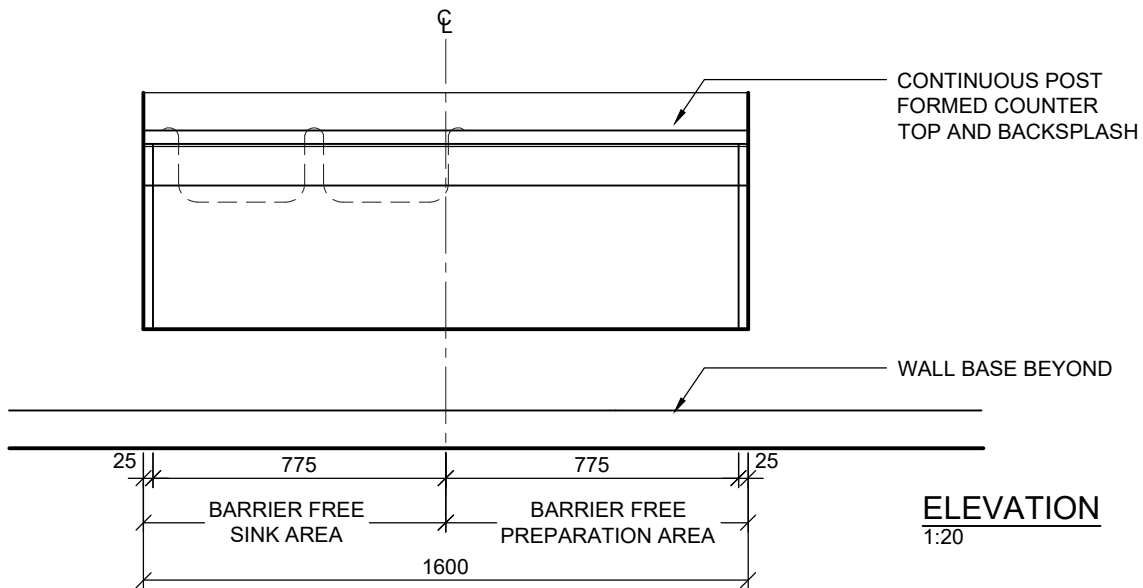
DATE: 21 01 25

HOSSACK
ARCHITECTURE



ISSUE/REV.
00

AD
611



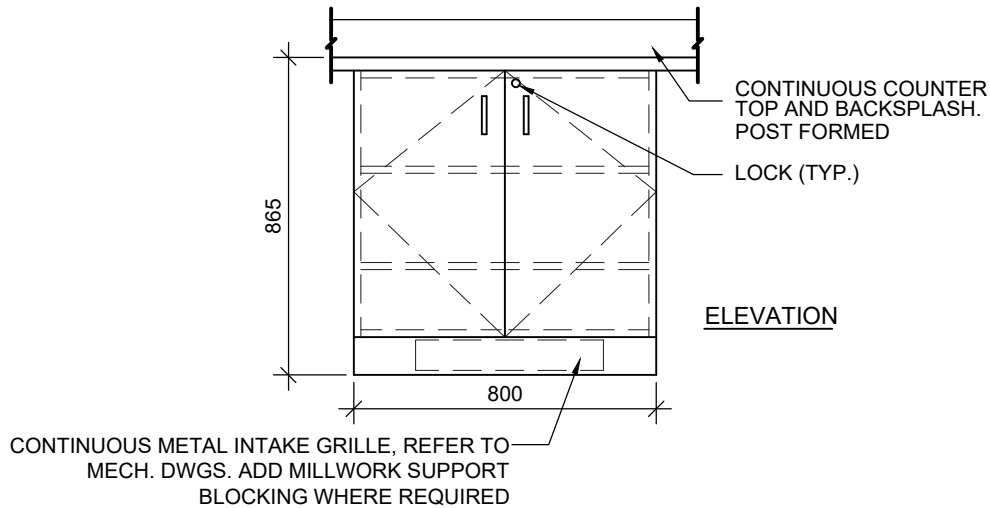
BARRIER-FREE COUNTER WITH DOUBLE SINK - TYPE B12

PROJ: 24112
SCALE: VARIES
DRAWN: KB
DATE: 21 01 29



ISSUE/REV.
00

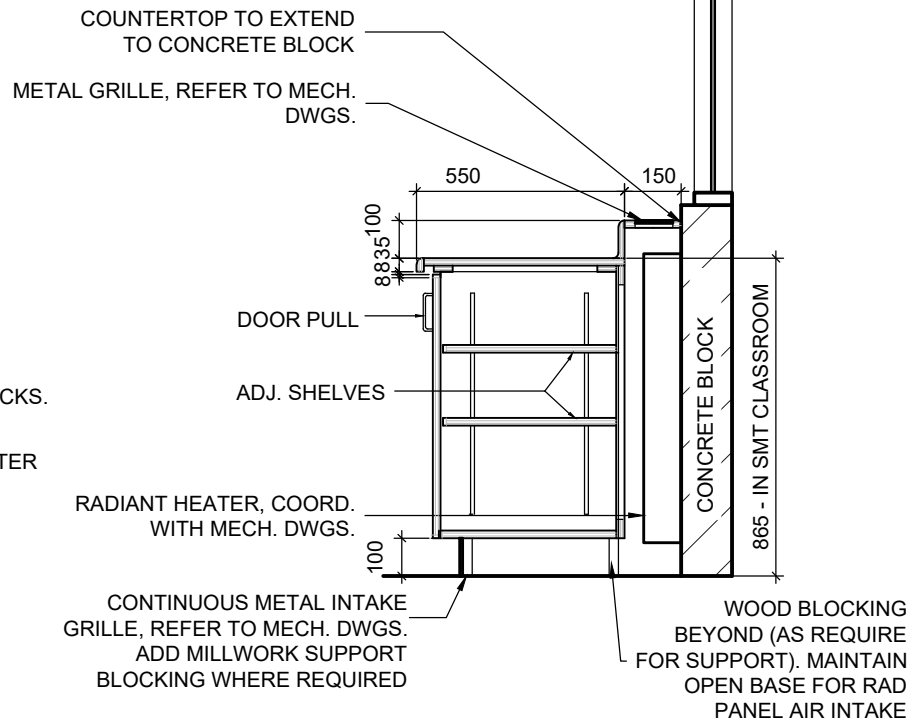
AD
612



SECTION

NOTES:

1. ALL MILLWORK DOORS AND DRAWERS TO BE EQUIPT WITH LOCKS.
2. SEE FLOOR PLAN IN SMT CLASSROOM FOR CORNER COUNTER & BACKSPLASH EXTENSION AND GRILLE COVER CONTINUATION.



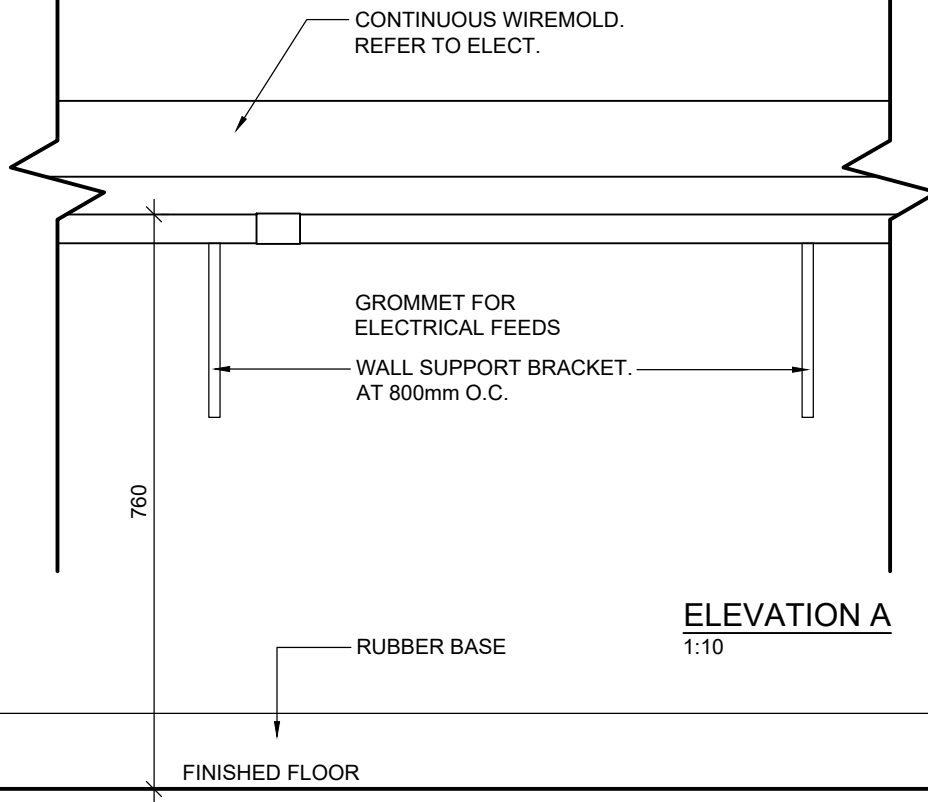
CABINET TYPE B14
 with Linear Bar Grille Cover
in SMT classroom only, along exterior wall

PROJ: 24112
 SCALE: NTS
 DRAWN: KB
 DATE: 210129

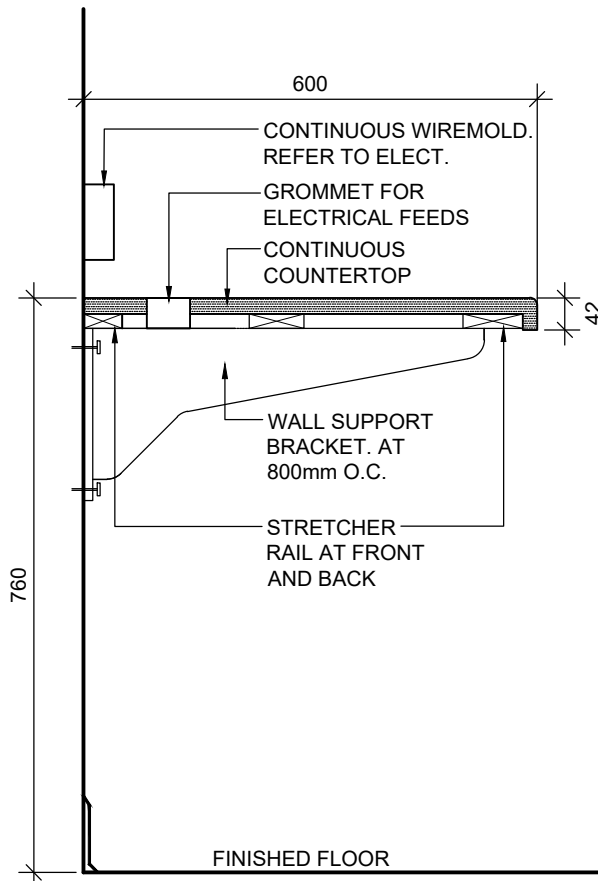


ISSUE/REV.

AD
 614



ELEVATION A
1:10



SECTION B
1:10

COMPUTER DESK TYPE B15

PROJ: 24112
SCALE: 1:10
DRAWN: KB
DATE: 15 07 28

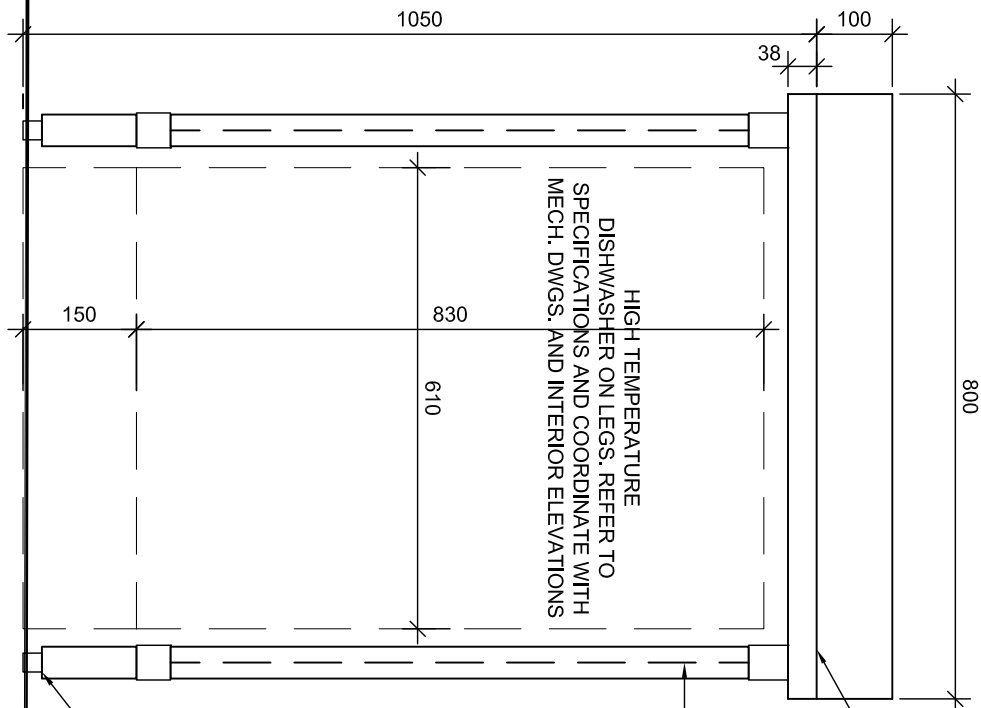


ISSUE/REV.
00

AD
615

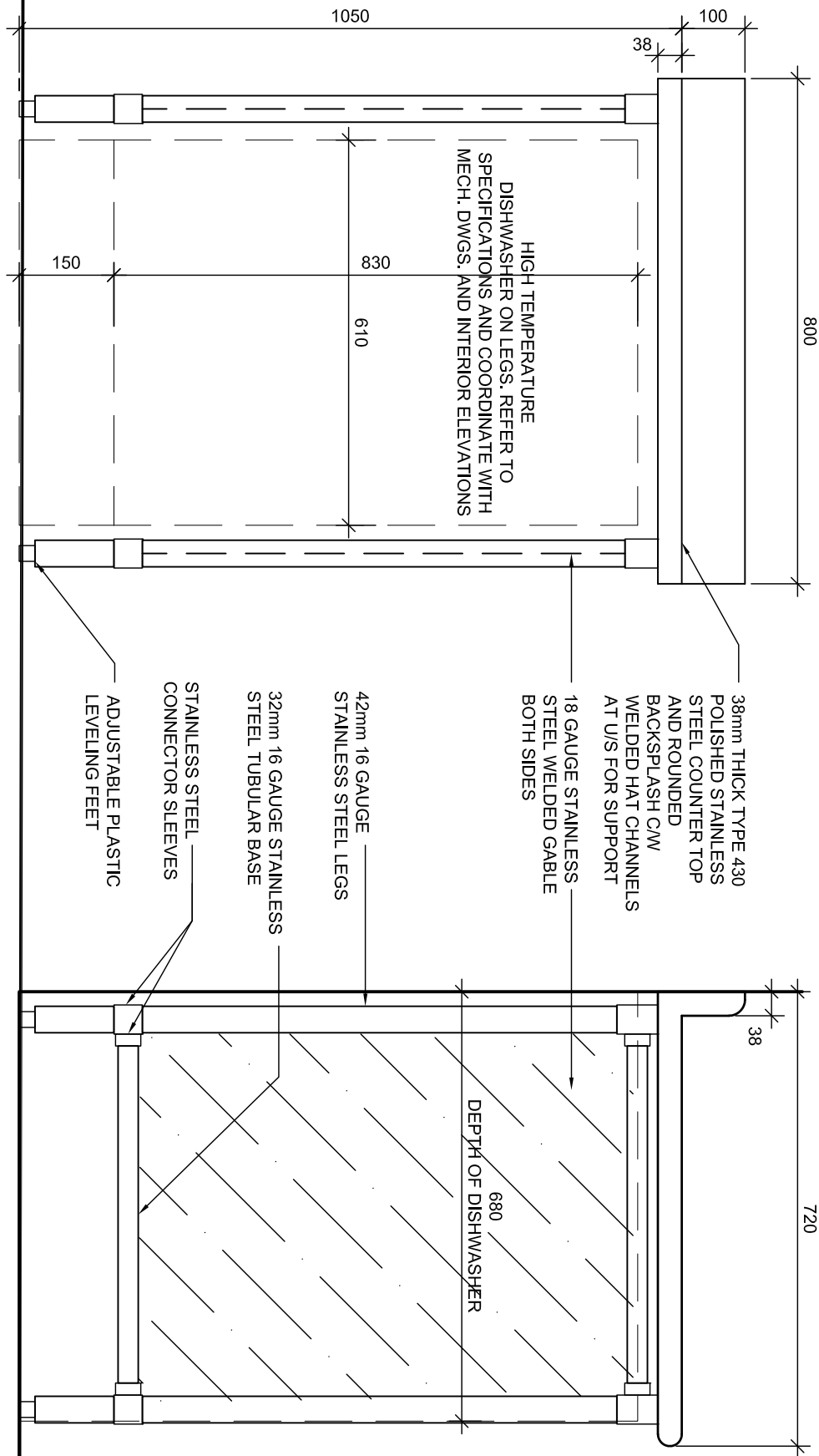
ELEVATION

SCALE 1:10



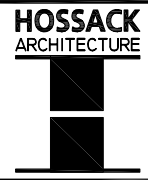
SECTION

SCALE 1:10

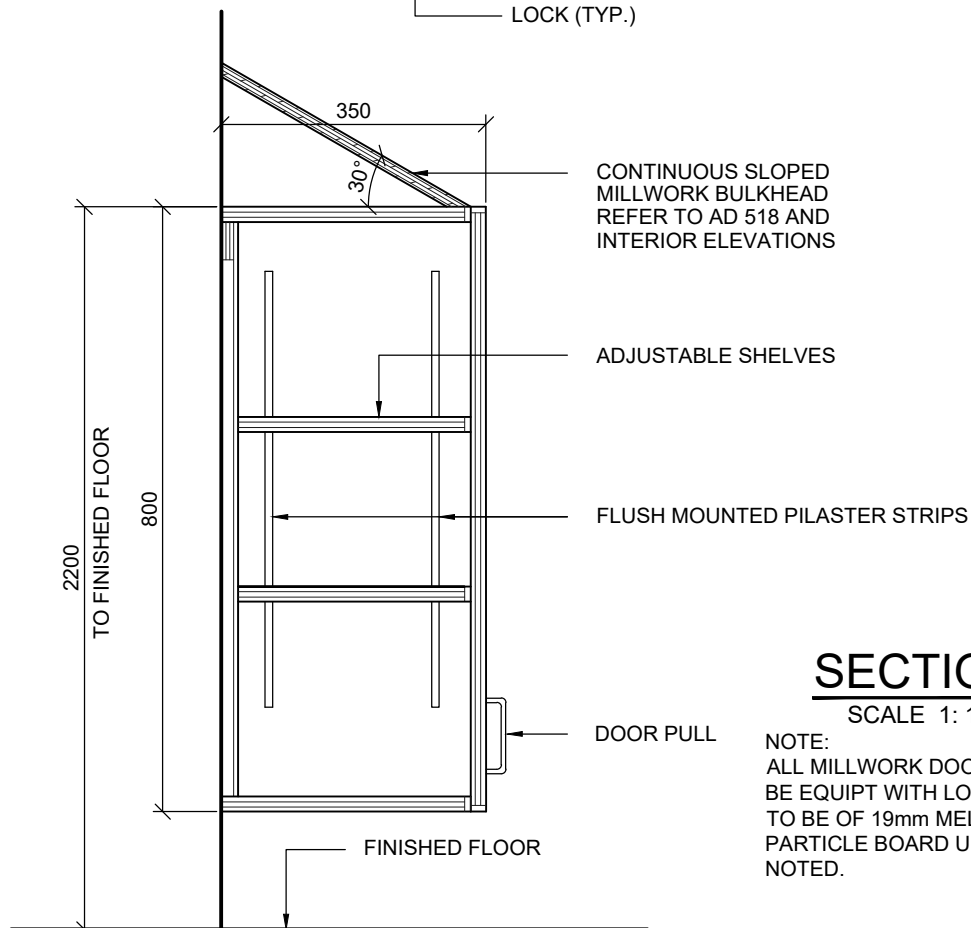
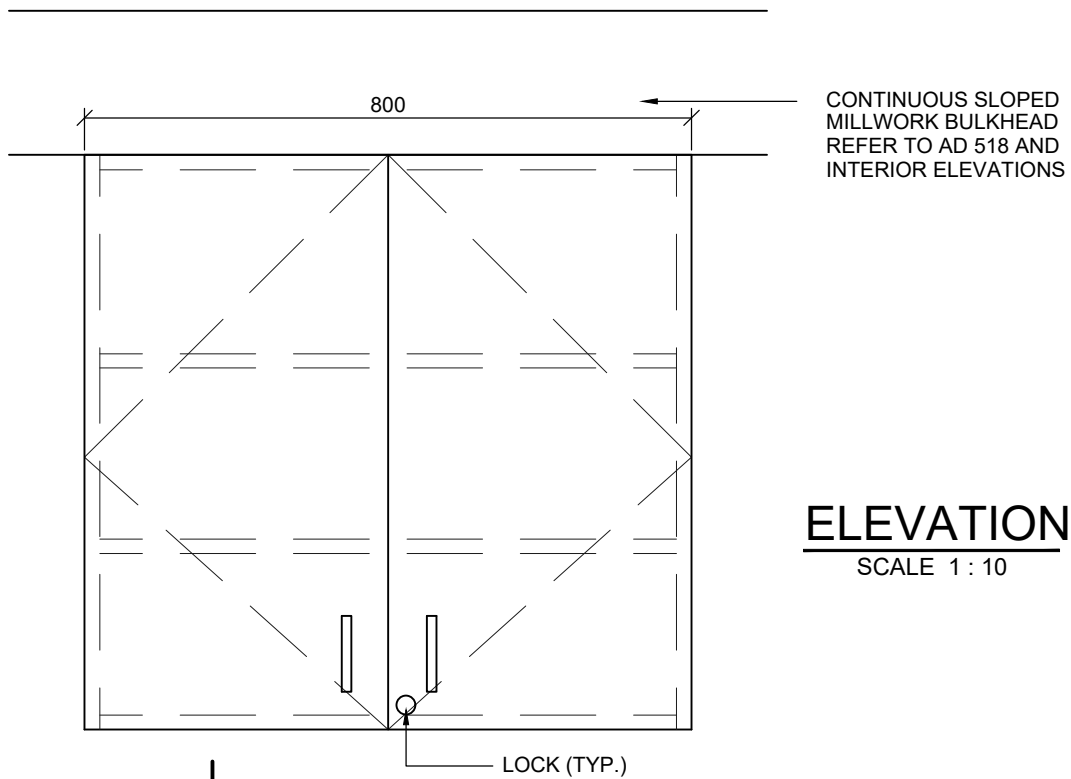


B16 - STAINLESS STEEL DISHWASHER SURROUND
CHILD CARE KITCHEN FOR SANITIZING DISHWASHER

PROJ:	24112
SCALE:	1:10
DRAWN:	AM
DATE:	NOV 2025



ISSUE/REV.	00
AD	616



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

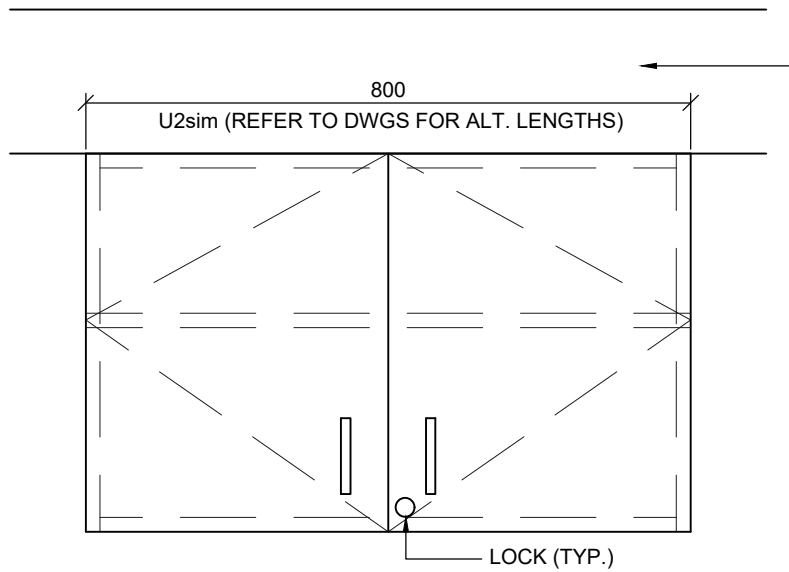
CABINET TYPE U1

PROJ: 24112
SCALE: 1:10
DRAWN: KB
DATE: 21 01 29



ISSUE/REV.
00

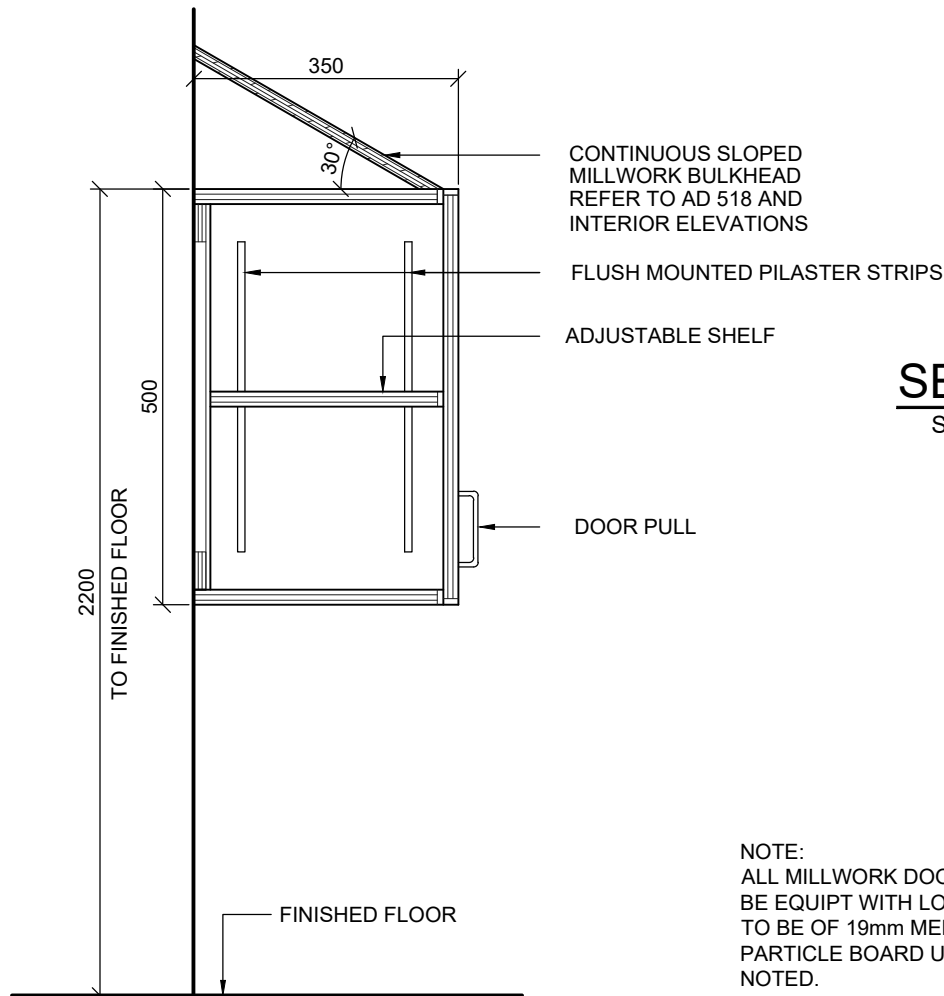
AD
621



CONTINUOUS SLOPED
MILLWORK BULKHEAD
REFER TO AD 518 AND
INTERIOR ELEVATIONS

ELEVATION

SCALE 1 : 10



CONTINUOUS SLOPED
MILLWORK BULKHEAD
REFER TO AD 518 AND
INTERIOR ELEVATIONS

FLUSH MOUNTED PILASTER STRIPS

ADJUSTABLE SHELF

DOOR PULL

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: 24112

SCALE: 1:10

DRAWN: KB

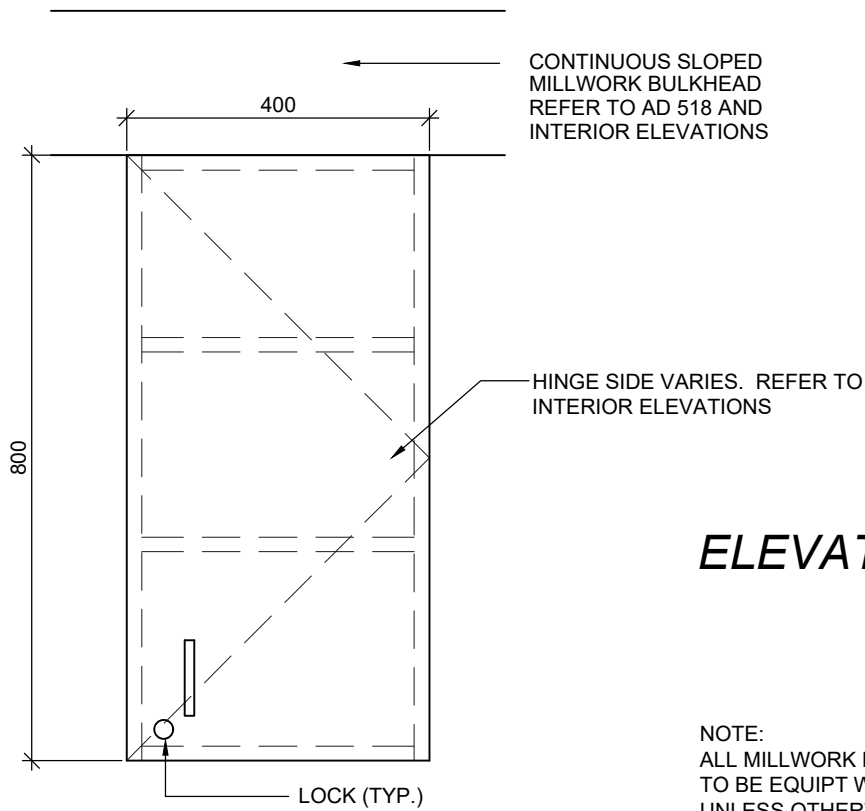
DATE: 21 01 29

HOSSACK
ARCHITECTURE



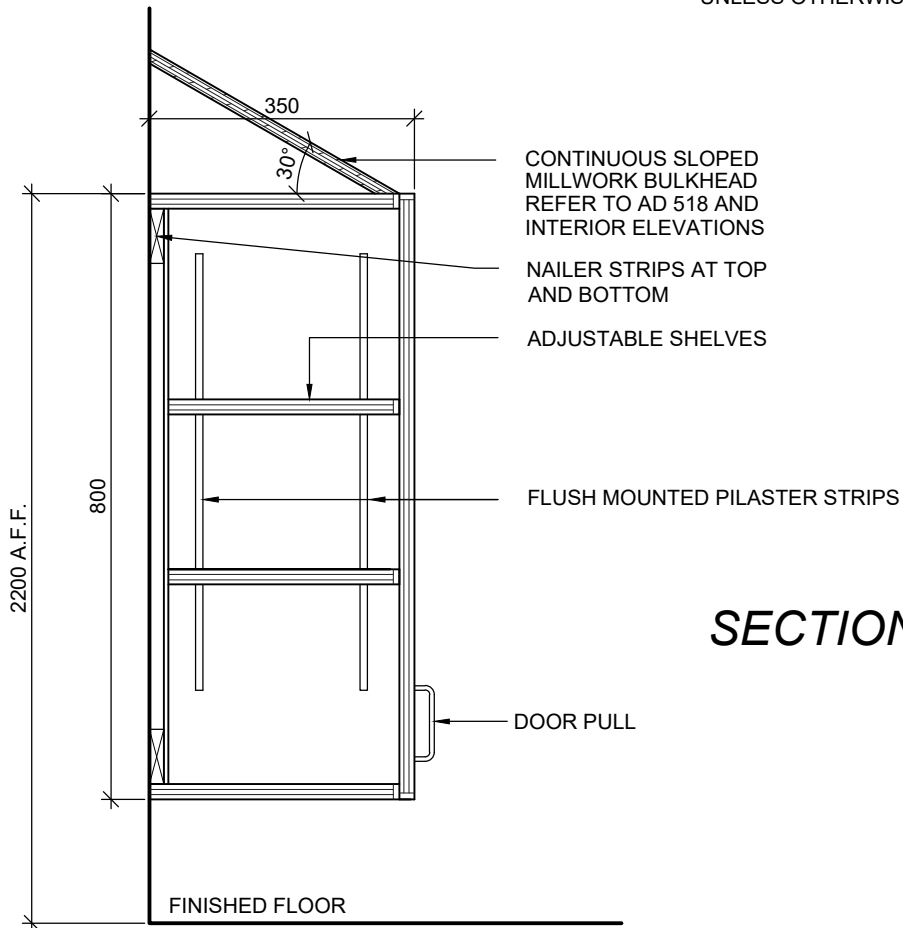
ISSUE/REV.
00

AD
622



ELEVATION

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



SECTION

CABINET TYPE U3

PROJ: 24112

SCALE: 1:10

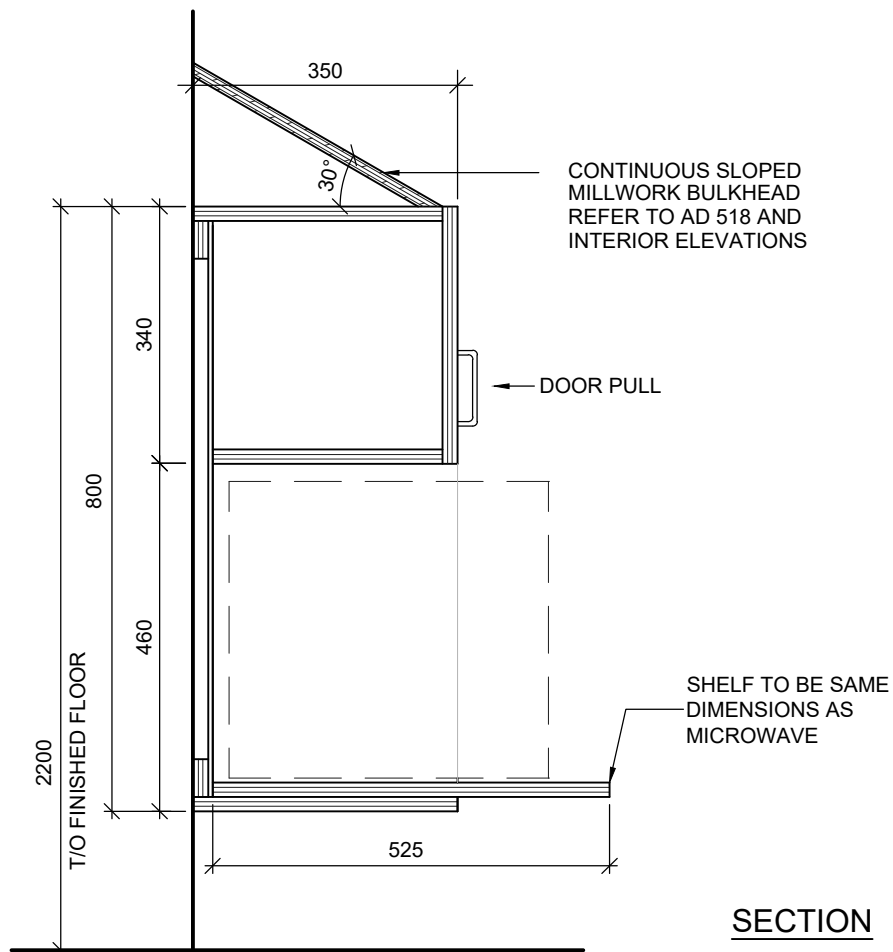
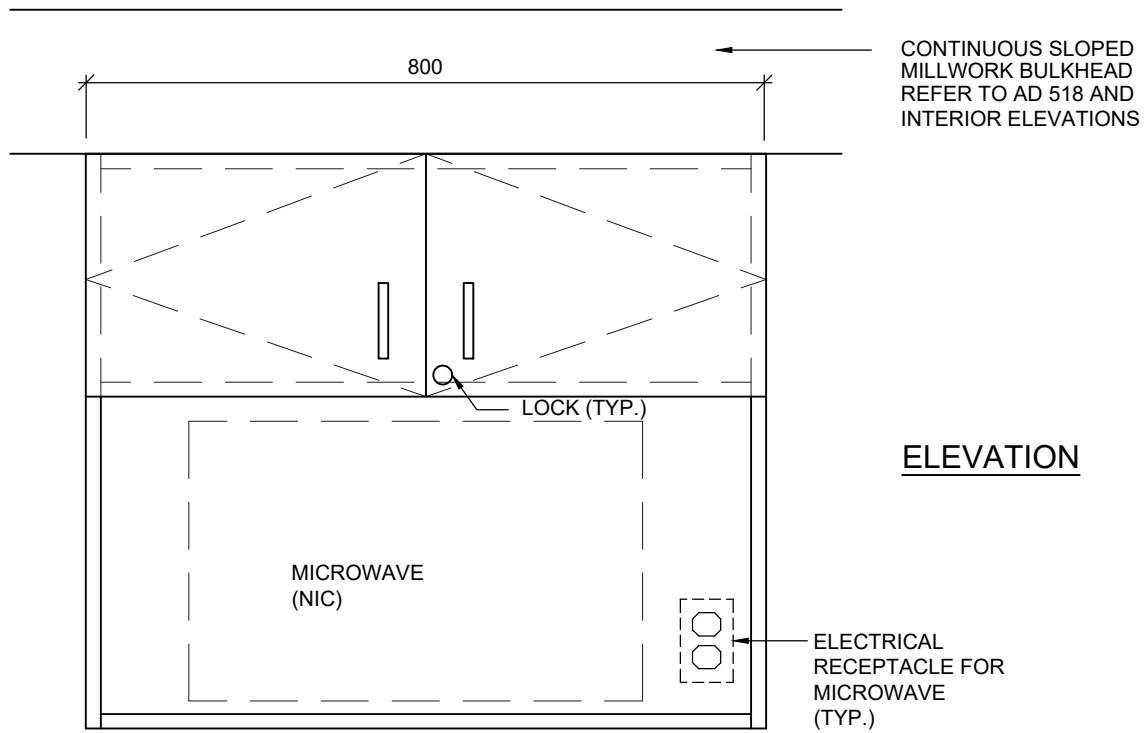
DRAWN: KB

DATE: 210208



ISSUE/REV.

AD
623



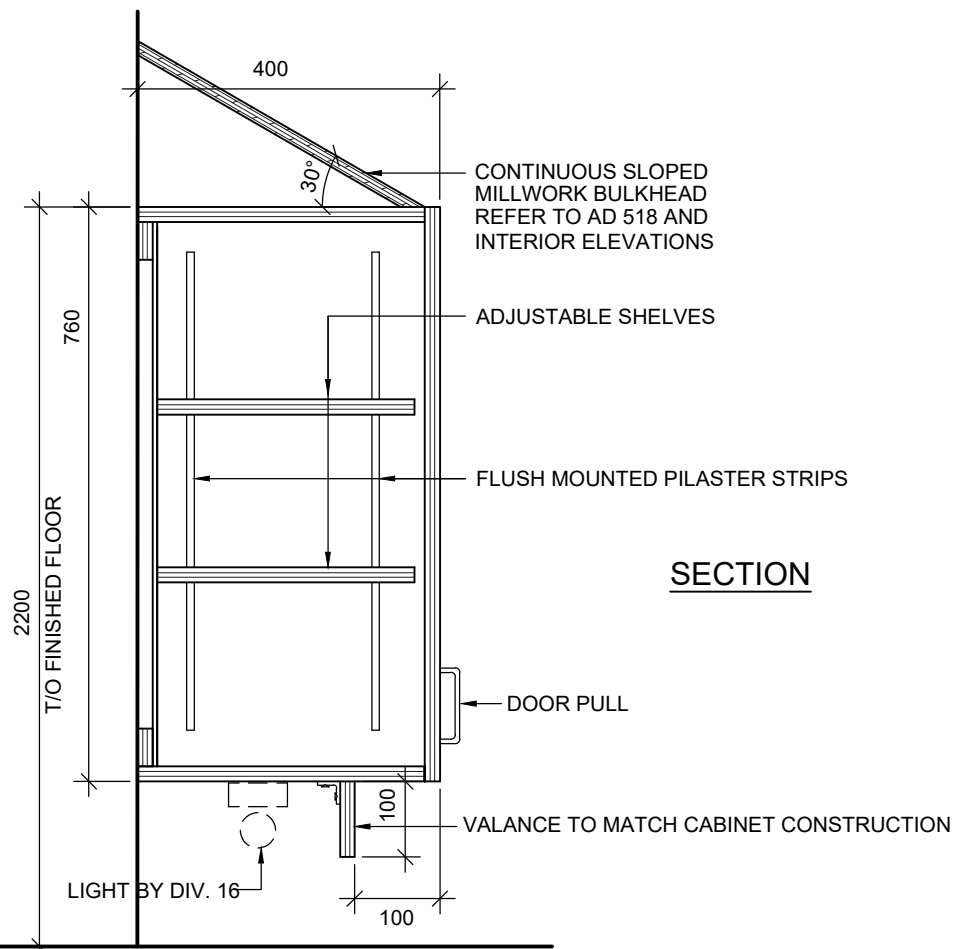
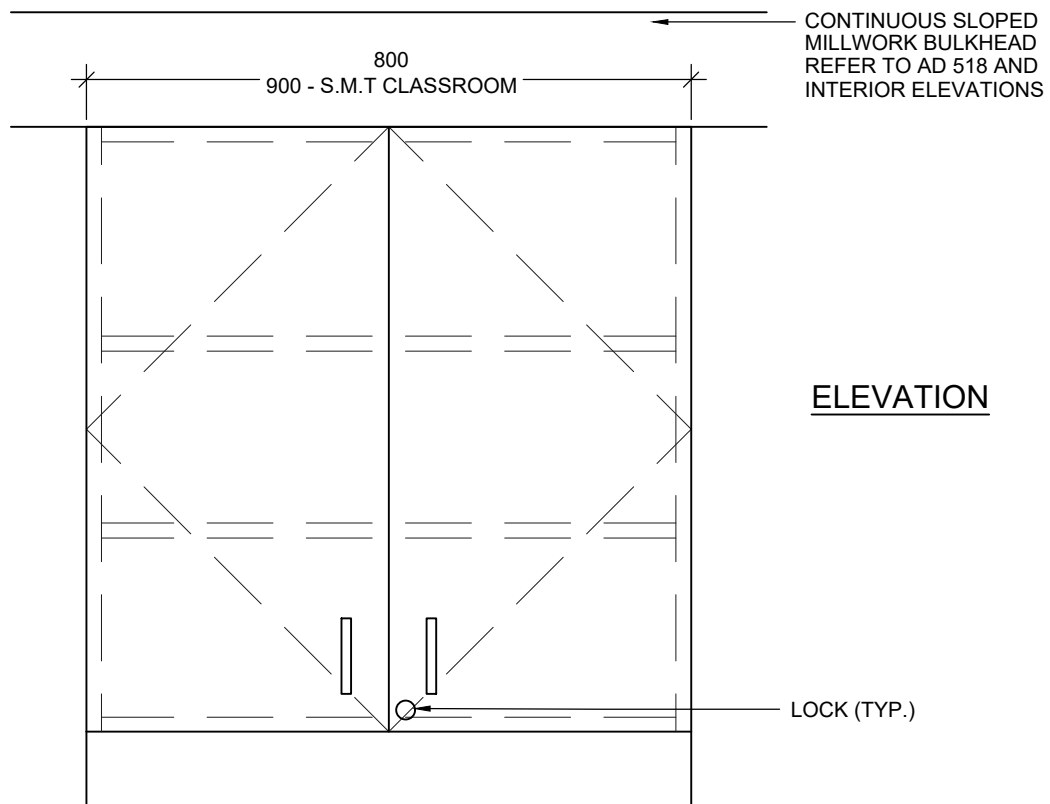
CABINET TYPE U4

PROJ: 24112
SCALE: 1:10
DRAWN: KB
DATE: 21 01 29



ISSUE/REV.
00

AD
624



CABINET TYPE U5-A

PROJ: 24112

SCALE: 1:10

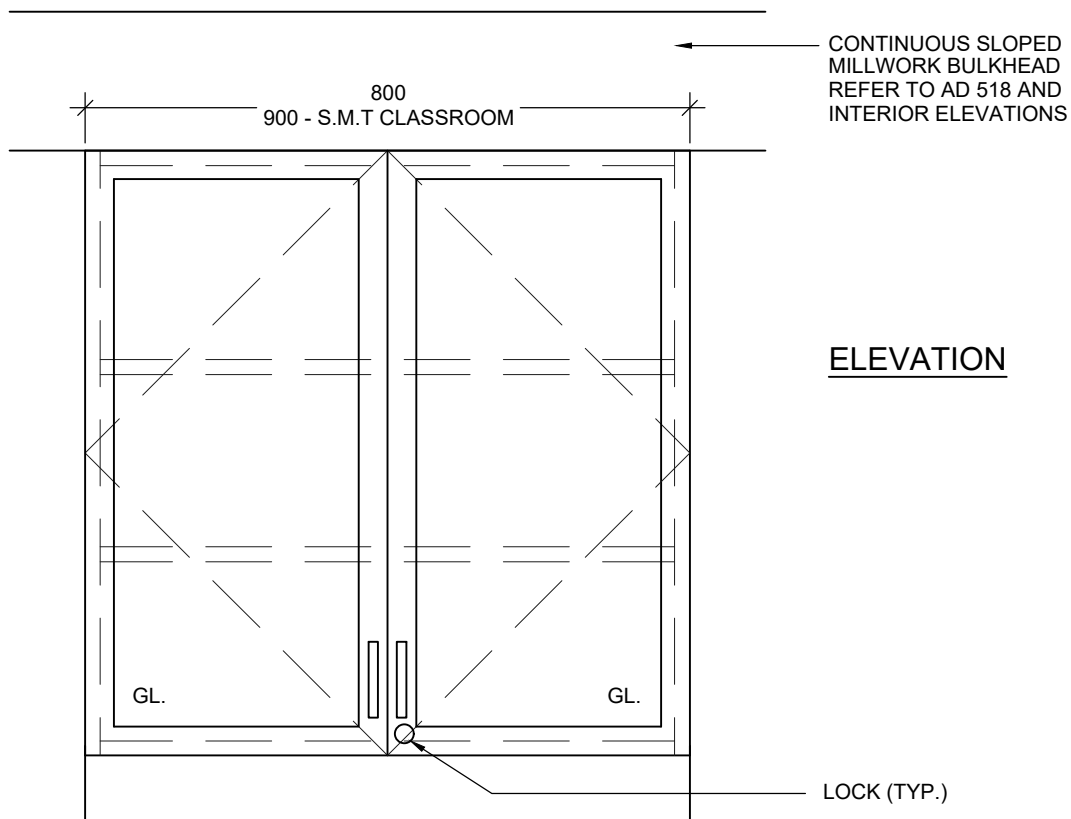
DRAWN: KB

DATE: 21 01 29

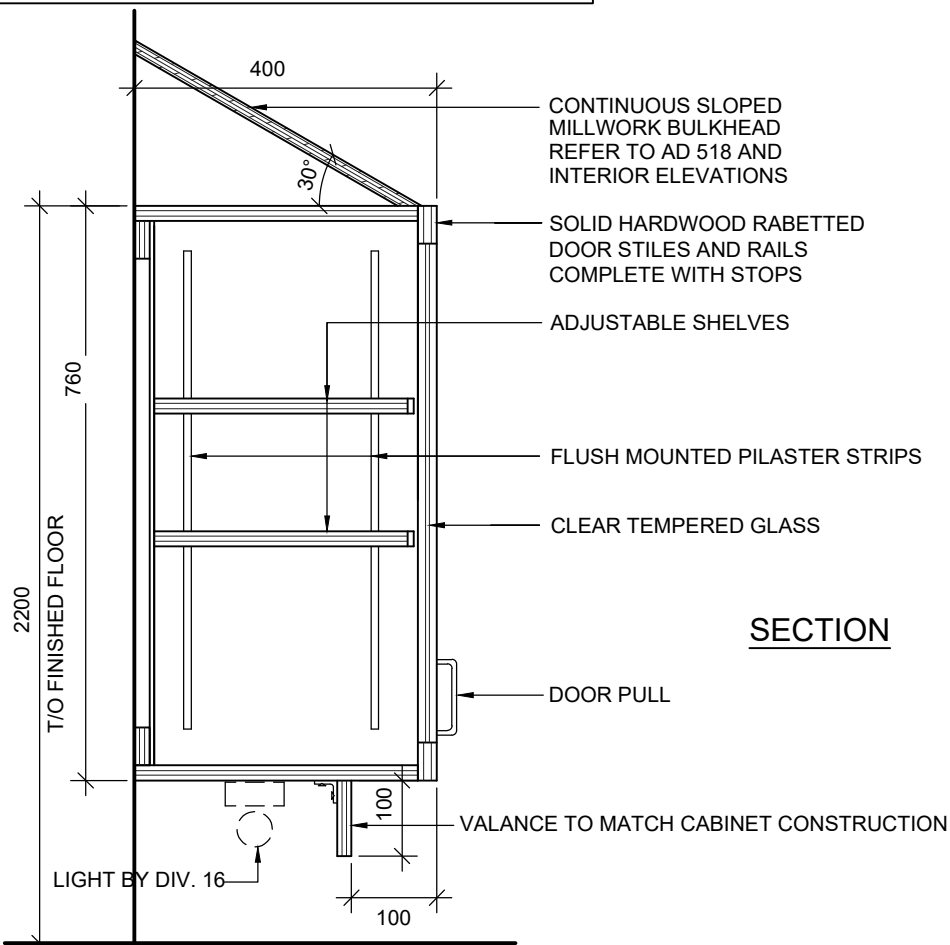


ISSUE/REV.
00

AD
625A



ELEVATION



SECTION

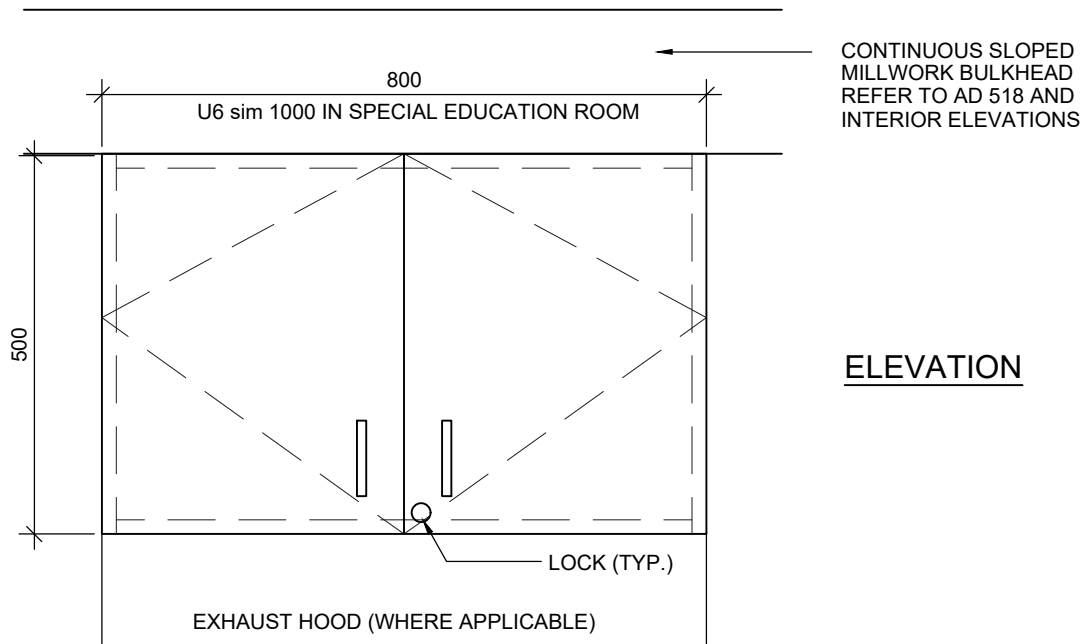
CABINET TYPE U5-B

PROJ: 24112
SCALE: 1:10
DRAWN: KB
DATE: 21 01 29

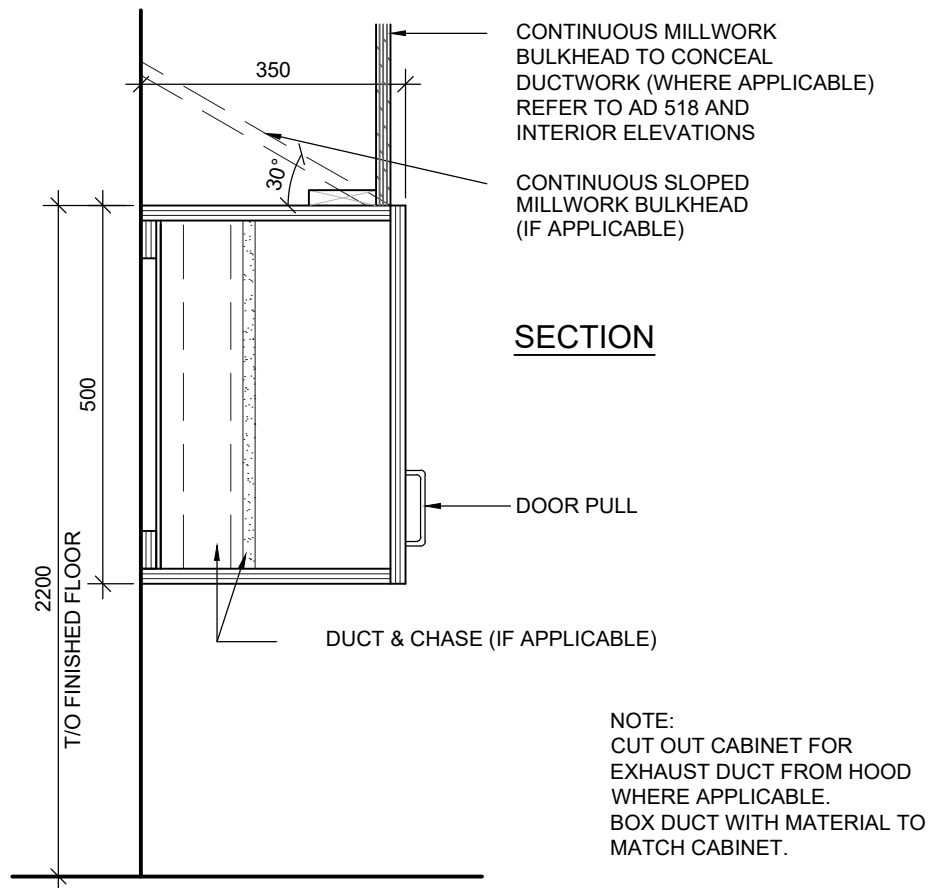


ISSUE/REV.
00

AD
625B



ELEVATION



SECTION

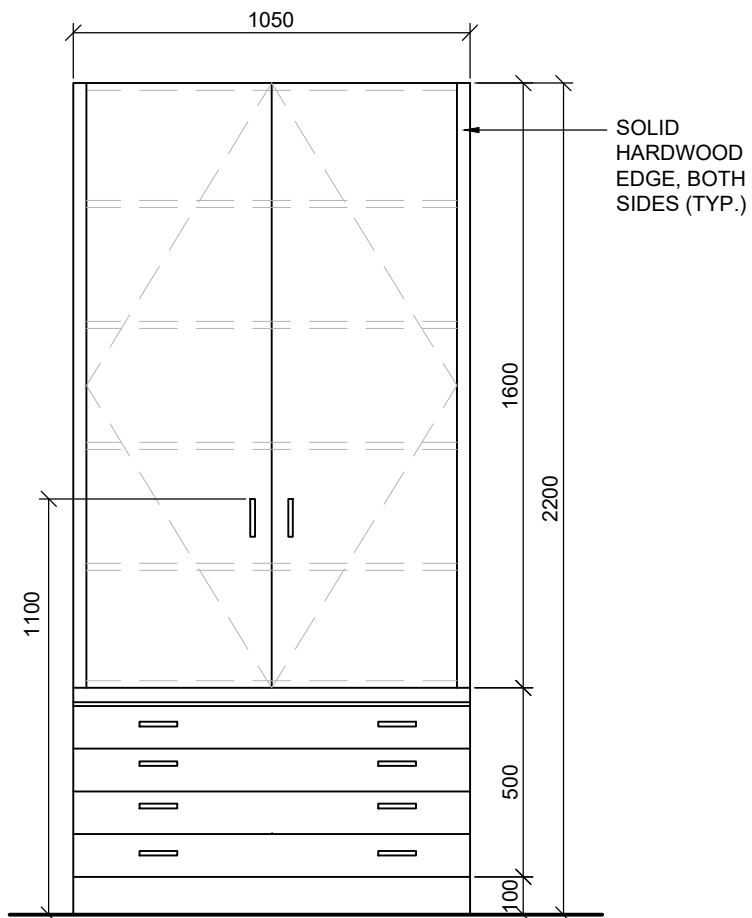
CABINET TYPE U6

PROJ: 24112
SCALE: 1:10
DRAWN: KB
DATE: 21 02 02

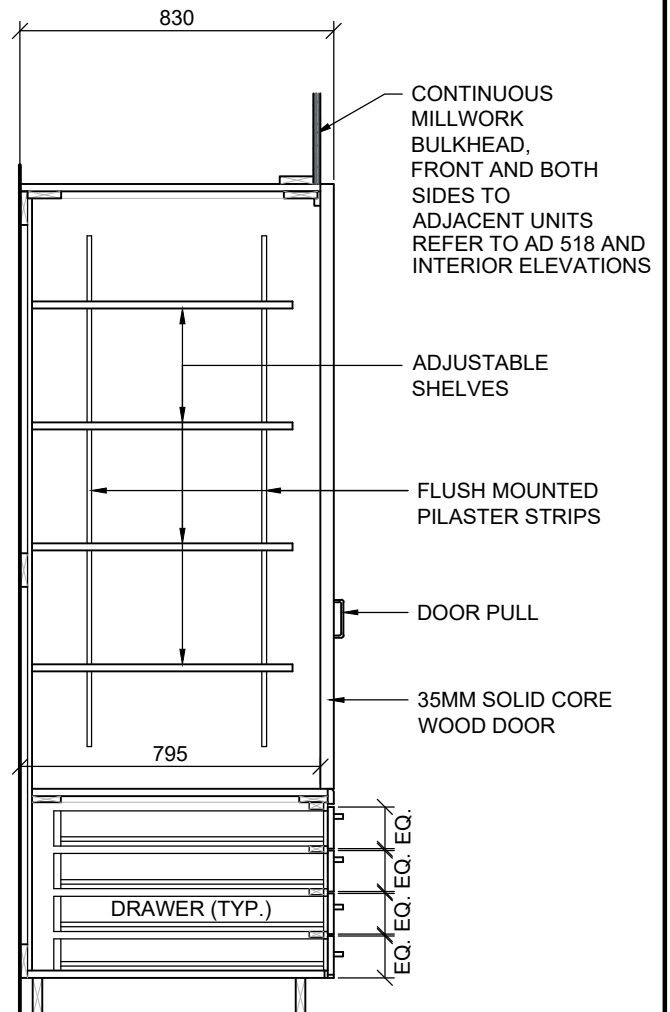


ISSUE/REV.
00

AD
626



ELEVATION



SECTION

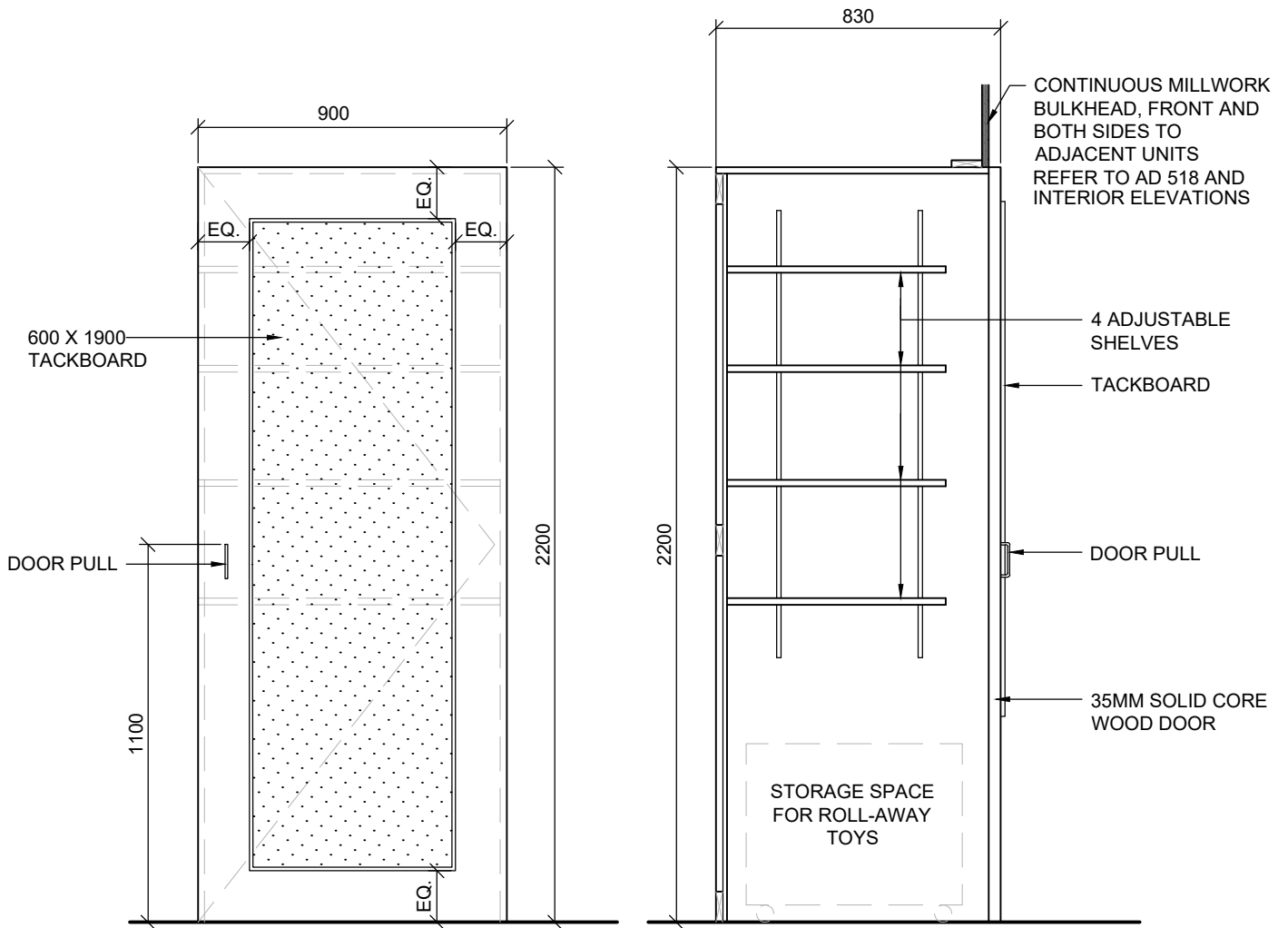
KINDERGARTEN CLOSET AND DRAWERS
TYPE K1

PROJ:	24112
SCALE:	NTS
DRAWN:	KB
DATE:	21 01 29



ISSUE/REV.
00

AD
631



ELEVATION

SECTION

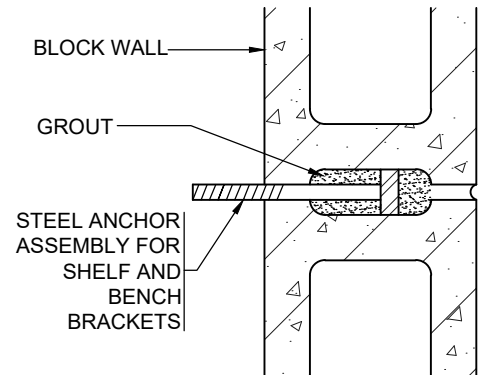
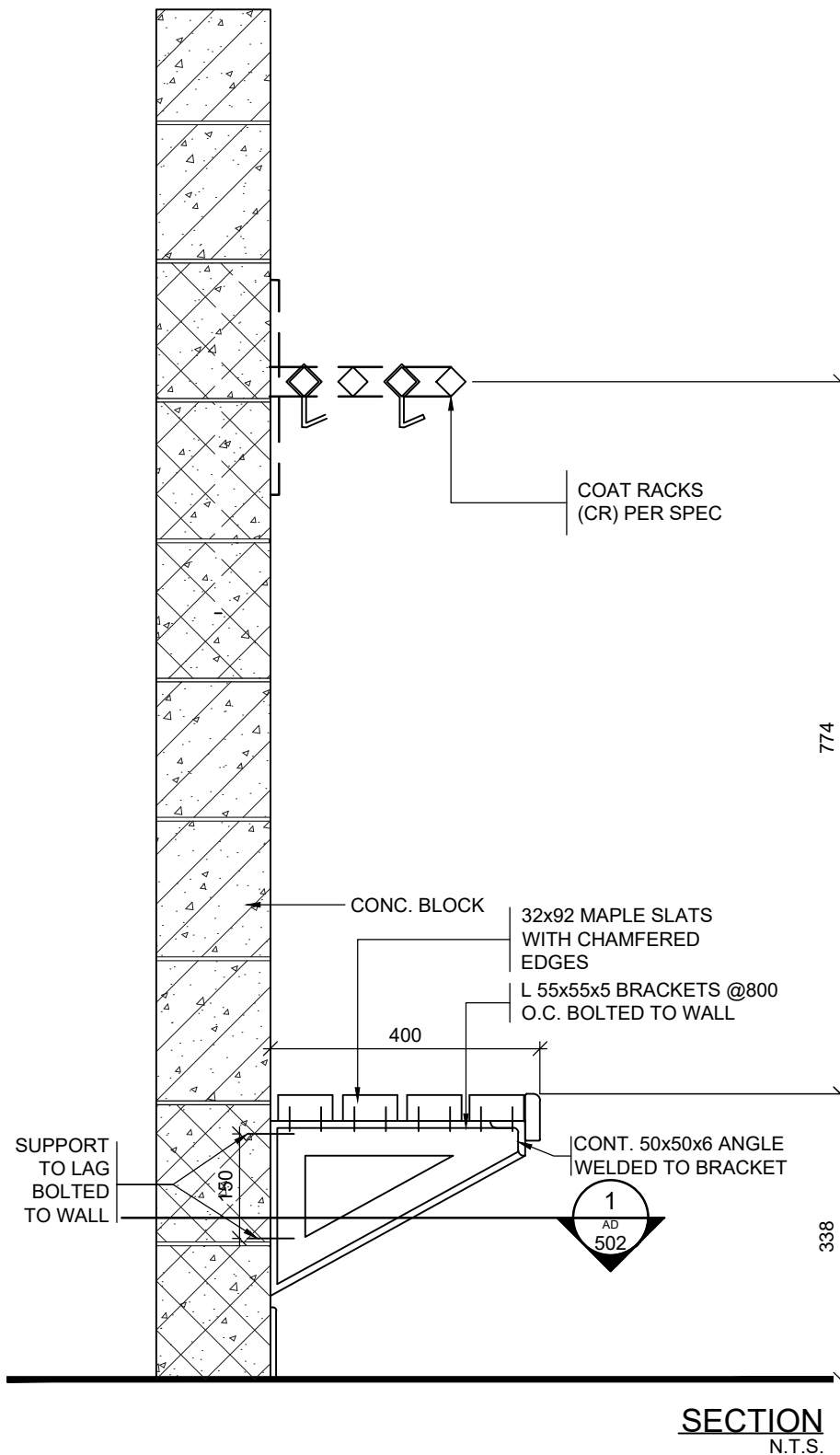
KINDERGARTEN STORAGE UNIT
TYPE K2

PROJ:	24112
SCALE:	NTS
DRAWN:	KB
DATE:	21 01 29

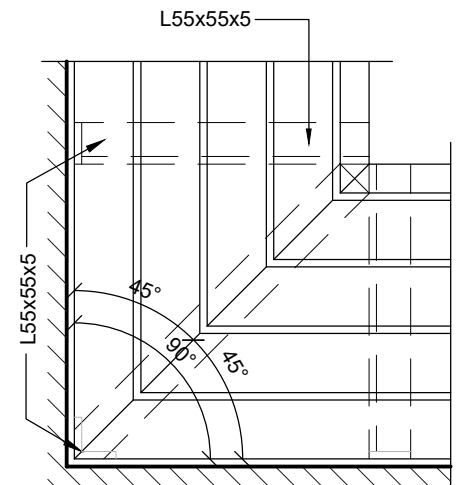


ISSUE/REV.
00

AD
632



DETAIL 1



PLAN
SCALE 1: 10

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

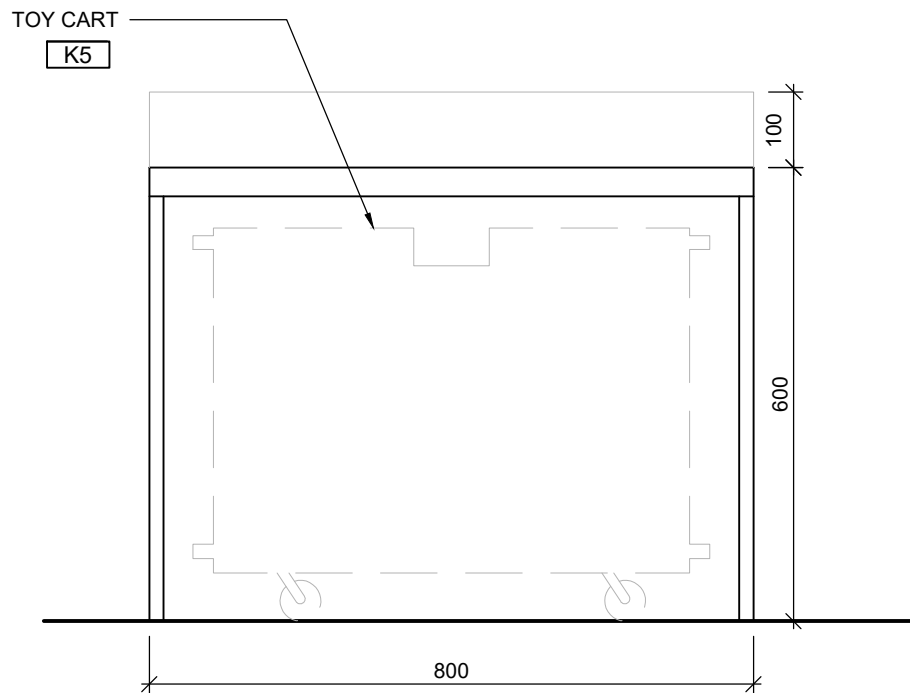
KINDERGARTEN BENCH & COAT RACK DETAILS
TYPE K3

PROJ: 24112
SCALE: N.T.S.
DRAWN: KB
DATE: 21 02 02

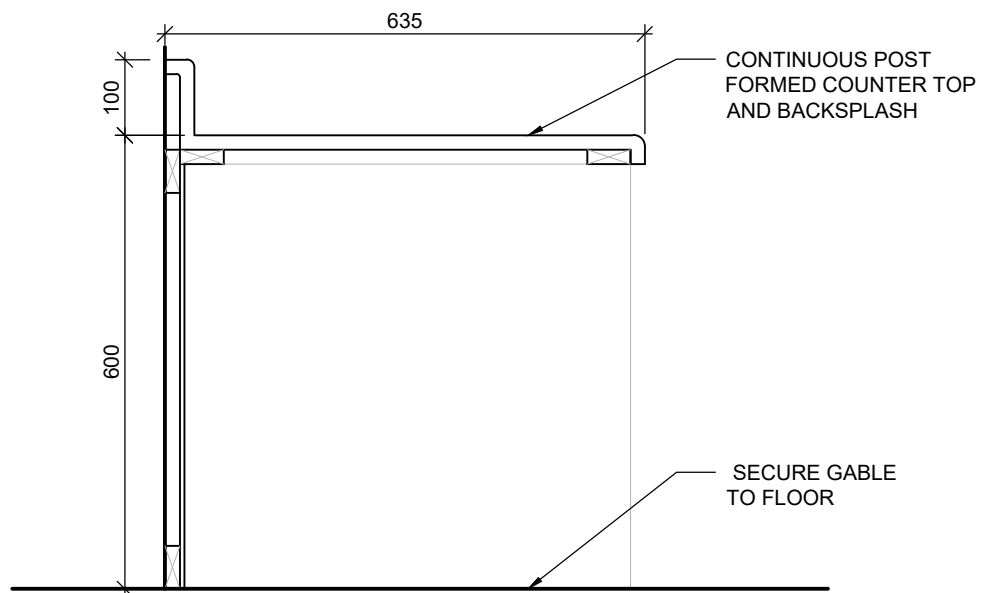


ISSUE/REV.
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AD
633



ELEVATION



SECTION

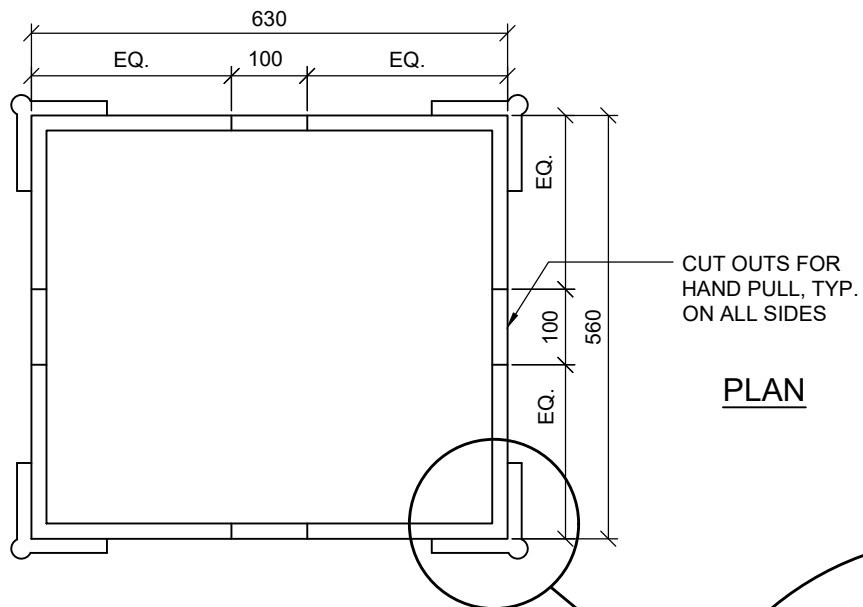
KINDERGARTEN TOY CART STORAGE
TYPE K4

PROJ:	24112
SCALE:	NTS
DRAWN:	KB
DATE:	21 01 29

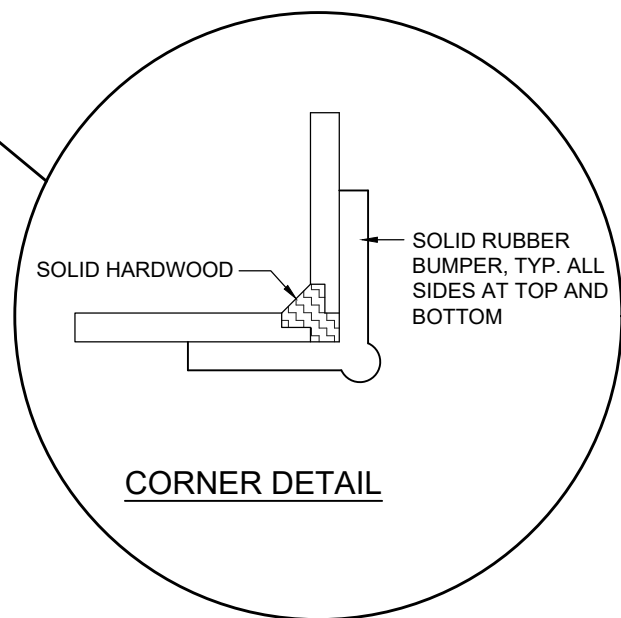


ISSUE/REV.
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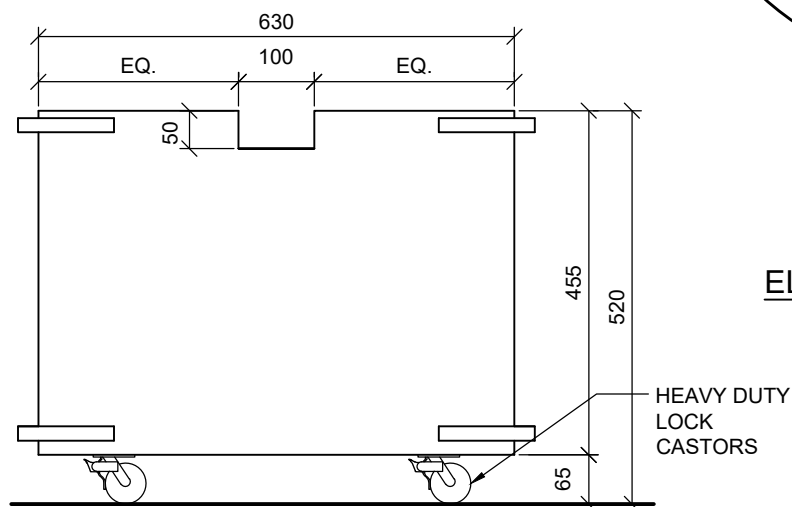
AD
634



PLAN



CORNER DETAIL



ELEVATION

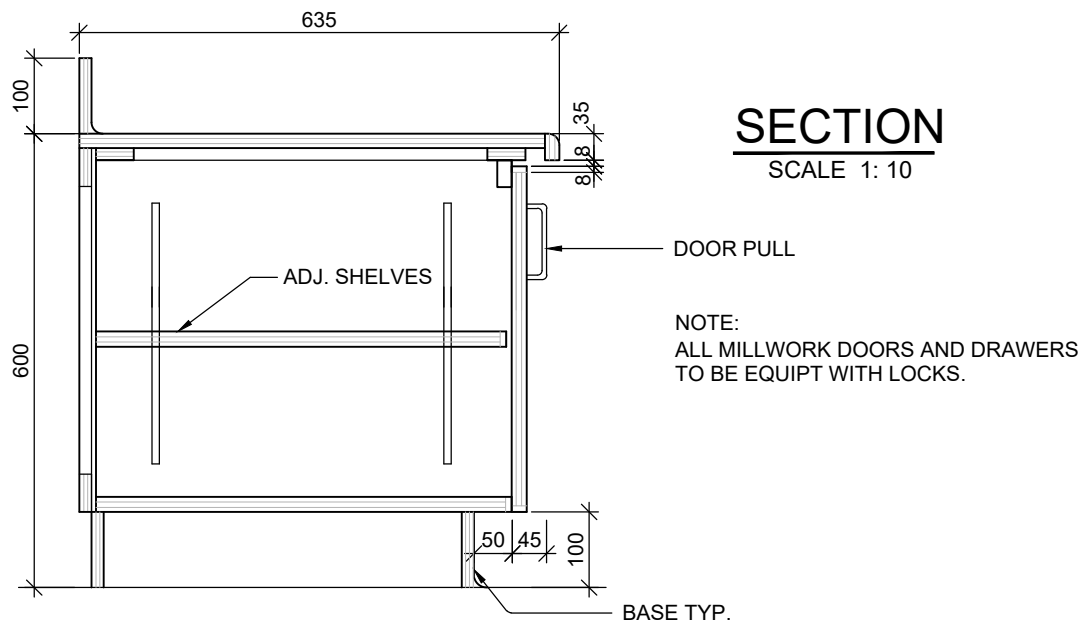
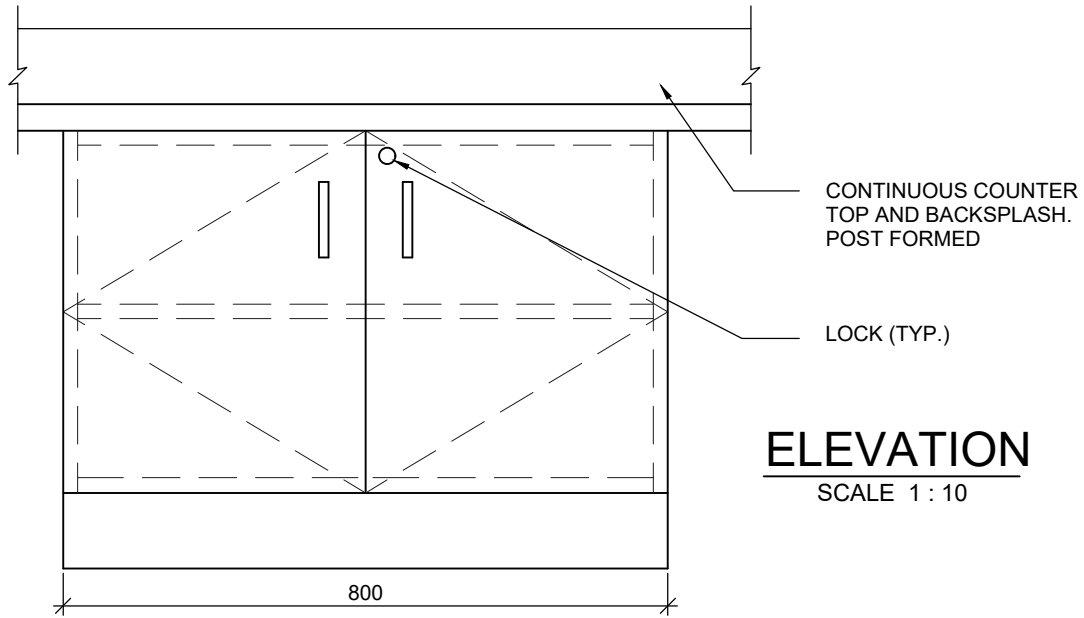
KINDERGARTEN TOY CART AND STORAGE
TYPE K5

PROJ: 24112
SCALE: NTS
DRAWN: KB
DATE: 21 01 29



ISSUE/REV.
00

AD
635



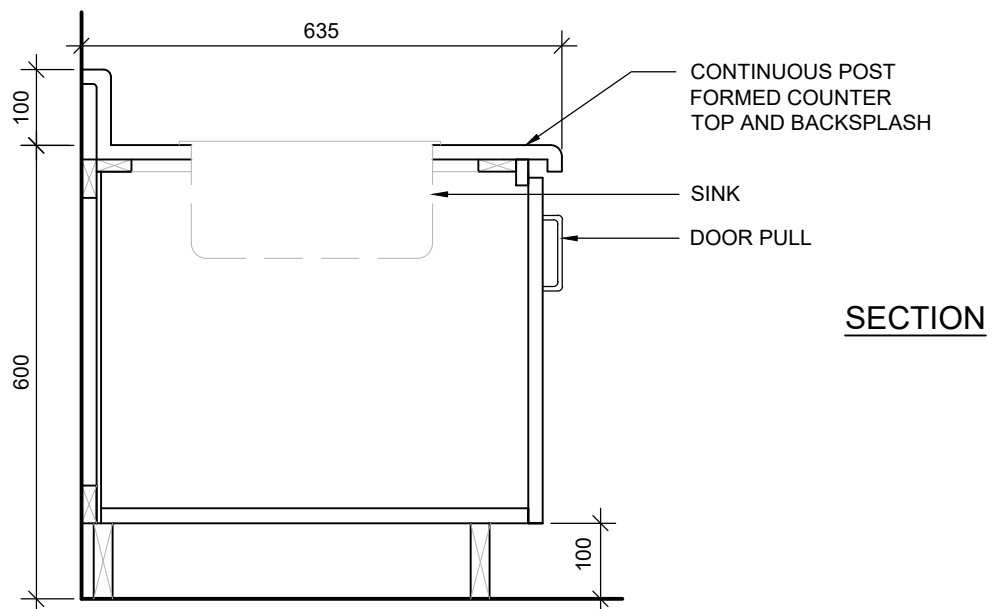
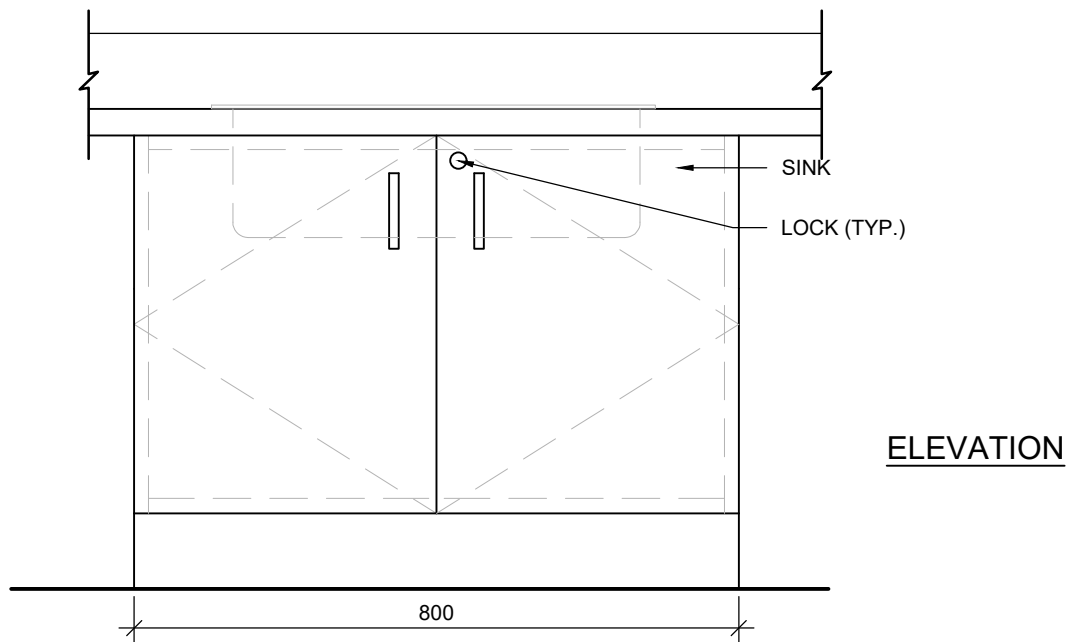
KINDERGARTEN CABINET
TYPE K8

PROJ: 24112
SCALE: 1:10
DRAWN: KB
DATE: 210202



ISSUE/REV.
00

AD
638



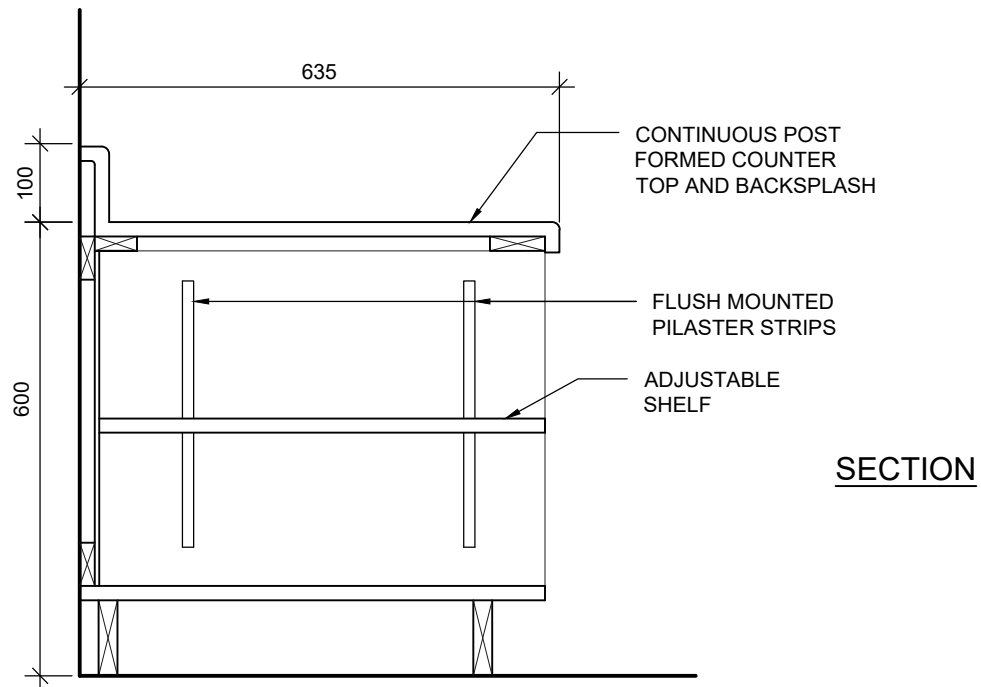
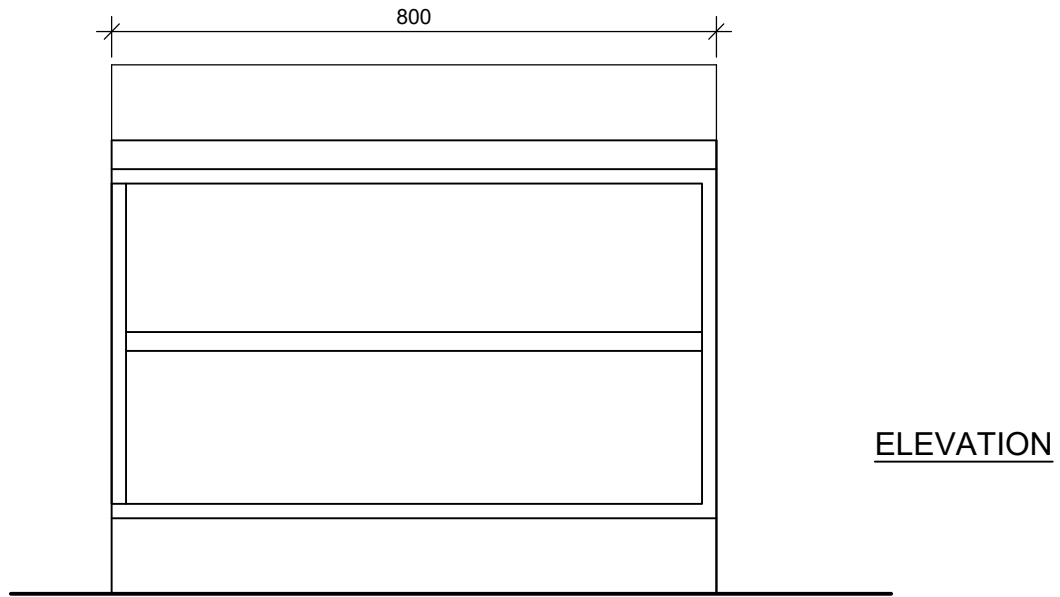
KINDERGARTEN CABINET
TYPE K9

PROJ:	24112
SCALE:	NTS
DRAWN:	KB
DATE:	21 02 02



ISSUE/REV.
00

AD
639



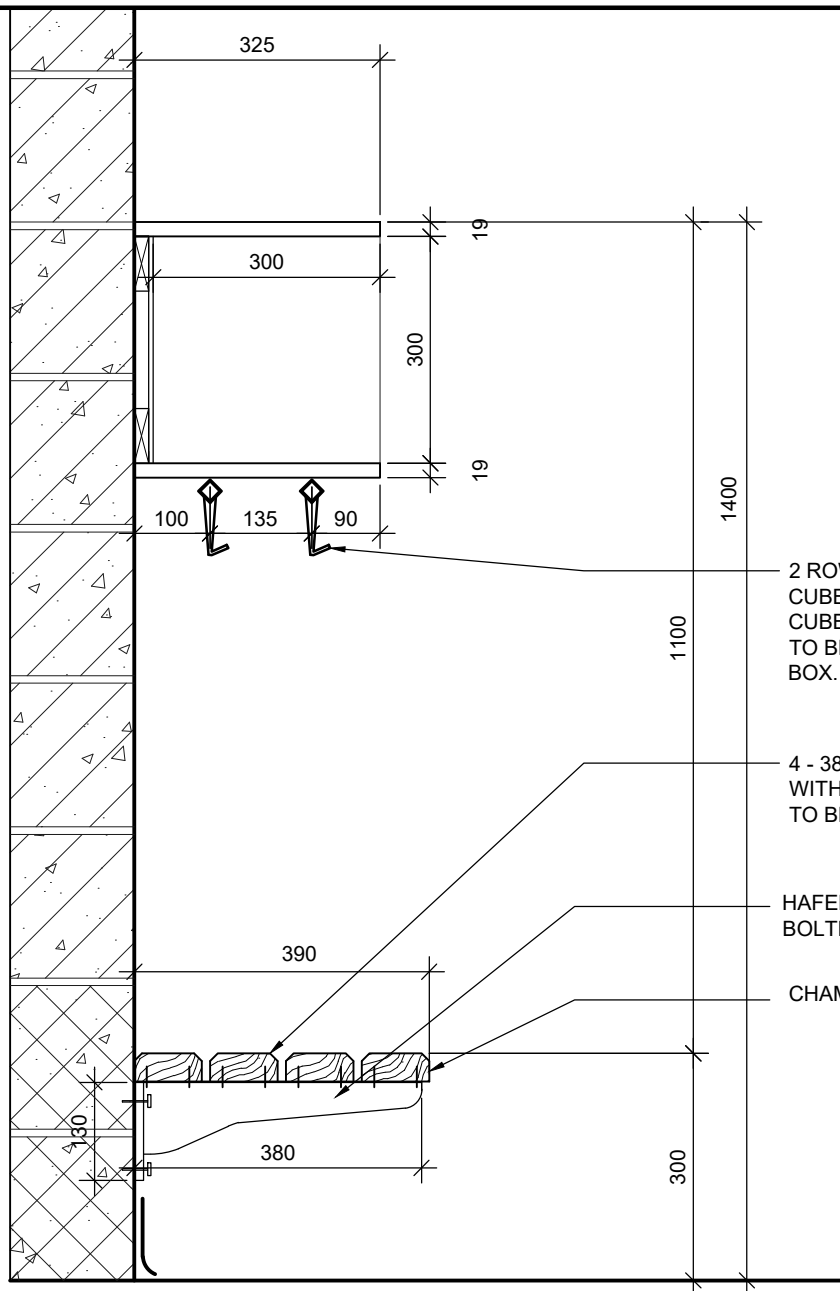
KINDERGARTEN CABINET
TYPE K10

PROJ:	24112
SCALE:	NTS
DRAWN:	KB
DATE:	21 02 02



ISSUE/REV. 00

AD 640



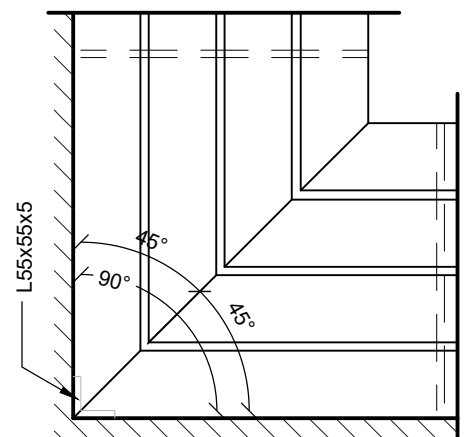
SECTION
SCALE 1:10

2 ROWS FULL LENGTH OF CUBBIES, SECURED TO U/S OF CUBBIE MILLWORK. HOOKS TO BE STAGGERED, TWO PER BOX. REFER TO ELEVATION

4 - 38 X 89 HARDWOOD SLATS WITH EASED EDGES SECURED TO BRACKETS

HAFELE "HEBGO " BRACKET. AT 800mm O.C. BOLTED TO WALL WITH 9x60 LAG BOLTS

CHAMFER EDGE OF BENCH TYP.



PLAN
SCALE 1: 10

AT RETURNS PROVIDE ADDITIONAL ANGLE UNDER THE MITERED CORNER.

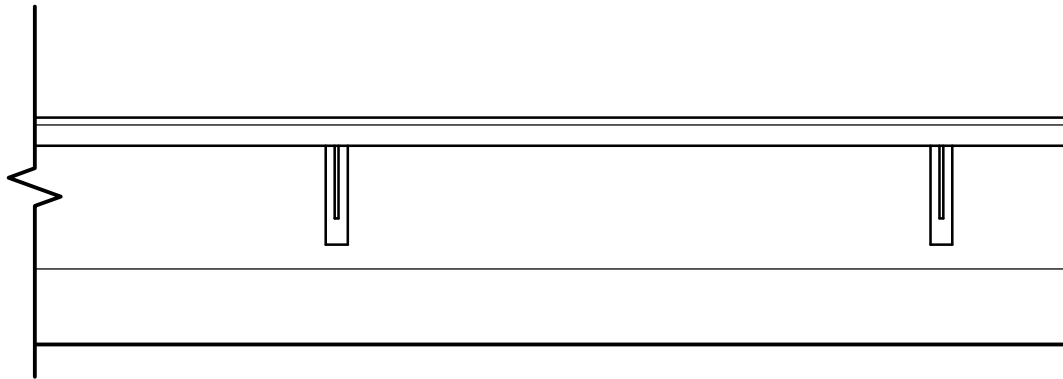
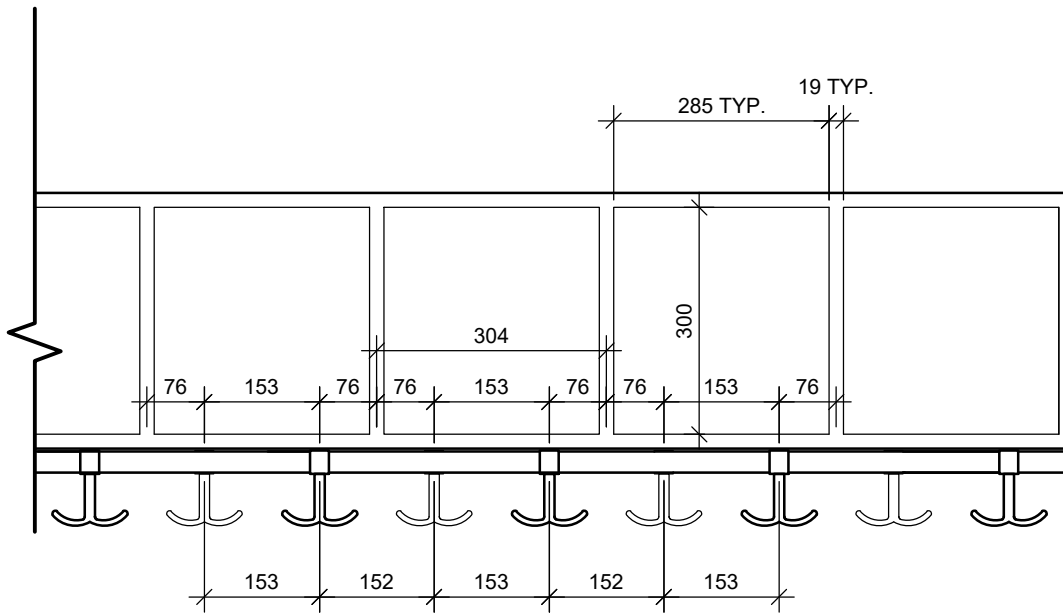
**CHILD CARE CUBBIES, BENCH & COAT RACK DETAILS
TYPE K11 - SECTION AND PLAN DETAIL**

PROJ: 24112
SCALE: N.T.S.
DRAWN: CC
DATE: 21 01 19



ISSUE/REV.
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AD
641A



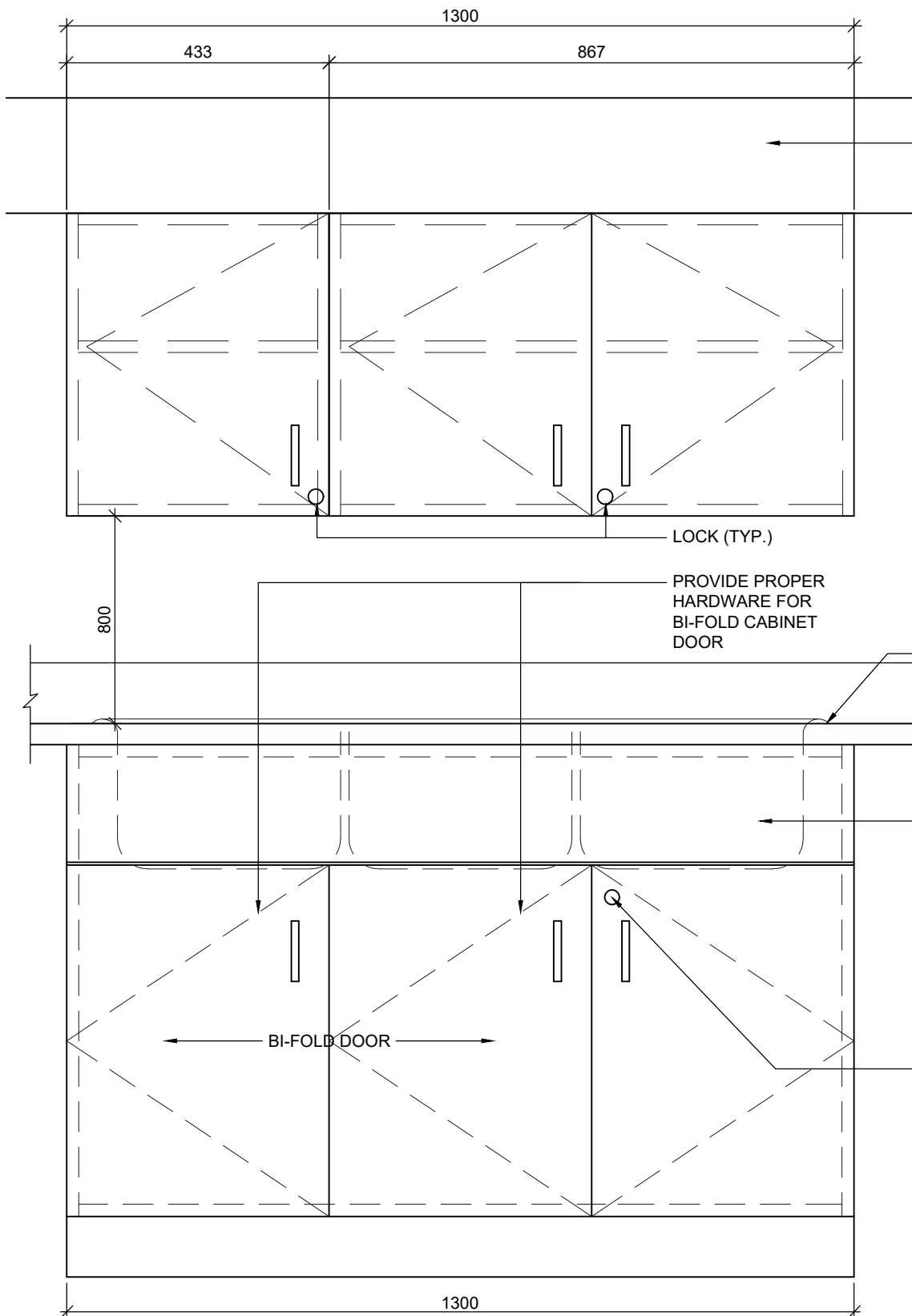
CHILD CARE CUBBIES, BENCH & COAT RACK DETAILS
TYPE K11 - ELEVATION

PROJ: 24112
SCALE: N.T.S.
DRAWN: CC
DATE: 21 01 19



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641B



CONTINUOUS SLOPED
MILLWORK BULKHEAD
REFER TO AD 518 AND
INTERIOR ELEVATIONS

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

LOCK (TYP.)

PROVIDE PROPER
HARDWARE FOR
BI-FOLD CABINET
DOOR

CONTINUOUS
COUNTER TOP AND
BACKSPLASH POST
FORMED

FIXED PANEL.
WHERE A ROW OF
MILLWORK DOES
NOT INCLUDE
DRAWERS IN BASE
UNITS; THE FIXED
PANEL IS NOT
REQUIRED. CABINET
DOORS TO GO TO
UNDERSIDE OF
COUNTER TOP

LOCK (TYP.)

ELEVATION
SCALE 1 : 10

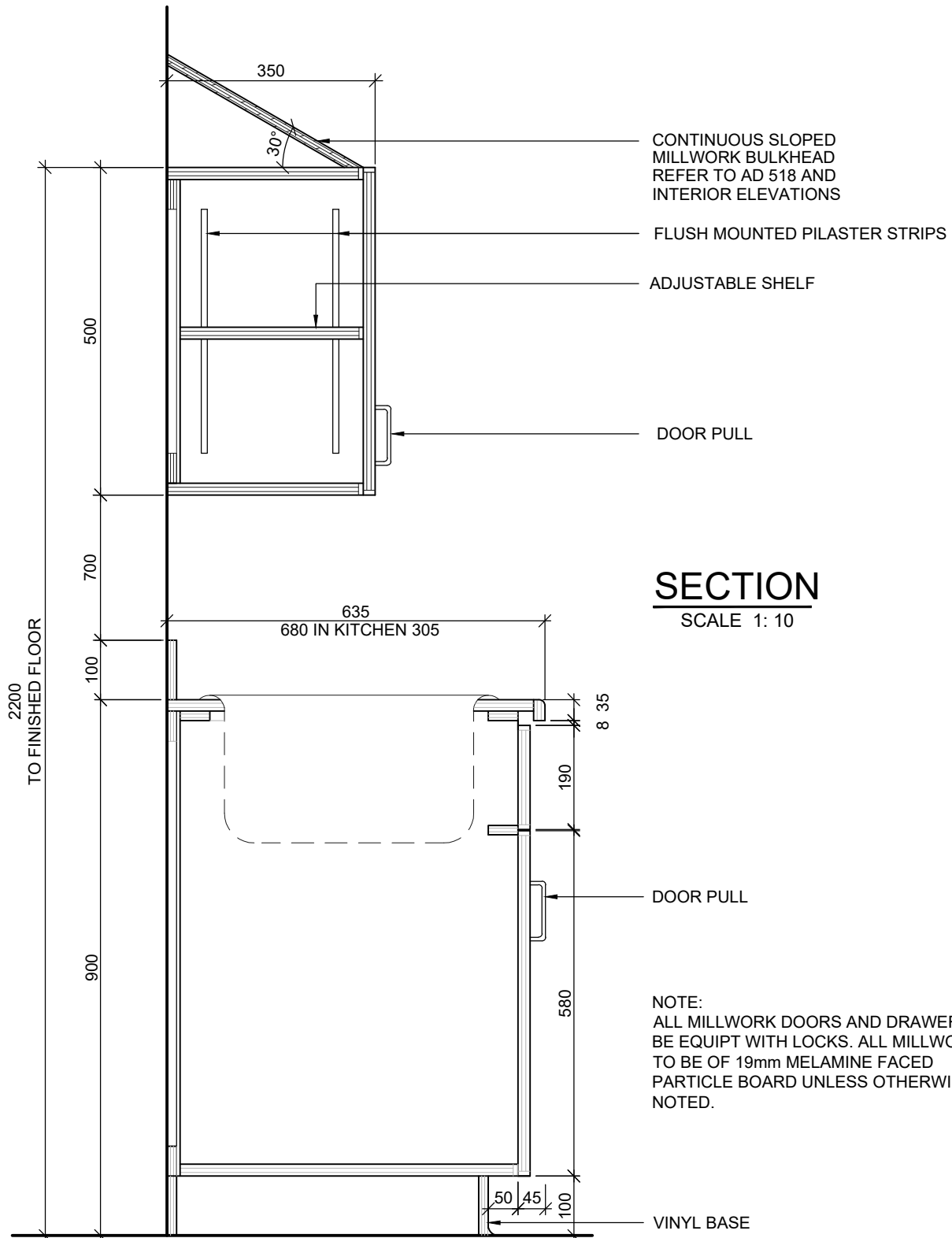
TRIPLE SINK CABINET TYPE K12

PROJ:	24112
SCALE:	1:10
DRAWN:	KB
DATE:	21 01 25



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642A



TRIPLE SINK CABINET TYPE K12

PROJ: 24112

SCALE: 1:10

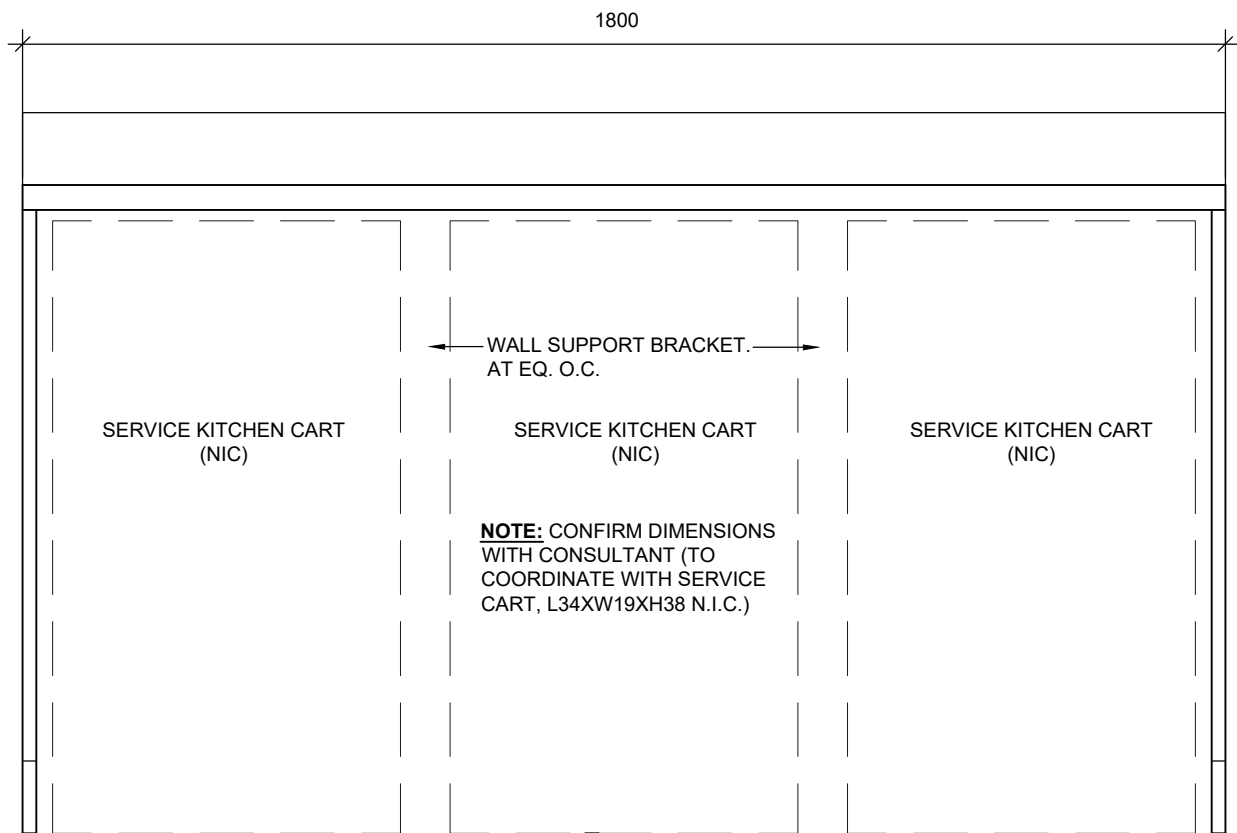
DRAWN: KB

DATE: 21 01 25

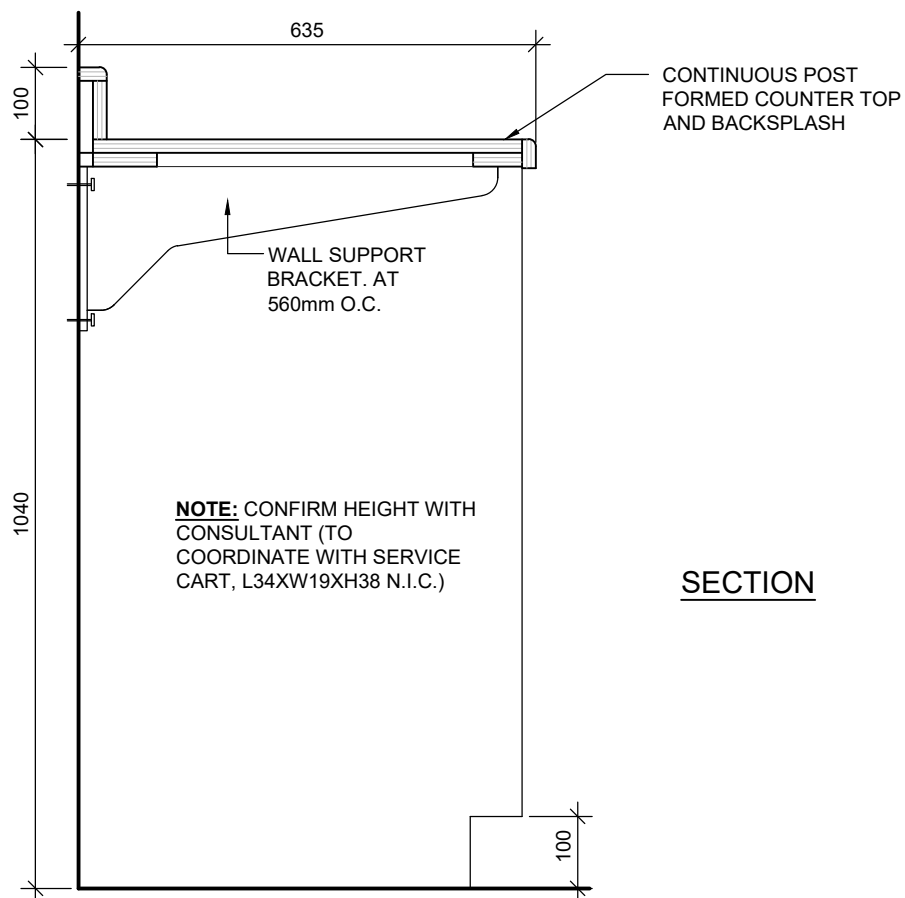


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642B



ELEVATION



SECTION

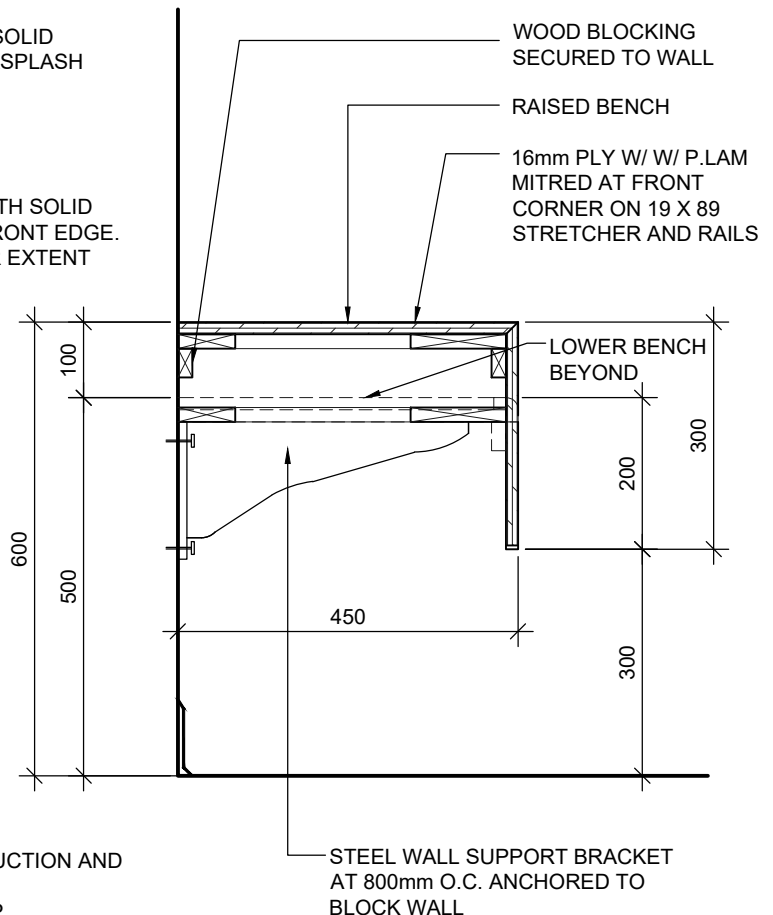
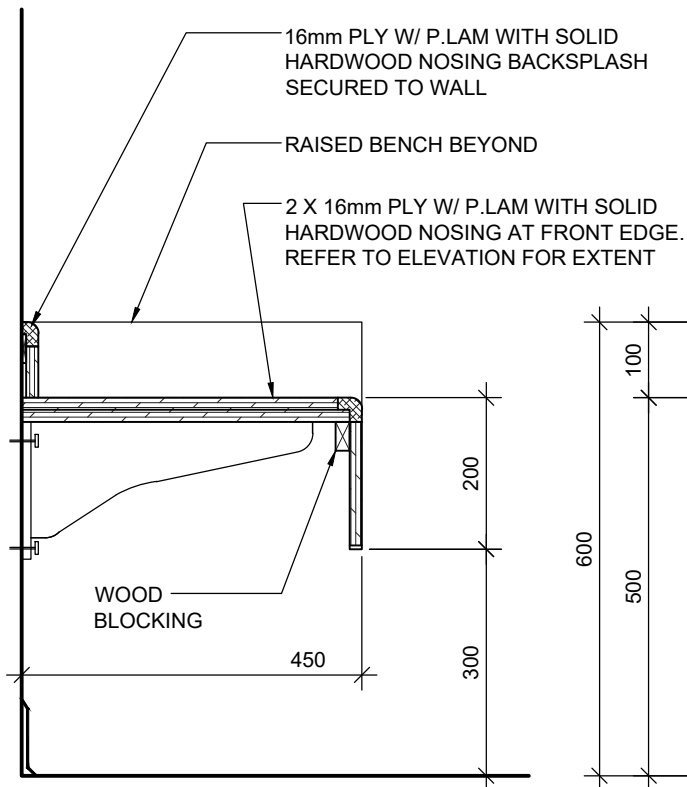
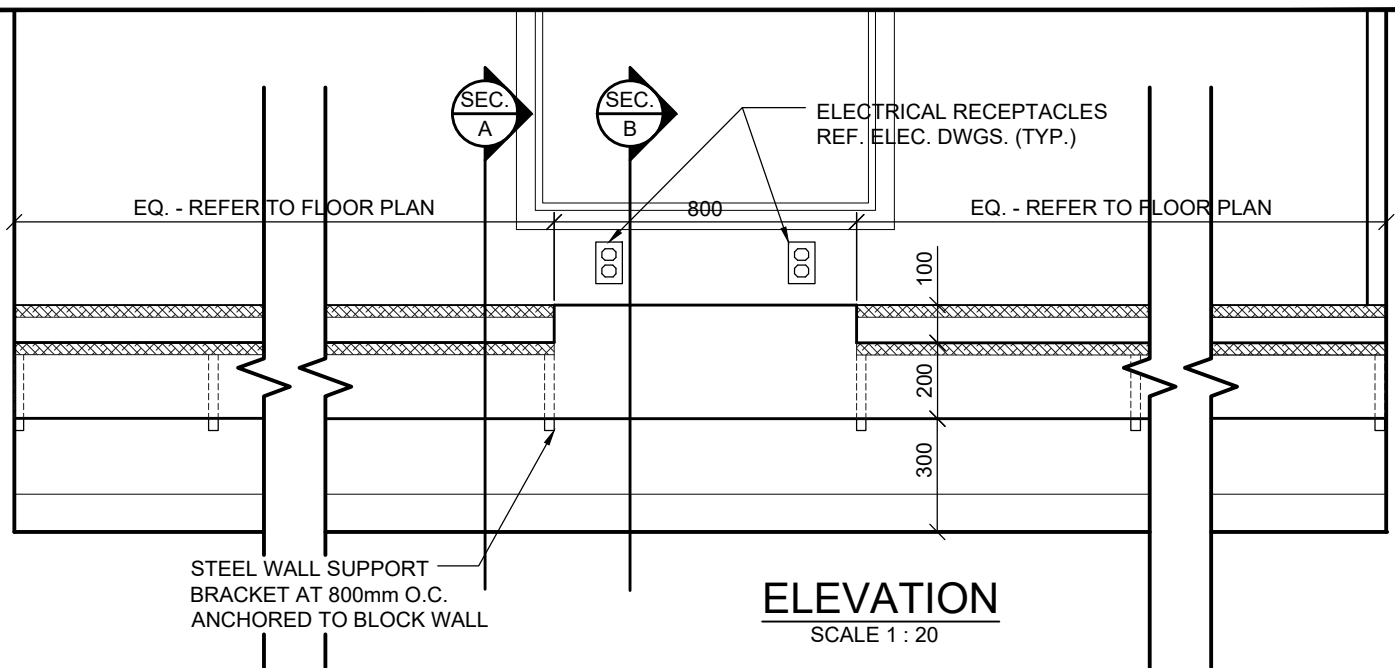
KITCHEN COUNTER FOR TROLLEYS
TYPE K13

PROJ:	24112
SCALE:	1:10
DRAWN:	KB
DATE:	21 02 02



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643



NOTES:
REFER TO SPECIFICATIONS FOR MILLWORK CONSTRUCTION AND HARDWARE.
CONFIRM UNIT SIZE WITH INTERIOR ELEVATIONS. TYP.

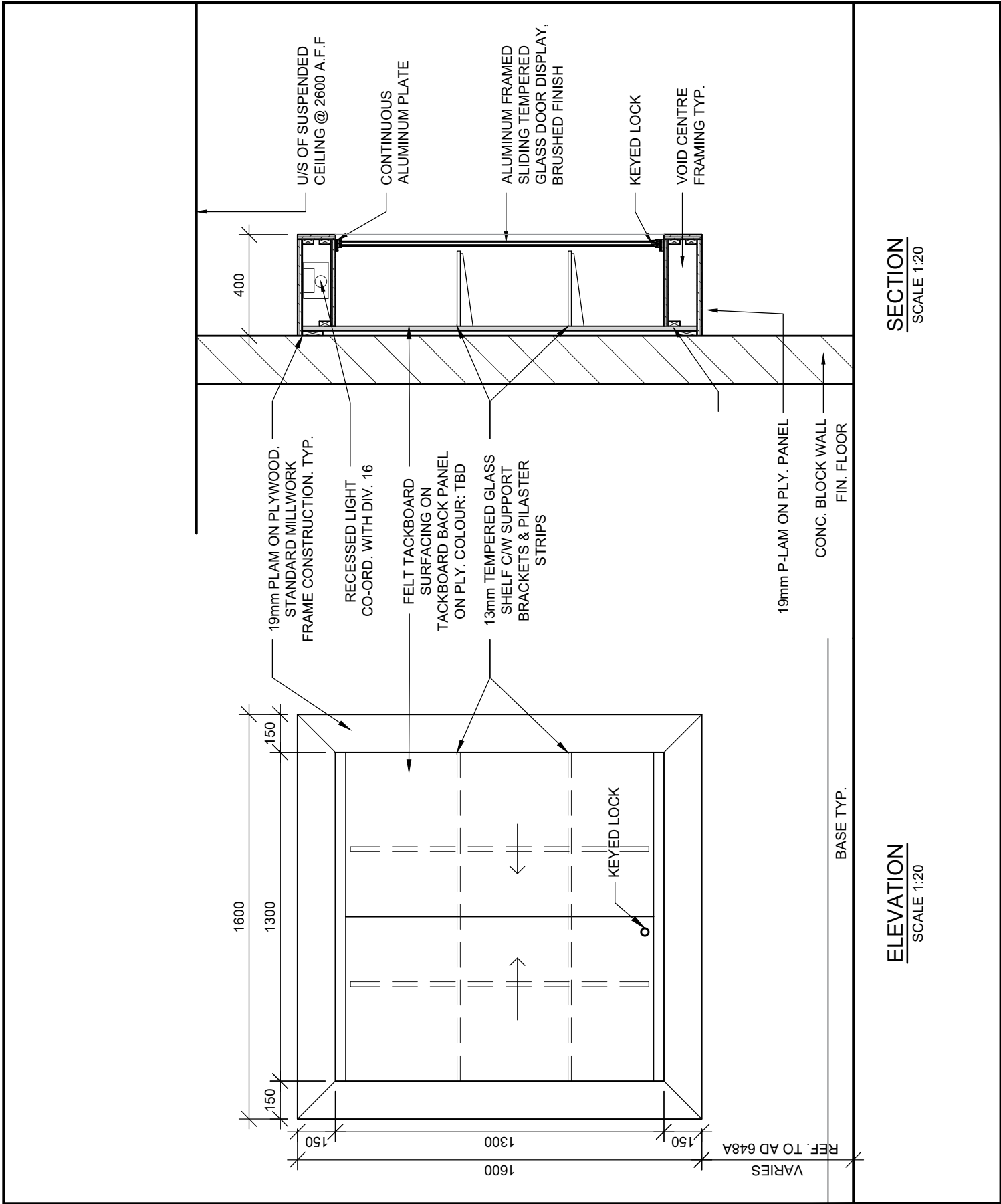
CORRIDOR BREAK-OUT SPACE BENCH
REFER TO FLOOR PLANS FOR LOCATIONS

PROJ: 24112
SCALE: NOTED
DRAWN: GB
DATE: 21 03 31



ISSUE/REV.

AD
647



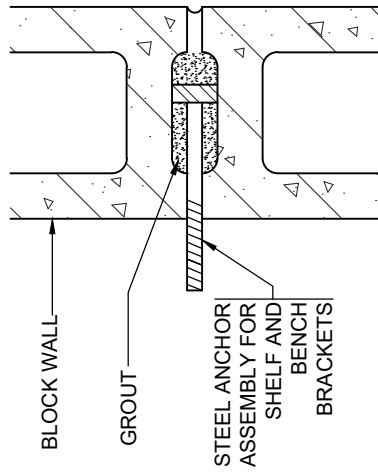
FEATURE WALL DISPLAY CASE
DETAILS
FOYER 111

PROJ: 24112
SCALE: NOTED
DRAWN: KB
DATE: 21 04 16

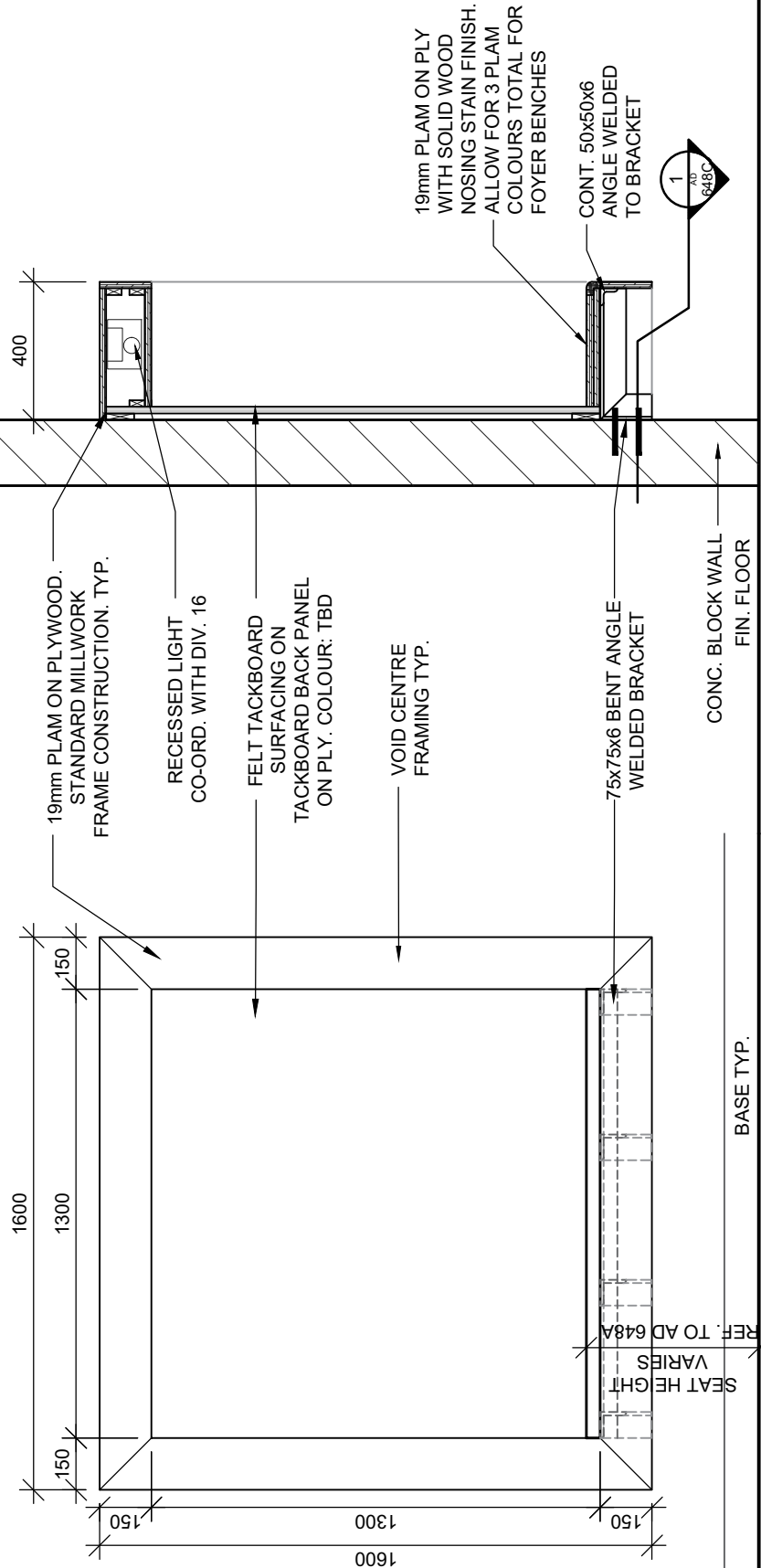


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648B



DETAIL 1



ELEVATION
SCALE 1:20

SECTION
SCALE 1:20

FEATURE WALL BENCH DETAILS

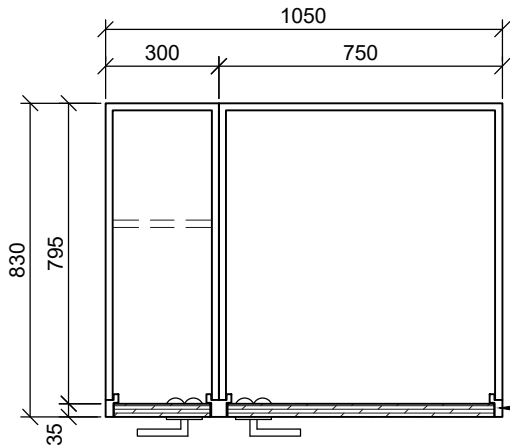
FOYER 111

PROJ: 24112
SCALE: NOTED
DRAWN: KB
DATE: 21 04 16



ISSUE/REV.
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648C

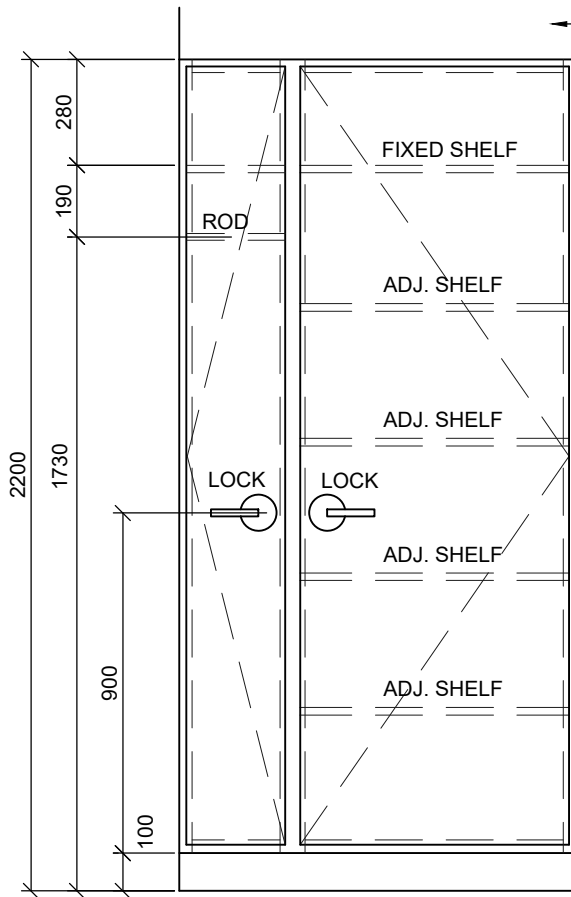


NOTE:
MILLWORK TO BE CONSTRUCTED OF
19mm(3/4") PARTICLE BOARD c/w
MELAMINE FINISH ON EXPOSED SIDES

SOLID HARDWOOD
GABLE ENDS

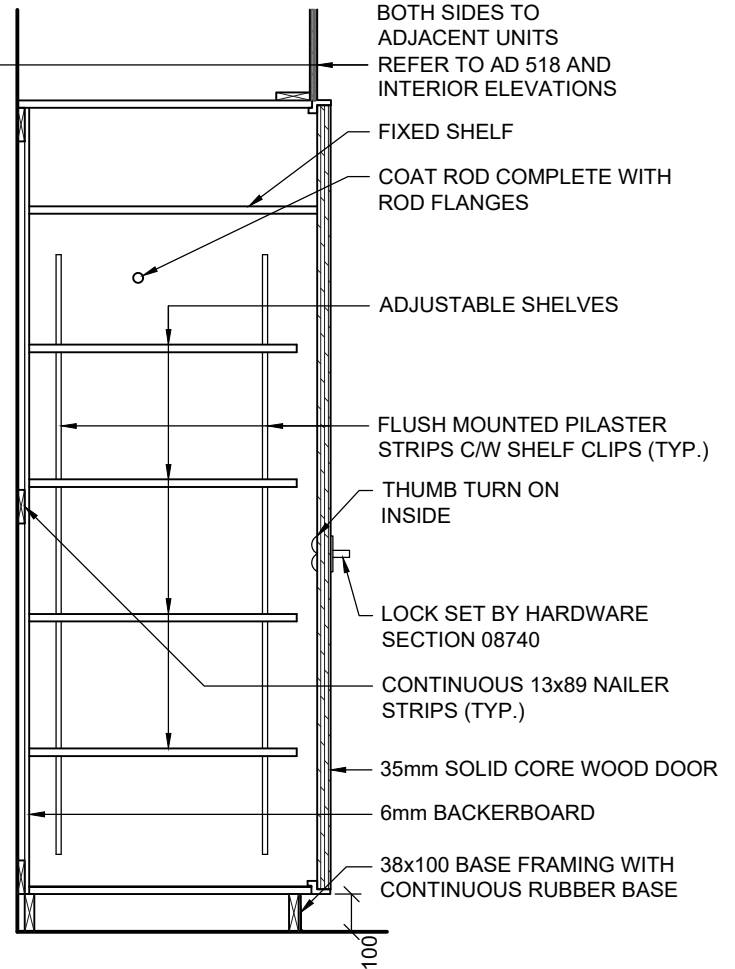
PLAN VIEW

SCALE 1 : 20



ELEVATION

SCALE 1 : 20



SECTION

SCALE 1 : 20

CABINET TYPE C1

PROJ: 24112

SCALE: 1:20

DRAWN: KB

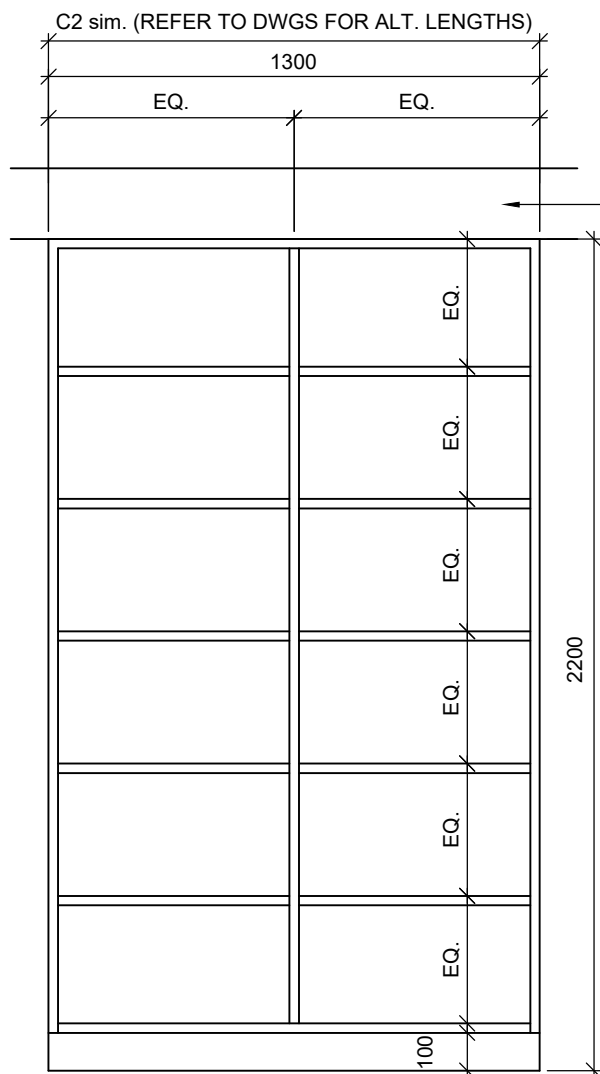
DATE: 21 02 02

HOSSACK
ARCHITECTURE

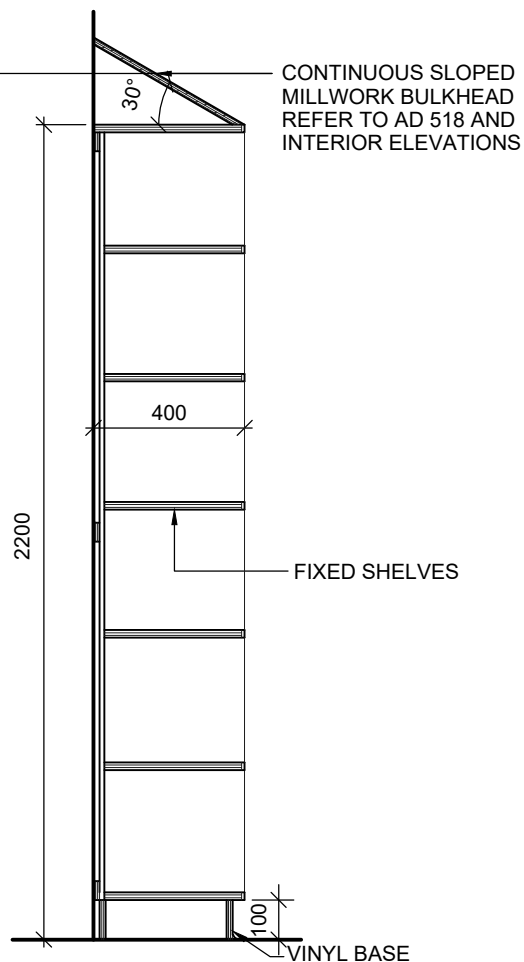


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651



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



ELEVATION
SCALE 1 : 20

SECTION
SCALE 1: 20

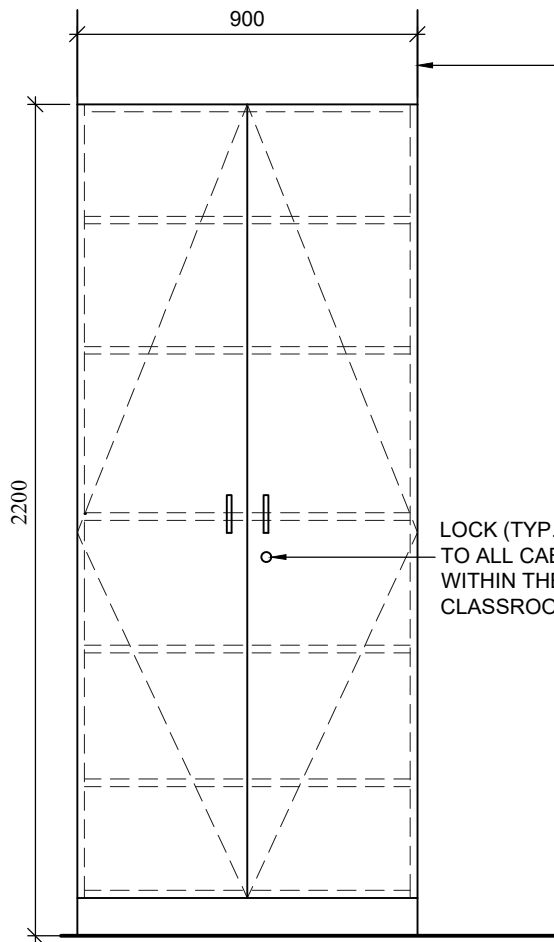
CABINET TYPE C2

PROJ:	24112
SCALE:	1:20
DRAWN:	KB
DATE:	21 02 02

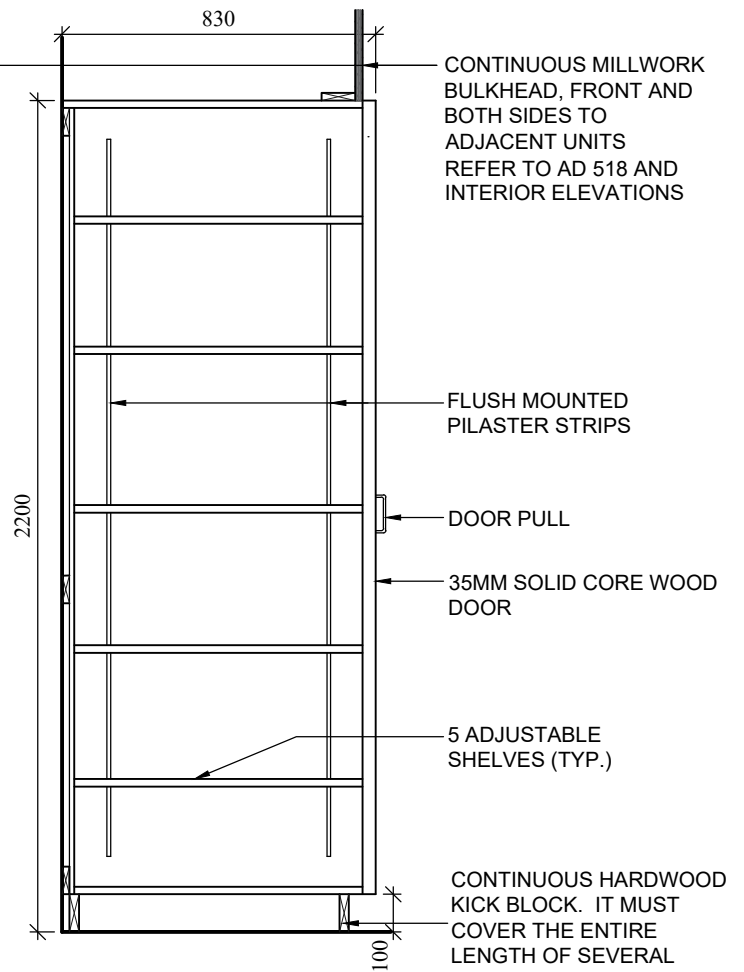


ISSUE/REV.
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652



ELEVATION
SCALE 1:20



SECTION
SCALE 1:20

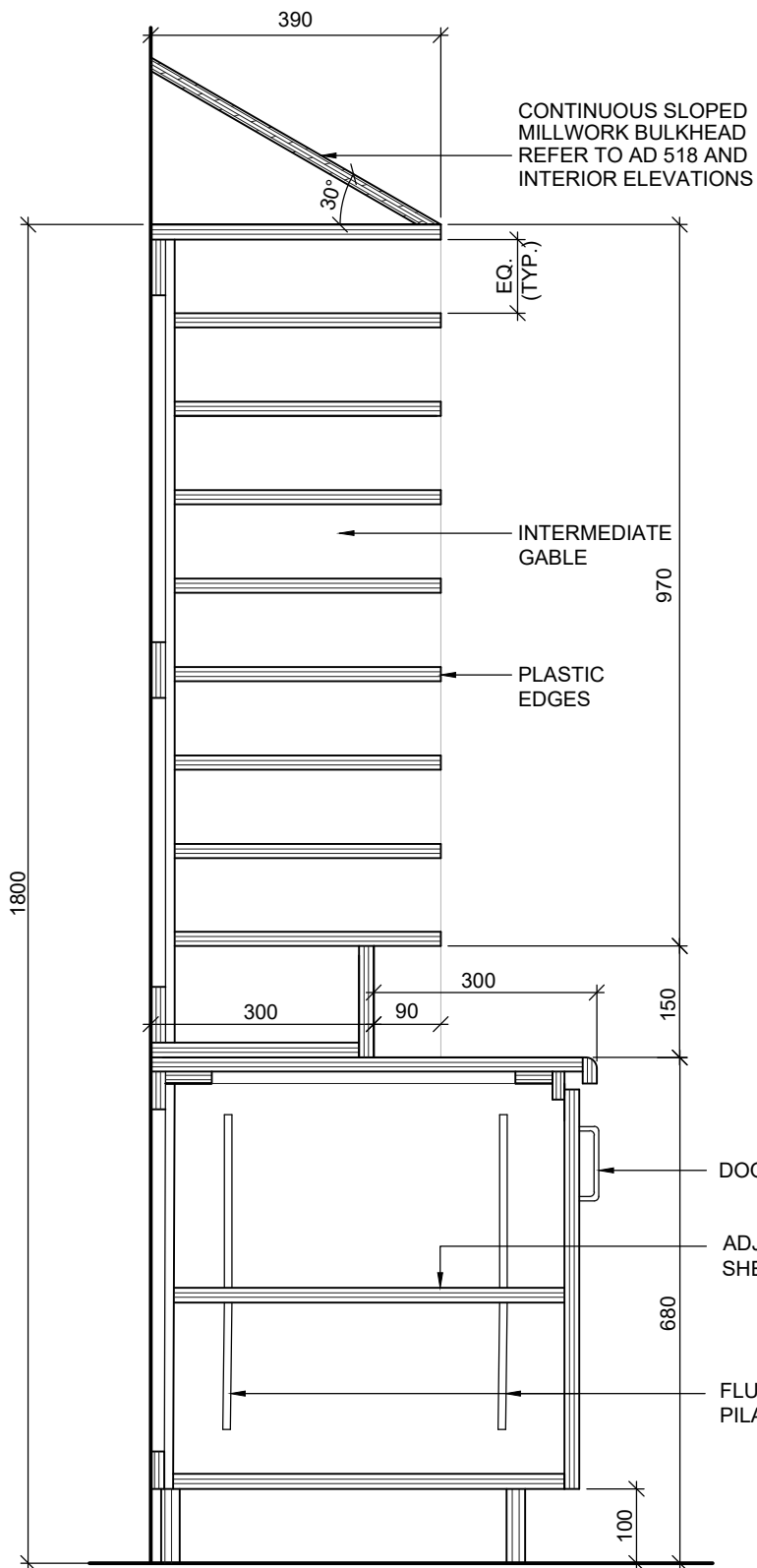
CABINET TYPE C3

PROJ:	24112
SCALE:	NOTED
DRAWN:	KB
DATE:	21 02 02

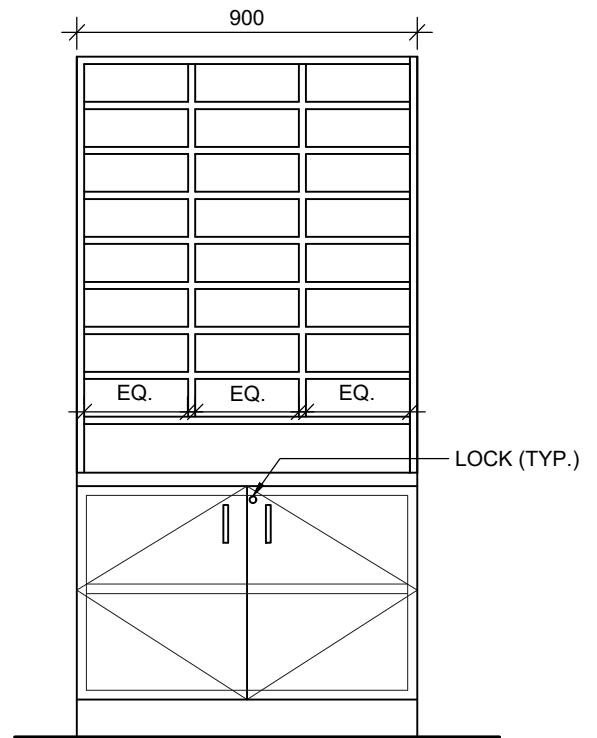


ISSUE/REV.
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653



SECTION
SCALE 1:10



ELEVATION
SCALE 1:20

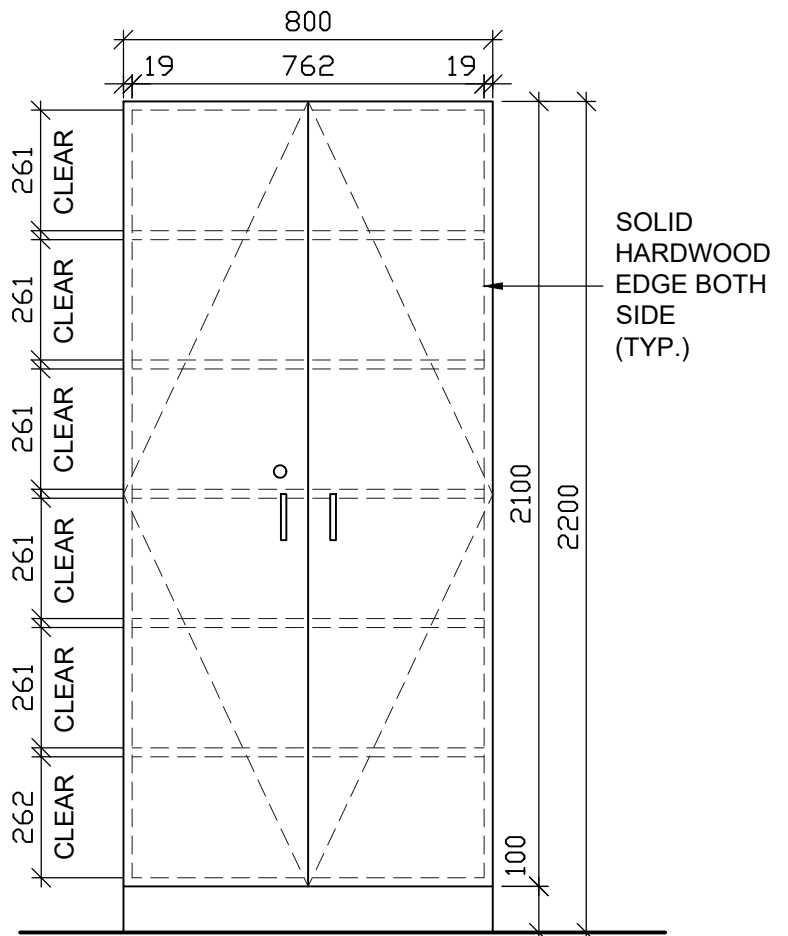
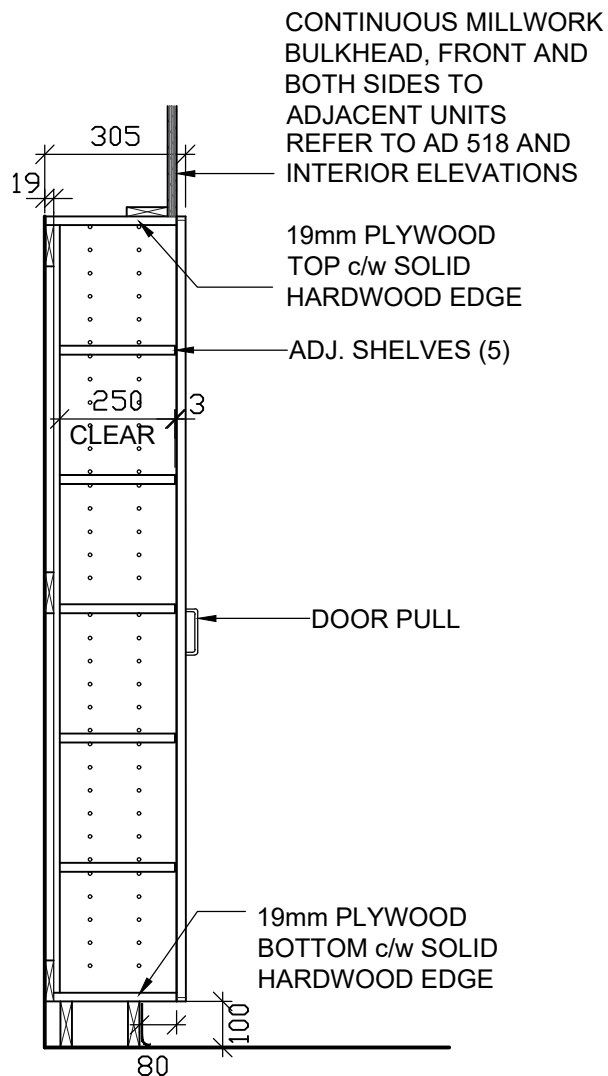
CABINET TYPE C4 - MAIL SLOT

PROJ:	24112
SCALE:	NOTED
DRAWN:	KB
DATE:	21 02 02



ISSUE/REV.
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654



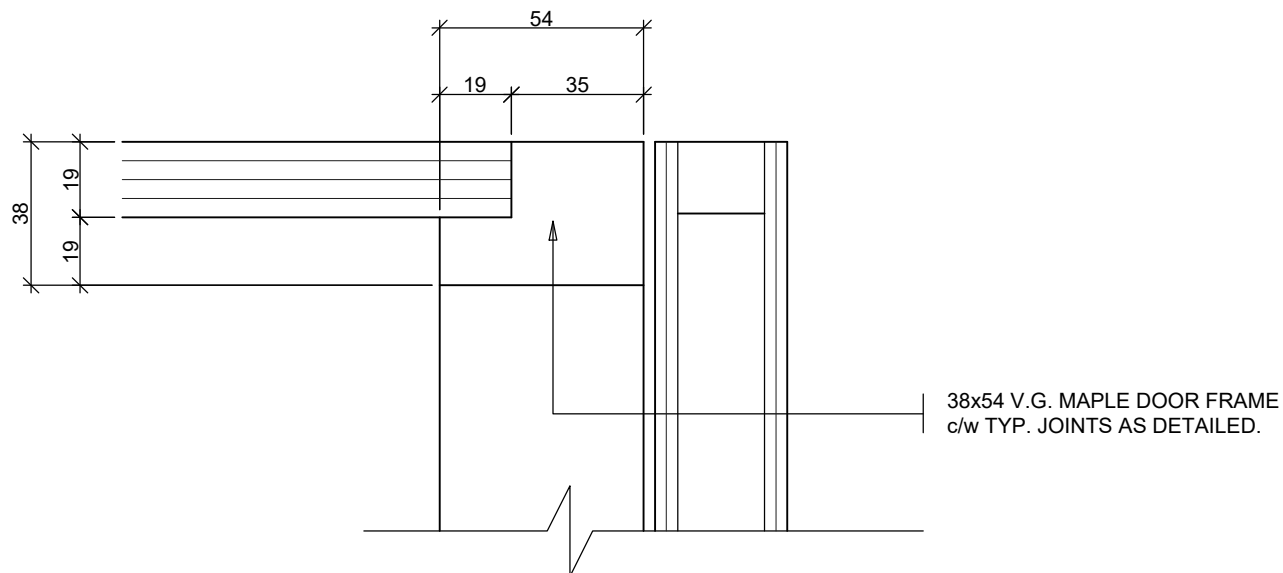
HEALTH WASHROOM NEW MILLWORK TYPE C5

PROJ:	24112
SCALE:	NTS
DRAWN:	KB
DATE:	210202



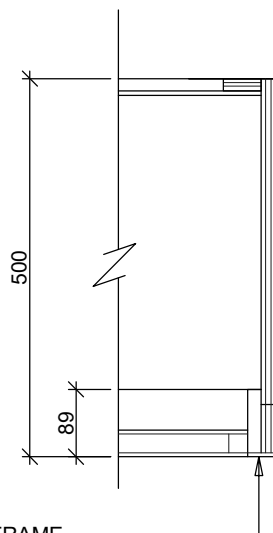
ISSUE/REV.

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655



SECTION

SCALE 1: 2



38x89 V.G. MAPLE DOOR FRAME

PLAN DETAIL

SCALE 1: 10

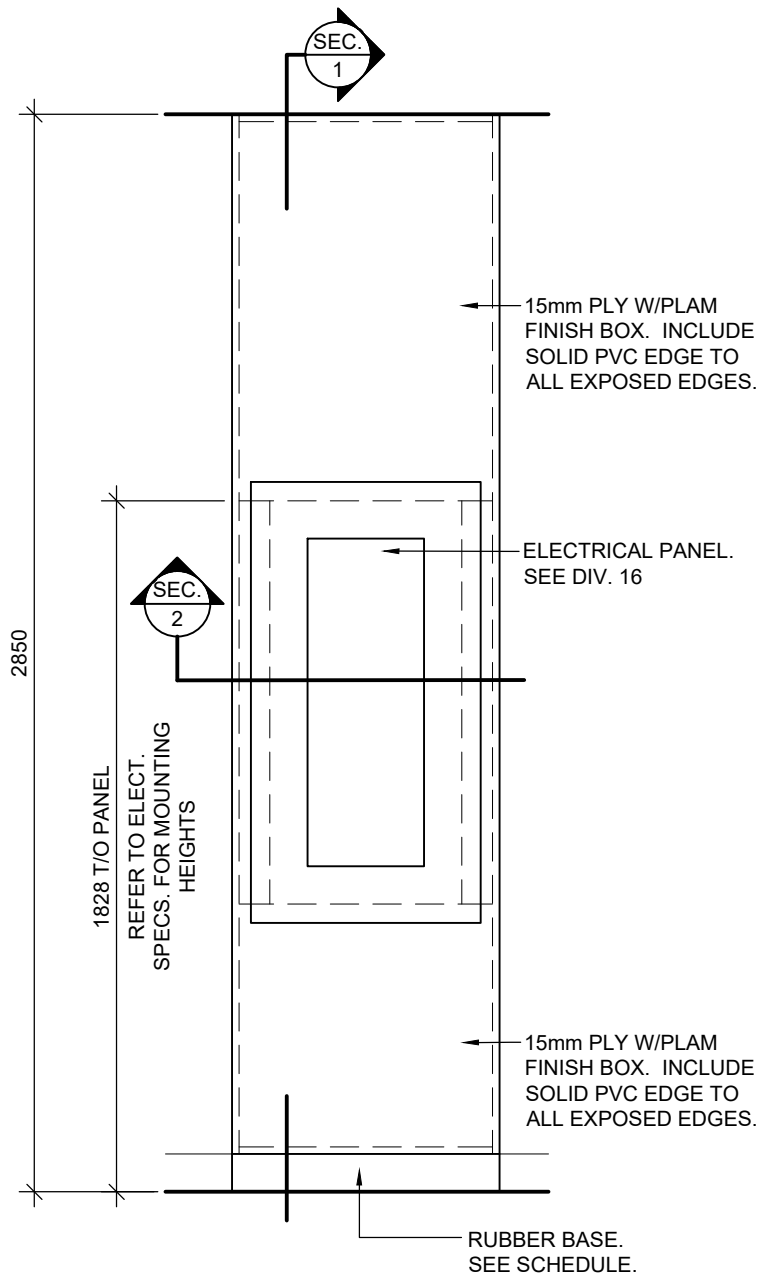
TYPICAL DETAILS FOR CABINETS WITH 38mm DOORS

PROJ:	24112
SCALE:	NOTED
DRAWN:	KB
DATE:	21 02 02



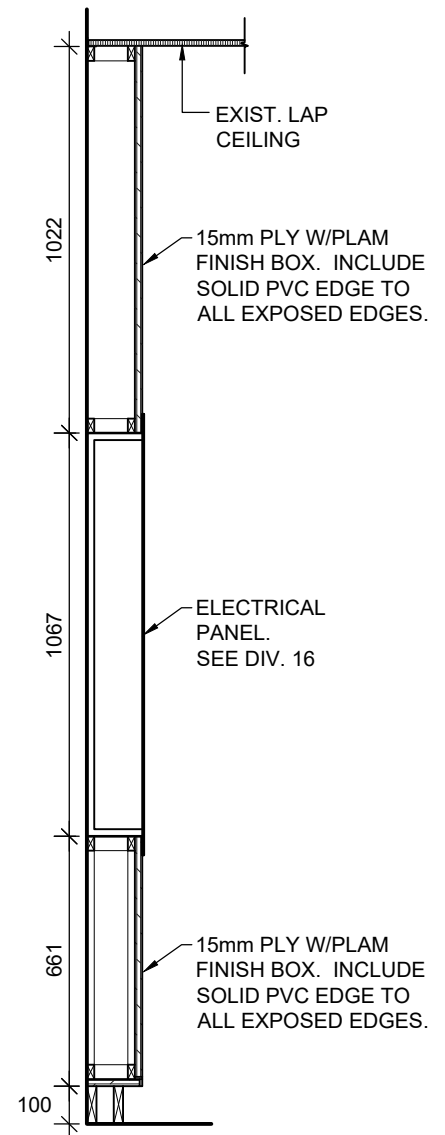
ISSUE/REV.
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670



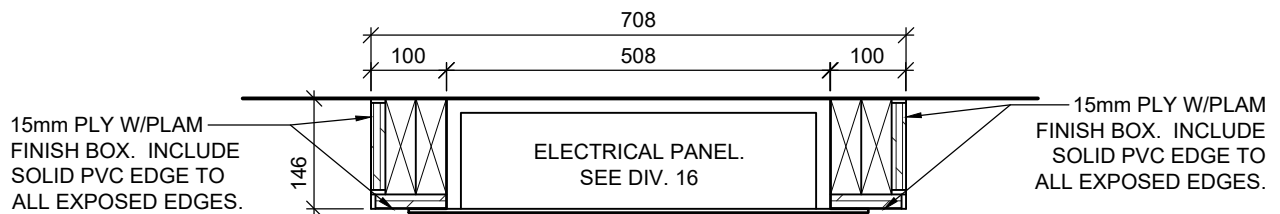
ELEVATION

SCALE 1 : 20



SECTION 1

SCALE 1 : 20



SECTION 2

SCALE 1 : 10

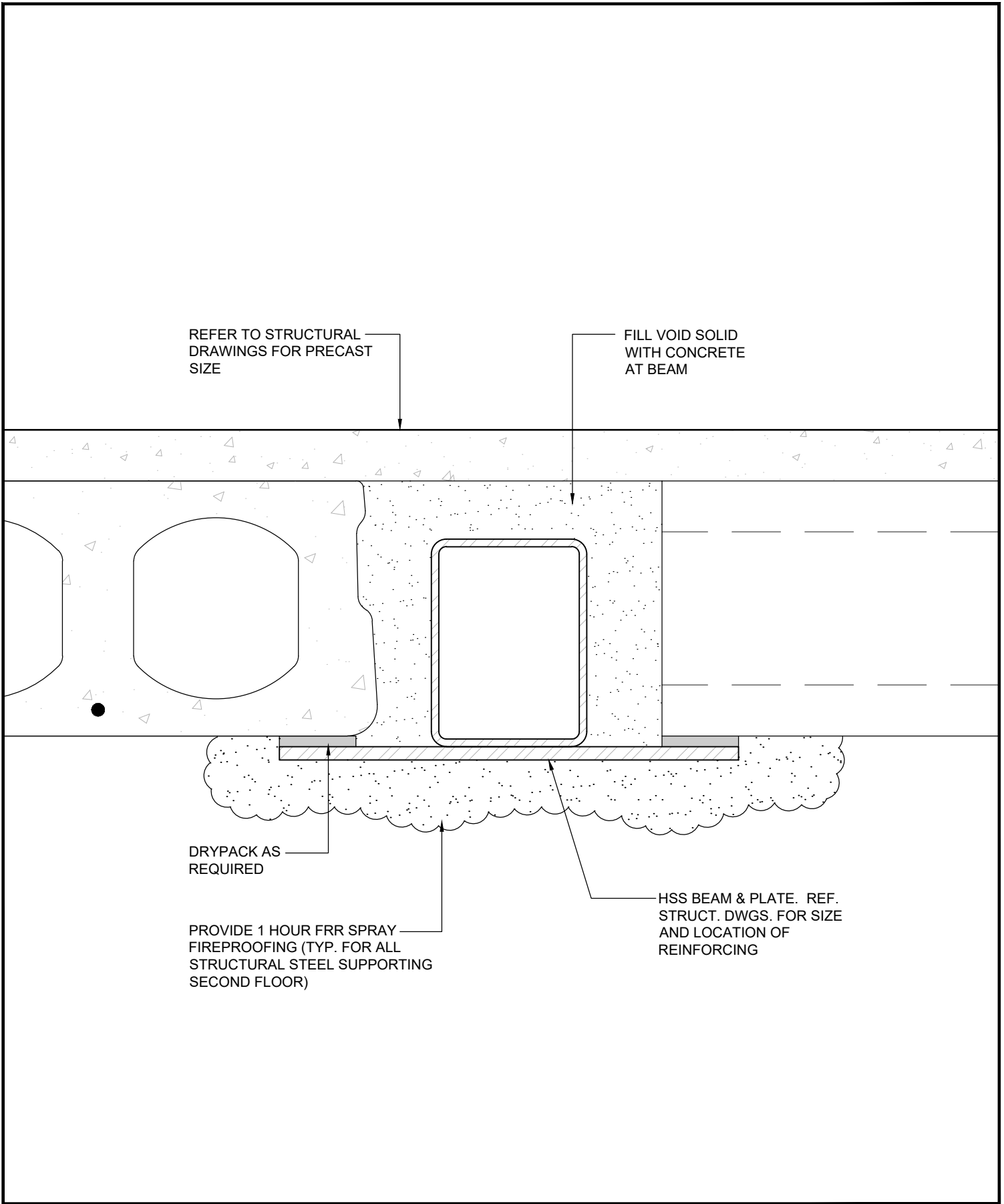
ELECTRICAL PANEL SURROUND - M6

PROJ: 24112
SCALE: NOTED
DRAWN: KB
DATE: 21 03 15



ISSUE/REV.

AD
685

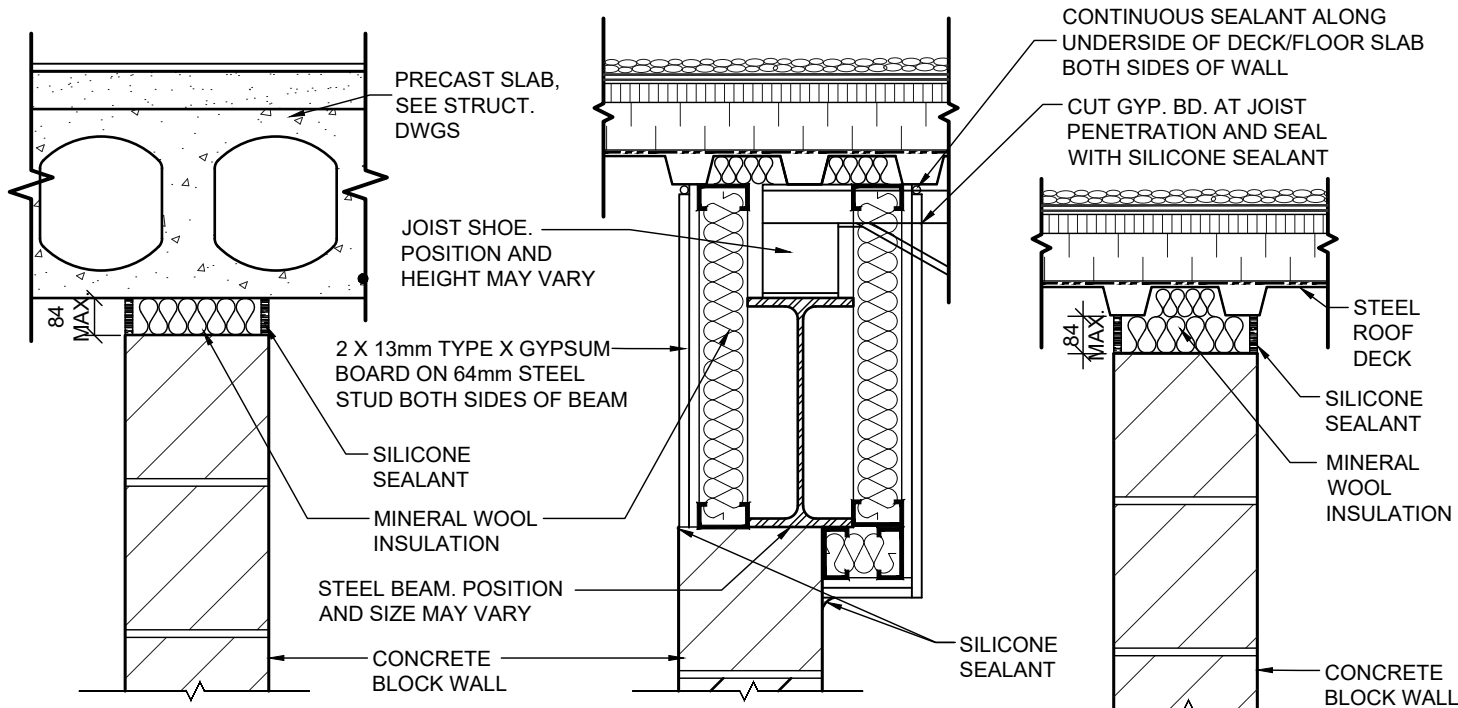


CORRIDOR BEAM FLANGE SPRAY FIREPROOFING DETAIL

PROJ:	24112
SCALE:	N.T.S.
DRAWN:	KB
DATE:	21 03 15



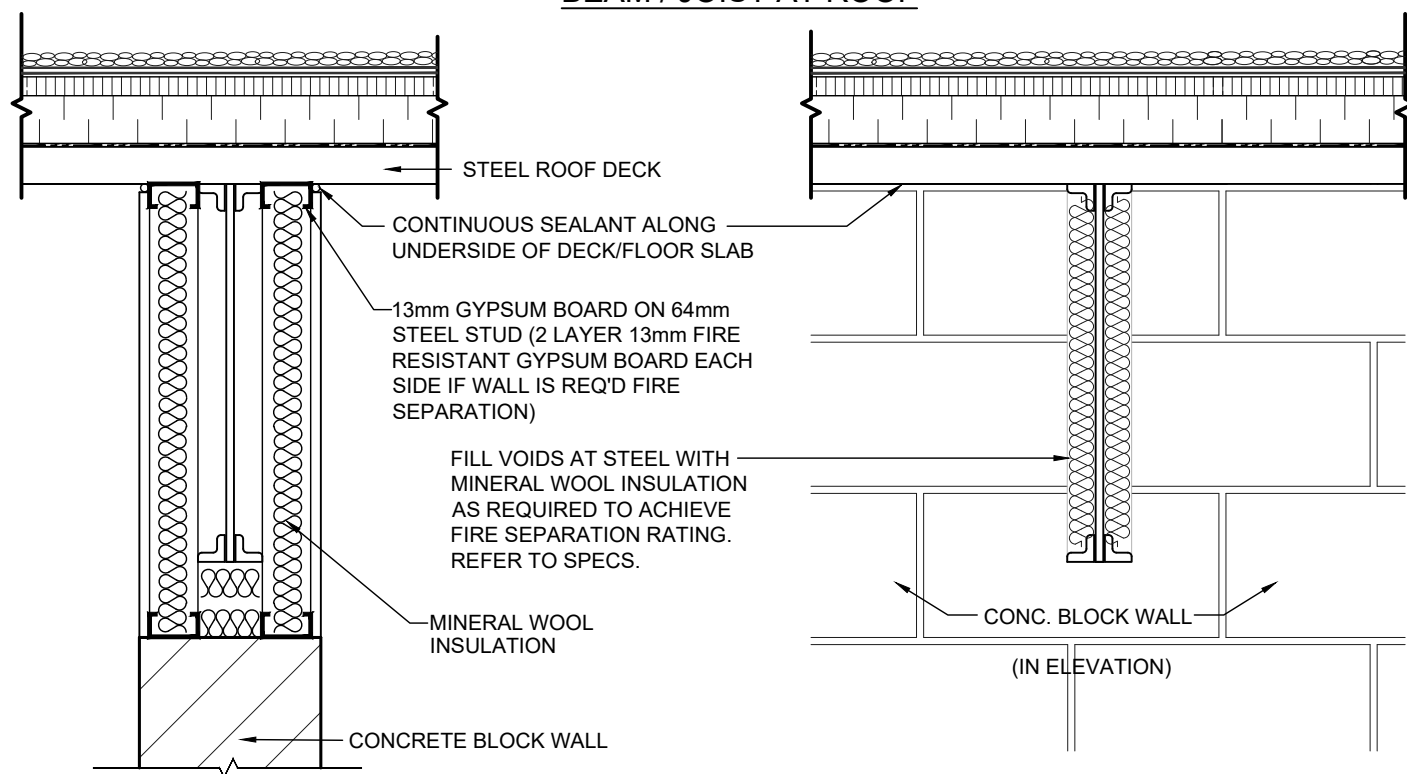
ISSUE/REV.	00
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CONDITION AT FLOOR

CONDITION AT OFFSET BEAM / JOIST AT ROOF

CONDITION AT ROOF



CONDITION AT PARALLEL JOIST OR BEAM

NOTE: ADJUST STEEL STUD SIZES TO SUIT BLOCK WALL CONDITION. MIN. 64mm STUD AT MAX. 400 O.C. REF. SPECS FOR FIRE-RATED SEALANTS

CONDITION AT PERPENDICULAR JOIST OR BEAM

TOP OF WALL CONSTRUCTION AT FIRE SEPARATION ASSEMBLY

PROJ: 24112

SCALE: 1:5

DRAWN: CC

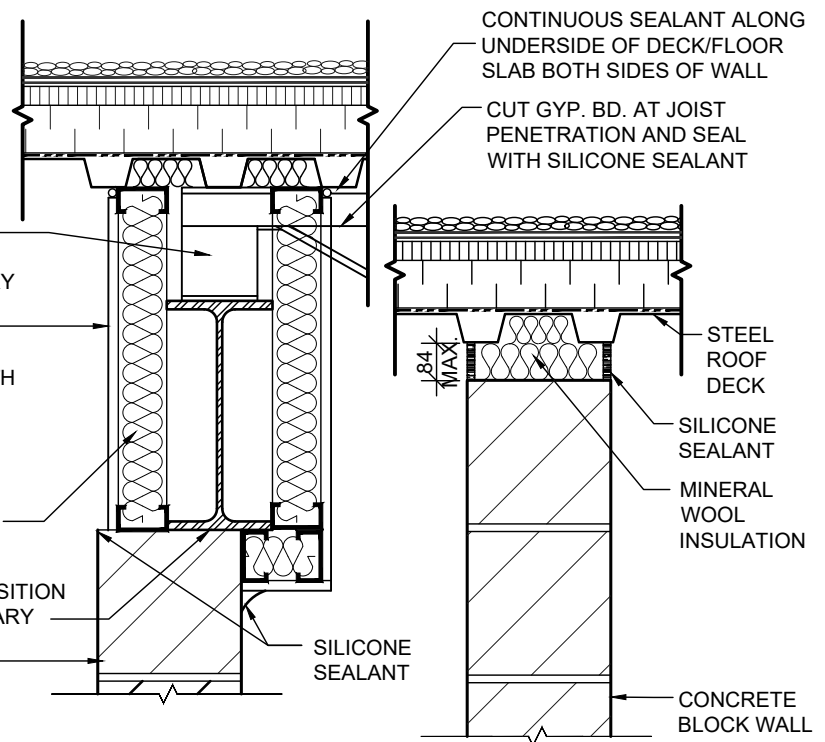
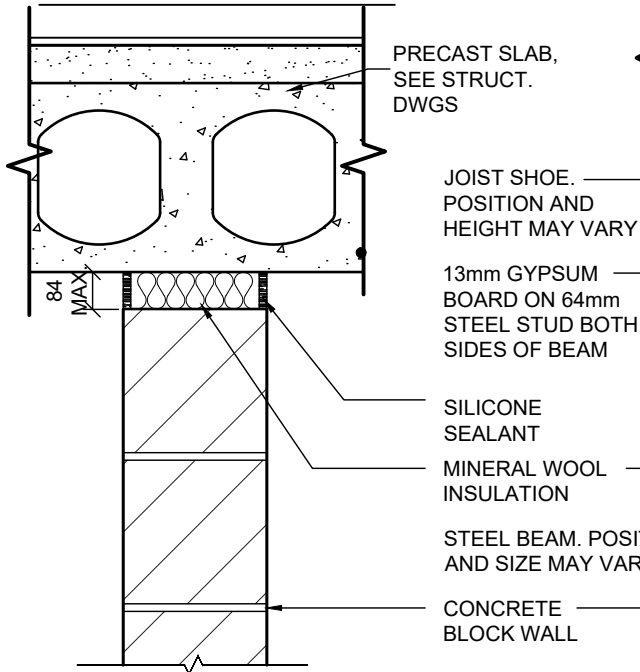
DATE: 260105

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ARCHITECTURE

ISSUE/REV.
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725

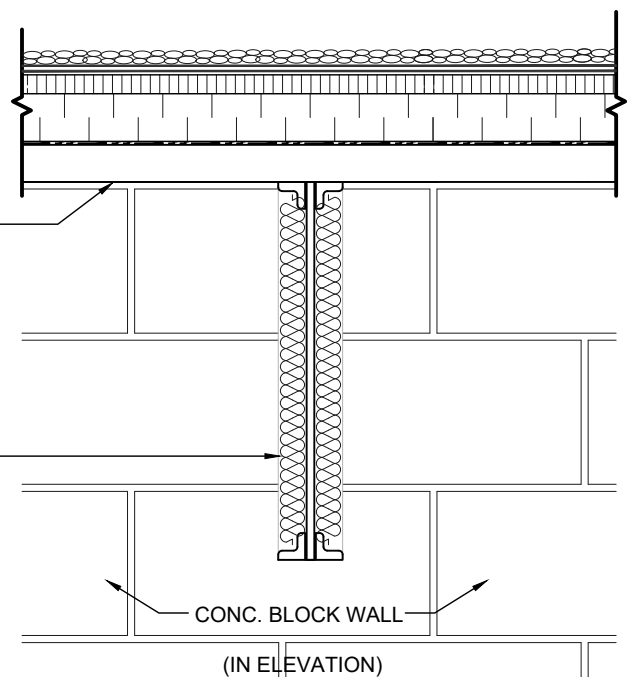
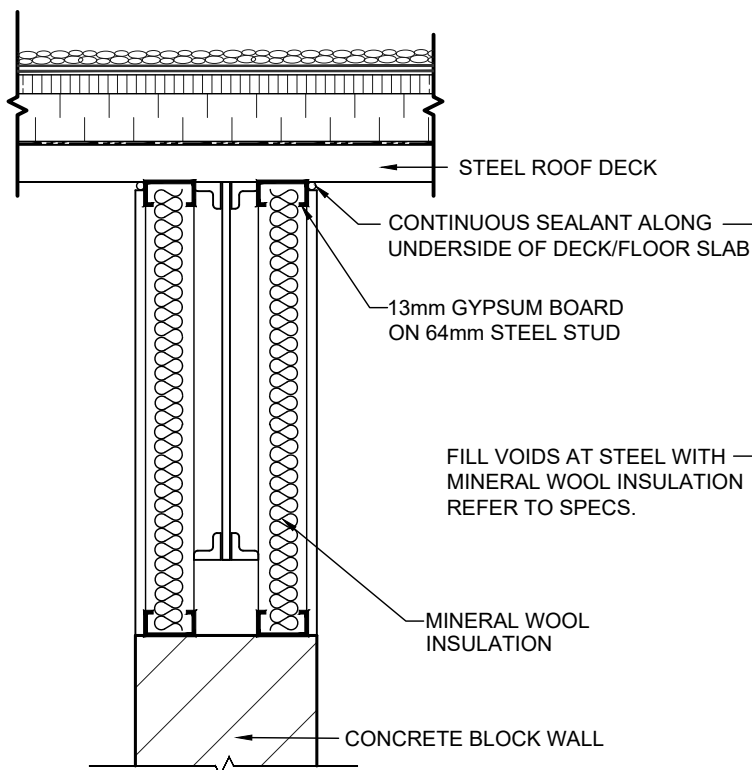
CONDITION AT OFFSET BEAM / JOIST AT ROOF



CONDITION AT FLOOR

CONDITION AT FLOOR

CONDITION AT ROOF



CONDITION AT PARALLEL JOIST OR BEAM

NOTE: ADJUST STEEL STUD SIZES TO SUIT BLOCK WALL CONDITION.
MIN. 64mm STUD AT MAX. 400 O.C.
REF. SPECS FOR FIRE-RATED SEALANTS

CONDITION AT PERPENDICULAR JOIST OR BEAM

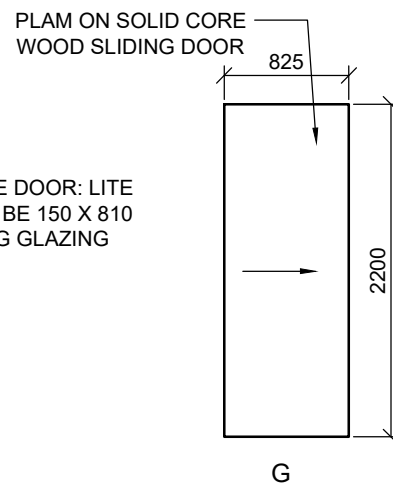
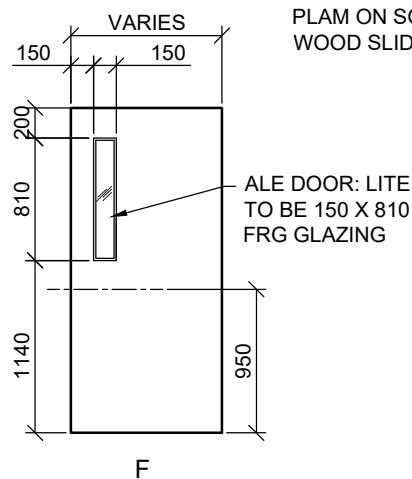
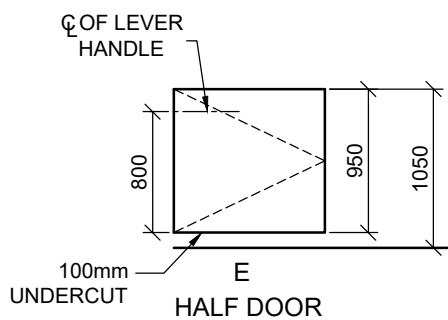
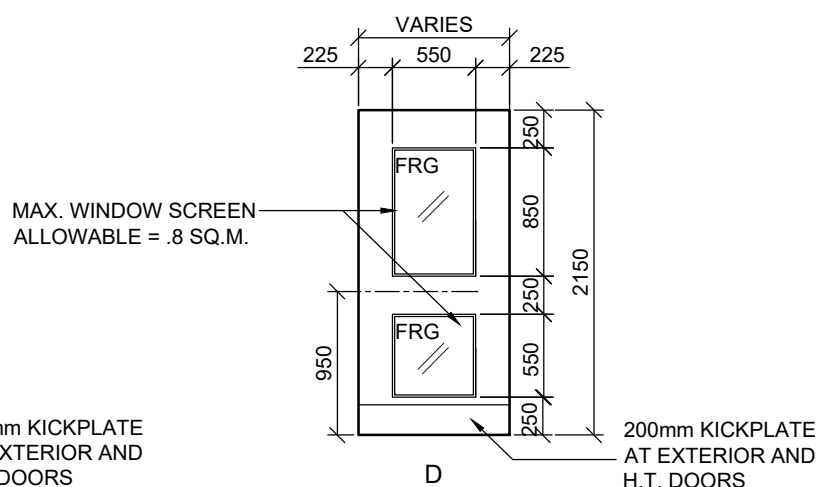
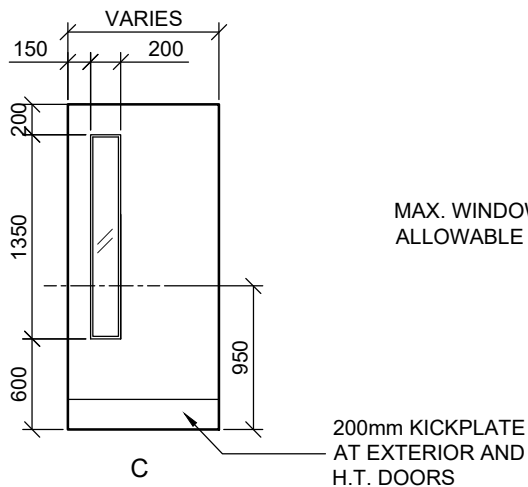
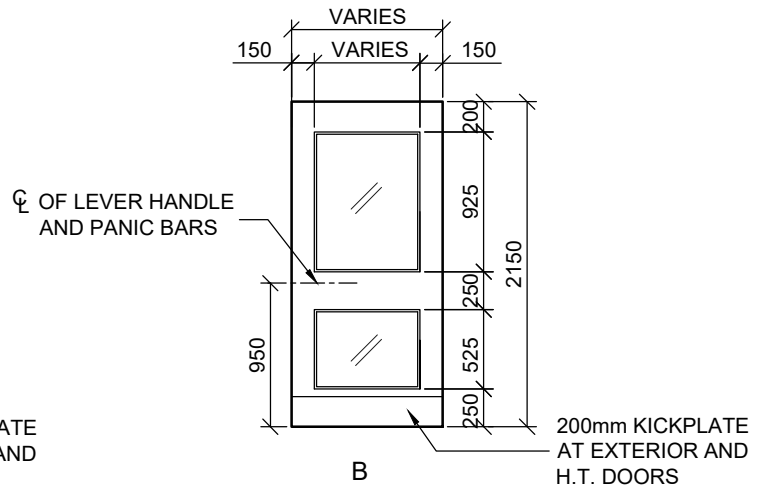
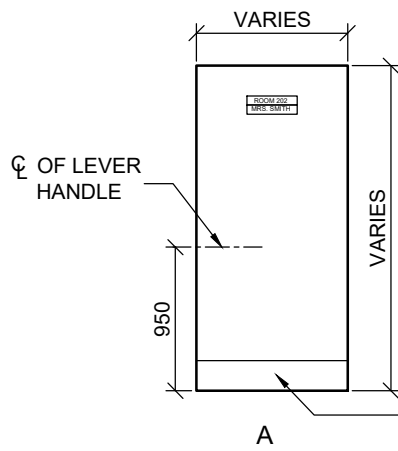
TOP OF WALL CONSTRUCTION AT NON-FIRE RATED ASSEMBLIES

PROJ: 24112
SCALE: 1:5
DRAWN: CC
DATE: 26 06 22



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726



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

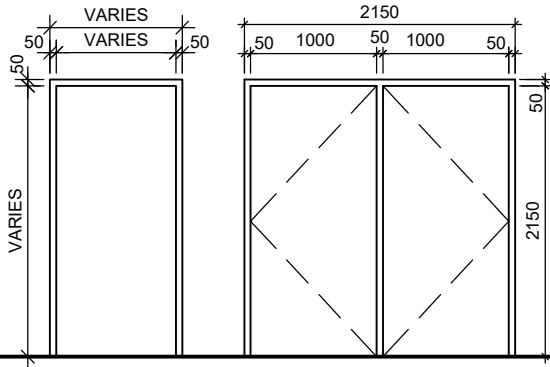
DOOR TYPES

PROJ: 24112
SCALE: 1:50
DRAWN: CC
DATE: 24 08 27



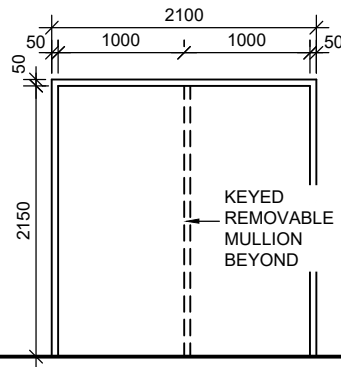
ISSUE/REV.
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800

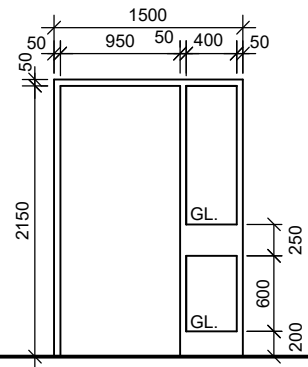


TYPE 1
H.M. INT/EXT

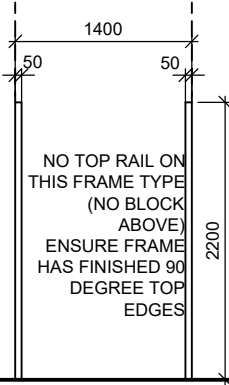
TYPE 2
H.M. INT/EXT



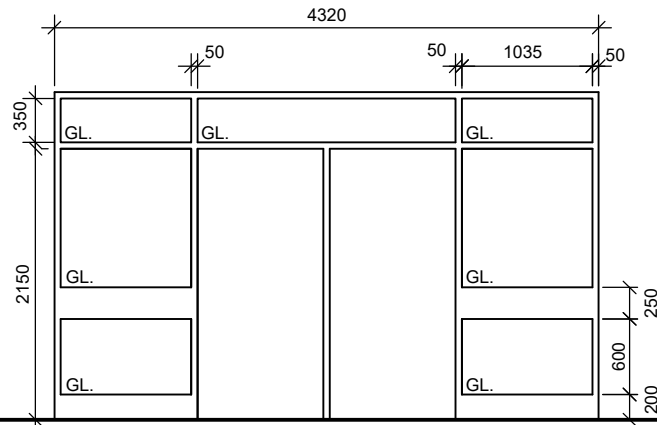
TYPE 3
H.M. INT



TYPE 4
H.M. INT

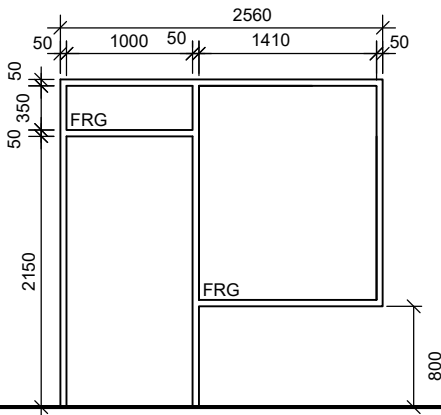


TYPE 5
H.M. INT

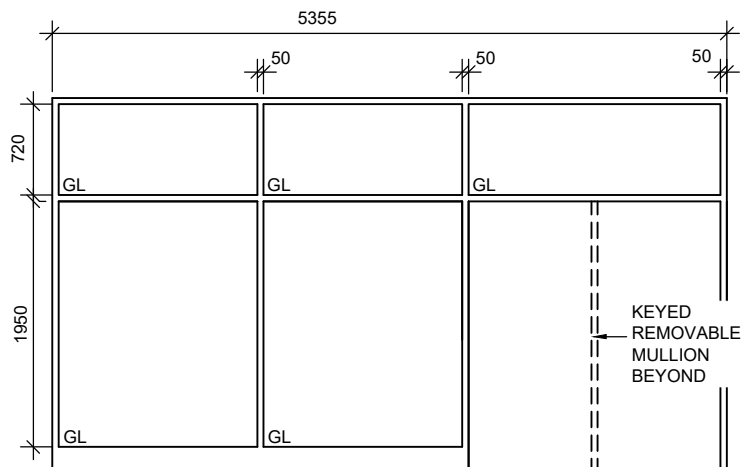


TYPE 6
H.M. INT

NOTE: REFER TO FIRE SEPARATION PLANS FOR LOCATIONS OF FIRE RATED GLASS.



TYPE 7
H.M. INT



TYPE 8
H.M. INT

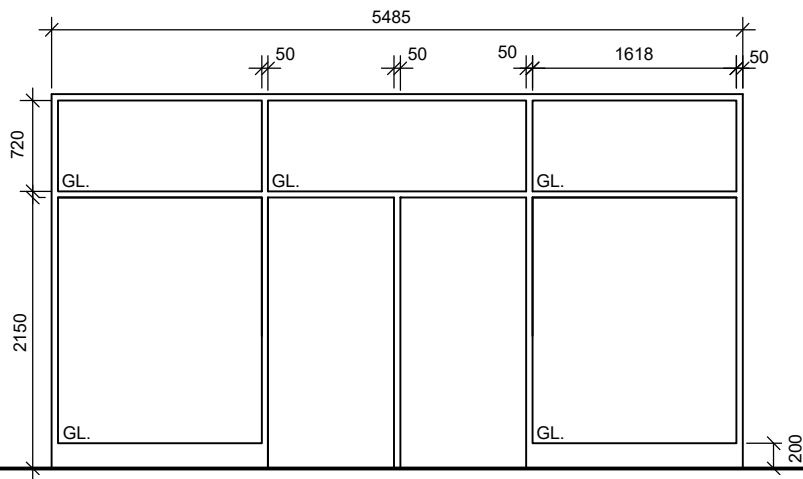
HOLLOW METAL FRAMES & SCREENS

PROJ: 24112
SCALE: 1:60
DRAWN: CC
DATE: 26 01 15

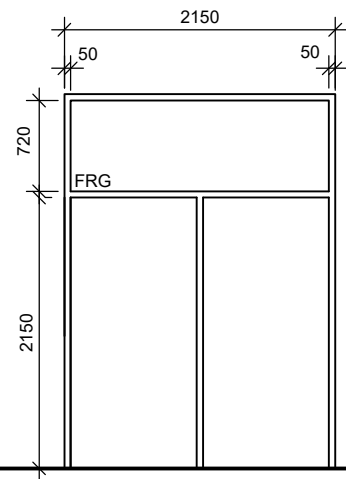


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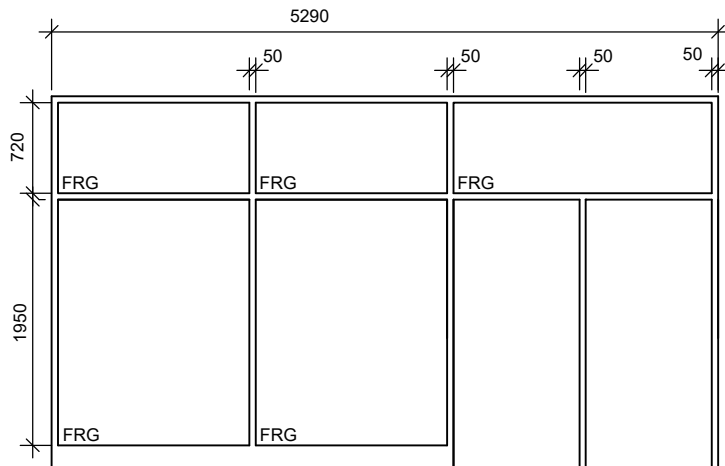
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801A



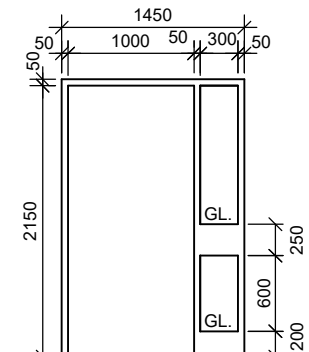
TYPE 9
H.M. INT



TYPE 11
H.M. INT

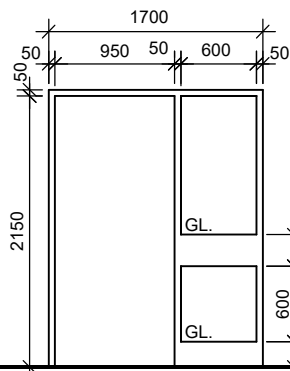


TYPE 10
H.M. INT

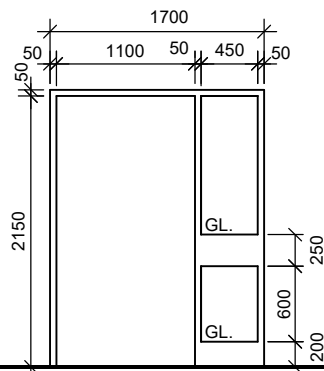


TYPE 12
H.M. EXT

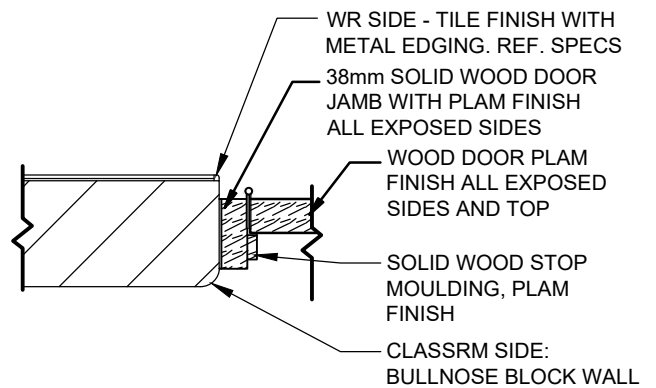
NOTE: REFER TO FIRE
SEPARATION PLANS FOR
LOCATIONS OF FIRE
RATED GLASS.



TYPE 13
H.M. EXT



TYPE 14
H.M. INT



1. JAMB TO EXTEND FROM 100mm AFF TO TOP OF DOOR
2. DOOR TO BE MOUNTED AT 100mm AFF.

TYPE 15
WOOD INT

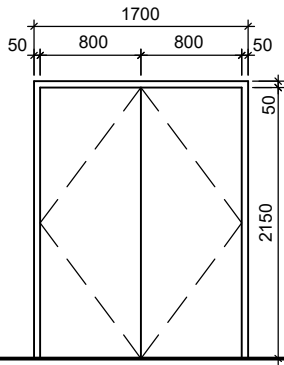
HOLLOW METAL FRAMES & SCREENS

PROJ: 24112
SCALE: 1:50
DRAWN: CC
DATE: 26 01 15

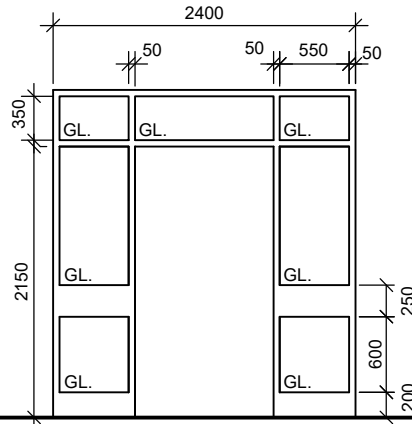


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TYPE 16
H.M. INT



TYPE 17
H.M. EXT / INT

NOTE: REFER TO FIRE
SEPARATION PLANS FOR
LOCATIONS OF FIRE
RATED GLASS.

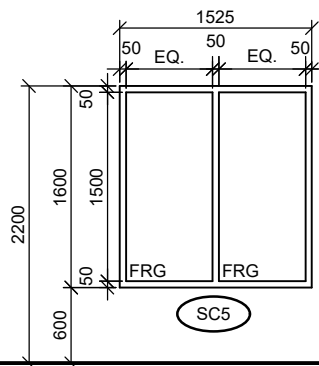
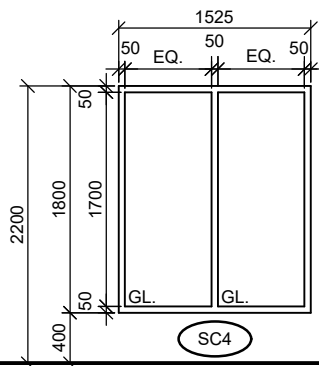
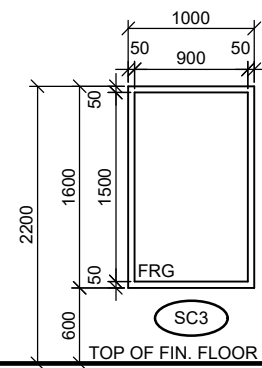
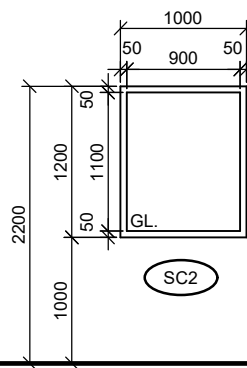
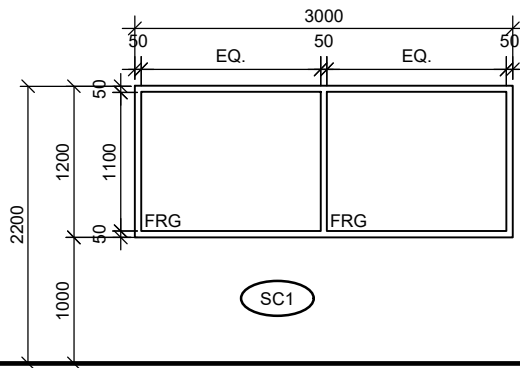
HOLLOW METAL FRAMES & SCREENS

PROJ: 24112
SCALE: 1:50
DRAWN: CC
DATE: 26 01 15

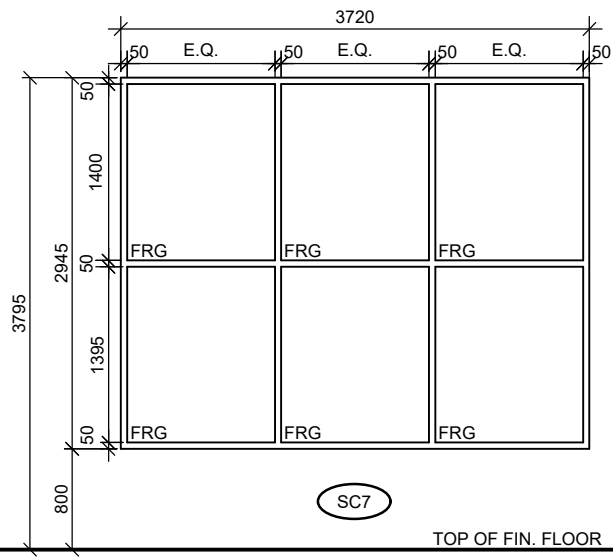
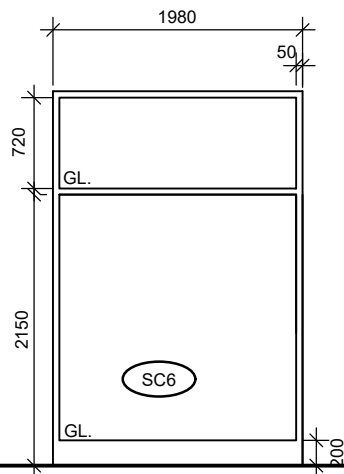


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801C



NOTE: REFER TO FIRE SEPARATION PLANS FOR LOCATIONS OF FIRE RATED GLASS.



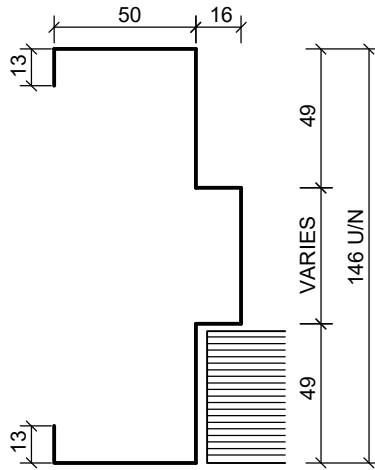
HOLLOW METAL FRAMES & SCREENS

PROJ: 24112
SCALE: 1:50
DRAWN: KB
DATE: 26 01 15



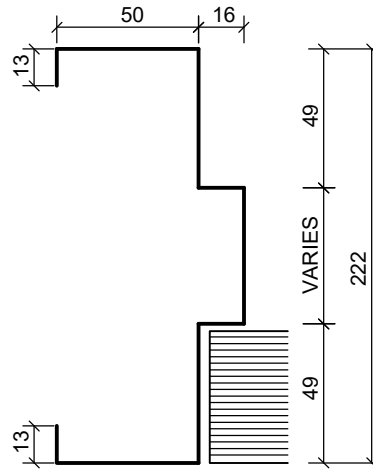
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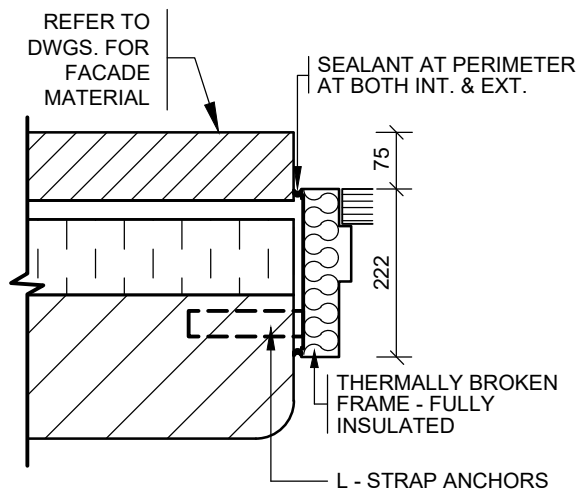
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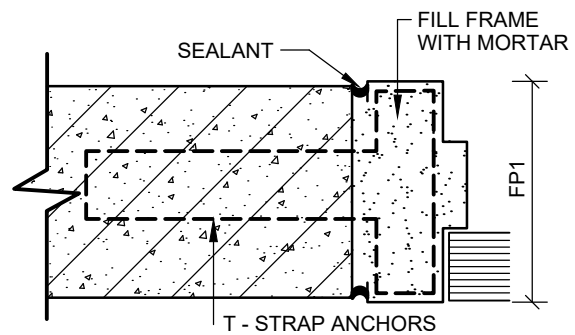


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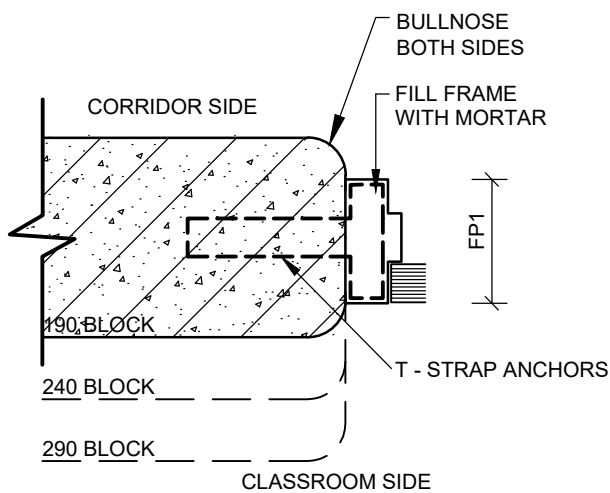
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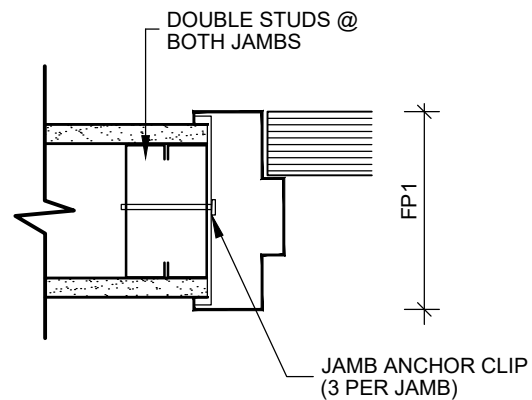
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MF2 (NTS)



MF3 (NTS)



J1 (NTS)

DOOR JAMB SECTIONS

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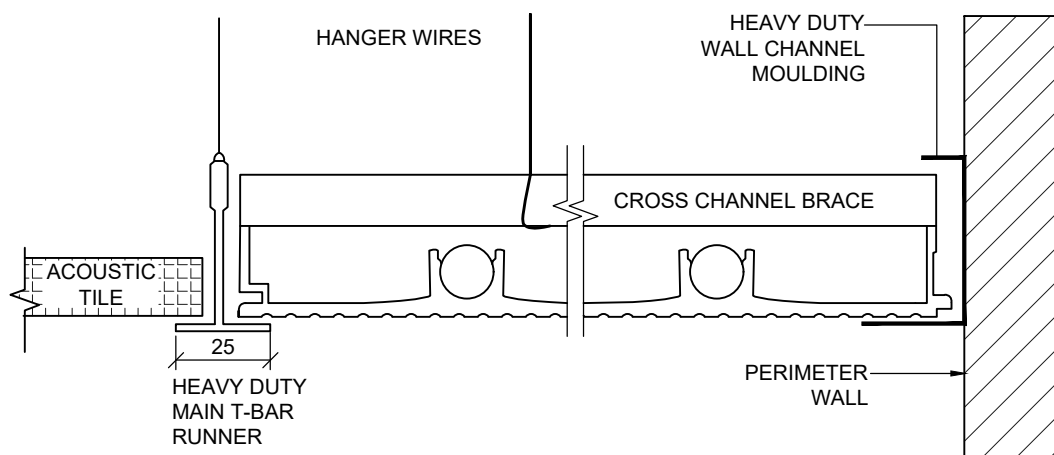
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NOTE:
T-BAR AND WALL CHANNEL
MOULDING BY SECTION 09510

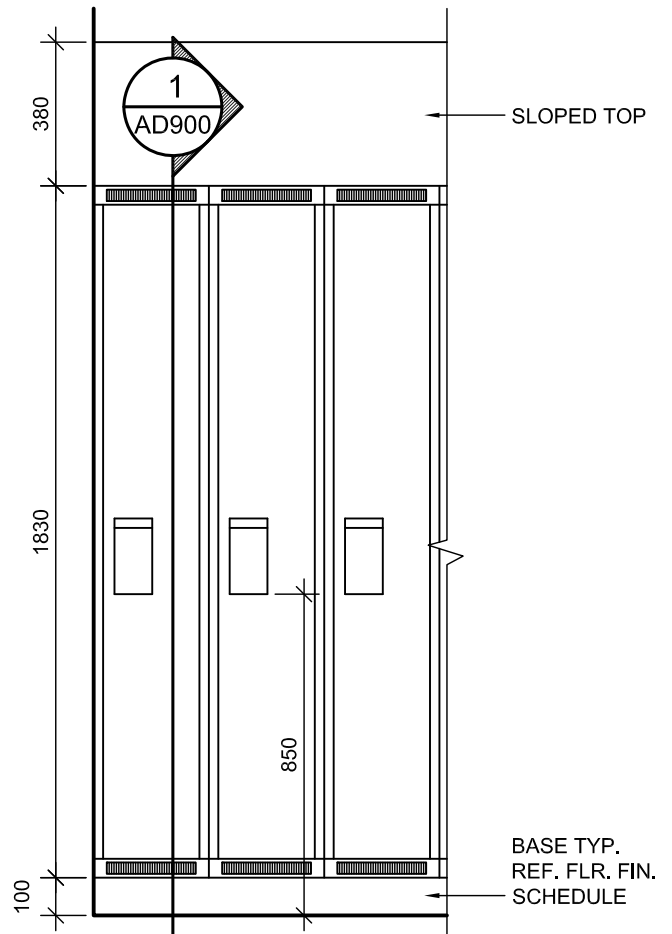
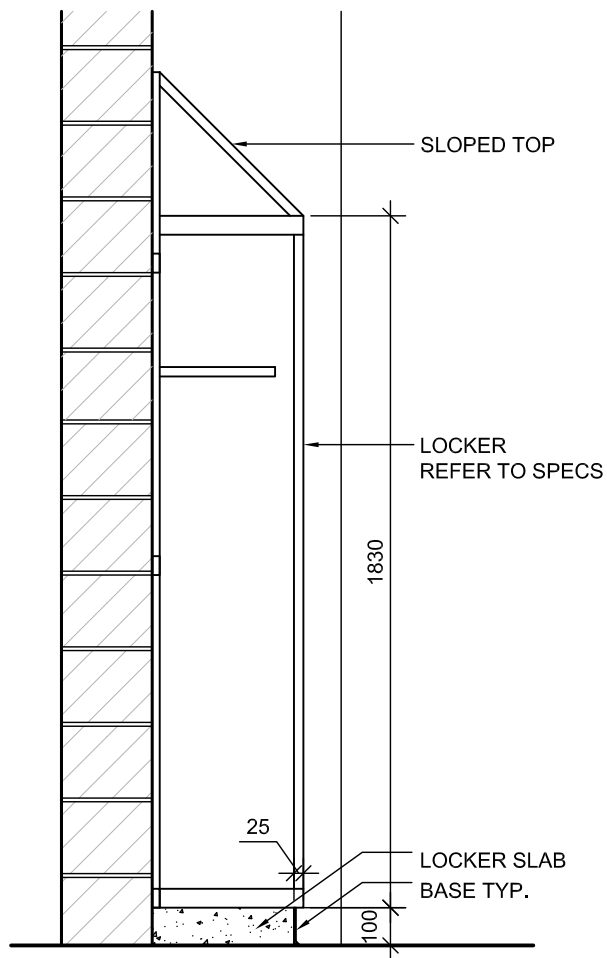
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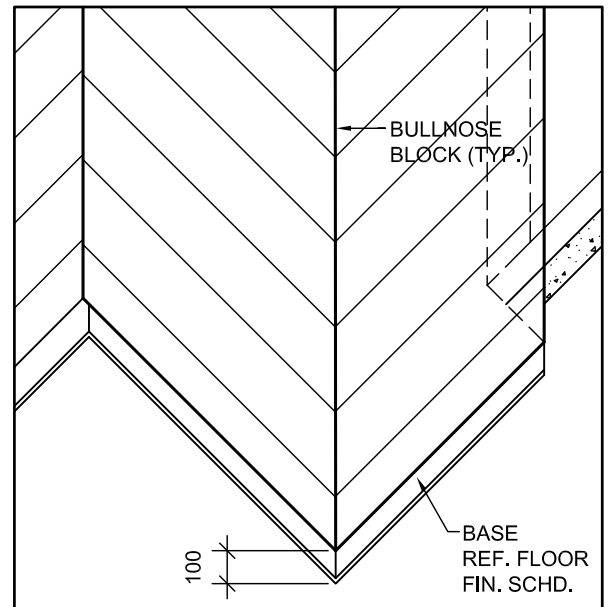
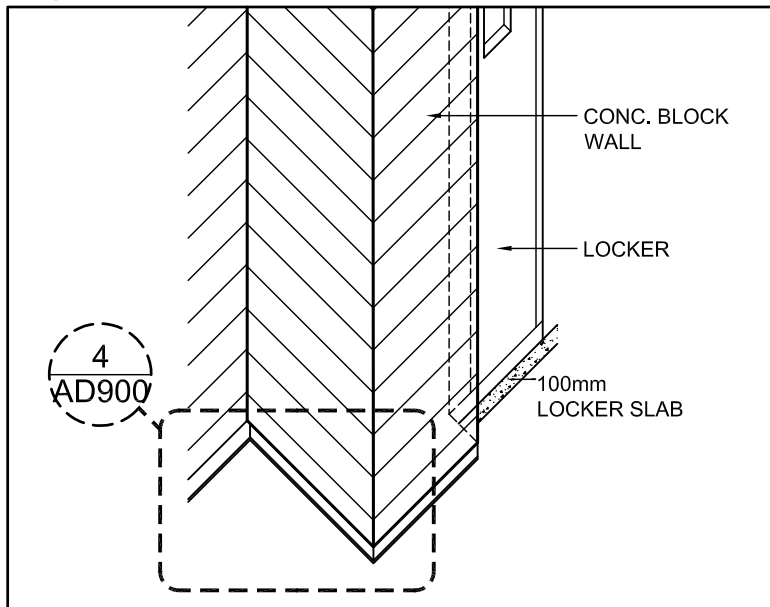
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1 LOCKER SECTION
AD900 SCALE 1:20

2 LOCKER ELEVATION
AD900 SCALE 1:20



3 LOCKER ISOMETRIC
AD900 NTS

4 LOCKER BASE ISOMETRIC
AD900 NTS

LOCKER BASE DETAIL

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DRAWN: AM
DATE: JAN 2026



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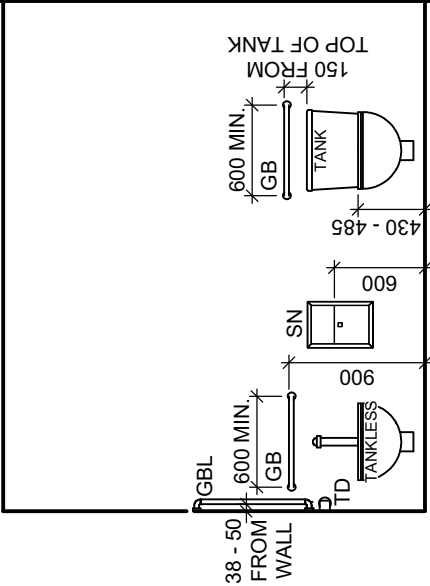
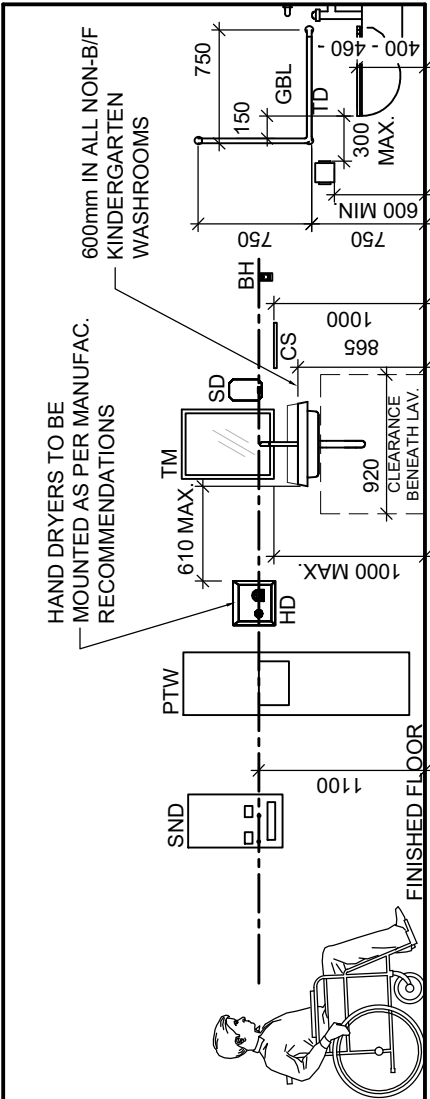
WASHROOM FIXTURE MOUNTING HEIGHTS

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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

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



GENERAL

- 1. ALL MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE REQUIREMENTS OF THE ONTARIO BUILDING CODE, LATEST EDITION AND THE OCCUPATIONAL HEALTH AND SAFETY ACT/REGULATIONS FOR CONSTRUCTION PROJECTS.
- 2. CONFORM TO OWNER'S GENERAL SPECIFICATIONS INCLUDING ALL SAFETY REQUIREMENTS.
- 3. SITE VERIFY ALL DIMENSIONS AND LEVELS.
- 4. KEEP THE SITE THROUGHOUT THE WORK AREA IN A CLEAN AND ORDERLY CONDITION AT ALL TIMES TO THE SATISFACTION OF THE OWNER.
- 5. THE LATEST EDITION OF ALL CODES AND STANDARDS SHALL BE USED.

FOUNDATIONS

- 1. ALL FOOTINGS SHALL BEAR ON UNDISTURBED NATIVE SOIL APPROVED BY THE GEOTECHNICAL CONSULTANTS. REPORT ANY DOUBTFUL BEARING CONDITIONS TO THE STRUCTURAL ENGINEER BEFORE PLACING FOOTINGS.
- 2. FROST COVER- BOTTOM OF FOOTING TO HAVE A MINIMUM 1200(4'-0") COVER TO FINISHED EXTERIOR GRADE FOR FROST PROTECTION UNLESS NOTED.
- 3. MATERIALS FOR BACKFILL SHALL BE GRAN 'A' AND GRAN 'B' CONFORMING TO OPSS STANDARDS COMPACTED TO 98% STANDARD PROCTOR MAX. DRY DENSITY.
- 4. DESIGN BEARING CAPACITY FOR SERVICEABILITY (SLS) OF 100kPa.
- 5. FOUNDATIONS SHALL BE FORMED VERTICAL, CLEAN AND FREE OF INDENTATIONS OR PROTRUSIONS.

CONCRETE

- 1. CONCRETE CONSTRUCTION SHALL CONFORM TO THE LATEST EDITION OF CAN/CSA-A23.1 AND CAN/CSA-A23.3 WITH THE FOLLOWING PROVISION:

LOCATION	DESIGN STRENGTH (28 DAYS)	SUMP	EXPOSURE CLASS
EXTERIOR FOOTINGS	25 MPa	80± 30	F-2*

- * LOCATIONS SUBJECT TO DEICING SALT APPLICATIONS SHALL BE C-1
- 2. NO ADDITIONAL WATER SHALL BE ADDED AT THE JOB SITE. CONCRETE WHICH HAS BEEN WATERED OR DOES NOT MEET SPECIFICATIONS SHALL BE REJECTED.
- 3. DURING WINTER WEATHER BELOW 5 °C PROVIDE TEMPORARY HEATING OF CONCRETE IN ACCORDANCE WITH THE REQUIREMENTS OF CSA A23.1.
- 4. STRUCTURAL GROUT SHALL BE NON-SHRINK, NON METALLIC M-BED STANDARD PREMIX BY Sika OR APPROVED EQUAL.

CONCRETE REINFORCEMENT

- 1. THE CLEAR DISTANCE BETWEEN REINFORCING STEEL AND SURFACE OF CONCRETE SHALL BE AS FOLLOWS UNLESS NOTED OTHERWISE.

LOCATION	CLEAR COVER
FOOTINGS	75mm(3") UNDERSIDE 50mm(2") TOP AND ENDS
WALLS	50mm(2") AGAINST EARTH (20M BAR OR GREATER) 40mm(1½") AGAINST FORM (15M BAR) 40mm (1½") AGAINST FORM (20M BAR OR GREATER) 25mm (1") AGAINST FORM (15M BAR)
SURFACE IN CONTACT WITH GROUND	75mm(3")

- 2. STRUCTURAL GROUT SHALL BE NON-SHRINK, NON METALLIC M-BED STANDARD PREMIX BY Sika OR APPROVED EQUAL.
- 3. DETAIL REINFORCING STEEL IN ACCORDANCE WITH "REINFORCING STEEL MANUAL OF STANDARD PRACTICE" LATEST EDITION.
- 4. ALL REINFORCING STEEL SHALL BE DEFORMED HARD GRADE BILLET STEEL CONFORMING TO CSA G30.18 GRADE 400.
- 5. ALL CONCRETE REINFORCEMENT MUST BE PROPERLY CHAIRED WITH APPROVED BAR SUPPORTS.
- 6. PROVIDE CHAIRS, SPACER BARS, SUPPORT BARS AND OTHER ACCESSORIES TO SUPPORT REINFORCING IN ACCORDANCE WITH THE LATEST EDITIONS OF CSA23.1 AND CSA23.3 CHAIRS TO BE PLASTIC, PLASTIC TYPED OR CONCRETE. ALL TIE WIRE, CHAIRS AND BAR SUPPORTS USED FOR COATED REINFORCING SHALL BE NON-METALLIC OR PROTECTED WITH ACCEPTABLE COATING.

STRUCTURAL STEEL

- 9. CHAINS SHALL BE SPACED AT 1200mm(4'-0")O.C. MAXIMUM.
- 1. ALL STRUCTURAL STEEL SHALL BE G40.21M-350W CLASS 'C' OR BETTER.
- 2. FABRICATION, ERECTION AND WORKMANSHIP SHALL CONFORM TO CSA S16.1.
- 3. ALL WELDING SHALL CONFORM TO CSA W59 AND SHALL BE PERFORMED BY A WELDER QUALIFIED UNDER CSA W47.
- 4. ALL WELDED AND/OR SCRATCHED STEEL MUST BE SPOT PRIMED WITH FINISH PAINT OR ZINC RICH PRIMER ON GALVANIZED STEEL.
- 5. GRIND SMOOTH ALL ROUGH EDGES AND TOUCH UP ALL GALVANIZED STEEL WITH ZINC RICH GALVALUM PRIMER.
- 6. ALL WELDED CONNECTIONS SHALL BE WITH E490XX ELECTRODES.
- 7. ALL WELDS SHALL BE ½" FILLET WELDS UNLESS NOTED OTHERWISE.
- 8. ALL NEW EXTERIOR STRUCTURAL STEEL FRAMING SHALL BE HOT DIP GALVANIZED OR EPOXY PAINTED, FOR EPOXY PAINT, COMPLETE SURFACE PREPARATION ACCORDING TO THE PAINT SUPPLIERS SPECIFICATIONS, SUBMIT THE EPOXY PAINT SUPPLIER INFORMATION TO THE OWNER AND CONSULTANT FOR REVIEW AND APPROVAL PRIOR TO PROCEEDING.
- 10. SUBMIT STRUCTURAL STEEL SHOP DRAWINGS CLEARLY DETAILING FRAMING SIZES, LENGTHS, ORIENTATION, CONNECTIONS, ELEVATIONS ETC. SHOP DRAWINGS MUST BE STAMPED BY A PROFESSIONAL ENGINEER REGISTERED IN ONTARIO FOR THE CONNECTION DESIGN.

EXCAVATION, BACKFILLING AND GRADING

- CODES, REGULATIONS
- 1. CONFORM TO THE REQUIREMENTS OF THE ONTARIO BUILDING CODE, THE ONTARIO PROVINCIAL STANDARD SPECIFICATIONS (OPSS) AND THE WORKPLACE HEALTH AND SAFETY ACT.
- 2. CONFORM TO THE APPLICABLE REQUIREMENTS OF THE ONTARIO PROVINCIAL STANDARD SPECIFICATIONS (OPSS).

EXAMINATION

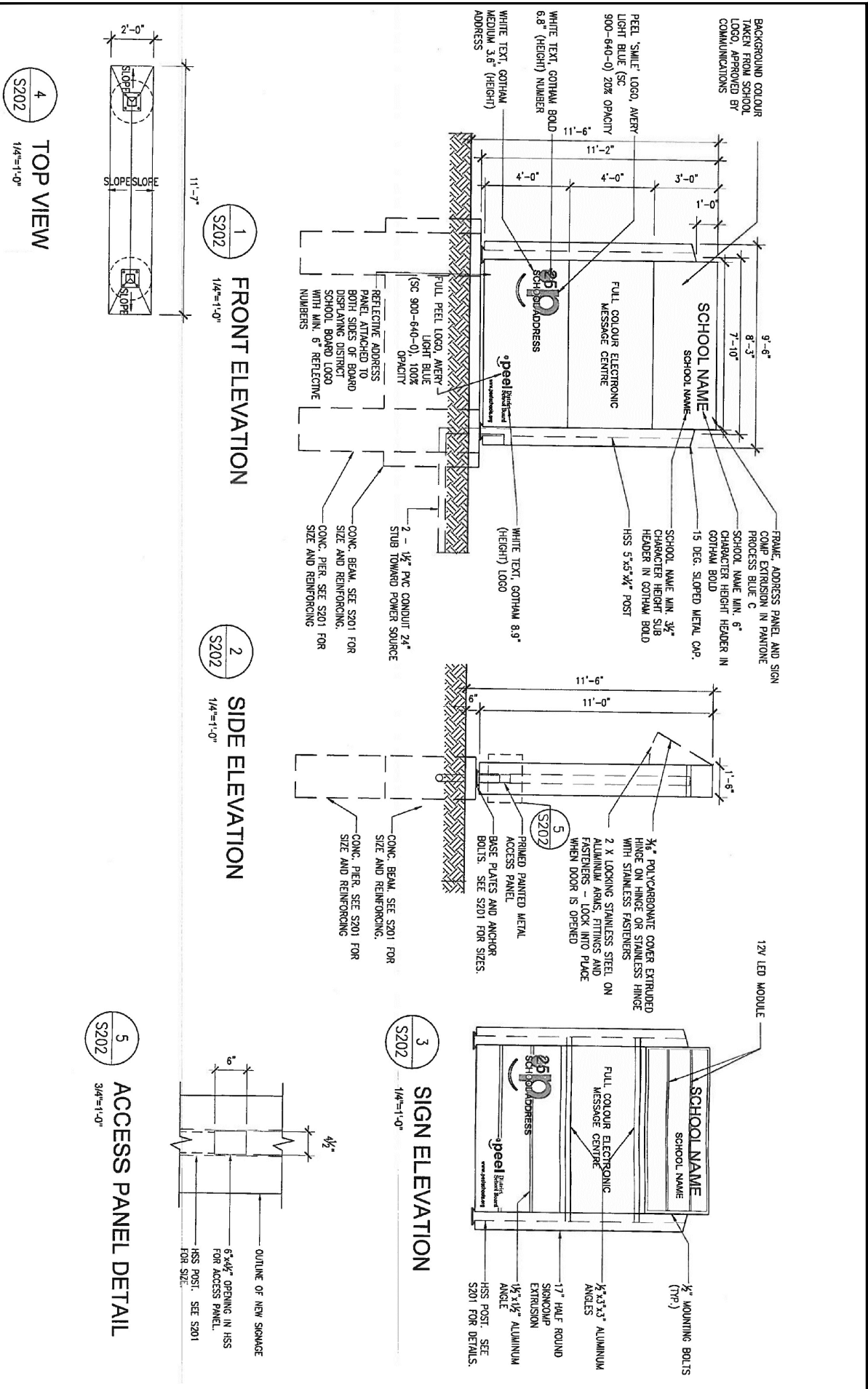
- 1. FIELD CHECK THE SITE TO REVIEW EXISTING CONDITIONS. VERIFY LOCATIONS OF ALL EXISTING UTILITIES AND SERVICES THAT WILL AFFECT THE WORK.
- 2. BEFORE TENDERING THE WORK, THE CONTRACTOR SHALL EXAMINE THE SITE AND ASCERTAIN THE EXTENT AND NATURE OF THE MATERIAL IT MAY BE NECESSARY TO REMOVE TO PROVIDE FOR THE DEPTHS, LEVELS, AND GRADES REQUIRED, TO ASSURE HIMSELF THAT HIS DETERMINATIONS ARE MADE IN CONFORMITY WITH THE DRAWINGS AND SPECIFICATIONS.

SETTING OUT WORK

- 1. BE RESPONSIBLE TO CONSTRUCT THE WORK ACCORDING TO LEVELS AND LOCATIONS SHOWN ON THE DRAWINGS. REPORT ANY ERRORS OR DISCREPANCIES TO THE CONSULTANT BEFORE COMMENCING WITH THE WORK. COMMENCEMENT OF ANY PART OF THE WORK SHALL CONSTITUTE ACCEPTANCE OF DRAWINGS AS BEING CORRECT.
- 2. EMPLOY A COMPETENT INSTRUMENT MAN AND PROVIDE ALL LINES AND LEVELS, LIMIT LINES AND BOUNDARY STAKES FOR THE EXECUTION OF THE WORK AS REQUIRED. ALL BENCH MARKS SHALL BE CAREFULLY PROTECTED.
- 3. PROVIDE ALL SUBCONTRACTORS WITH, AND BE RESPONSIBLE FOR, ALL LINES, LEVELS AND DIMENSIONS WHICH SUCH TRADES REQUIRE TO RELATE THEIR WORK TO THE WORK OF THE CONTRACTOR OR OTHER TRADES. ALL TRADES SHALL BE NOTIFIED THAT ALL SUCH LEVELS AND DIMENSIONS MUST BE OBTAINED FROM THE CONTRACTOR.

PROTECTION

- A. PROTECTION OF EXISTING SERVICES
- 1. BEFORE STARTING THE WORK, VERIFY THE LOCATION OF ALL KNOWN UNDERGROUND SERVICES AND UTILITIES OCCURRING IN THE WORK SITE AREA.
- 2. NOTIFY THE OWNER, PUBLIC UTILITY OR MUNICIPAL AUTHORITIES IN ADVANCE OF PLANNED EXCAVATIONS ADJACENT TO THEIR SERVICES.
- 3. TAKE CARE NOT TO DAMAGE OR DISPLACE ENCOUNTERED KNOWN AND UNKNOWN SERVICES.
- 4. WHEN SUCH SERVICES ARE ENCOUNTERED DURING THE EXECUTION OF WORK, IMMEDIATELY NOTIFY THE CONSULTANT AND PROTECT, BRACE AND SUPPORT ACTIVE SERVICES, WHERE REPAIRS TO THESE SERVICES BECOME NECESSARY USE THE FOLLOWING PROCEDURE:
 - a. KNOWN SERVICES: REPAIR AT NO EXPENSE TO THE OWNER.
 - b. UNKNOWN SERVICES: FORWARD TO THE CONSULTANT A COMPLETE BREAKDOWN OF THE ESTIMATED COST OF SUCH WORK. PROCEED ONLY UPON WRITTEN AUTHORIZATION.
- 5. IN THE CASE OF DAMAGE TO, OR CUTTING OFF OF AN ESSENTIAL SERVICE, NOTIFY CONSULTANT, THE OWNER, AND PUBLIC UTILITY OR MUNICIPAL AUTHORITIES IMMEDIATELY AND REPAIR THE SERVICE UNDER THE CONSULTANT'S DIRECTION.



Part 1 General

1.1 GEOTECHNICAL INVESTIGATION

- .1 A copy of the geotechnical investigations, reports and borehole logs are enclosed in Binder C “Architectural Details & Geotechnical Report”.

1. **Geotechnical Investigation**
Proposed Mayfield West #2 Public School, Caledon, Ontario
Prepared by: Forward Engineering & Associates Inc.
Date: August 8, 2025
Proj. Ref. No. 7460 R1

2. **Soil Chemical Testing Report**
Prepared by: Forward Engineering & Associates Inc.
Date: February 1, 2025
Proj. Ref. No. 7460

1.2 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’, Examination of the Site.

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, REV. 1
GEOTECHNICAL INVESTIGATION**

**PROPOSED MAYFIELD WEST #2 PUBLIC SCHOOL
PETCH AVENUE AND TWEEDHILL AVENUE
CALEDON, ONTARIO**

**PEEL DISTRICT SCHOOL BOARD
c/o
HOSSACK & ASSOCIATES ARCHITECTS
2150 Dunwin Drive, Unit 4
Mississauga, ON
L5L 5M8**

August 08, 2025
Ref. No. 7460, R1

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

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LIST OF ENCLOSURES:

BOREHOLE LOCATION PLAN - DRAWING NO. 1

PERMENANT PERIMETER DRAINAGE – DRAWING NO. 3

LOG OF BOREHOLE SHEETS (Nos. 1 to 42) - APPENDIX A

ENGINEERED FILL REPORT – 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 Mayfield West #2 Public School at Petch and Tweedhill Avenues in the Town of Caledon, Ontario.

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

This investigation was authorized by Hossack & Associates Architects, on behalf of the Peel District School Board (PDSB).

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 forty-two [42] boreholes drilled to a depth ranging from about 1.98 to 8.10 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 Public school building with no basement. The remainder of the site will be occupied with access roads, parking spaces, playing field and landscaping features.

FIELD AND LABORATORY TESTING

Field Works

Borehole Investigation:

The field work for the borehole investigation consisted of forty-two [42] boreholes (Nos. 1 to 42), drilled between January 13 to 17, 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 1.98 to 8.10 m below the EGSL.

Five [5] of the boreholes (BH/MW-1, BH/MW-4, BH/MW-11, BH/MW-13 and BH/MW-16) were equipped with Water Monitoring Wells (WMWs) to facilitate future measurements of the water levels.

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 attached in Appendix A.

Elevations referred to in this report are metric and geodetic. The ground level elevations at the borehole locations were interpolated from the *Plan of Survey with Topography* dated December 10, 2024, by Tarasick McMillan Kubicki 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

At the time of this investigation the Site did not have a known civic address.

For this description it will be assumed that the north bearing is parallel to the nearest arterial, which is McLaughlin Road.

The school Site, which has an area of approximately 3.2 hectares, is located at the southeast corner of Tweedhill Avenue and Petch Avenue, in the Town of Caledon, Ontario.

It should be noted the during our Site visit, the Site was blanketed with a layer of snow cover.

The site condition, as observed during our site visit January 13, 2025, is presented in the following *Table No. 1*.

Table 1 - Site Surface Observations

East Boundaries:	Vacant lot with no visible development.
North Boundaries:	Tweedhill Avenue.
West Boundaries:	Petch Avenue.
South Boundaries:	Residential dwellings to the east and vacant land with paved walkway towards the west.
Surface Coverage:	The Site appears to be mostly bare earth at the surface. Some ponded water (in frozen state) was observed on the southwest portion of the site.
Ground Level:	The topography of the site is generally flat with an overall grade sloping downward from north to south.
Ditches:	A small ditch/swale was located on the southwest portion of the site. The ditch was covered in snow and frozen water.
Berms/Stockpiles:	None observed.
Existing Structures:	None observed.
Proposed/Intended Land Use:	Institutional.

Subsurface Conditions

Borehole Investigation Findings:

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 encountered at the surface of all the boreholes, extending to a depth ranging from about 0.15 to 2.29 m below the EGSL. This fill consisted mainly of brown and occasionally grey clayey silt. Some of the boreholes contained a layer of crushed granular at the surface with a thickness ranging between 50 to 150 mm. Additionally, some boreholes occasionally contained traces to some organics. In all the boreholes, this stratum was found in moist state and in predominantly compact state of packing. It should be noted that during our investigation the approximately upper 0.30 - 0.45 m below ground surface at the borehole locations was frozen resulting in higher Standard Penetration Test (SPT) blow counts 'N' values, and therefore, the recorded 'N' numbers within this zone appears to be misleading and do not truly reflect the actual state of packing. <u><i>We understand that this fill layer encountered within the school Block, has been certified as Engineered Fill in accordance with the confirmation letter depicting the Engineered Fill Certification and recommendations, issued by Soil Engineers Ltd. on November 11, 2024, and enclosed in Appendix B of this report. (It should be noted that the topographic survey Drawing of the engineered fill subgrade surface levels was missing from the Engineered Fill Certification letter despite of being an integral part of it. Request to obtain the Drawing still pending as of February 28, 2025.)</i></u>
----------------------------	--

Clayey Silt Till and/or Silt Till/Clayey Silt Till	Clayey Silt Till and/or Silt Till/Clayey Silt Till was encountered below the fill/disturbed soil layer in all the boreholes. In some of the boreholes this till extended to a depth ranging from about 3.05 to 6.10 m below the EGSL, however, in a large number of boreholes, this till extended to the maximum explored depth of this investigation. This fissured till contained occasional silt/sandy silt layers and inclusions, and was observed to be brown, greyish brown and reddish grey in colour. This till was observed in mainly moist state and in stiff to hard consistency. <i>It should be noted that the upper zone of this stratum, where shallow surficial fill, was observed to be in a frozen state at some of the borehole locations. Consequently, the recorded 'N' values within the frozen portion do not truly reflect the actual soil consistency (toughness).</i>
Silt Till	Silt Till was encountered below the clayey silt till layer in about half of the boreholes. In a few of these boreholes this till extended to a depth ranging from about 1.52 to 7.62 m below the EGSL, and in the remaining boreholes, this till extended to the maximum explored depth of the investigation. This layer was observed to contain occasional wet silt/sandy silt inclusions, clay lumps and shale/stone fragments. This till was found in mainly moist state and in compact to very dense state of packing.
Sandy Silt Till	Compact to very dense, brown and grey, and moist to wet Sandy Silt Till was encountered in boreholes BH/MW-1 and BH-40 and extended to a depth of about 2.29 to 7.76 m below EGSL.

Silt/Sandy Silt	Very dense, reddish grey, and wet Silt/Sandy Silt was encountered in borehole BH/MW-4 and extended to the maximum explored depth of investigation.
Weathered Shale	Hard, grey and reddish grey, and moist Weathered Shale was encountered in boreholes BH/MW-4, BH/MW-13 and BH/MW-16, extending to the maximum explored depth of investigation.
Groundwater	Groundwater level observations were made during and immediately upon the completion of the drilling investigation. The results are summarized in the following <i>Table 2a</i> , 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/MW-1	7.72	Open	Dry
BH-2	5.03	Open	Dry
BH-3	5.03	Open	Dry
BH/MW-4	8.08	Open	7.5
BH-5	5.03	Open	Dry
BH-6	5.03	Open	Dry
BH-7	5.03	Open	Dry
BH-8	5.03	Open	Dry
BH-9	5.03	Open	Dry
BH-10	5.03	Open	Dry
BH/MW-11	8.08	Open	7.3
BH-12	5.03	Open	Dry
BH/MW -13	7.64	Open	7.3

Borehole No.	Borehole Depth (m)	Cave-in Depth Below EGSL (m)	Groundwater Depth Below EGSL (m)
BH-14	5.03	Open	Dry
BH-15	5.03	Open	Dry
BH/MW-16	7.24	Open	Dry
BH-17	3.51	Open	Dry
BH-18	3.51	Open	Dry
BH-19	3.51	Open	Dry
BH-20	3.51	Open	Dry
BH-21	1.98	Open	Dry
BH-22	3.51	Open	Dry
BH-23	3.51	Open	Dry
BH-24	3.51	Open	Dry
BH-25	1.98	Open	Dry
BH-26	3.51	Open	Dry
BH-27	3.51	Open	Dry
BH-28	1.98	Open	Dry
BH-29	3.51	Open	Dry
BH-30	1.98	Open	Dry
BH-31	1.98	Open	Dry
BH-32	3.51	Open	Dry
BH-33	3.51	Open	Dry
BH-34	1.98	Open	Dry
BH-35	3.51	Open	Dry
BH-36	3.51	Open	Dry

Borehole No.	Borehole Depth (m)	Cave-in Depth Below EGSL (m)	Groundwater Depth Below EGSL (m)
BH-37	1.98	Open	Dry
BH-38	1.98	Open	Dry
BH-39	2.74	Open	Dry
BH-40	3.51	Open	Dry
BH-41	3.51	Open	Dry
BH-42	1.98	Open	Dry

The water level in borehole BH/MW-1, BH/MW-4, BH/MW-11, BH/MW-13 and BH/MW-16, which were equipped with a stick up monitoring well, was measured after the completion of the drilling operation and our observations were recorded and presented in the following *Table 2b, as shown.*

Table2b: Groundwater Observation after Completion of Drilling

ID & Date of GWL Measurement	Groundwater Depth Below EGSL & (elevation)
BH/MW-1 <i>January 20, 2025</i>	3.21 m (255.36 m)
BH/MW-4 <i>January 20, 2025</i>	3.83m (255.37 m)
BH/MW-11 <i>January 20, 2025</i>	3.52 m (254.96 m)
BH/MW-13 <i>January 20, 2025</i>	2.75 m (255.03 m)
BH/MW-16 <i>January 20, 2025</i>	3.78 m (255.09 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. Finished Floor Elevation (FFE) is anticipated to be 259.80 m. The design structural loads are not available at this stage.

Based on the encountered subsurface and conditions, selected FFE and existing Site grades within the school building area, two [2] foundation alternatives are selected for economic competitiveness evaluations.

(1) conventional spread/strip foundations founded on the existing engineered fill and/or the original native subgrade soils, or (2) conventional spread/strip foundations founded on the new upfill granular engineered fill

1. Conventional Strip/Spread Footings on the Existing Engineered Fill and/or Original Undisturbed Native Soils

The proposed school building can be supported on conventional strip/spread footings, to be established on the well compacted engineered fill [in accordance with confirmation outlined in the Engineered Fill Certificate letter for the school Block 261, that was issued by Soil Engineers Ltd. on November 11, 2024, and enclosed within Appendix B of this report, *with the assumption that the missing topographic survey drawing as integral part of the Certificate letter will be found in the near future, for this option/alternative to be valid*], and/or onto the undisturbed native soils, at or below a depth of 1.0 m below the Existing Ground Surface Level (EGSL) [or 0.30 m into the native soil] 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

2. Conventional Strip/Spread Footings Founded on the New ‘Engineered fill’ Upfill

Considering the existing low grades at the school building site area, in general, in comparison to selected FFE at 259.80 m, as much as 1.70 m of upfill is needed to reach the final subgrade level under the floor slab.

Consequently, as the established footing bases depths in Alternative #1 will be deeper than normal at some footing's locations, Alternative #2 is recommended.

In Alternative #2, the building footings are to be established at a normal design depth of 1.50 m below the Finished Floor Elevation FFE of 259.80 m and founded mainly on the new granular engineered fill at a founding elevation = 258.30 m.

Raising the grades in this alternative shall be achieved using ***clean inorganic mineral fill free of organics and any other deleterious materials*** compacted to 100 % of Standard Proctor Maximum Dry Density (SPMDD) as “engineered fill”.

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

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

1. The exposed native subgrade should be proof-rolled. All soft and heaving areas should be sub-excavated and replaced with competent fill. The exposed native subgrade should be examined and approved by this office prior to placement of fill.
2. Engineered fill, should consist of Granular A or Granular B materials with moisture content close to its optimum value (within $\pm 2\%$), as determined by Standard Proctor Maximum Dry Density (SPMDD) testing method.
3. The backfill should be placed in 200 mm lifts and compacted to 100 percent SPMDD. Fill placement and compaction monitoring on a full-time bases are required to verify that the compaction requirements are met.
4. The fill should be placed in such a manner so that the specified fill geometry as shown in Drawing No. 2 is achieved. The fill should extend at least to 0.5 m below the underside of the footings, and outward laterally 1.5 m from the edge of the footings, at the floor slab level. The fill slopes can be constructed at 1H to 1V.

5. 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.

Foundation Notes:

Adjacent footings, founded at different elevations, should be stepped at 10 horizontal to 7 vertical, with a maximum step of up to 400 mm within the engineered fill.

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.-B of the National Building Code of Canada (NBC) 2020.

According to Table 4.1.8.4.-B of the NBC code, and the Shear Wave Velocity Test Results of the subject site, the **Site Designation** is **X₇₆₀**.

Underground and 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:

$$p = 0.45[\gamma h + q]$$

Where:

0.45 is the earth pressure coefficient considered applicable.

$\gamma = 21.0 \text{ kN/m}^3$ is the unit weight of backfill

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.

Sliding Resistance

Foundation resistance to sliding is directly proportional to the friction between the soil subgrade and the base of the footing. The factored geotechnical resistance to friction (R_f) at ULS can be obtained through the following equation:

$$R_f = \Phi N \tan \varphi$$

where:

R_f = Frictional Resistance to (sliding) in kN

Φ = Reduction factor per the Canadian Foundation Engineering Manual (CFEM) taken as 0.8

N = Normal load/force exerted at the base of the footings in kN

φ = Internal friction Angle of the soil subgrade (for engineered fill & upper zone Till subgrade $\varphi = 30^\circ$, Lower zone Till subgrade $\varphi = 32^\circ$)

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 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. The backfill material should be compacted to at least 98 percent of the 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 supported and constructed on the engineered fill subgrade following the standard slab-on-grade technique provided that all topsoil/organic soil and fill with organics should be removed and the base should be thoroughly proof rolled. Any soft spots revealed during proof-rolling should be sub-excavated, backfilled, and adequately compacted to 98 % of its Standard Proctor Maximum Dry Density (SPMDD)

Before the placement of any additional fill to raise the grades as required, the disturbed upper zone of the subgrade soils below ground surface (that was likely subjected to loosening due to exposure to freeze and thaw cycle(s), and other adverse environmental conditions such as wetting) within the school block shall be entirely proof rolled, thoroughly compacted, inspected and approved. Additional fill shall be achieved as engineered fill using suitable fill free of organics and any other deleterious materials, and to be placed in shallow lifts i.e., ± 200 mm thick and thoroughly compacted to 98 % SPMDD.

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. 3 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 any vegetation, topsoil/organic soil and/or fill with noticeable amount of organics should be removed, and 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, the anticipated use of the pavement and Town of Caledon requirements, typical flexible asphaltic pavement designs for this development are as shown in the following Table:

Table 3 - Typical Flexible Asphaltic Pavement Design

Pavement Components	Heavy Duty	Medium Duty
Asphaltic Concrete	40 mm HL3	40 mm HL3
	65 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 consist of 50 mm Crusher-Run Limestone.

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.

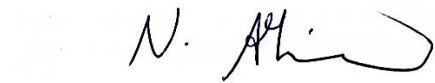
The comments given in this report are intended for the guidance of design engineers.

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,

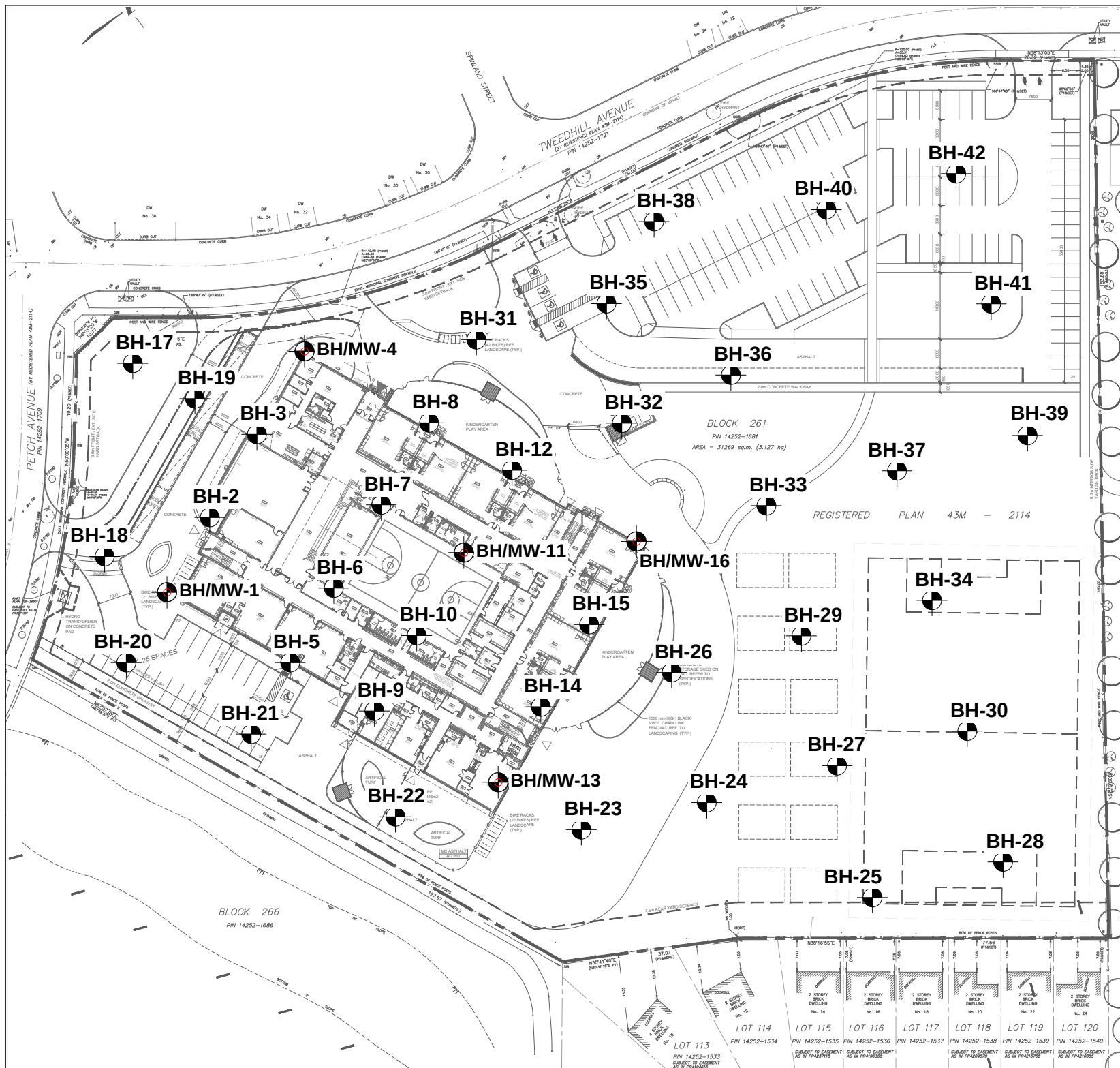
Forward Engineering & Associates Inc.



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

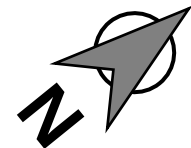


G. S. Semaan, M.Eng., P.Eng.
Principal



NOTES:

- BH**
-  = BOREHOLE LOCATION
- BH/MW**
-  = BOREHOLE/ MONITORING WELL LOCATION



DRAWING No. 1 BOREHOLE LOCATION PLAN

04	
03	
02	
01	
Rev.	DATE REVISION / ISSUE

Project Name: PROPOSED MAYFIELD WEST #2 PUBLIC SCHOOL

Address:
PETCH AVE. & TWEEDHILL AVE.,
CALEDON, ON.

PROJECT No.	:7460
DRAWING DATE	:FEB. 06, 2025
DRAWN BY:	P.R.
CHECKED BY:	G.S.

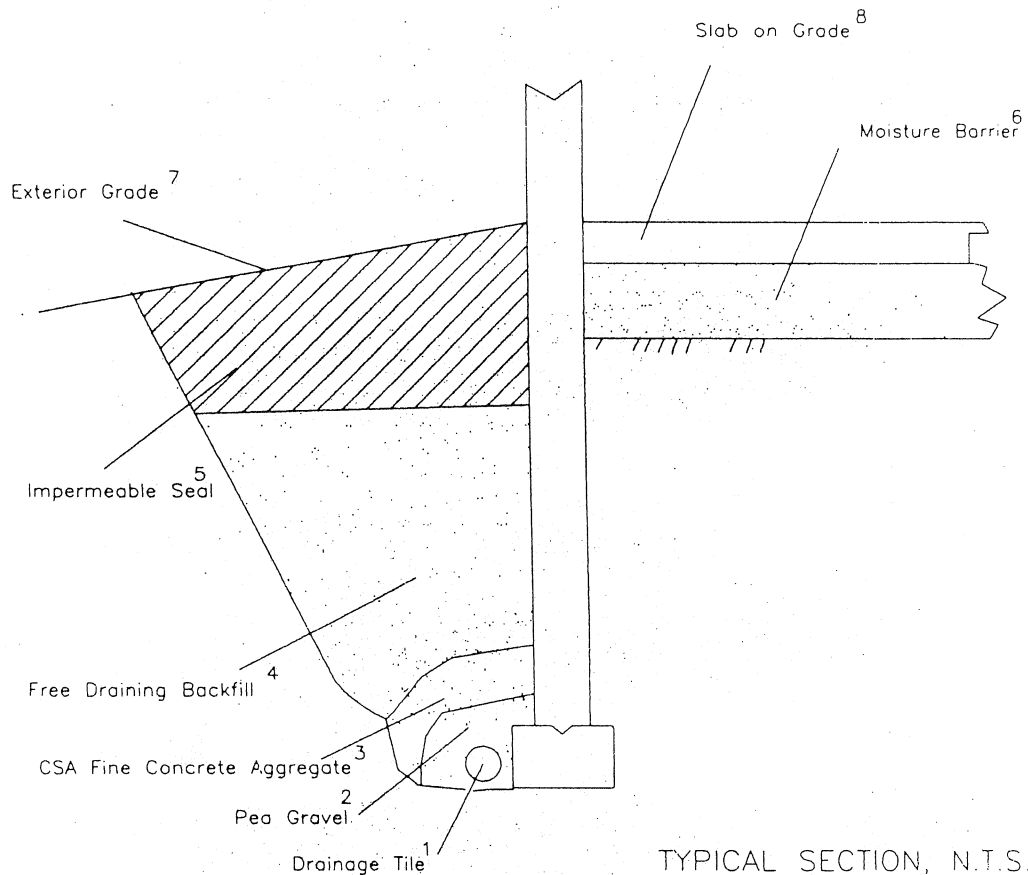


Forward Engineering & Associates Inc.
244 Brockport Drive, Unit 15
Toronto, Ontario M9W 6X9
Tel: 416-798-3500 Fax: 416-798-8481

www.forwardengineering.ca

DRAINAGE AND BACKFILL RECOMMENDATIONS

(Not to Scale)



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, day 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 – 42)**

Project No: 7460

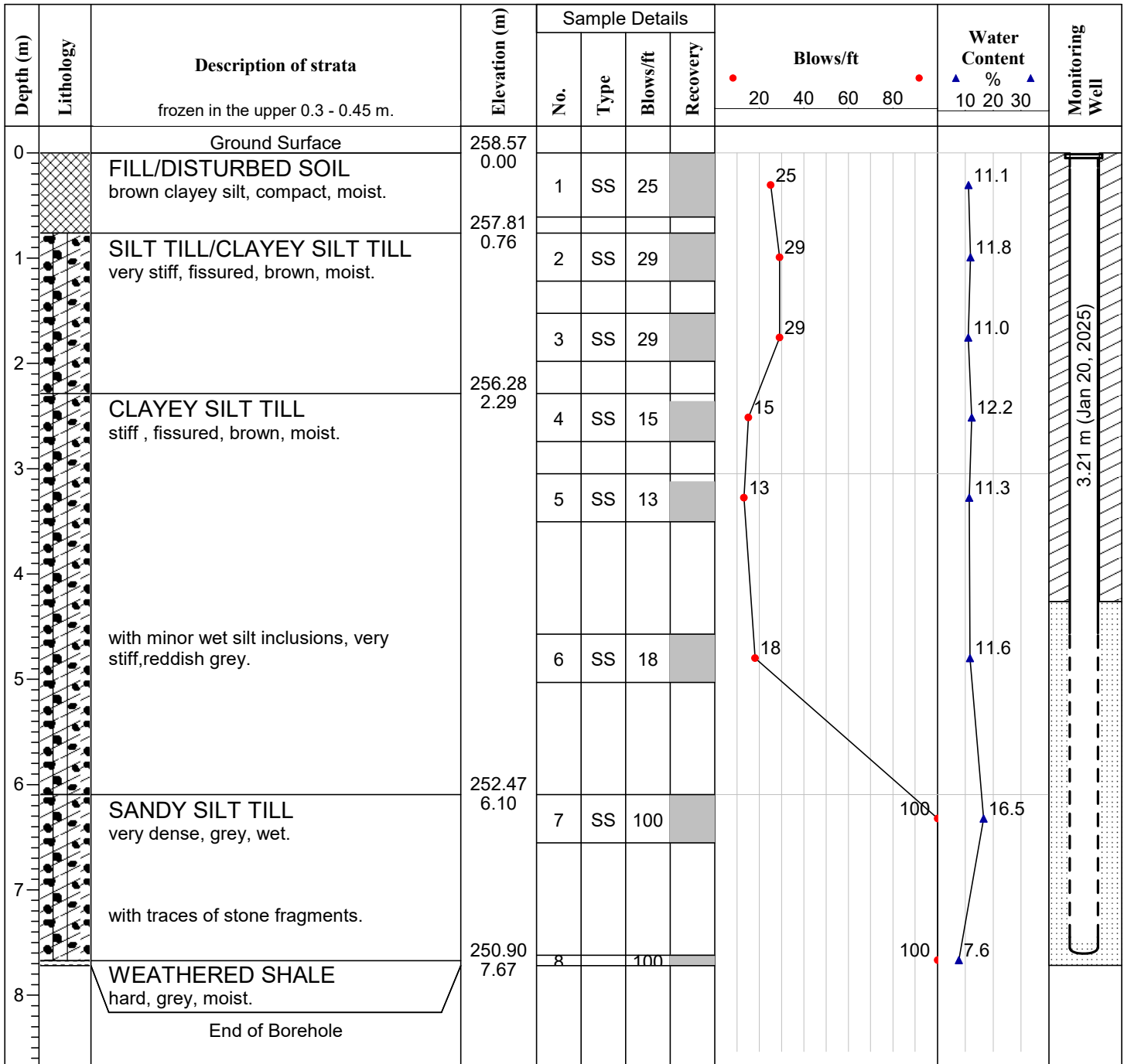
Log of Borehole BH/MW-1

Project: PROPOSED MAYFIELD WEST #2 PUBLIC SCHOOL

Client: PDSB c/o HOSSACK ARCHITECTURE

Enclosure: 2

Location: PETCH AVE. & TWEEDHILL AVE., CALEDON, ON.

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

-On Jan. 20, 2025, the water level in the installed well was measured at 3.21 m below EGL.

Drill Method: CME 55 - SOLID

Drill Date: 13 JAN. 2025

Datum: GEODETIC

Engineer: P.R.

Checked by: G.S.

Sheet No. 1 of 1

Project No: 7460

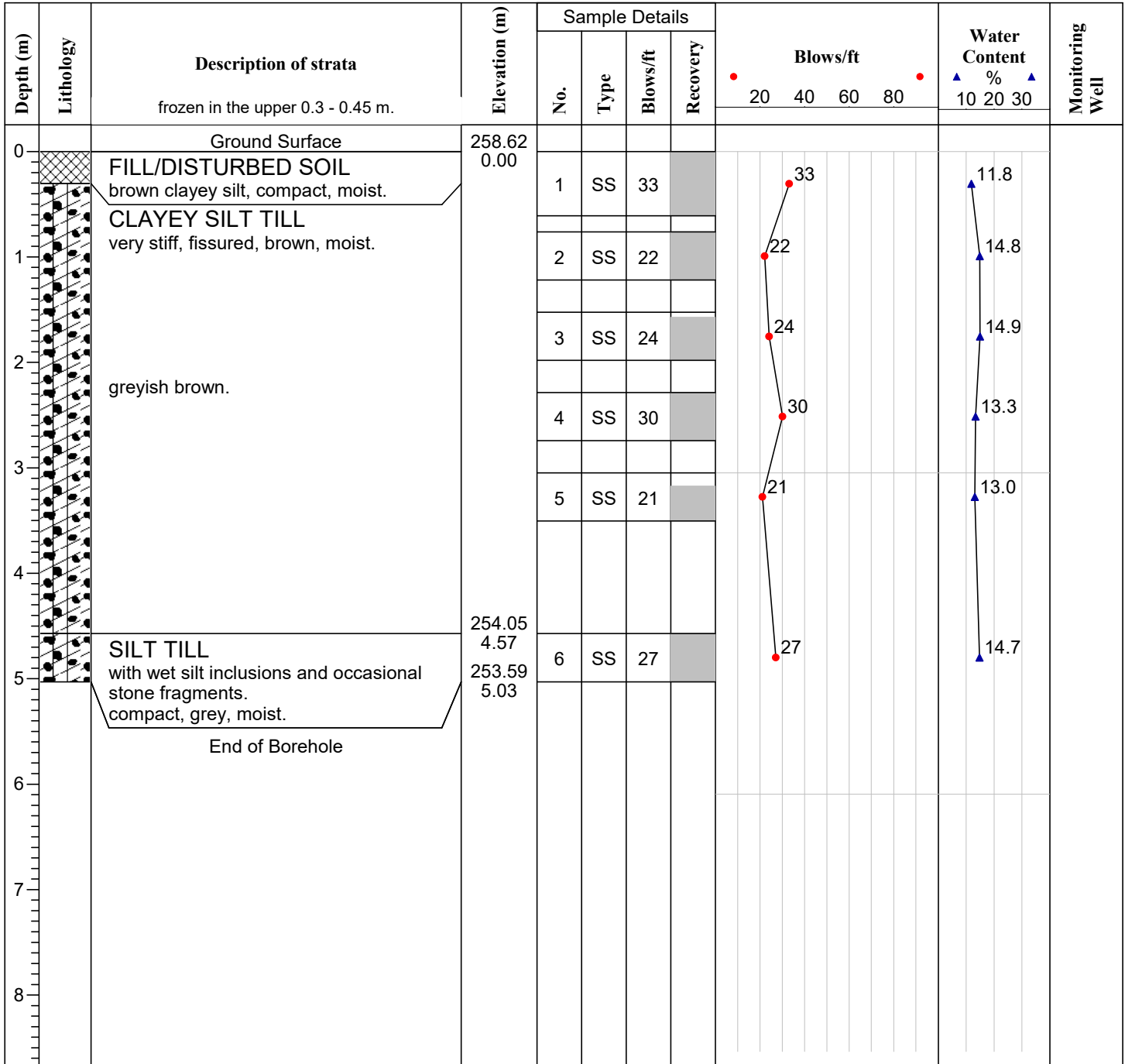
Log of Borehole BH-2

Project: PROPOSED MAYFIELD WEST #2 PUBLIC SCHOOL

Client: PDSB c/o HOSSACK ARCHITECTURE

Enclosure: 3

Location: PETCH AVE. & TWEEDHILL AVE., CALEDON, ON.

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

Drill Method: CME 55 - SOLID

Drill Date: 13 JAN. 2025

Datum: GEODETIC

Engineer: P.R.

Checked by: G.S.

Sheet No. 1 of 1

Project No: 7460

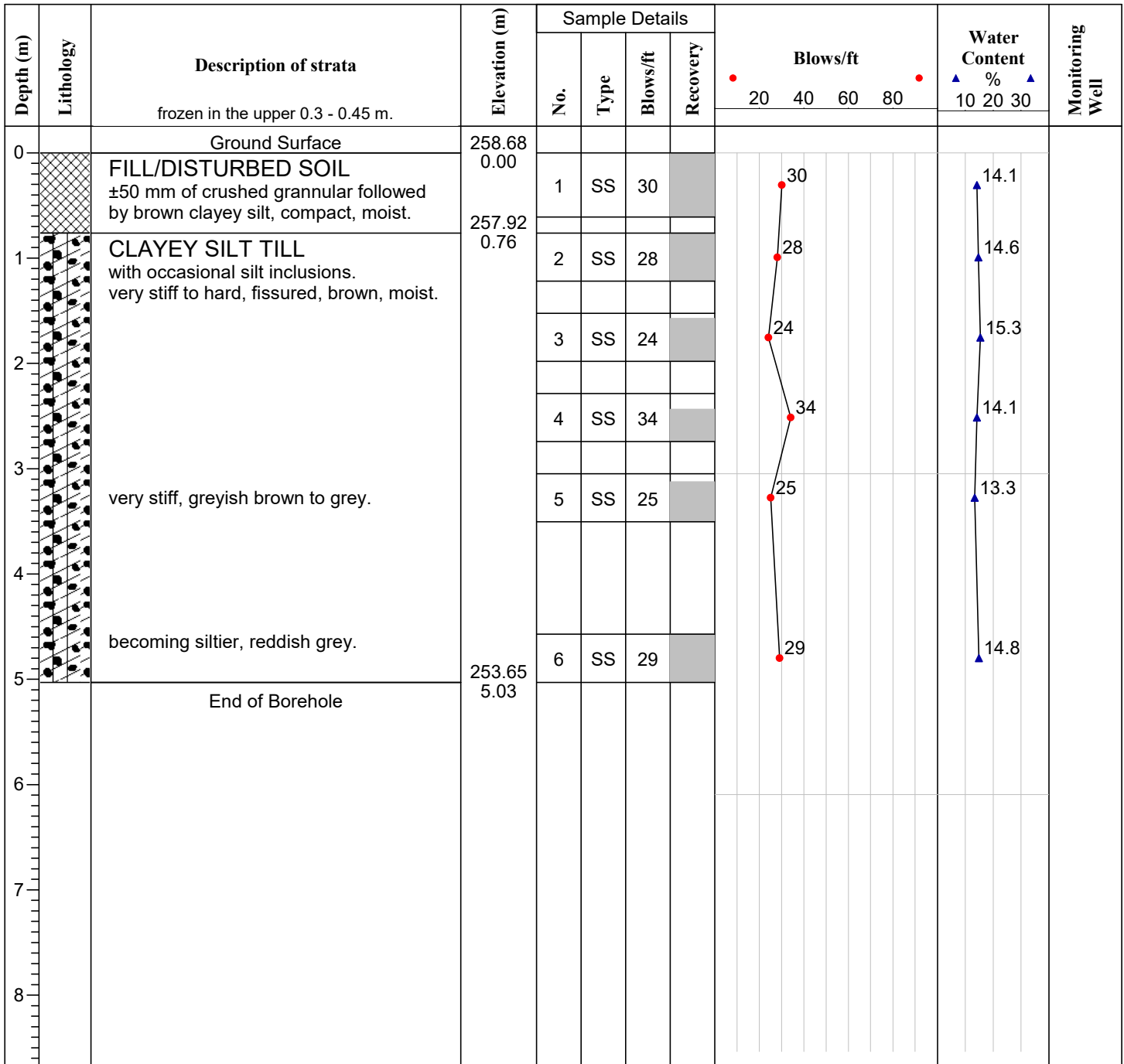
Log of Borehole BH-3

Project: PROPOSED MAYFIELD WEST #2 PUBLIC SCHOOL

Client: PDSB c/o HOSSACK ARCHITECTURE

Enclosure: 4

Location: PETCH AVE. & TWEEDHILL AVE., CALEDON, ON.

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

Drill Method: CME 55 - SOLID

Drill Date: 15 JAN. 2025

Datum: GEODETIC

Engineer: P.R.

Checked by: G.S.

Sheet No. 1 of 1

Project No: 7460

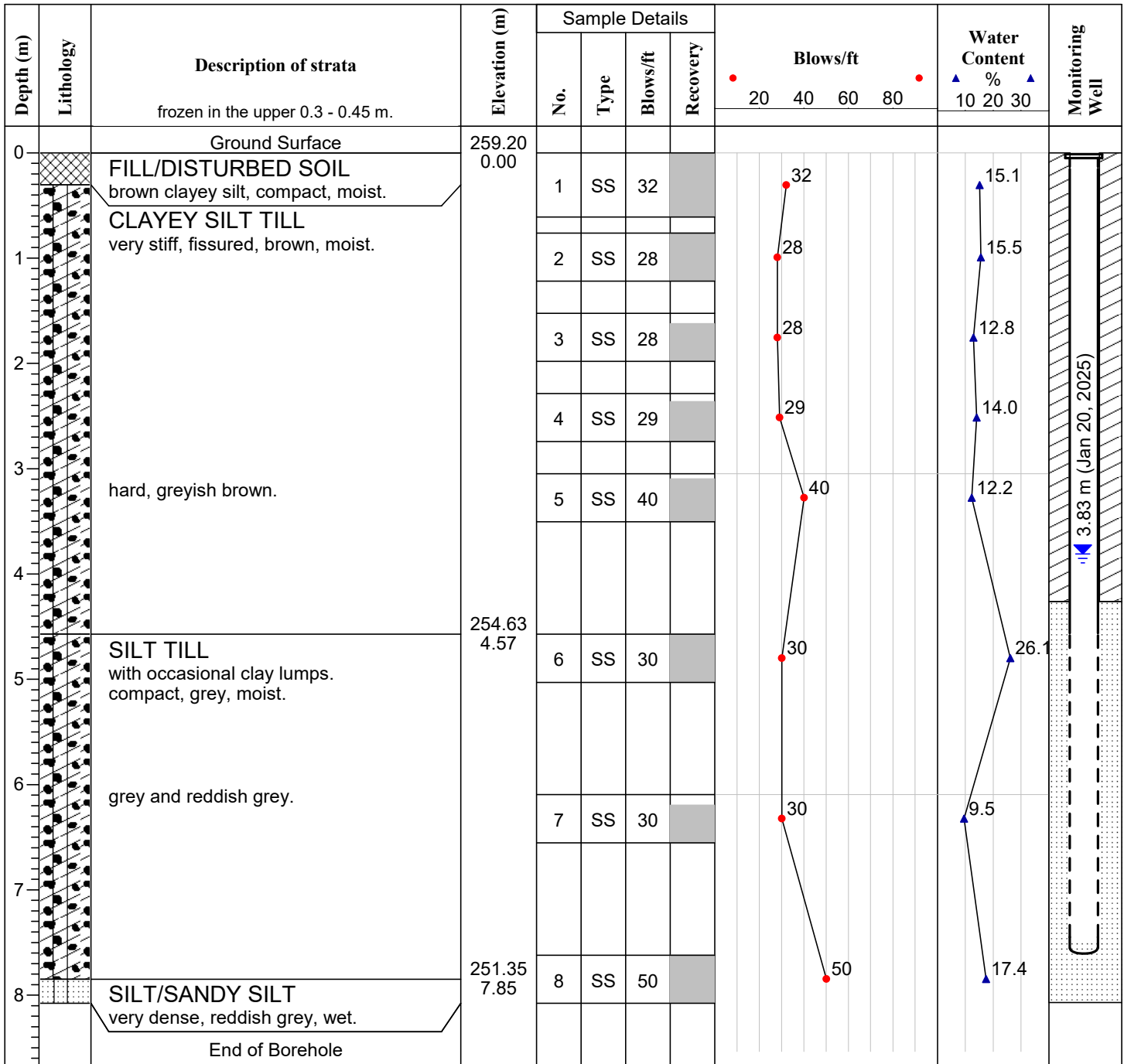
Log of Borehole BH/MW-4

Project: PROPOSED MAYFIELD WEST #2 PUBLIC SCHOOL

Client: PDSB c/o HOSSACK ARCHITECTURE

Enclosure: 5

Location: PETCH AVE. & TWEEDHILL AVE., CALEDON, ON.



Remarks: -Upon completion of drilling, the borehole was open and water level was measured at 7.5 m below EGSL.
 -On Jan. 20, 2025, the water level in the installed well was measured at 3.83 m below EGSL.

Drill Method: CME 55 - SOLID

Drill Date: 14 JAN. 2025

Datum: GEODETIC

Engineer: P.R.

Checked by: G.S.

Sheet No. 1 of 1

Project No: 7460

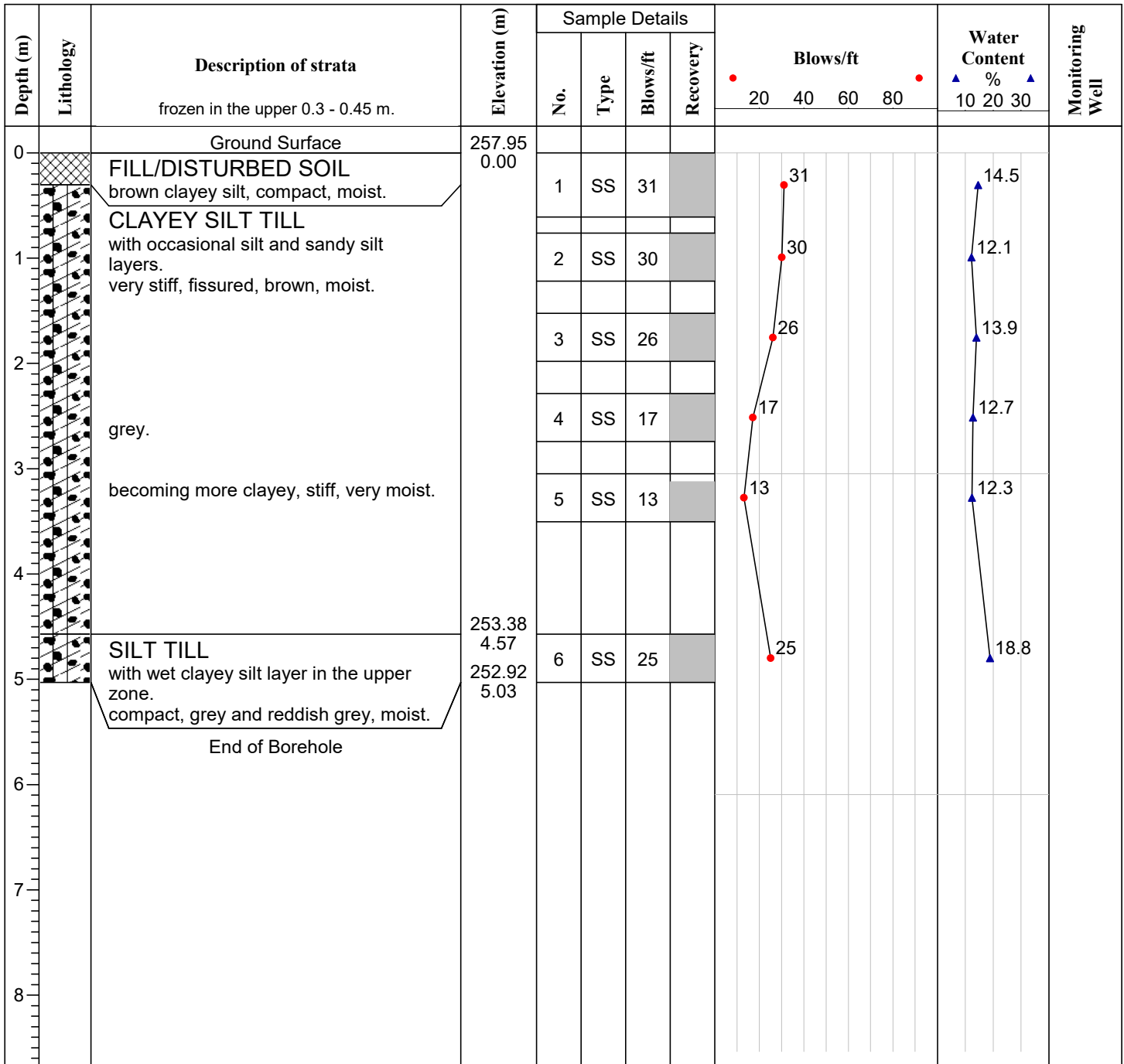
Log of Borehole BH-5

Project: PROPOSED MAYFIELD WEST #2 PUBLIC SCHOOL

Client: PDSB c/o HOSSACK ARCHITECTURE

Enclosure: 6

Location: PETCH AVE. & TWEEDHILL AVE., CALEDON, ON.

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

Drill Method: CME 55 - SOLID

Drill Date: 13 JAN. 2025

Datum: GEODETIC

Engineer: P.R.

Checked by: G.S.

Sheet No. 1 of 1

Project No: 7460

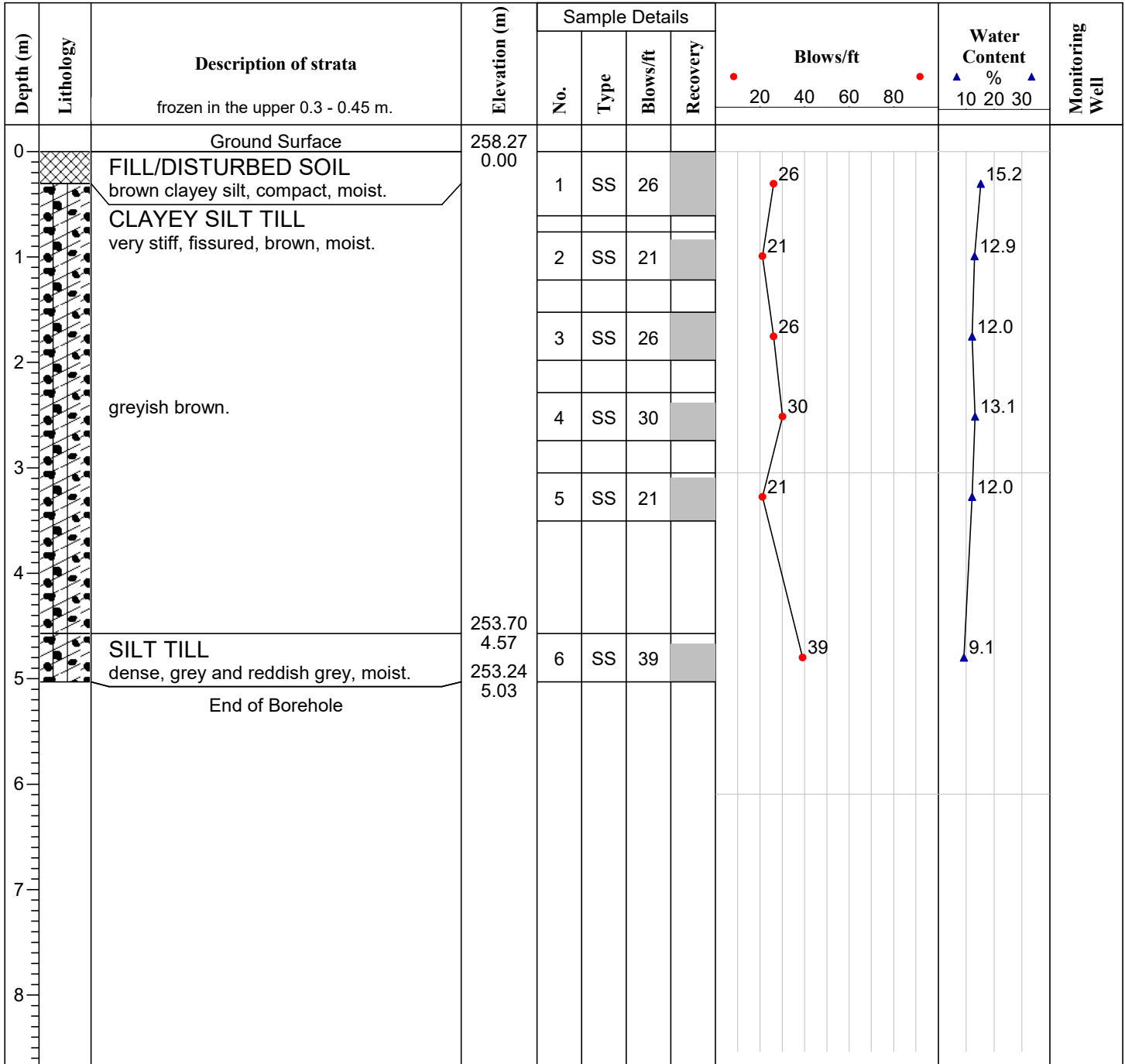
Log of Borehole BH-6

Project: PROPOSED MAYFIELD WEST #2 PUBLIC SCHOOL

Client: PDSB c/o HOSSACK ARCHITECTURE

Enclosure: 7

Location: PETCH AVE. & TWEEDHILL AVE., CALEDON, ON.

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

Drill Method: CME 55 - SOLID

Drill Date: 13 JAN. 2025

Datum: GEODETIC

Engineer: P.R.

Checked by: G.S.

Sheet No. 1 of 1

Project No: 7460

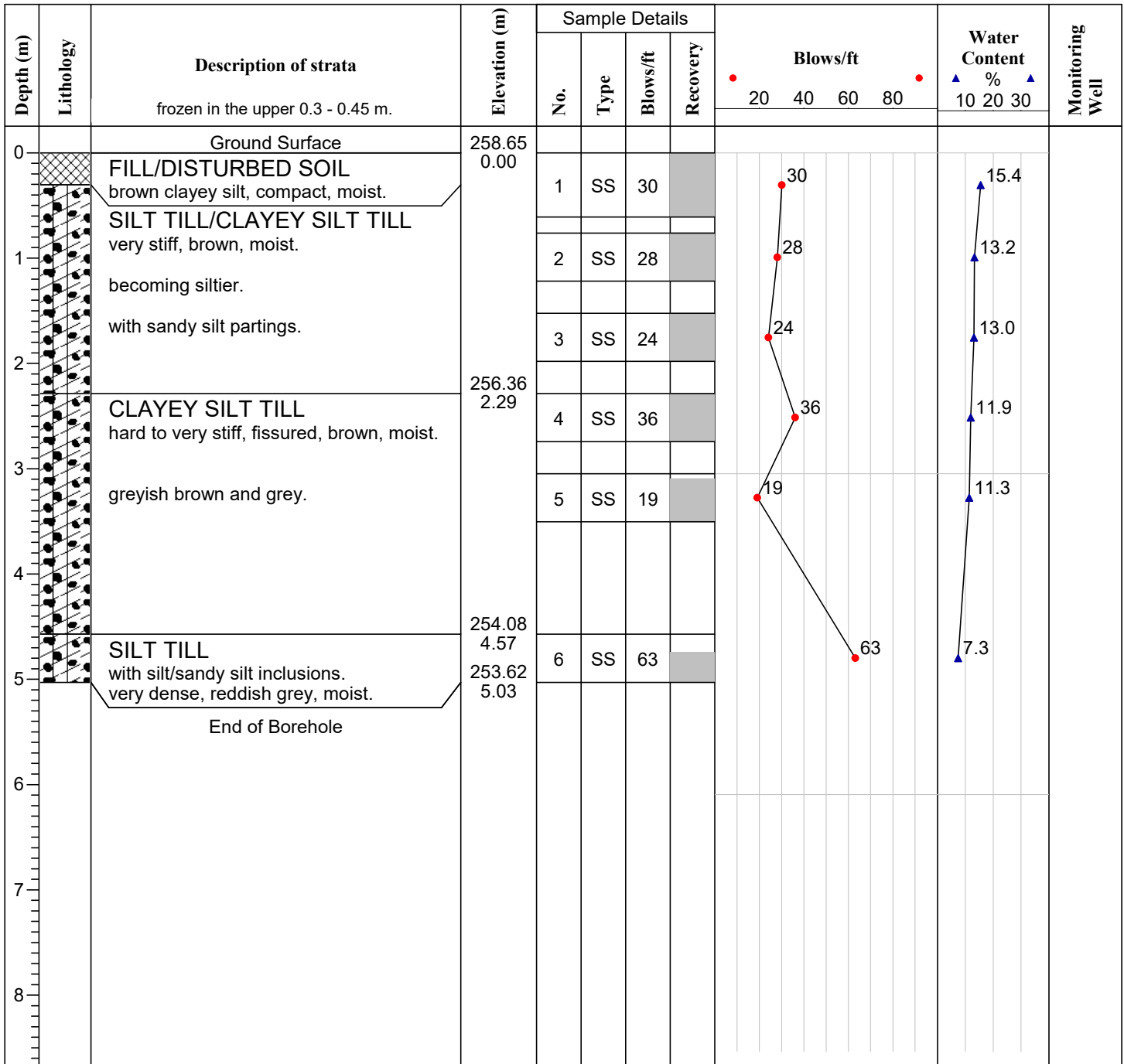
Log of Borehole BH-7

Project: PROPOSED MAYFIELD WEST #2 PUBLIC SCHOOL

Client: PDSB c/o HOSSACK ARCHITECTURE

Enclosure: 8

Location: PETCH AVE. & TWEEDHILL AVE., CALEDON, ON.

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

Drill Method: CME 55 - SOLID

Drill Date: 14 JAN. 2025

Datum: GEODETIC

Engineer: P.R.

Checked by: G.S.

Sheet No. 1 of 1

Project No: 7460

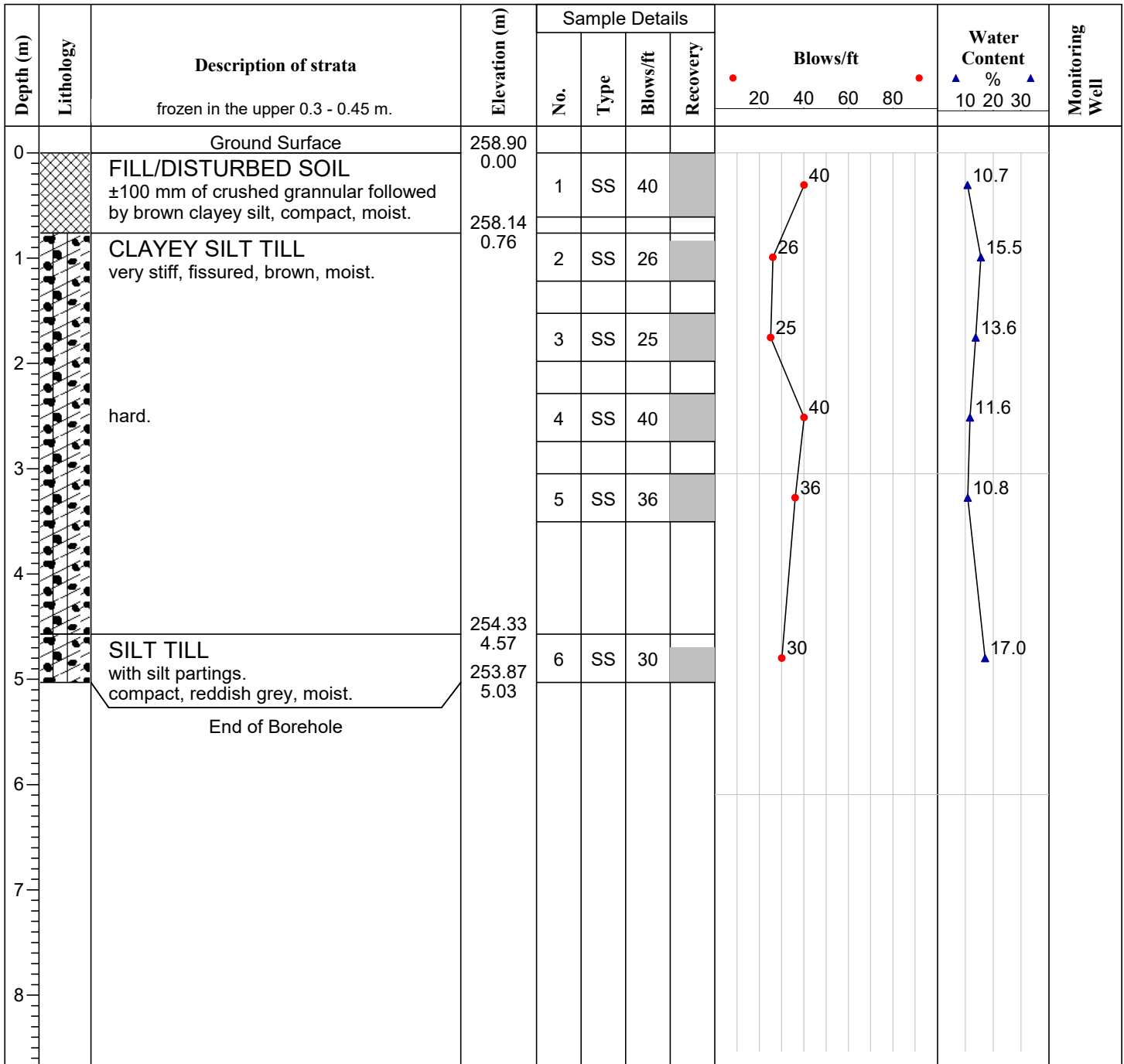
Log of Borehole BH-8

Project: PROPOSED MAYFIELD WEST #2 PUBLIC SCHOOL

Client: PDSB c/o HOSSACK ARCHITECTURE

Enclosure: 9

Location: PETCH AVE. & TWEEDHILL AVE., CALEDON, ON.

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

Drill Method: CME 55 - SOLID

Drill Date: 14 JAN. 2025

Datum: GEODETIC

Engineer: P.R.

Checked by: G.S.

Sheet No. 1 of 1

Project No: 7460

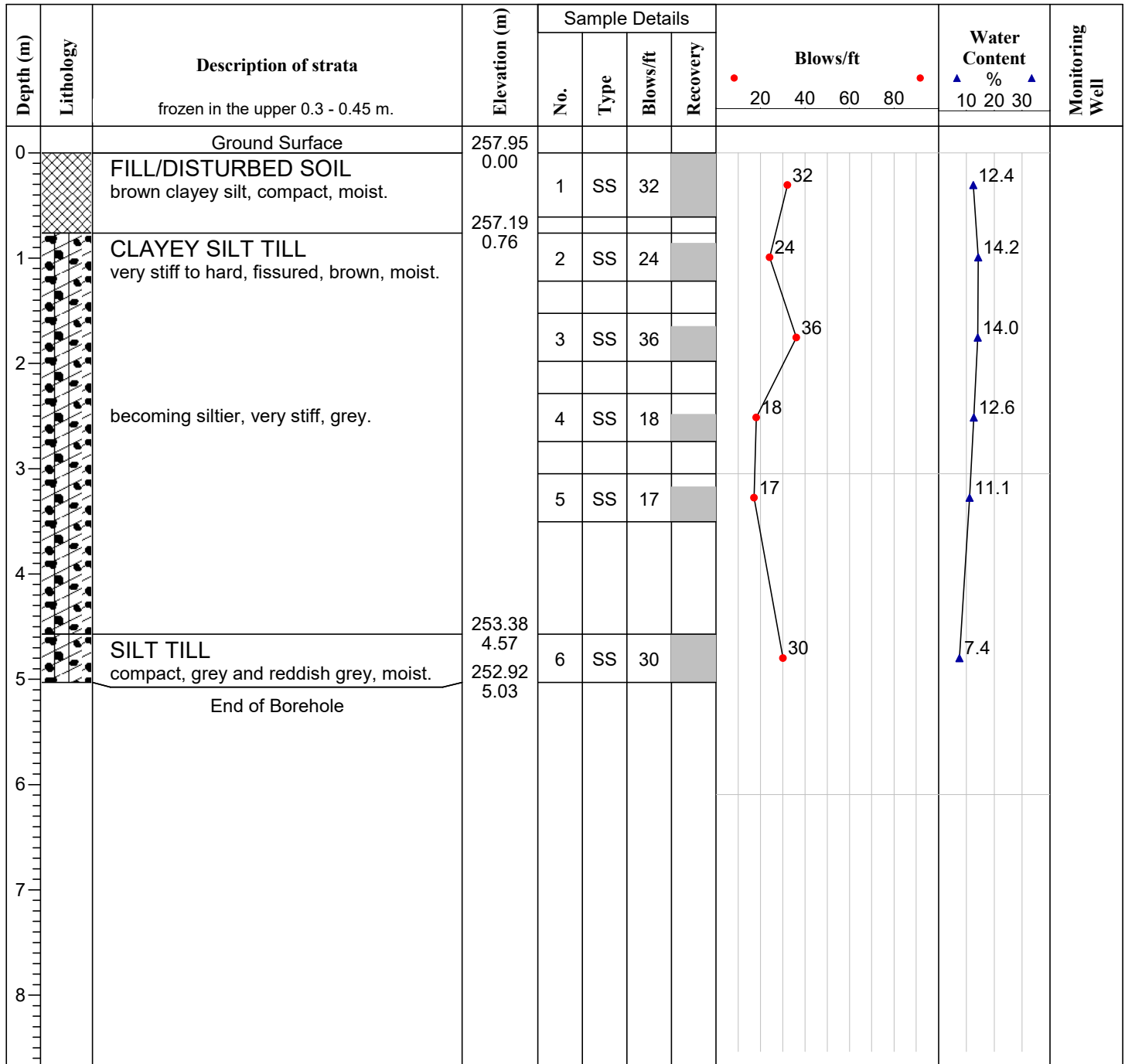
Log of Borehole BH-9

Project: PROPOSED MAYFIELD WEST #2 PUBLIC SCHOOL

Client: PDSB c/o HOSSACK ARCHITECTURE

Enclosure: 10

Location: PETCH AVE. & TWEEDHILL AVE., CALEDON, ON.

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

Drill Method: CME 55 - SOLID

Drill Date: 13 JAN. 2025

Datum: GEODETIC

Engineer: P.R.

Checked by: G.S.

Sheet No. 1 of 1

Project No: 7460

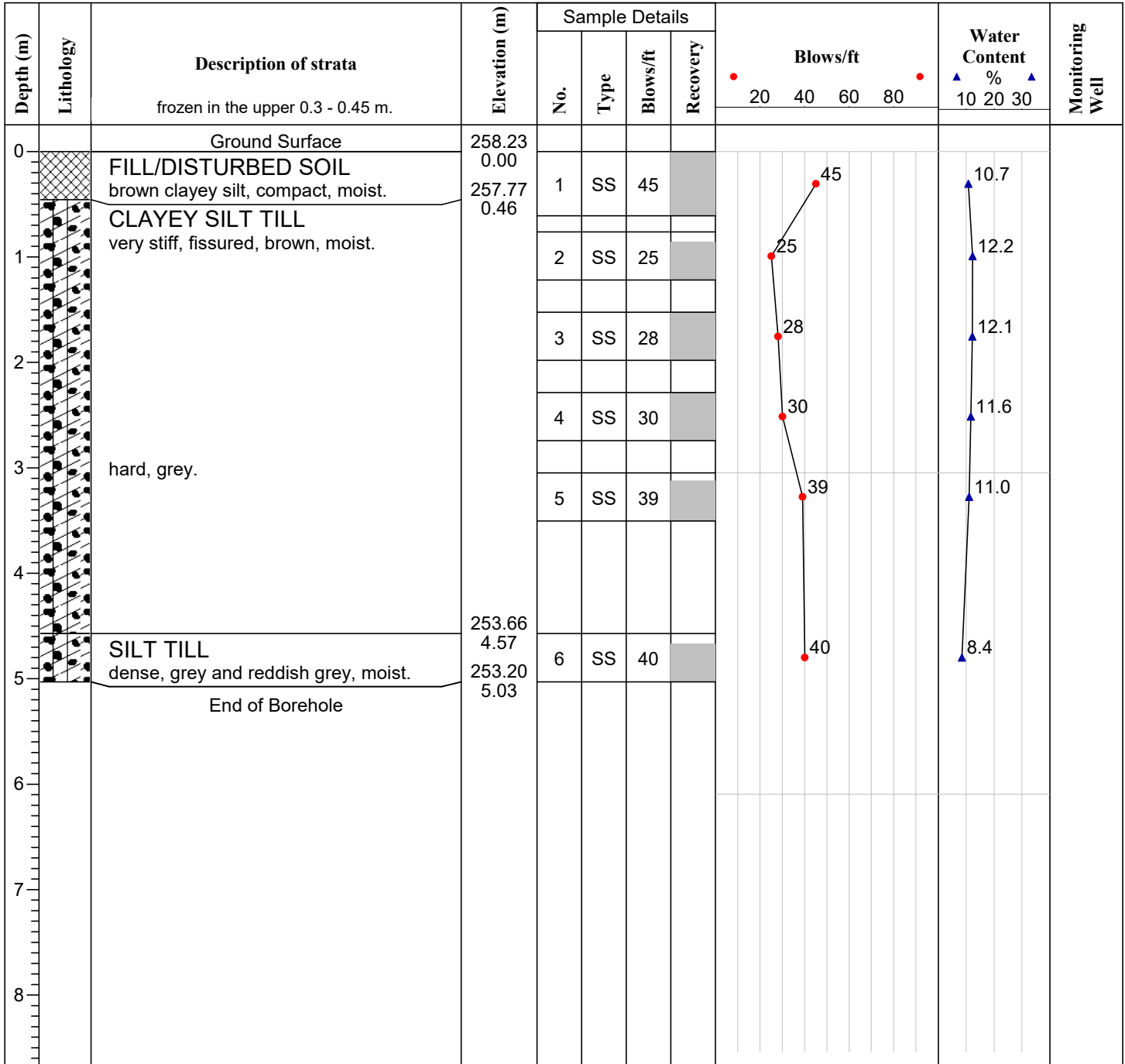
Log of Borehole BH-10

Project: PROPOSED MAYFIELD WEST #2 PUBLIC SCHOOL

Client: PDSB c/o HOSSACK ARCHITECTURE

Enclosure: 11

Location: PETCH AVE. & TWEEDHILL AVE., CALEDON, ON.

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

Drill Method: CME 55 - SOLID

Drill Date: 13 JAN. 2025

Datum: GEODETIC

Engineer: P.R.

Checked by: G.S.

Sheet No. 1 of 1

Project No: 7460

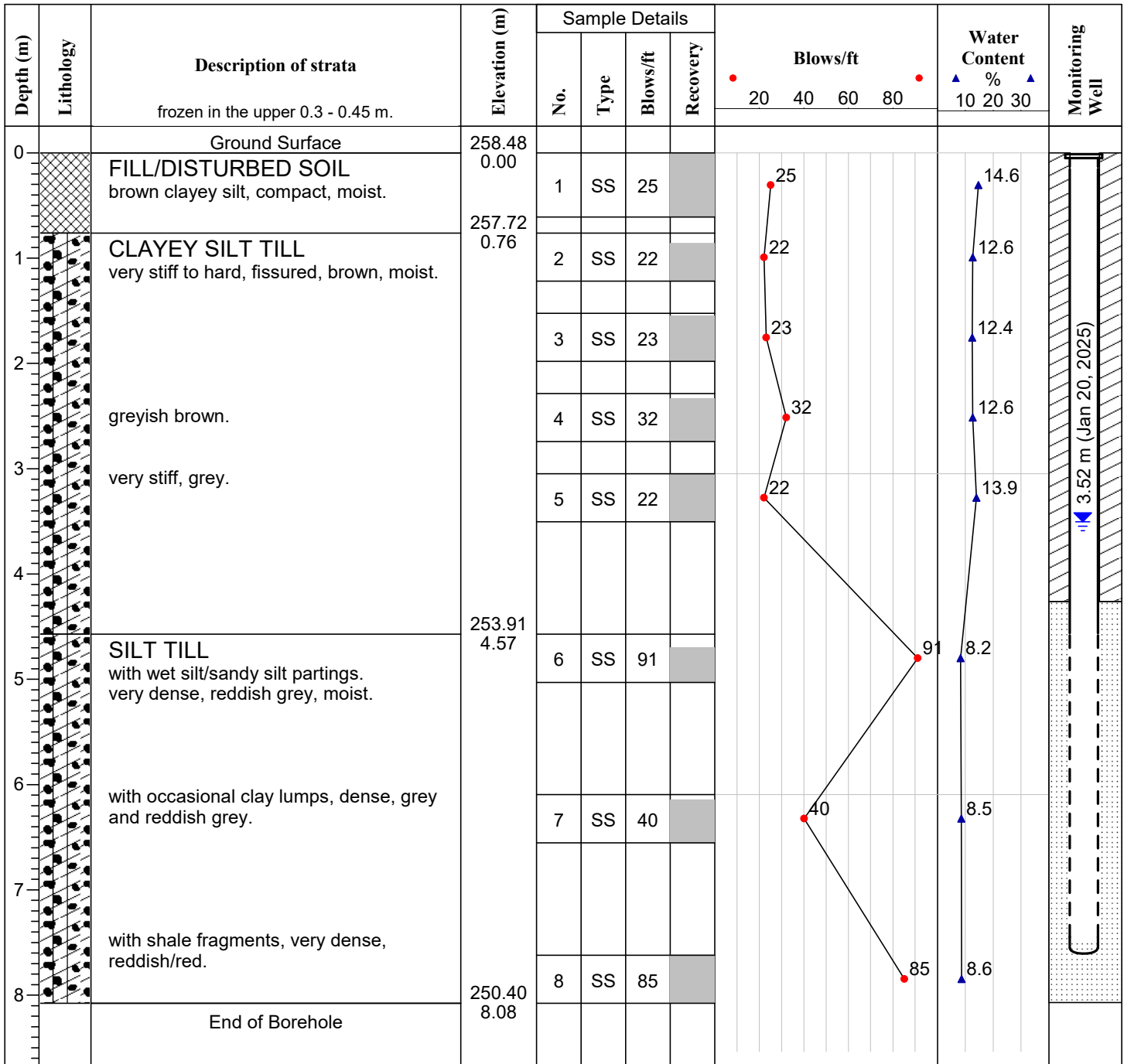
Log of Borehole BH/MW-11

Project: PROPOSED MAYFIELD WEST #2 PUBLIC SCHOOL

Client: PDSB c/o HOSSACK ARCHITECTURE

Enclosure: 12

Location: PETCH AVE. & TWEEDHILL AVE., CALEDON, ON.



Remarks: -Upon completion of drilling, the borehole was open and water level was measured at 7.3 m below EGSL.
 -On Jan. 20, 2025, the water level in the installed well was measured at 3.52 m below EGSL.

Drill Method: CME 55 - SOLID

Drill Date: 15 JAN. 2025

Datum: GEODETIC

Engineer: P.R.

Checked by: G.S.

Sheet No. 1 of 1

Project No: 7460

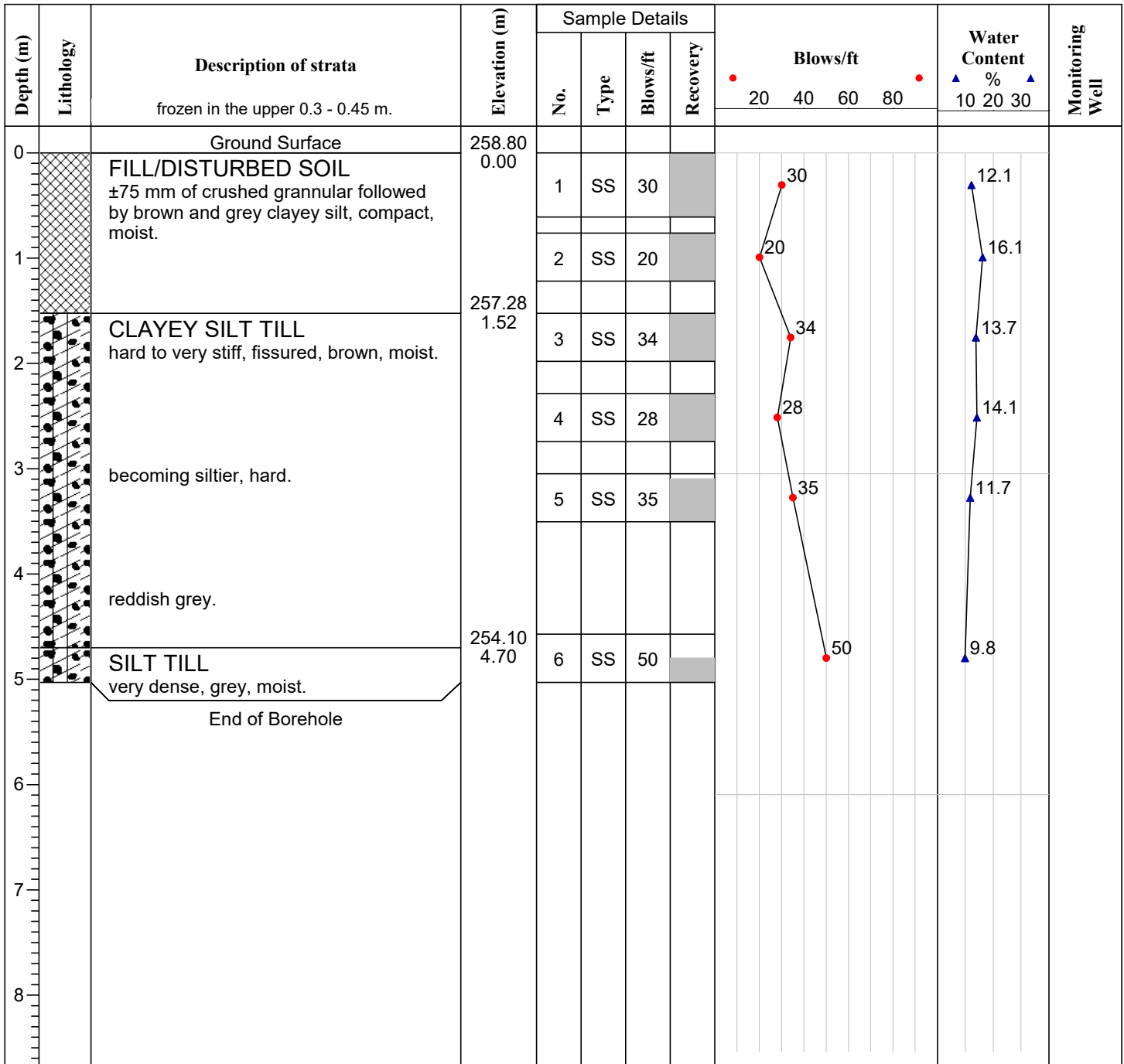
Log of Borehole BH-12

Project: PROPOSED MAYFIELD WEST #2 PUBLIC SCHOOL

Client: PDSB c/o HOSSACK ARCHITECTURE

Enclosure: 13

Location: PETCH AVE. & TWEEDHILL AVE., CALEDON, ON.

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

Drill Method: CME 55 - SOLID

Drill Date: 14 JAN. 2025

Datum: GEODETIC

Engineer: P.R.

Checked by: G.S.

Sheet No. 1 of 1

Project No: 7460

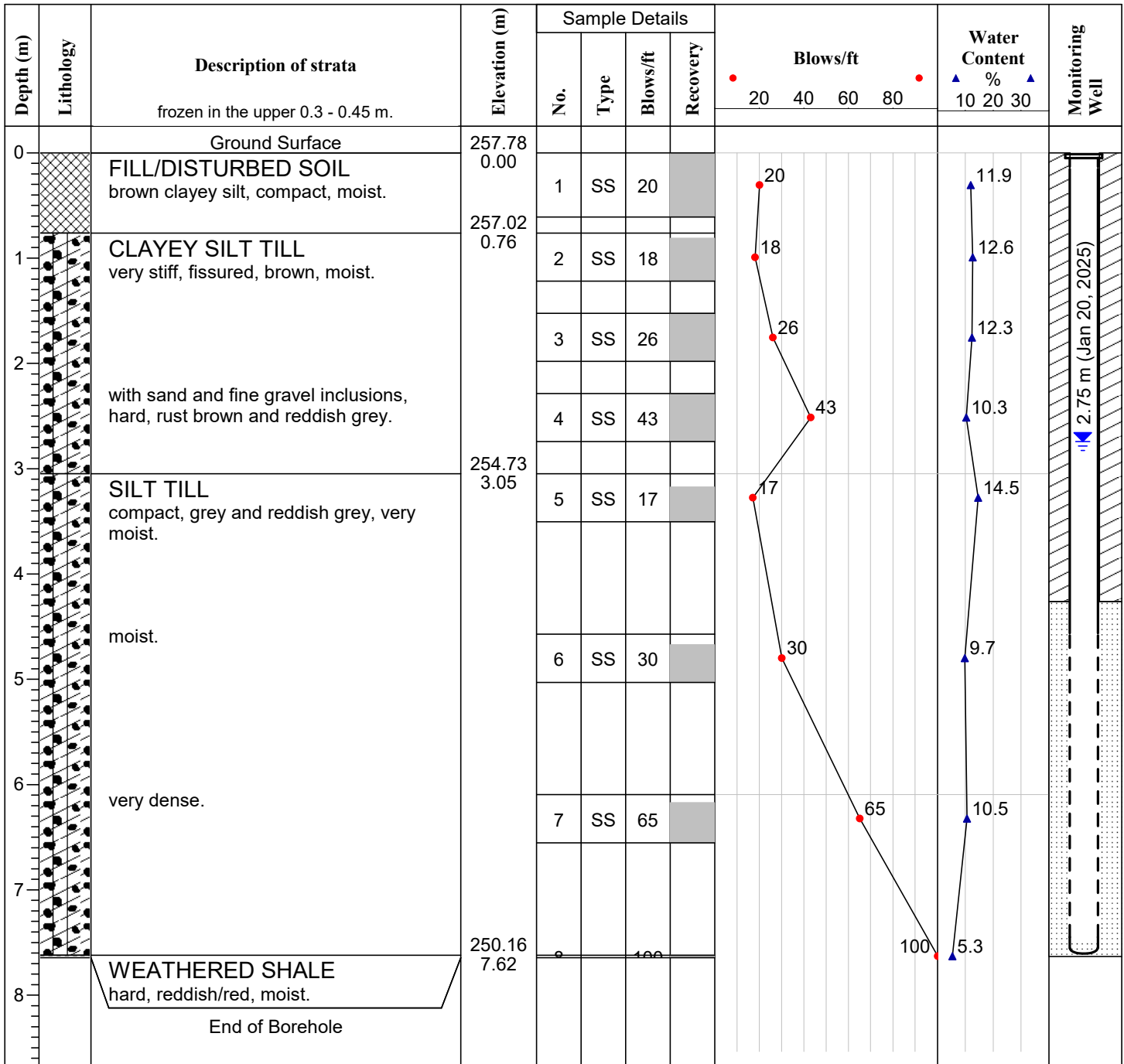
Log of Borehole BH/MW-13

Project: PROPOSED MAYFIELD WEST #2 PUBLIC SCHOOL

Client: PDSB c/o HOSSACK ARCHITECTURE

Enclosure: 14

Location: PETCH AVE. & TWEEDHILL AVE., CALEDON, ON.



Remarks: -Upon completion of drilling, the borehole was open and water level was measured at 7.3 m below EGSL.
 -On Jan. 20, 2025, the water level in the installed well was measured at 2.75 m below EGSL.

Drill Method: CME 55 - SOLID

Drill Date: 13 JAN. 2025

Datum: GEODETIC

Engineer: P.R.

Checked by: G.S.

Sheet No. 1 of 1

Project No: 7460

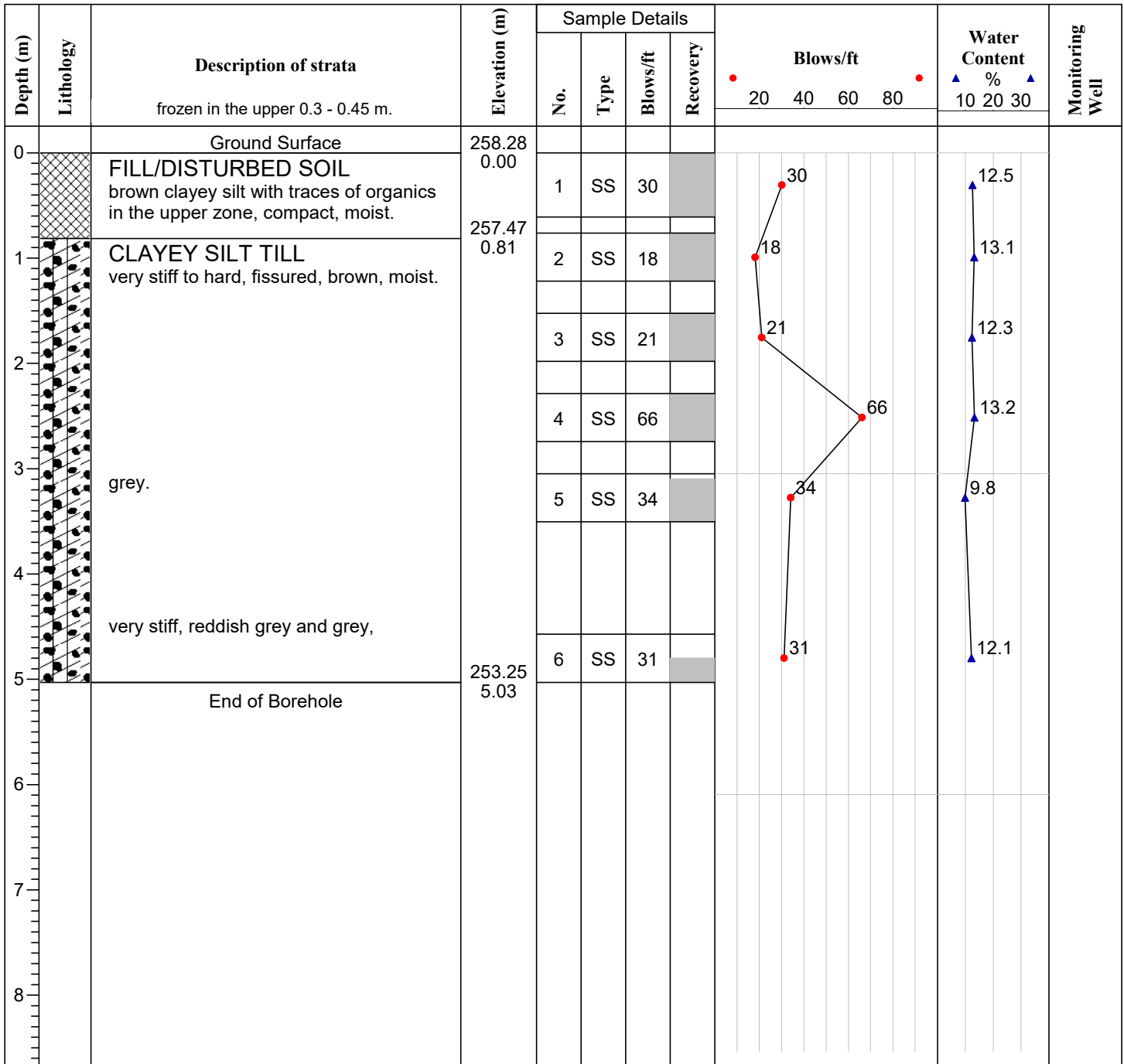
Log of Borehole BH-14

Project: PROPOSED MAYFIELD WEST #2 PUBLIC SCHOOL

Client: PDSB c/o HOSSACK ARCHITECTURE

Enclosure: 15

Location: PETCH AVE. & TWEEDHILL AVE., CALEDON, ON.



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

Drill Method: CME 55 - SOLID

Drill Date: 13 JAN. 2025

Datum: GEODETIC

Engineer: P.R.

Checked by: G.S.

Sheet No. 1 of 1

Project No: 7460

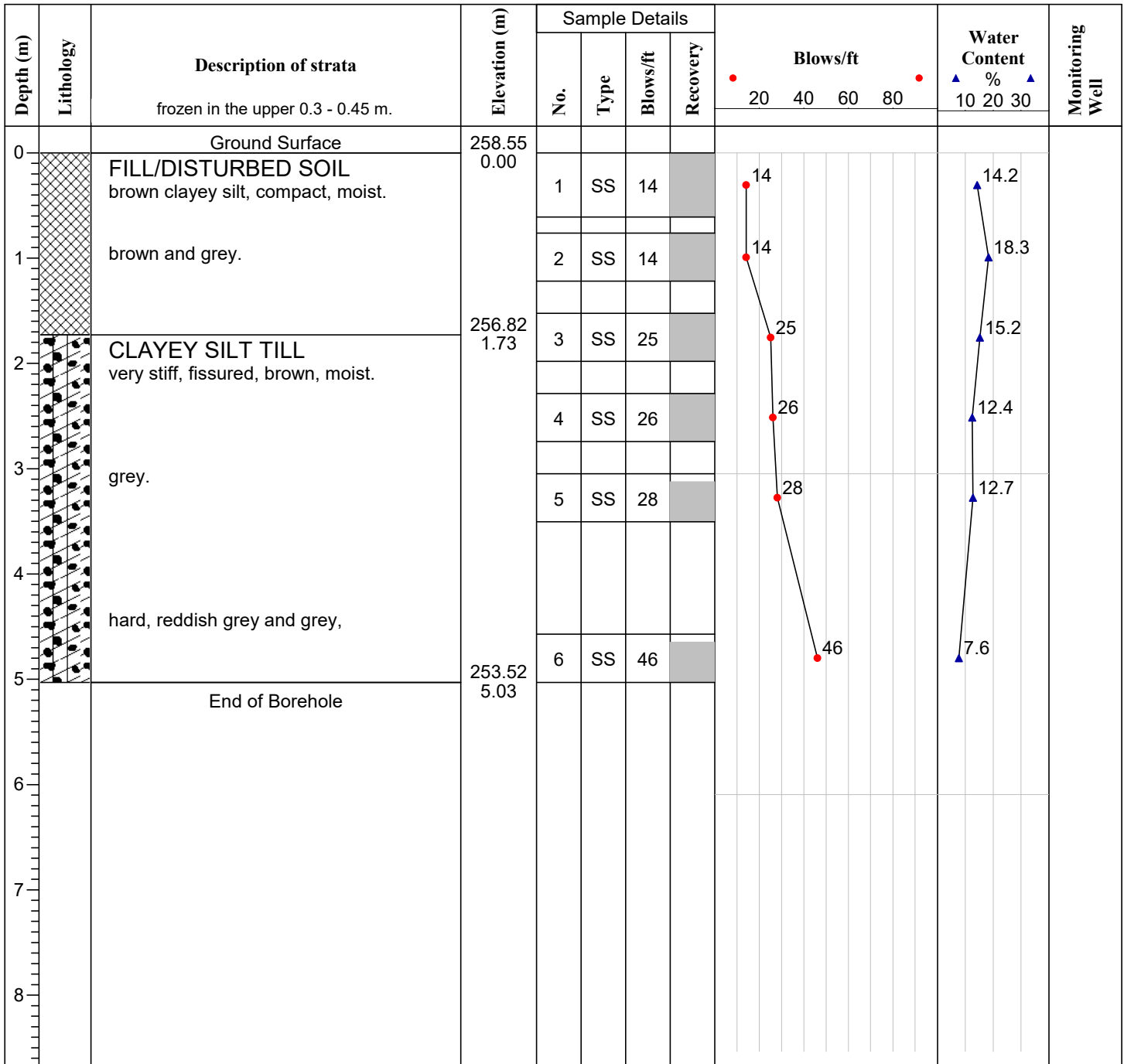
Log of Borehole BH-15

Project: PROPOSED MAYFIELD WEST #2 PUBLIC SCHOOL

Client: PDSB c/o HOSSACK ARCHITECTURE

Enclosure: 16

Location: PETCH AVE. & TWEEDHILL AVE., CALEDON, ON.

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

Drill Method: CME 55 - SOLID

Drill Date: 14 JAN. 2025

Datum: GEODETIC

Engineer: P.R.

Checked by: G.S.

Sheet No. 1 of 1

Project No: 7460

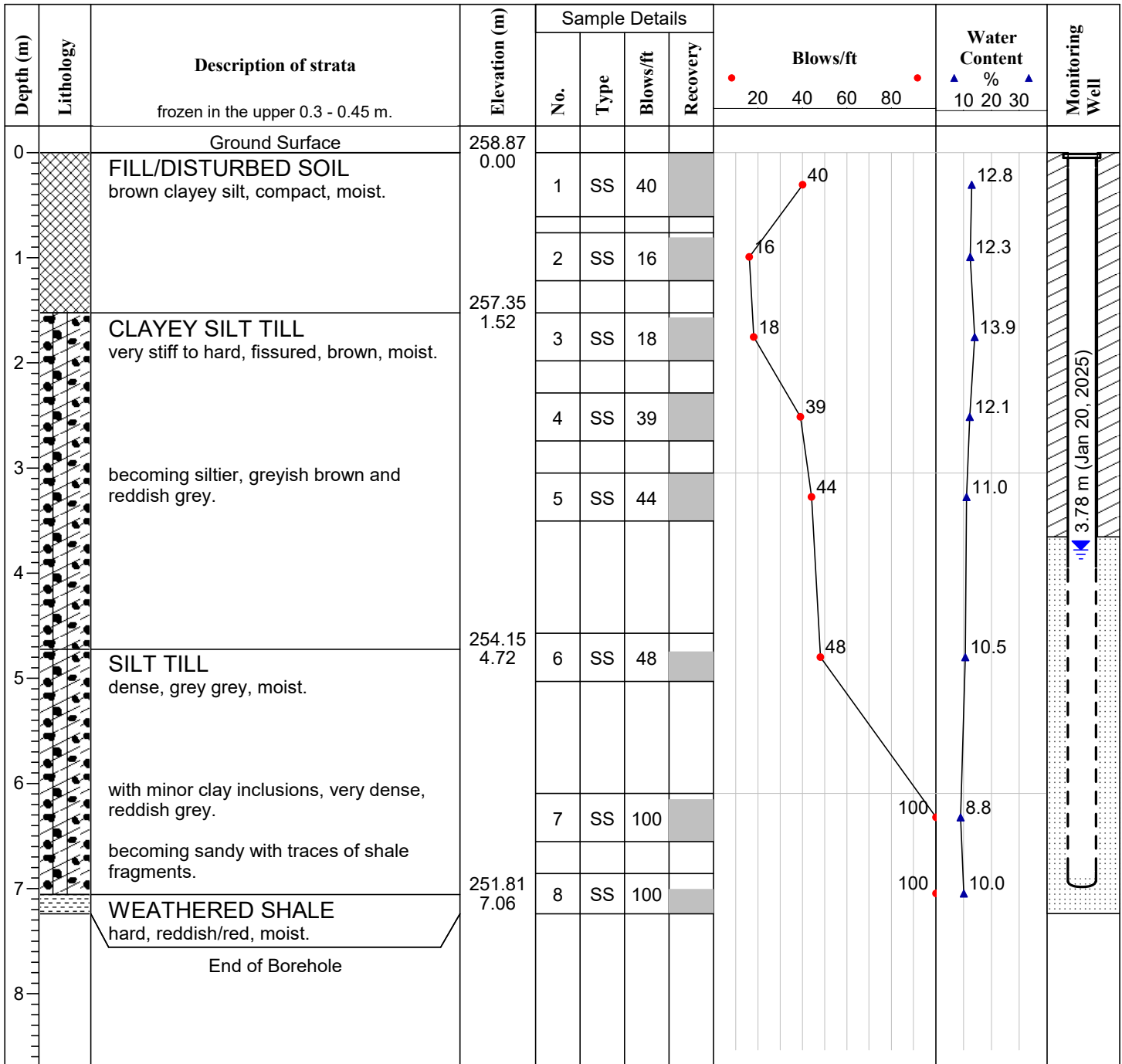
Log of Borehole BH/MW-16

Project: PROPOSED MAYFIELD WEST #2 PUBLIC SCHOOL

Client: PDSB c/o HOSSACK ARCHITECTURE

Enclosure: 17

Location: PETCH AVE. & TWEEDHILL AVE., CALEDON, ON.

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

-On Jan. 20, 2025, the water level in the installed well was measured at 3.78 m below EGSL.

Drill Method: CME 55 - SOLID

Drill Date: 14 JAN. 2025

Datum: GEODETIC

Engineer: P.R.

Checked by: G.S.

Sheet No. 1 of 1

Project No: 7460

Log of Borehole BH-17

Project: PROPOSED MAYFIELD WEST #2 PUBLIC SCHOOL

Client: PDSB c/o HOSSACK ARCHITECTURE

Enclosure: 18

Location: PETCH AVE. & TWEEDHILL AVE., CALEDON, ON.

Depth (m)	Lithology	Description of strata	Elevation (m)	Sample Details				Blows/ft	Water Content %	Monitoring Well
				No.	Type	Blows/ft	Recovery			
		frozen in the upper 0.3 - 0.45 m.								
0		Ground Surface	259.10							
		FILL/DISTURBED SOIL	0.00	1	SS	28		28	13.1	
		brown and grey clayey silt, compact, moist.								
1			257.93	2	SS	23		23	16.8	
		CLAYEY SILT TILL	1.17							
		very stiff, fissured, brown, moist.								
2				3	SS	25		25	14.8	
3				4	SS	24		24	13.3	
		greyish brown,								
			255.60	5	SS	31		31	11.7	
		End of Borehole	3.51							
4										
5										
6										
7										
8										

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

Drill Method: CME 55 - SOLID

Drill Date: 15 JAN. 2025

Datum: GEODETIC

Engineer: P.R.

Checked by: G.S.

Sheet No. 1 of 1

Project No: 7460

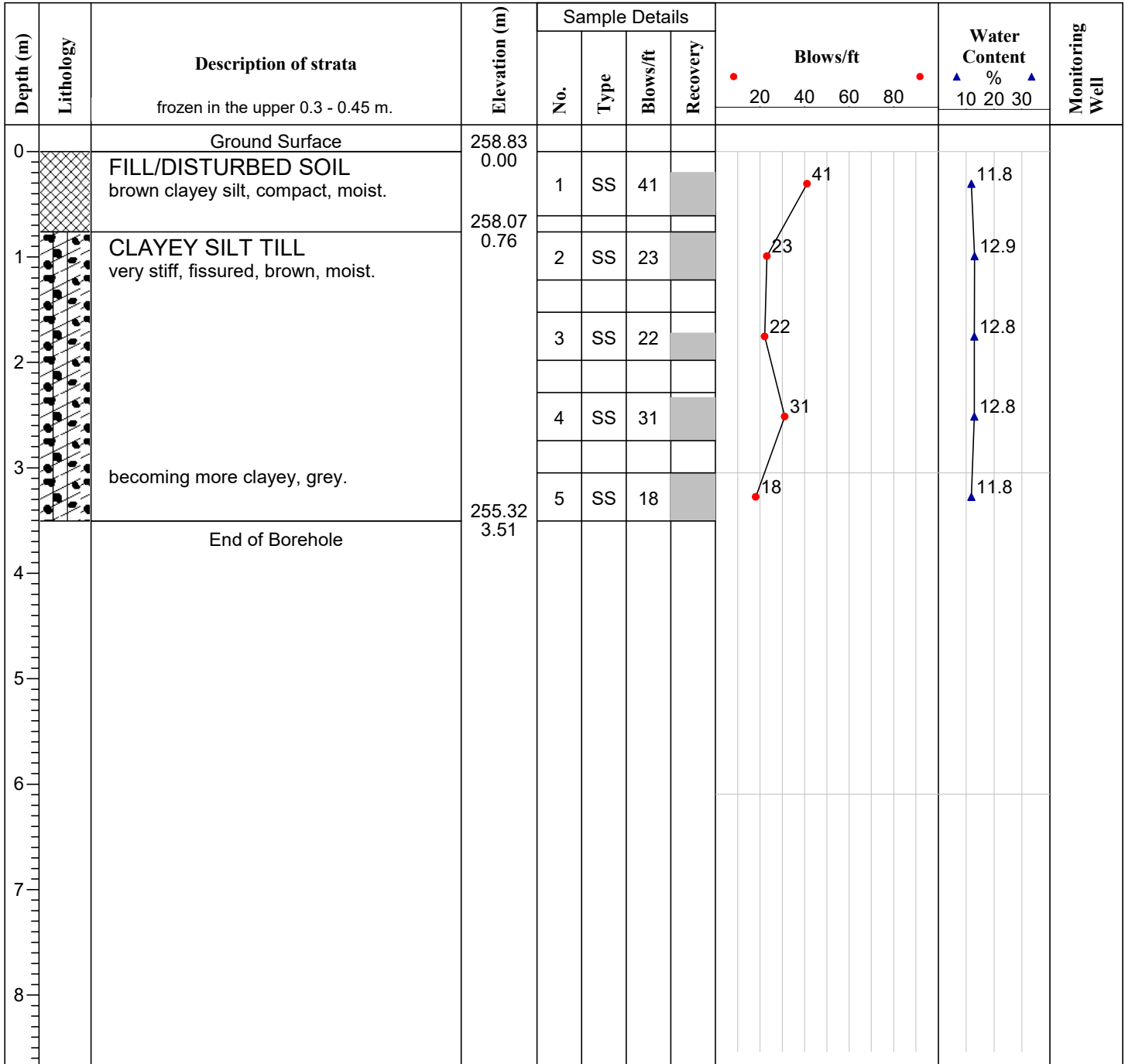
Log of Borehole BH-18

Project: PROPOSED MAYFIELD WEST #2 PUBLIC SCHOOL

Client: PDSB c/o HOSSACK ARCHITECTURE

Enclosure: 19

Location: PETCH AVE. & TWEEDHILL AVE., CALEDON, ON.

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

Drill Method: CME 55 - SOLID

Drill Date: 15 JAN. 2025

Datum: GEODETIC

Engineer: P.R.

Checked by: G.S.

Sheet No. 1 of 1

Project No: 7460

Log of Borehole BH-19

Project: PROPOSED MAYFIELD WEST #2 PUBLIC SCHOOL

Client: PDSB c/o HOSSACK ARCHITECTURE

Enclosure: 20

Location: PETCH AVE. & TWEEDHILL AVE., CALEDON, ON.

Depth (m)	Lithology	Description of strata frozen in the upper 0.3 - 0.45 m.	Elevation (m)	Sample Details				Blows/ft 20 40 60 80	Water Content % ▲ 10 20 30 ▲	Monitoring Well
				No.	Type	Blows/ft	Recovery			
0		Ground Surface	258.85							
		FILL/DISTURBED SOIL brown clayey silt, compact, moist.	0.00	1	SS	25		25	12.6	
1		CLAYEY SILT TILL very stiff, brown, moist.		2	SS	20		20	14.4	
2		becoming siltier, hard to very stiff.		3	SS	32		32	14.3	
		with sandy silt layer.		4	SS	30		30	13.5	
3		fissured.		5	SS	24		24	13.4	
		End of Borehole	255.35 3.51							
4										
5										
6										
7										
8										

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

Drill Method: CME 55 - SOLID

Drill Date: 14 JAN. 2025

Datum: GEODETIC

Engineer: P.R.

Checked by: G.S.

Sheet No. 1 of 1

Project No: 7460

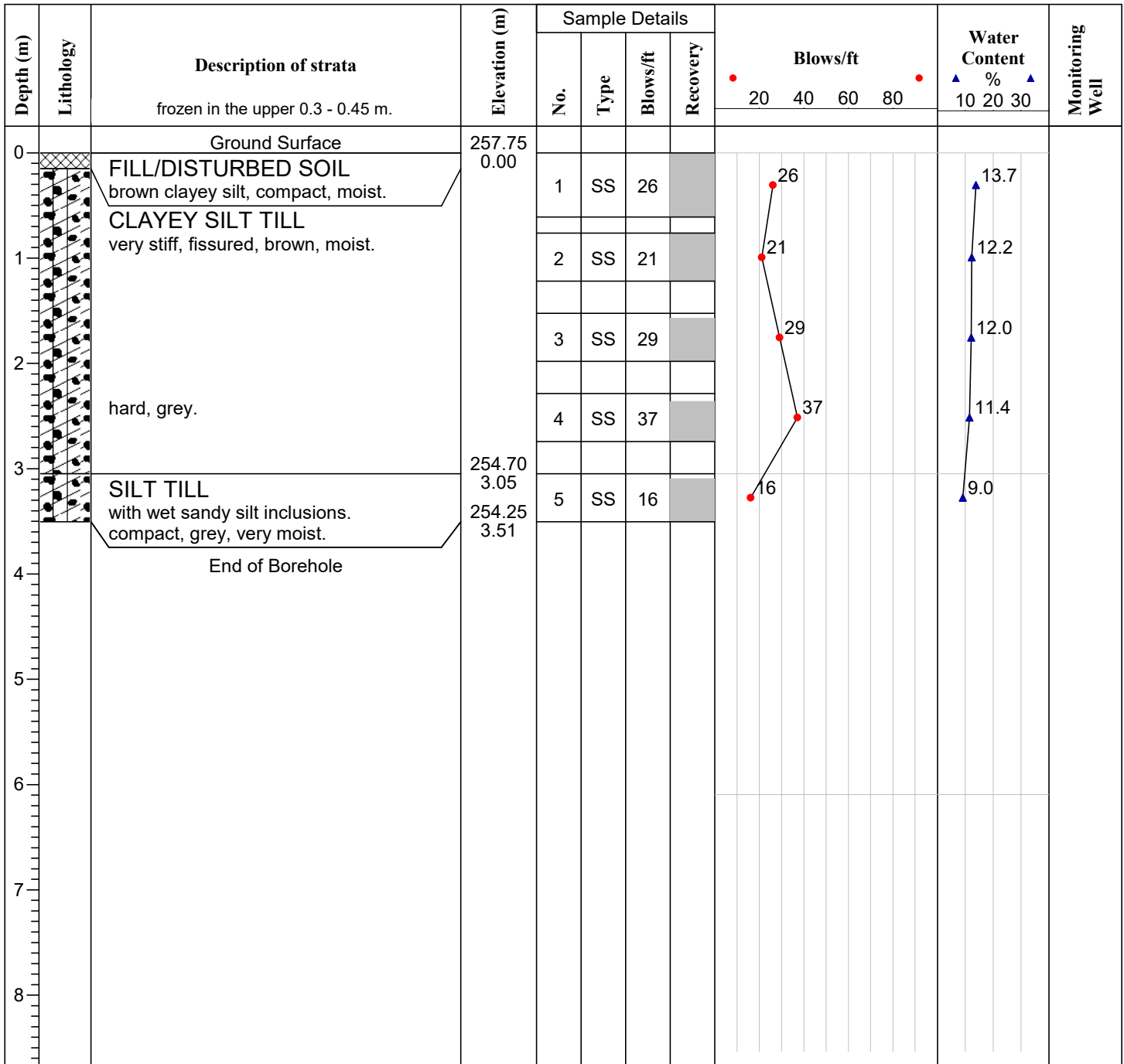
Log of Borehole BH-20

Project: PROPOSED MAYFIELD WEST #2 PUBLIC SCHOOL

Client: PDSB c/o HOSSACK ARCHITECTURE

Enclosure: 21

Location: PETCH AVE. & TWEEDHILL AVE., CALEDON, ON.

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

Drill Method: CME 55 - SOLID

Drill Date: 15 JAN. 2025

Datum: GEODETIC

Engineer: P.R.

Checked by: G.S.

Sheet No. 1 of 1

Project No: 7460

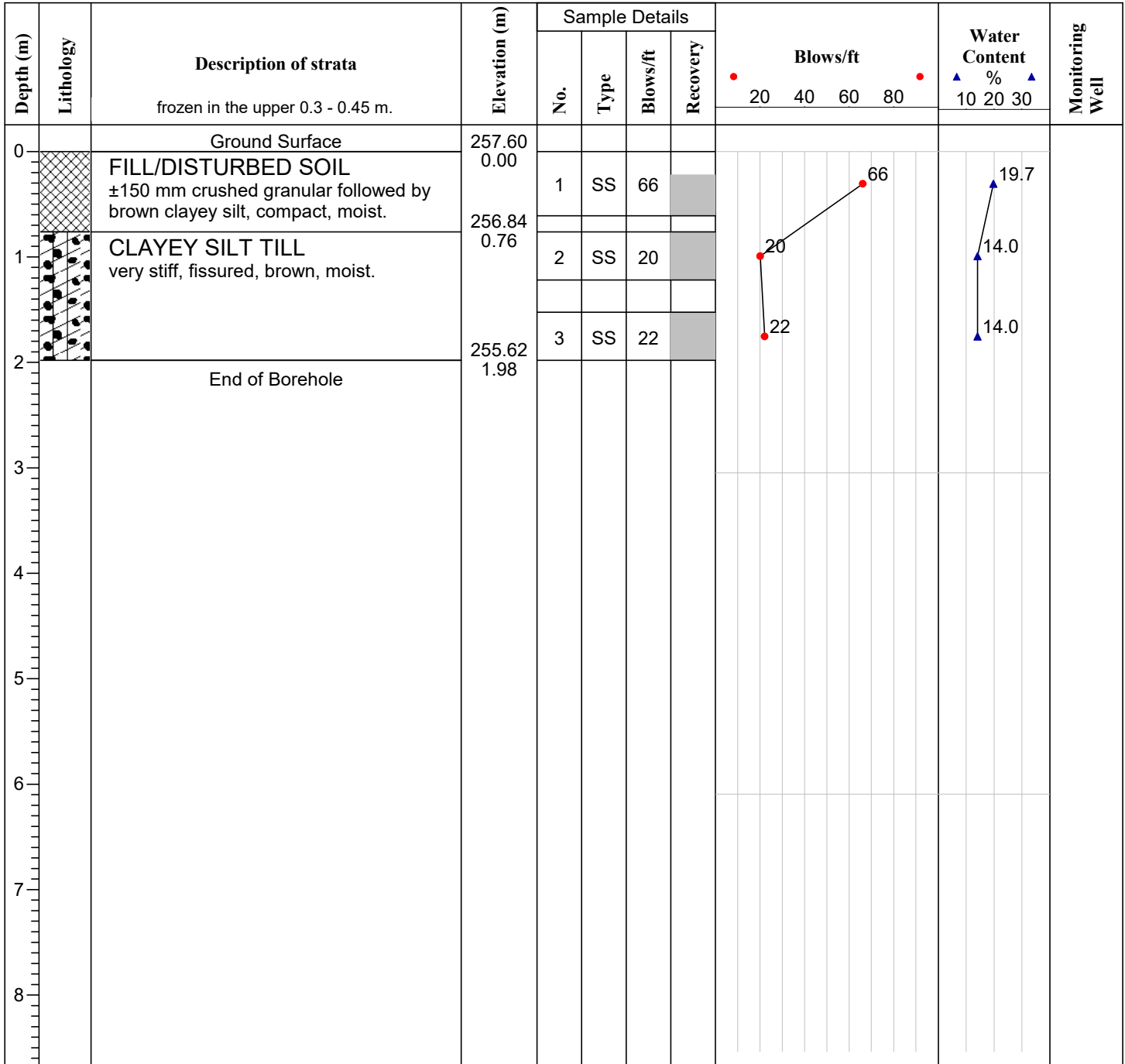
Log of Borehole BH-21

Project: PROPOSED MAYFIELD WEST #2 PUBLIC SCHOOL

Client: PDSB c/o HOSSACK ARCHITECTURE

Enclosure: 22

Location: PETCH AVE. & TWEEDHILL AVE., CALEDON, ON.

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

Drill Method: CME 55 - SOLID

Drill Date: 15 JAN. 2025

Datum: GEODETIC

Engineer: P.R.

Checked by: G.S.

Sheet No. 1 of 1

Project No: 7460

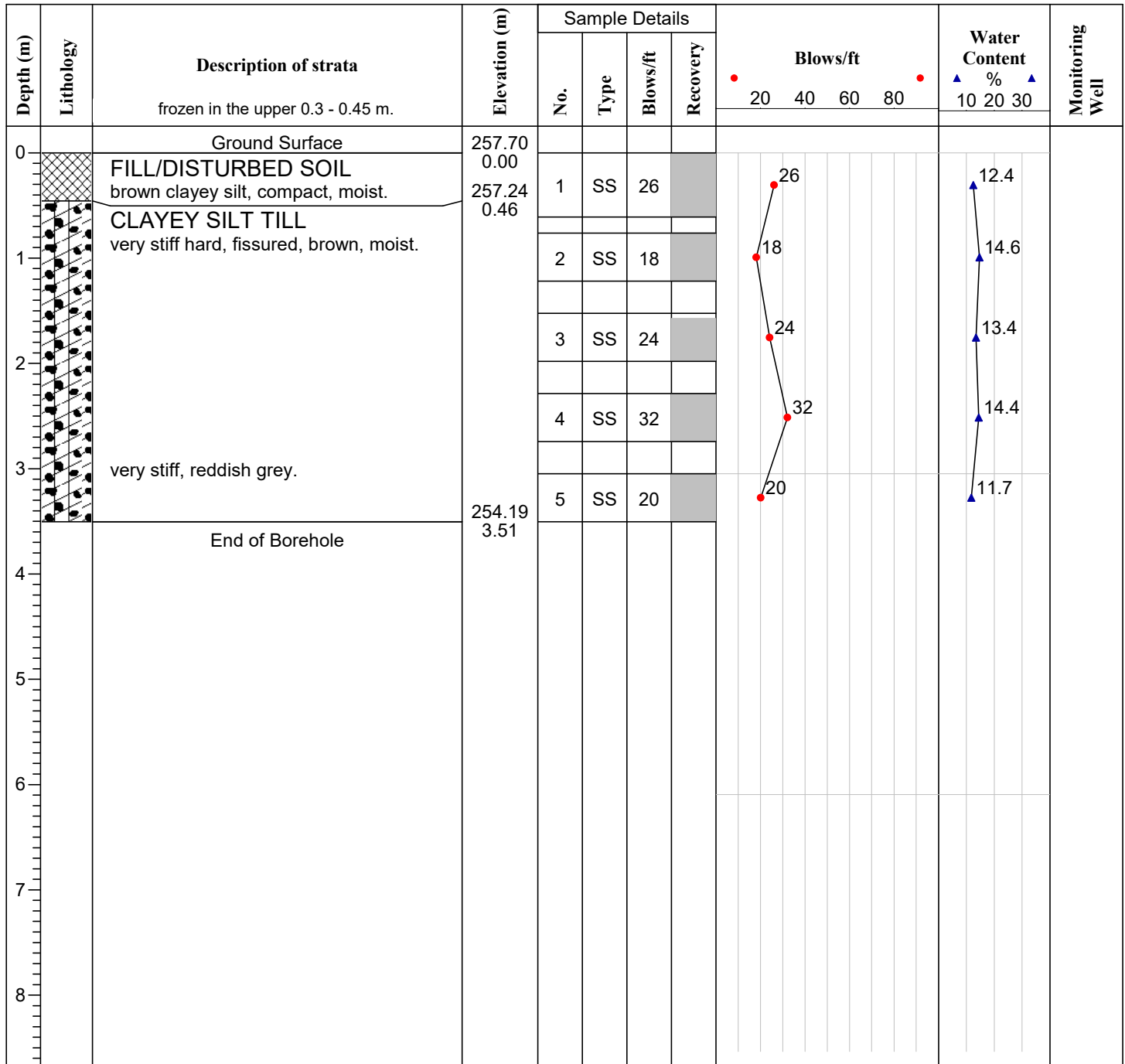
Log of Borehole BH-22

Project: PROPOSED MAYFIELD WEST #2 PUBLIC SCHOOL

Client: PDSB c/o HOSSACK ARCHITECTURE

Enclosure: 23

Location: PETCH AVE. & TWEEDHILL AVE., CALEDON, ON.

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

Drill Method: CME 55 - SOLID

Drill Date: 15 JAN. 2025

Datum: GEODETIC

Engineer: P.R.

Checked by: G.S.

Sheet No. 1 of 1

Project No: 7460

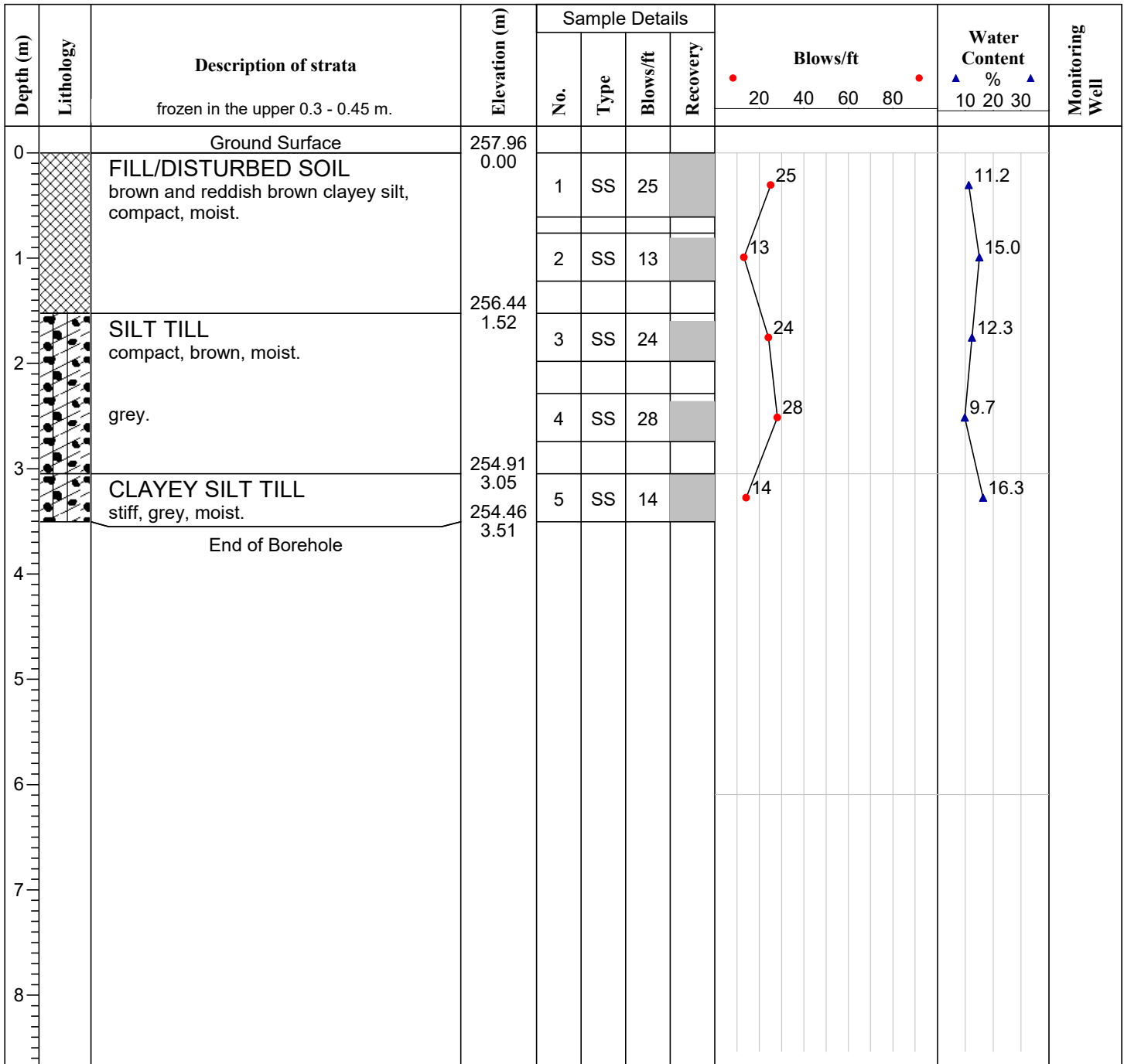
Log of Borehole BH-23

Project: PROPOSED MAYFIELD WEST #2 PUBLIC SCHOOL

Client: PDSB c/o HOSSACK ARCHITECTURE

Enclosure: 24

Location: PETCH AVE. & TWEEDHILL AVE., CALEDON, ON.

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

Drill Method: CME 55 - SOLID

Drill Date: 16 JAN. 2025

Datum: GEODETIC

Engineer: P.R.

Checked by: G.S.

Sheet No. 1 of 1

Project No: 7460

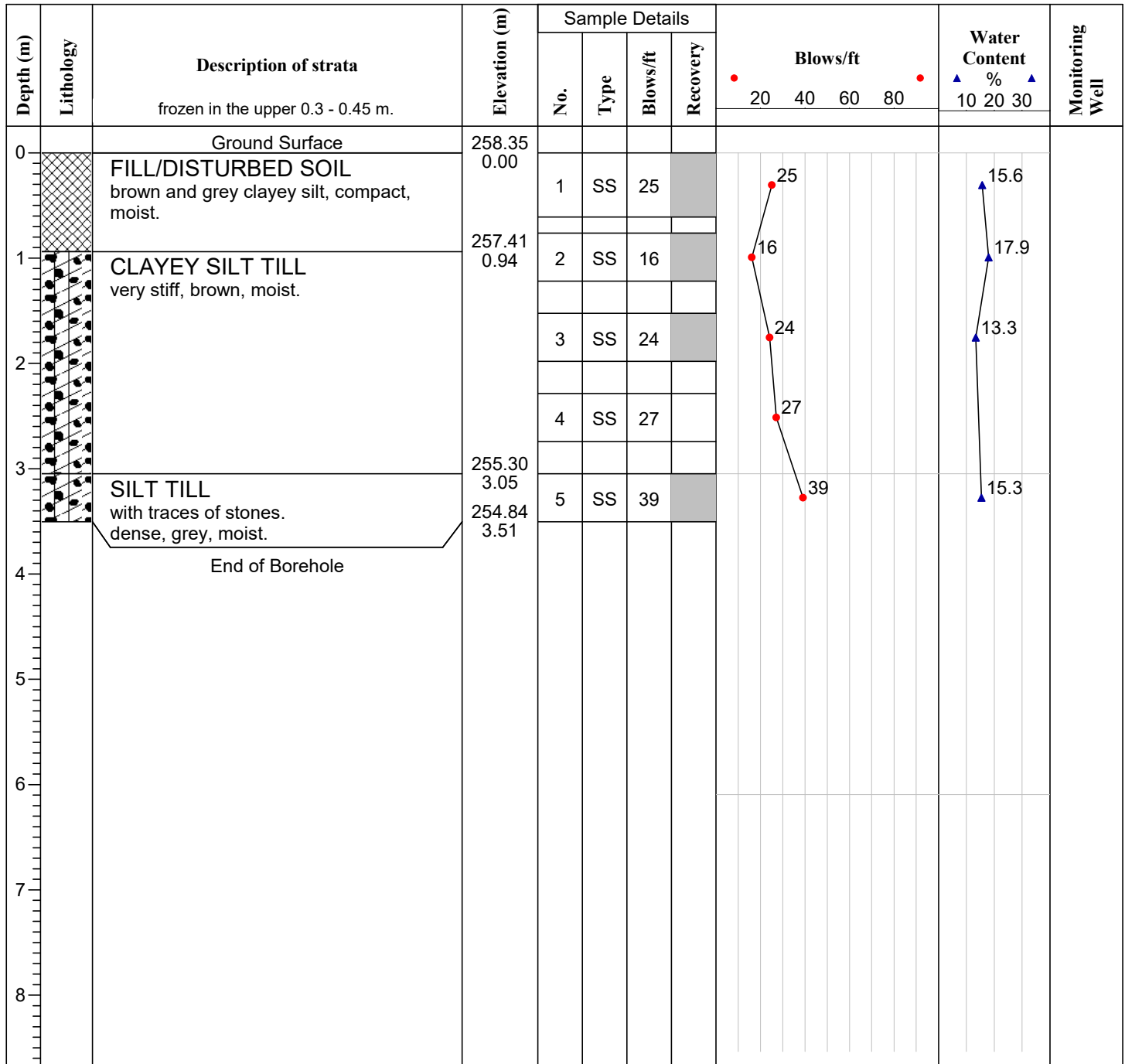
Log of Borehole BH-24

Project: PROPOSED MAYFIELD WEST #2 PUBLIC SCHOOL

Client: PDSB c/o HOSSACK ARCHITECTURE

Enclosure: 25

Location: PETCH AVE. & TWEEDHILL AVE., CALEDON, ON.

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

Drill Method: CME 55 - SOLID

Drill Date: 16 JAN. 2025

Datum: GEODETIC

Engineer: P.R.

Checked by: G.S.

Sheet No. 1 of 1

Project No: 7460

Log of Borehole BH-25

Project: PROPOSED MAYFIELD WEST #2 PUBLIC SCHOOL

Client: PDSB c/o HOSSACK ARCHITECTURE

Enclosure: 26

Location: PETCH AVE. & TWEEDHILL AVE., CALEDON, ON.

Depth (m)	Lithology	Description of strata	Elevation (m)	Sample Details				Blows/ft	Water Content %	Monitoring Well
				No.	Type	Blows/ft	Recovery			
		frozen in the upper 0.3 - 0.45 m.								
0		Ground Surface	258.41							
		FILL/DISTURBED SOIL	0.00	1	SS	8		8	15.0	
		brown clayey silt with traces to some organics in the upper ±150 mm, loose, moist.	257.65							
1		CLAYEY SILT TILL	0.76	2	SS	22		22	14.0	
		very stiff, brown, moist.								
		fissured.								
2		End of Borehole	256.43	3	SS	23		23	13.1	
			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: 16 JAN. 2025

Datum: GEODETIC

Engineer: P.R.

Checked by: G.S.

Sheet No. 1 of 1

Project No: 7460

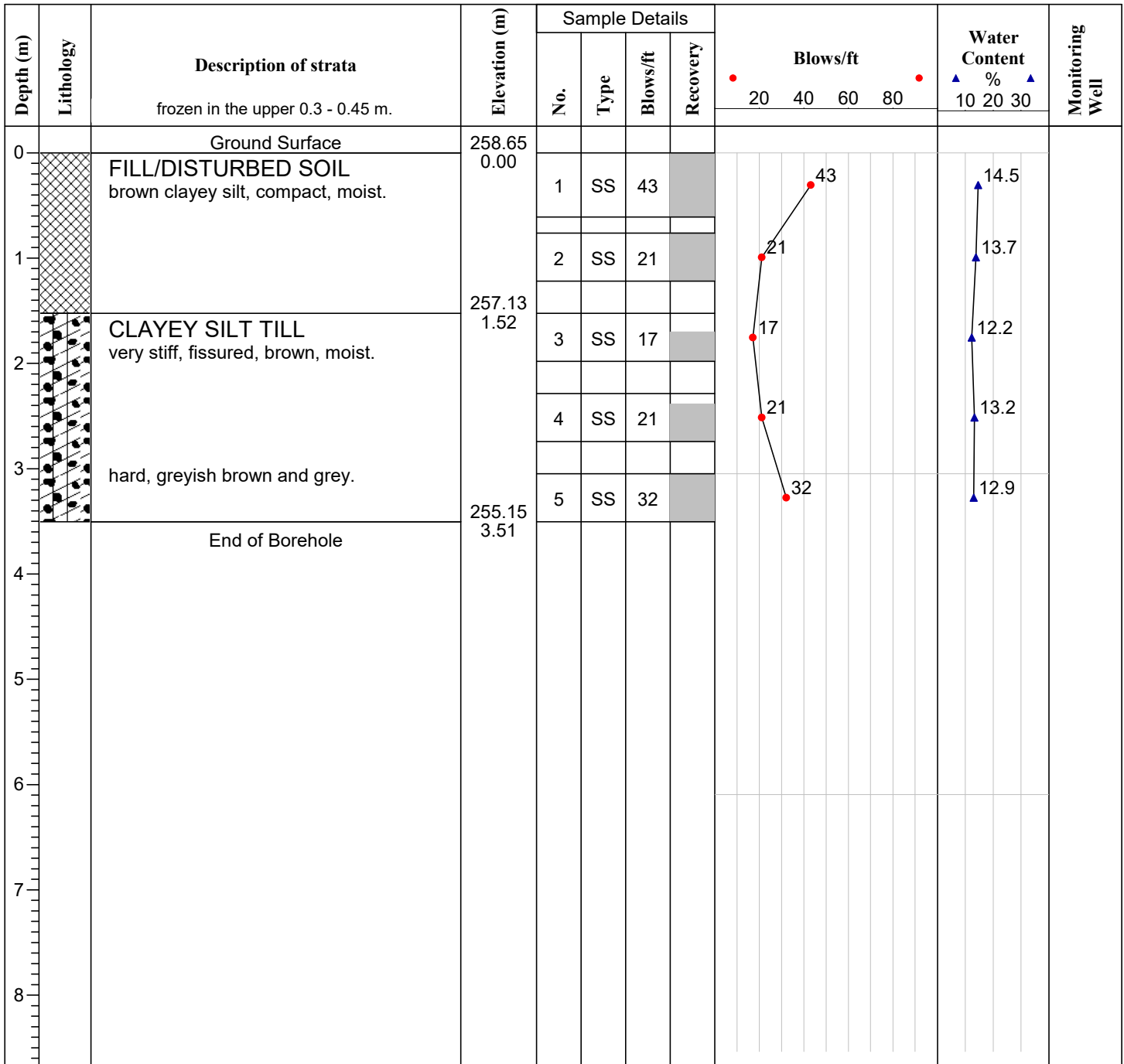
Log of Borehole BH-26

Project: PROPOSED MAYFIELD WEST #2 PUBLIC SCHOOL

Client: PDSB c/o HOSSACK ARCHITECTURE

Enclosure: 27

Location: PETCH AVE. & TWEEDHILL AVE., CALEDON, ON.

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

Drill Method: CME 55 - SOLID

Drill Date: 16 JAN. 2025

Datum: GEODETIC

Engineer: P.R.

Checked by: G.S.

Sheet No. 1 of 1

Project No: 7460

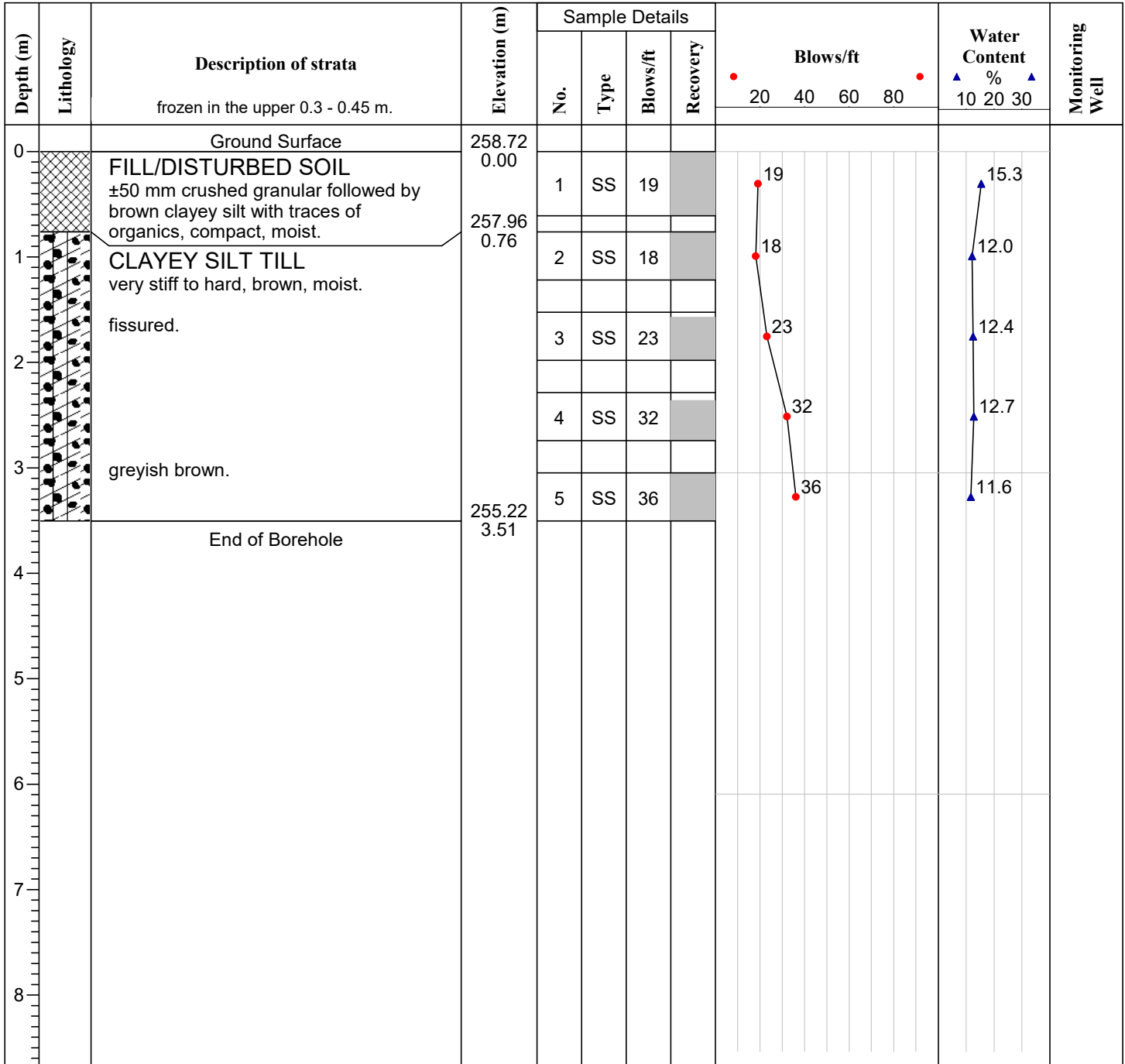
Log of Borehole BH-27

Project: PROPOSED MAYFIELD WEST #2 PUBLIC SCHOOL

Client: PDSB c/o HOSSACK ARCHITECTURE

Enclosure: 28

Location: PETCH AVE. & TWEEDHILL AVE., CALEDON, ON.

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

Drill Method: CME 55 - SOLID

Drill Date: 16 JAN. 2025

Datum: GEODETIC

Engineer: P.R.

Checked by: G.S.

Sheet No. 1 of 1

Project No: 7460

Log of Borehole BH-28

Project: PROPOSED MAYFIELD WEST #2 PUBLIC SCHOOL

Client: PDSB c/o HOSSACK ARCHITECTURE

Enclosure: 29

Location: PETCH AVE. & TWEEDHILL AVE., CALEDON, ON.

Depth (m)	Lithology	Description of strata frozen in the upper 0.3 - 0.45 m.	Elevation (m)	Sample Details				Blows/ft	Water Content % ▲ 10 20 30 ▲	Monitoring Well
				No.	Type	Blows/ft	Recovery			
0		Ground Surface	258.78							
		FILL/DISTURBED SOIL brown clayey silt with traces of organics, compact, moist.	0.00							
			258.32	1	SS	11		11	14.6	
		CLAYEY SILT TILL stiff, fissured, brown, moist.	0.46							
1				2	SS	14		14	15.1	
		SILT TILL with wet sandy silt seams. compact, brown, moist.								
2			256.80	3	SS	20		20	13.4	
		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: 16 JAN. 2025

Datum: GEODETIC

Engineer: P.R.

Checked by: G.S.

Sheet No. 1 of 1

Project No: 7460

Log of Borehole BH-29

Project: PROPOSED MAYFIELD WEST #2 PUBLIC SCHOOL

Client: PDSB c/o HOSSACK ARCHITECTURE

Enclosure: 30

Location: PETCH AVE. & TWEEDHILL AVE., CALEDON, ON.

Depth (m)	Lithology	Description of strata	Elevation (m)	Sample Details				Blows/ft	Water Content %	Monitoring Well
				No.	Type	Blows/ft	Recovery			
		frozen in the upper 0.3 - 0.45 m.								
0		Ground Surface	258.93							
		FILL/DISTURBED SOIL	0.00	1	SS	18		18	15.1	
		brown clayey silt, compact, moist.								
1		CLAYEY SILT TILL	258.17	2	SS	20		20	13.5	
		very stiff, brown, moist.	0.76							
		fissured.		3	SS	20		20	13.5	
2										
				4	SS	26		26	13.3	
3		becoming siltier, stiff, greyish brown.								
				5	SS	15		15	10.1	
		End of Borehole	255.43							
			3.51							
4										
5										
6										
7										
8										

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

Drill Method: CME 55 - SOLID

Drill Date: 16 JAN. 2025

Datum: GEODETIC

Engineer: P.R.

Checked by: G.S.

Sheet No. 1 of 1

Depth (m)	Lithology	Description of strata	Elevation (m)	Sample Details				Blows/ft	Water Content %	Monitoring Well
				No.	Type	Blows/ft	Recovery			
		frozen in the upper 0.3 - 0.45 m.								
0		Ground Surface	259.13							
		FILL/DISTURBED SOIL	0.00	1	SS	19		19	16.3	
		brown clayey silt, compact, moist.								
1		CLAYEY SILT TILL	258.37	2	SS	19		19	11.1	
		very stiff, brown, moist.	0.76							
2			257.15	3	SS	17		17	14.5	
		End of Borehole	1.98							
3										
4										
5										
6										
7										
8										

Project No: 7460

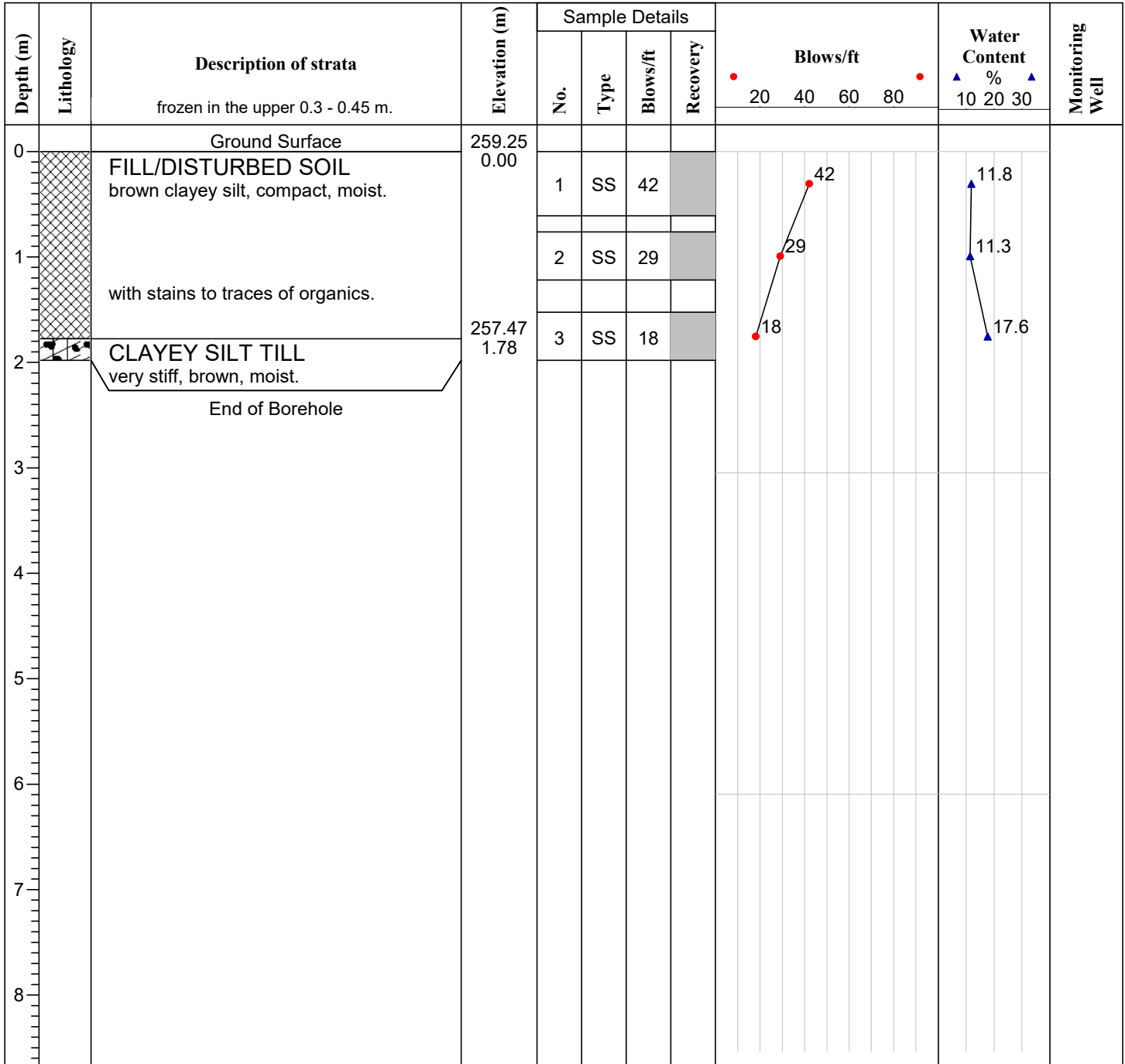
Log of Borehole BH-31

Project: PROPOSED MAYFIELD WEST #2 PUBLIC SCHOOL

Client: PDSB c/o HOSSACK ARCHITECTURE

Enclosure: 32

Location: PETCH AVE. & TWEEDHILL AVE., CALEDON, ON.

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

Drill Method: CME 55 - SOLID

Drill Date: 17 JAN. 2025

Datum: GEODETIC

Engineer: P.R.

Checked by: G.S.

Sheet No. 1 of 1

Project No: 7460

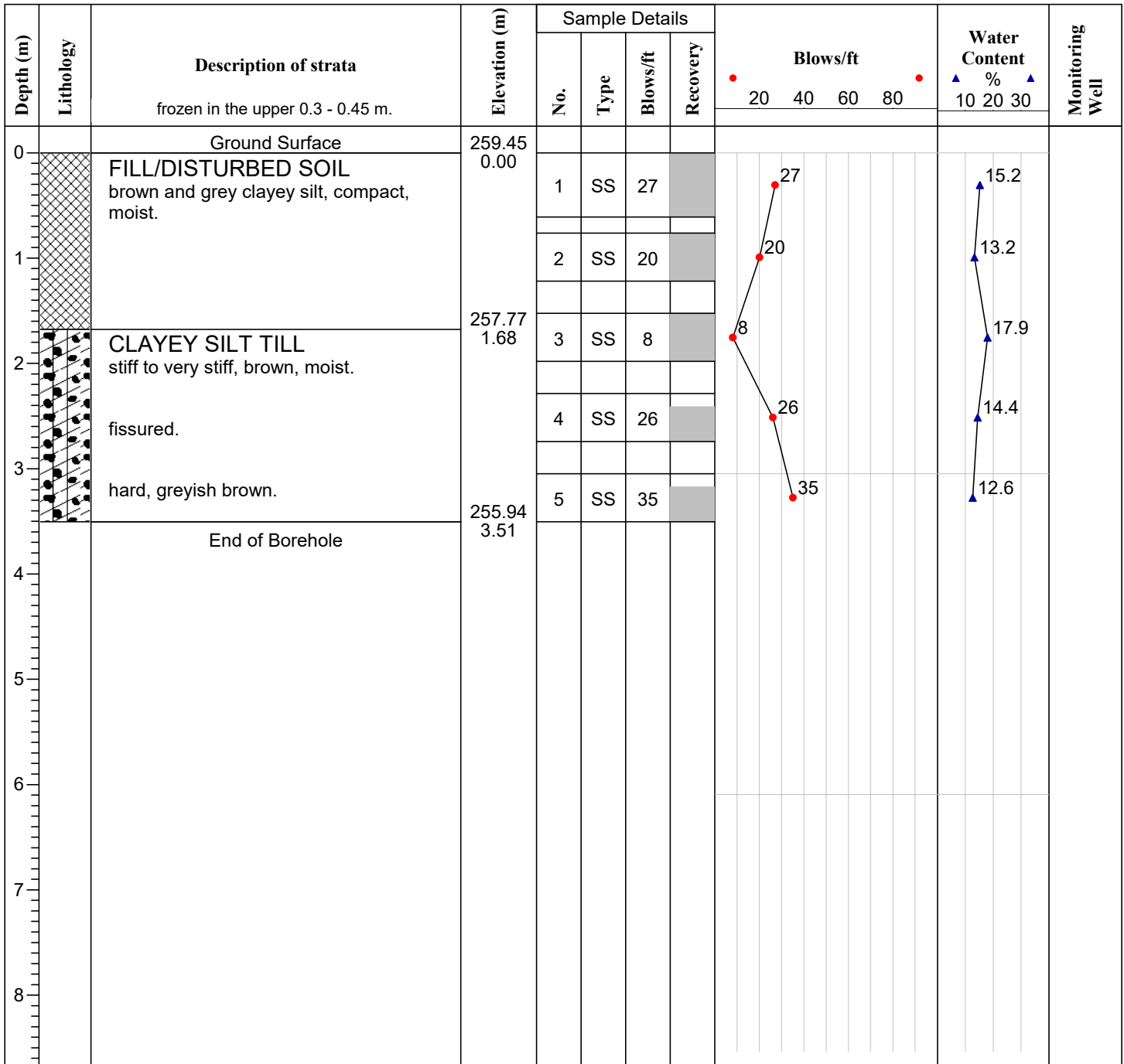
Log of Borehole BH-32

Project: PROPOSED MAYFIELD WEST #2 PUBLIC SCHOOL

Client: PDSB c/o HOSSACK ARCHITECTURE

Enclosure: 33

Location: PETCH AVE. & TWEEDHILL AVE., CALEDON, ON.

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

Drill Method: CME 55 - SOLID

Drill Date: 16 JAN. 2025

Datum: GEODETIC

Engineer: P.R.

Checked by: G.S.

Sheet No. 1 of 1

Project No: 7460

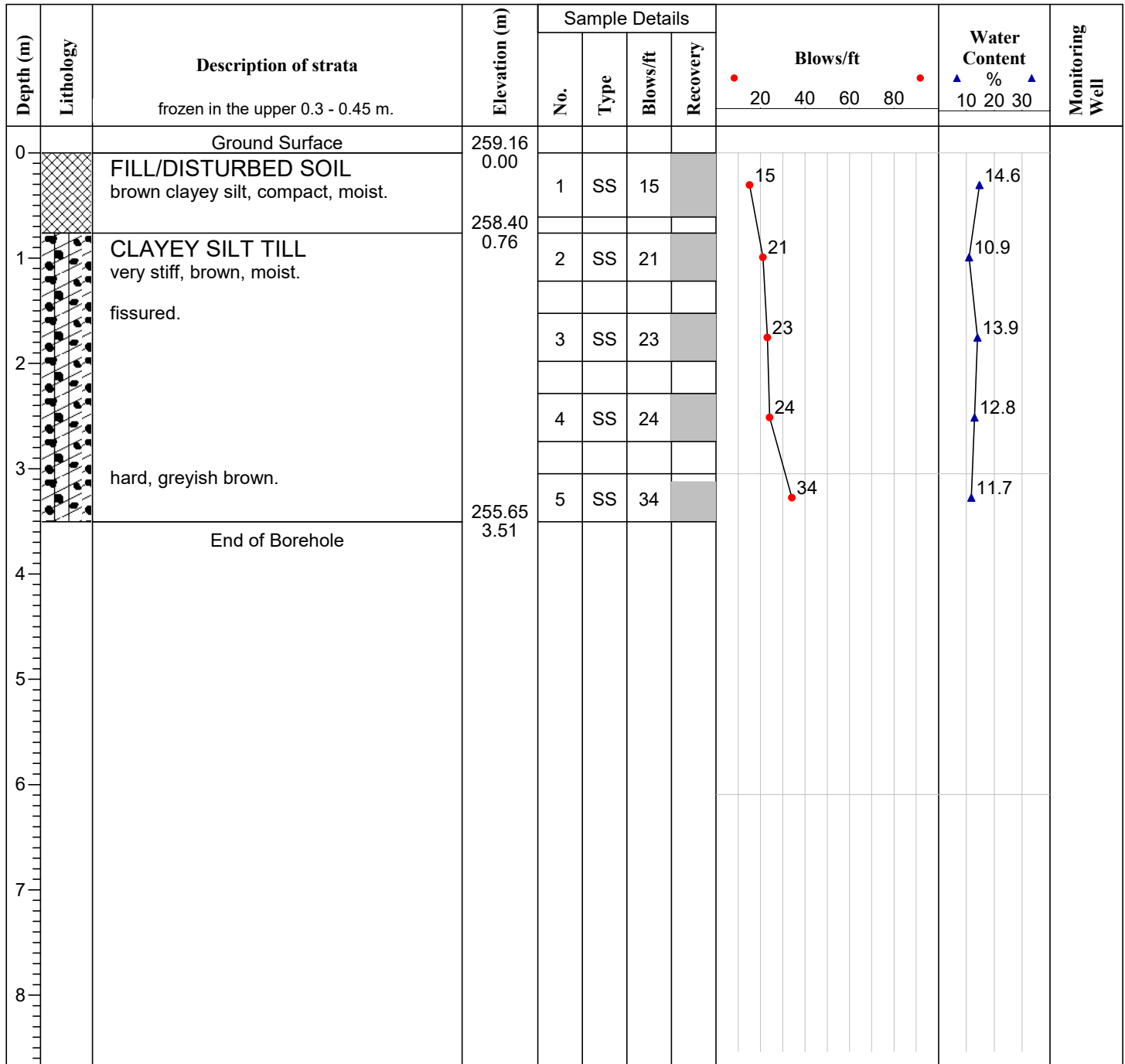
Log of Borehole BH-33

Project: PROPOSED MAYFIELD WEST #2 PUBLIC SCHOOL

Client: PDSB c/o HOSSACK ARCHITECTURE

Enclosure: 34

Location: PETCH AVE. & TWEEDHILL AVE., CALEDON, ON.

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

Drill Method: CME 55 - SOLID

Drill Date: 16 JAN. 2025

Datum: GEODETIC

Engineer: P.R.

Checked by: G.S.

Sheet No. 1 of 1

Depth (m)	Lithology	Description of strata	Elevation (m)	Sample Details				Blows/ft	Water Content %	Monitoring Well
				No.	Type	Blows/ft	Recovery			
		frozen in the upper 0.3 - 0.45 m.								
0		Ground Surface	259.25							
		FILL/DISTURBED SOIL	0.00	1	SS	12		12	15.3	
		brown clayey silt, compact, moist.								
1		CLAYEY SILT TILL	258.49	2	SS	16		16	13.7	
		very stiff, brown, moist.	0.76							
		with sandy silt inclusions.								
2		End of Borehole	257.27	3	SS	23		23	14.0	
			1.98							
3										
4										
5										
6										
7										
8										

Project No: 7460

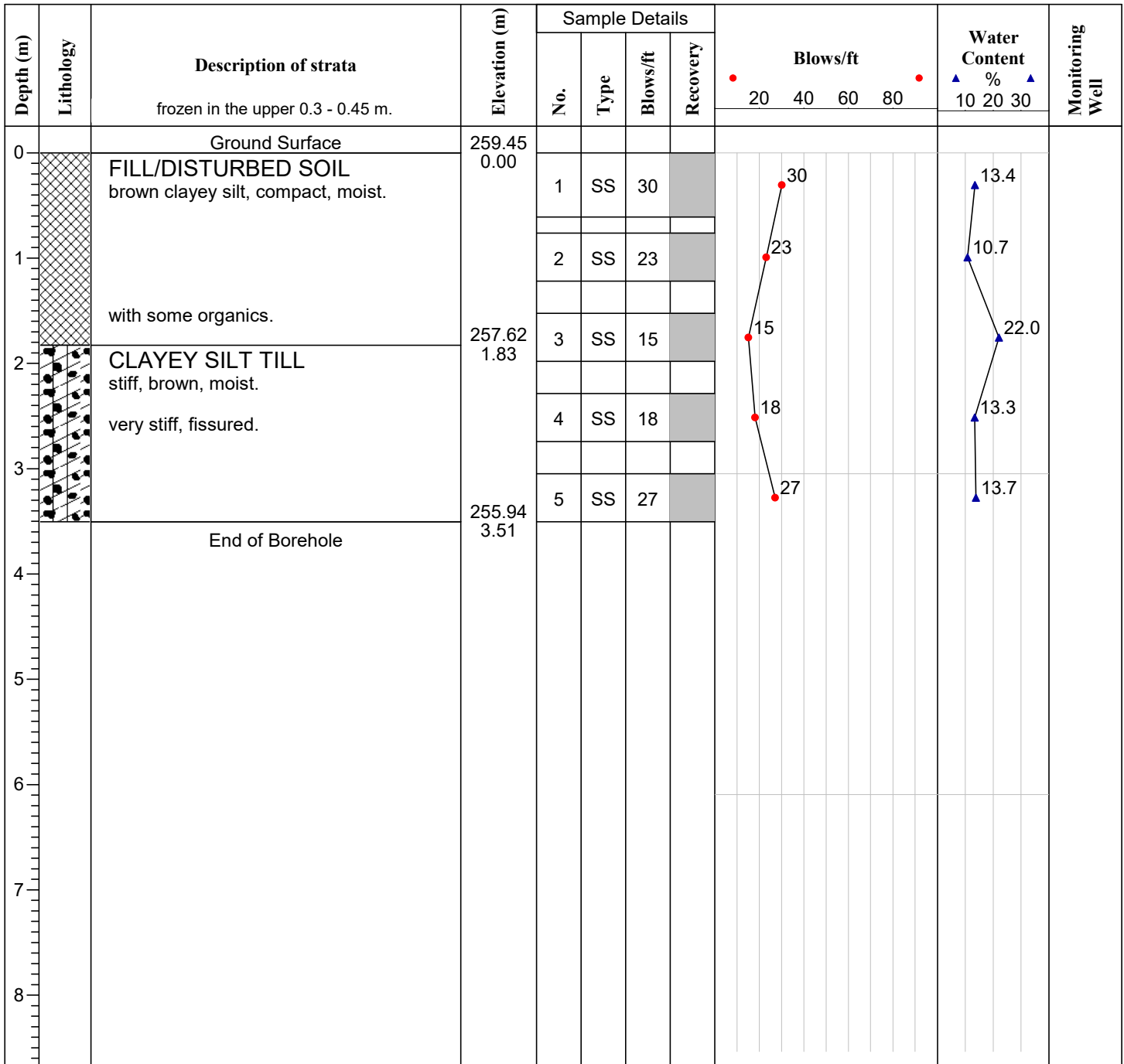
Log of Borehole BH-35

Project: PROPOSED MAYFIELD WEST #2 PUBLIC SCHOOL

Client: PDSB c/o HOSSACK ARCHITECTURE

Enclosure: 36

Location: PETCH AVE. & TWEEDHILL AVE., CALEDON, ON.

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

Drill Method: CME 55 - SOLID

Drill Date: 17 JAN. 2025

Datum: GEODETIC

Engineer: P.R.

Checked by: G.S.

Sheet No. 1 of 1

Project No: 7460

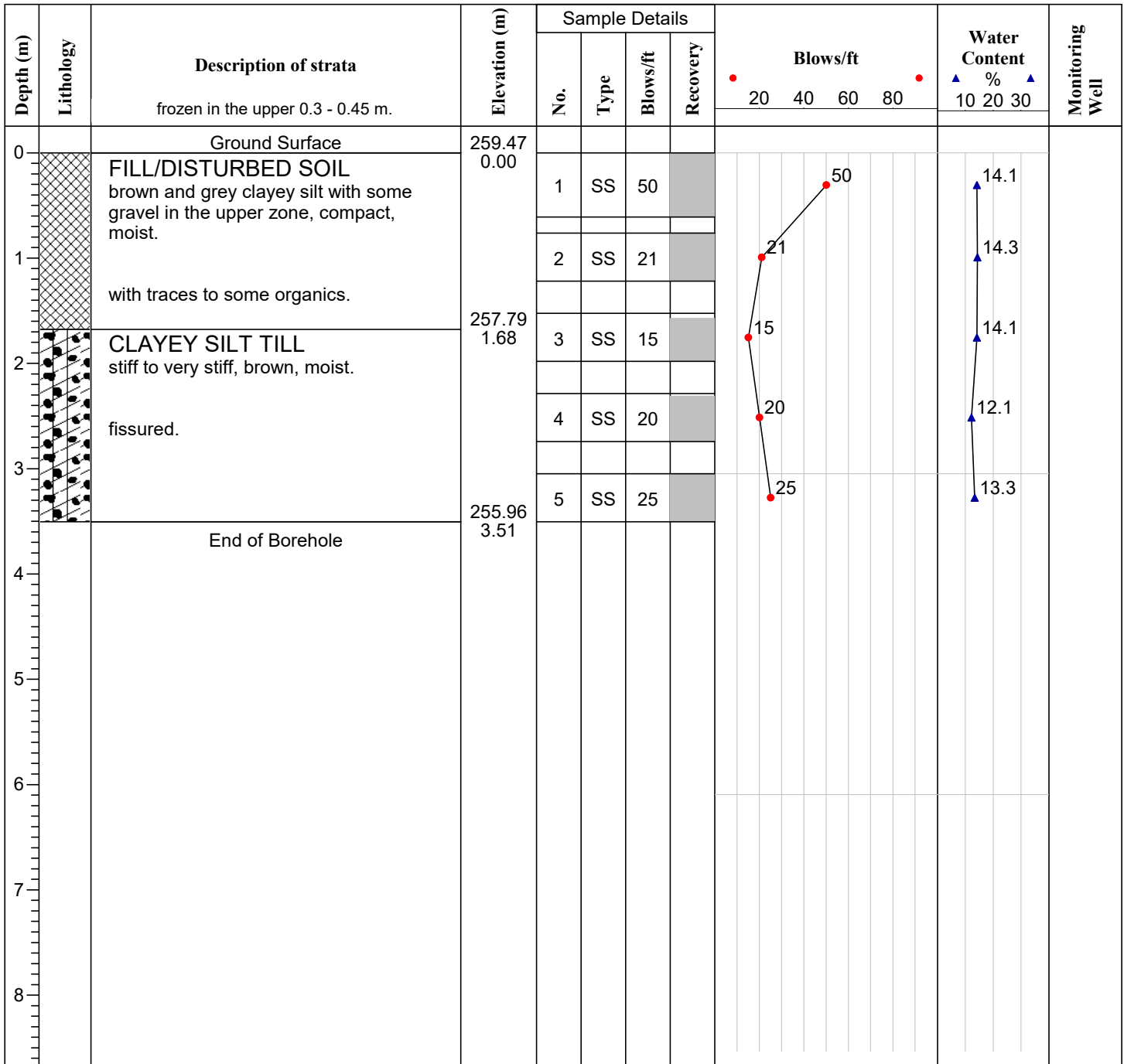
Log of Borehole BH-36

Project: PROPOSED MAYFIELD WEST #2 PUBLIC SCHOOL

Client: PDSB c/o HOSSACK ARCHITECTURE

Enclosure: 37

Location: PETCH AVE. & TWEEDHILL AVE., CALEDON, ON.

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

Drill Method: CME 55 - SOLID

Drill Date: 17 JAN. 2025

Datum: GEODETIC

Engineer: P.R.

Checked by: G.S.

Sheet No. 1 of 1

Project No: 7460

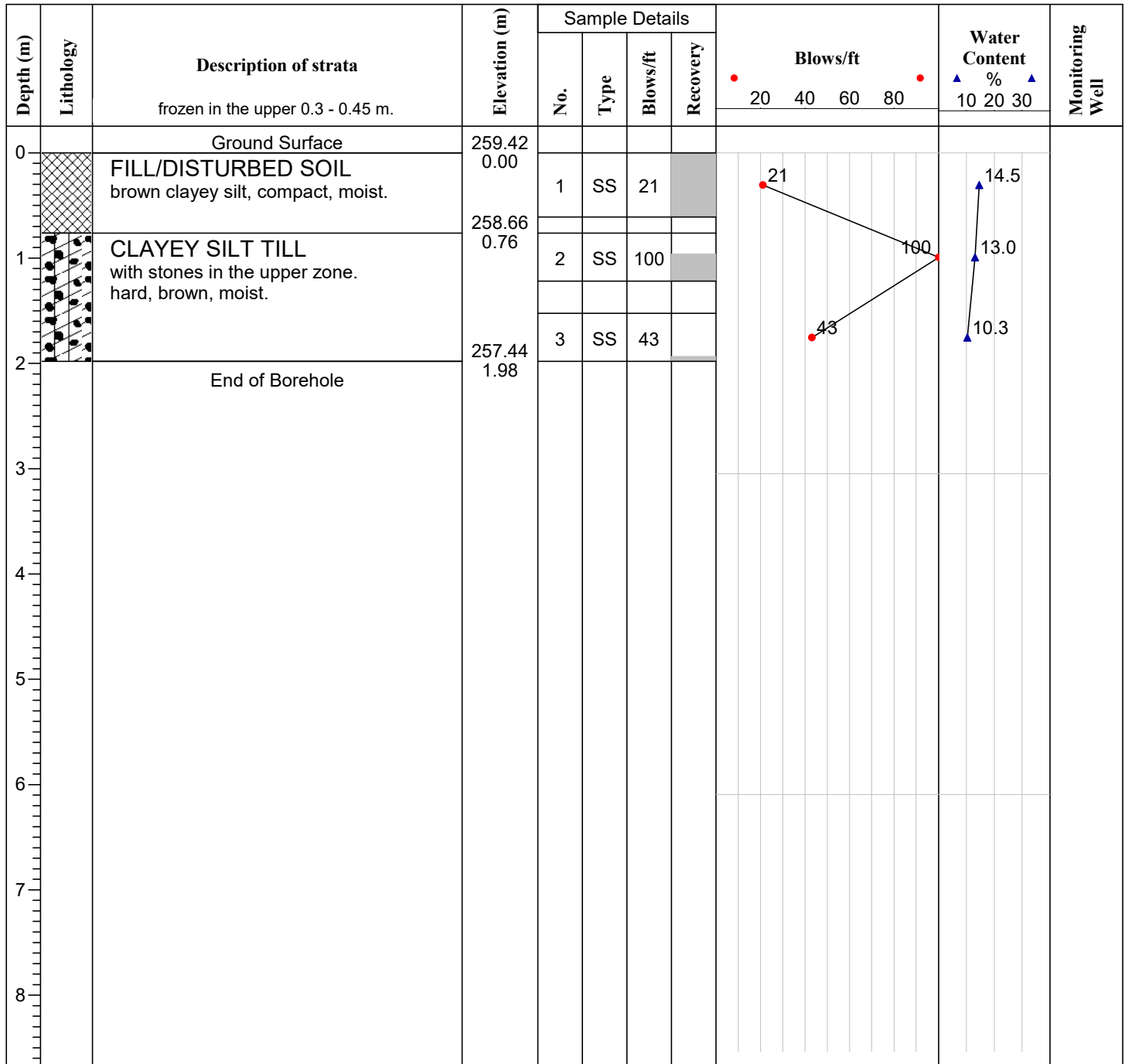
Log of Borehole BH-37

Project: PROPOSED MAYFIELD WEST #2 PUBLIC SCHOOL

Client: PDSB c/o HOSSACK ARCHITECTURE

Enclosure: 38

Location: PETCH AVE. & TWEEDHILL AVE., CALEDON, ON.

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

Drill Method: CME 55 - SOLID

Drill Date: 17 JAN. 2025

Datum: GEODETIC

Engineer: P.R.

Checked by: G.S.

Sheet No. 1 of 1

Project No: 7460

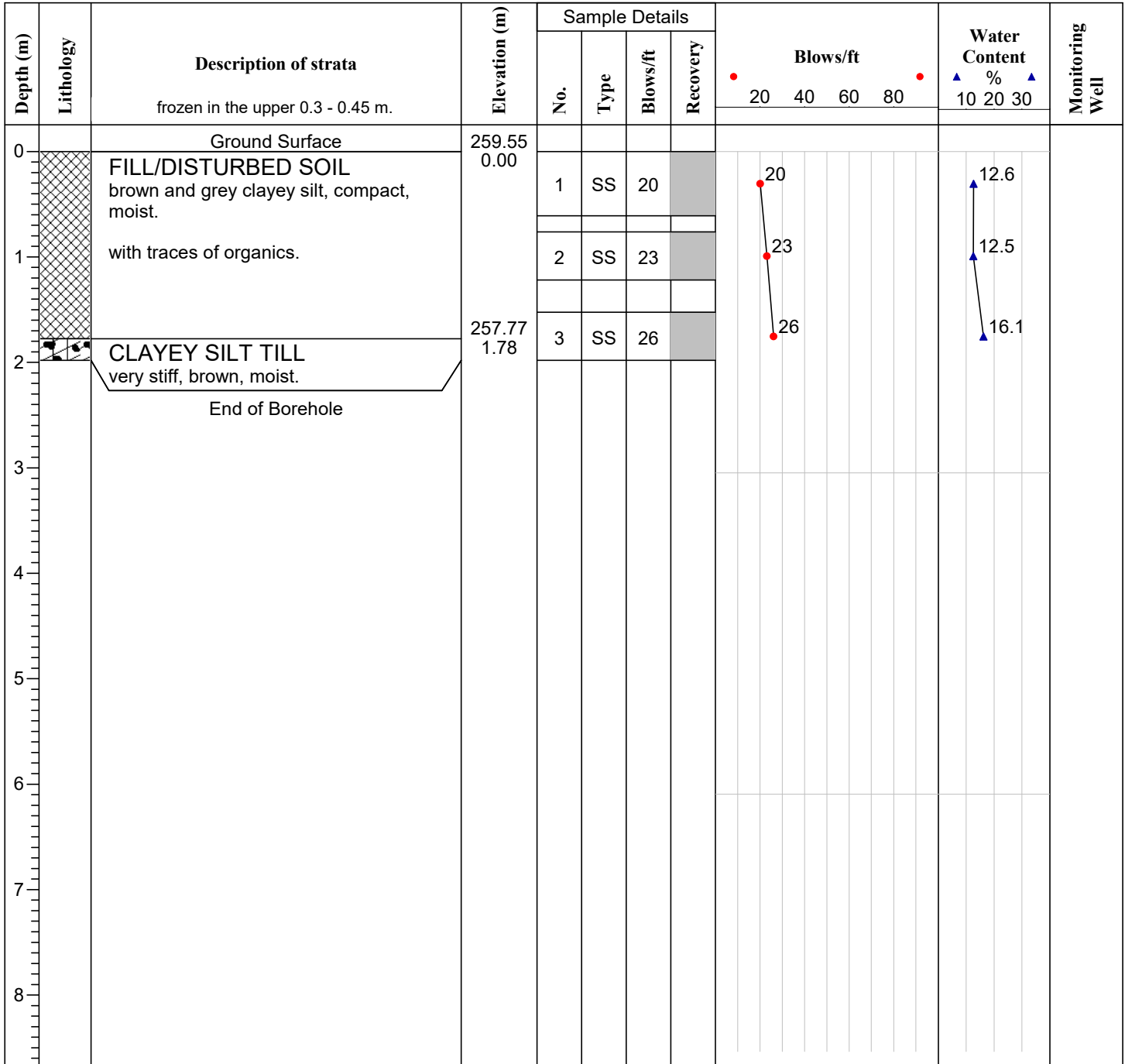
Log of Borehole BH-38

Project: PROPOSED MAYFIELD WEST #2 PUBLIC SCHOOL

Client: PDSB c/o HOSSACK ARCHITECTURE

Enclosure: 39

Location: PETCH AVE. & TWEEDHILL AVE., CALEDON, ON.

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

Drill Method: CME 55 - SOLID

Drill Date: 17 JAN. 2025

Datum: GEODETIC

Engineer: P.R.

Checked by: G.S.

Sheet No. 1 of 1

Project No: 7460

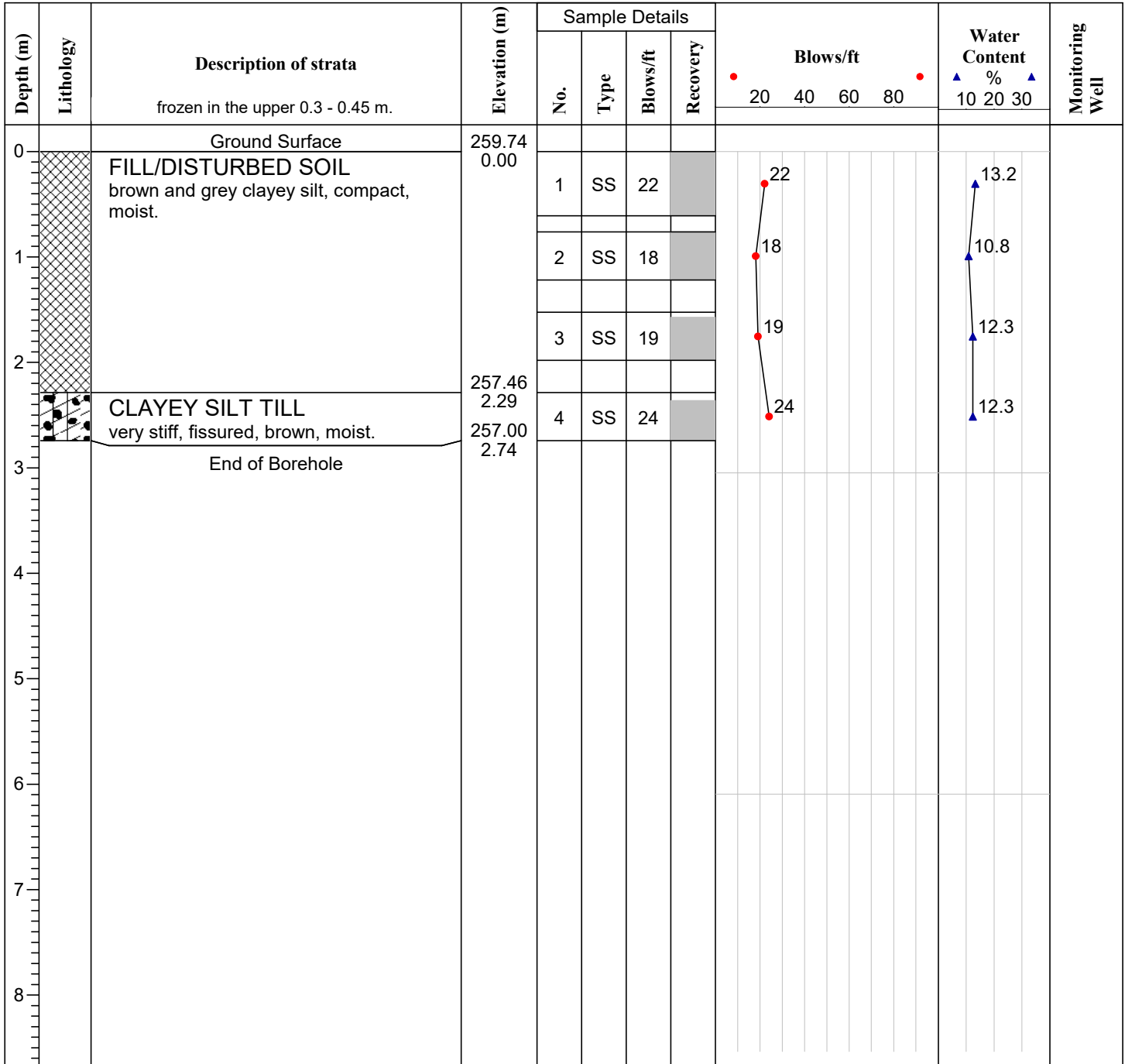
Log of Borehole BH-39

Project: PROPOSED MAYFIELD WEST #2 PUBLIC SCHOOL

Client: PDSB c/o HOSSACK ARCHITECTURE

Enclosure: 40

Location: PETCH AVE. & TWEEDHILL AVE., CALEDON, ON.



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

Drill Method: CME 55 - SOLID

Drill Date: 17 JAN. 2025

Datum: GEODETIC

Engineer: P.R.

Checked by: G.S.

Sheet No. 1 of 1

Depth (m)	Lithology	Description of strata	Elevation (m)	Sample Details				Blows/ft	Water Content %	Monitoring Well
				No.	Type	Blows/ft	Recovery			
		frozen in the upper 0.3 - 0.45 m.								
0		Ground Surface	259.75							
		FILL/DISTURBED SOIL	0.00	1	SS	29		29	11.9	
		brown clayey silt, compact, moist.								
1		SANDY SILT TILL	258.99	2	SS	24		24	12.3	
		compact, brown, moist.	0.76							
2				3	SS	30		30	11.9	
3		CLAYEY SILT TILL	257.46	4	SS	31		31	12.5	
		very stiff, fissured, brown, moist.	2.29							
4				5	SS	28		28	12.9	
		End of Borehole	256.25							
			3.51							
5										
6										
7										
8										

Project No: 7460

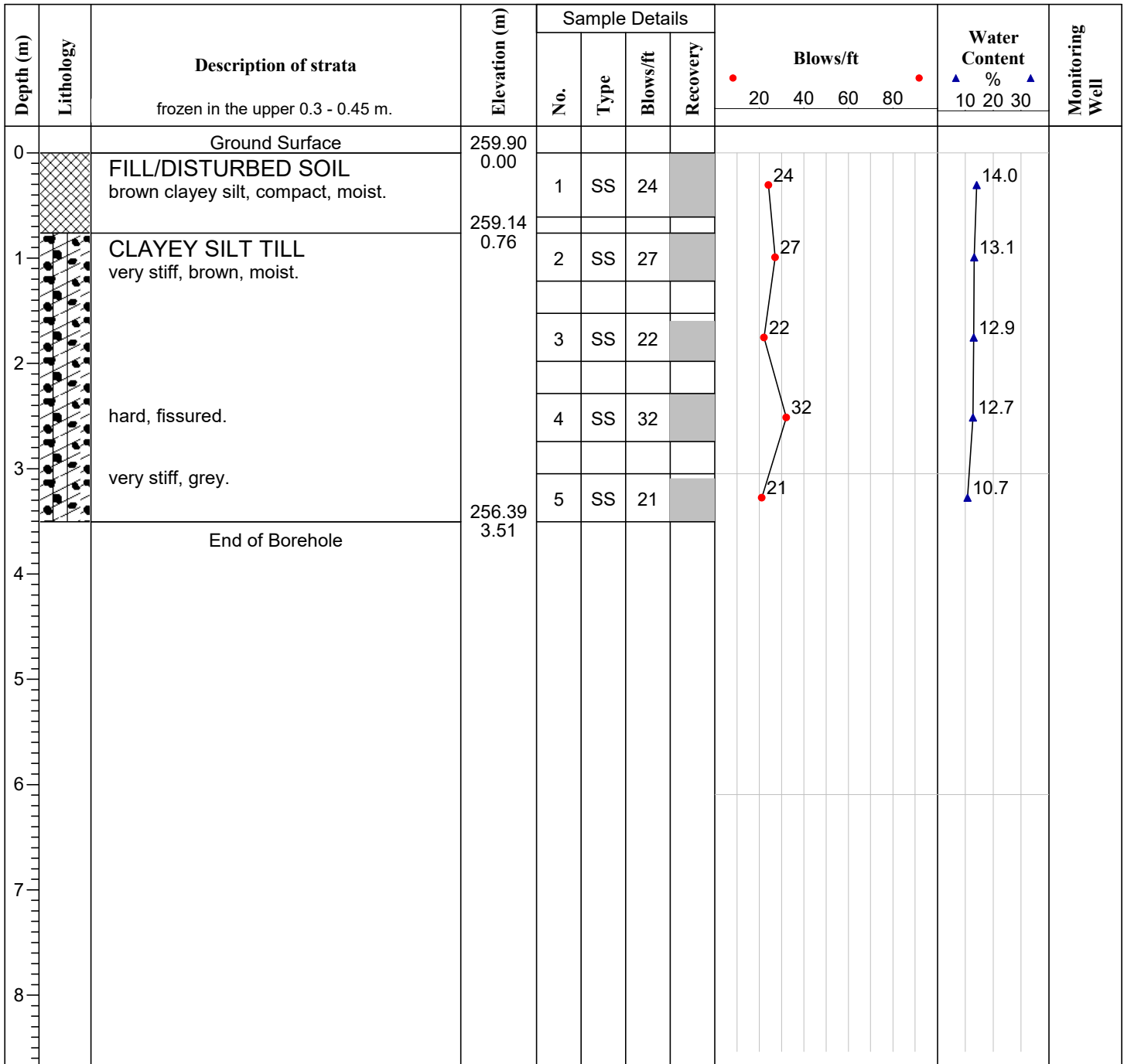
Log of Borehole BH-41

Project: PROPOSED MAYFIELD WEST #2 PUBLIC SCHOOL

Client: PDSB c/o HOSSACK ARCHITECTURE

Enclosure: 42

Location: PETCH AVE. & TWEEDHILL AVE., CALEDON, ON.

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

Drill Method: CME 55 - SOLID

Drill Date: 17 JAN. 2025

Datum: GEODETIC

Engineer: P.R.

Checked by: G.S.

Sheet No. 1 of 1

Project No: 7460

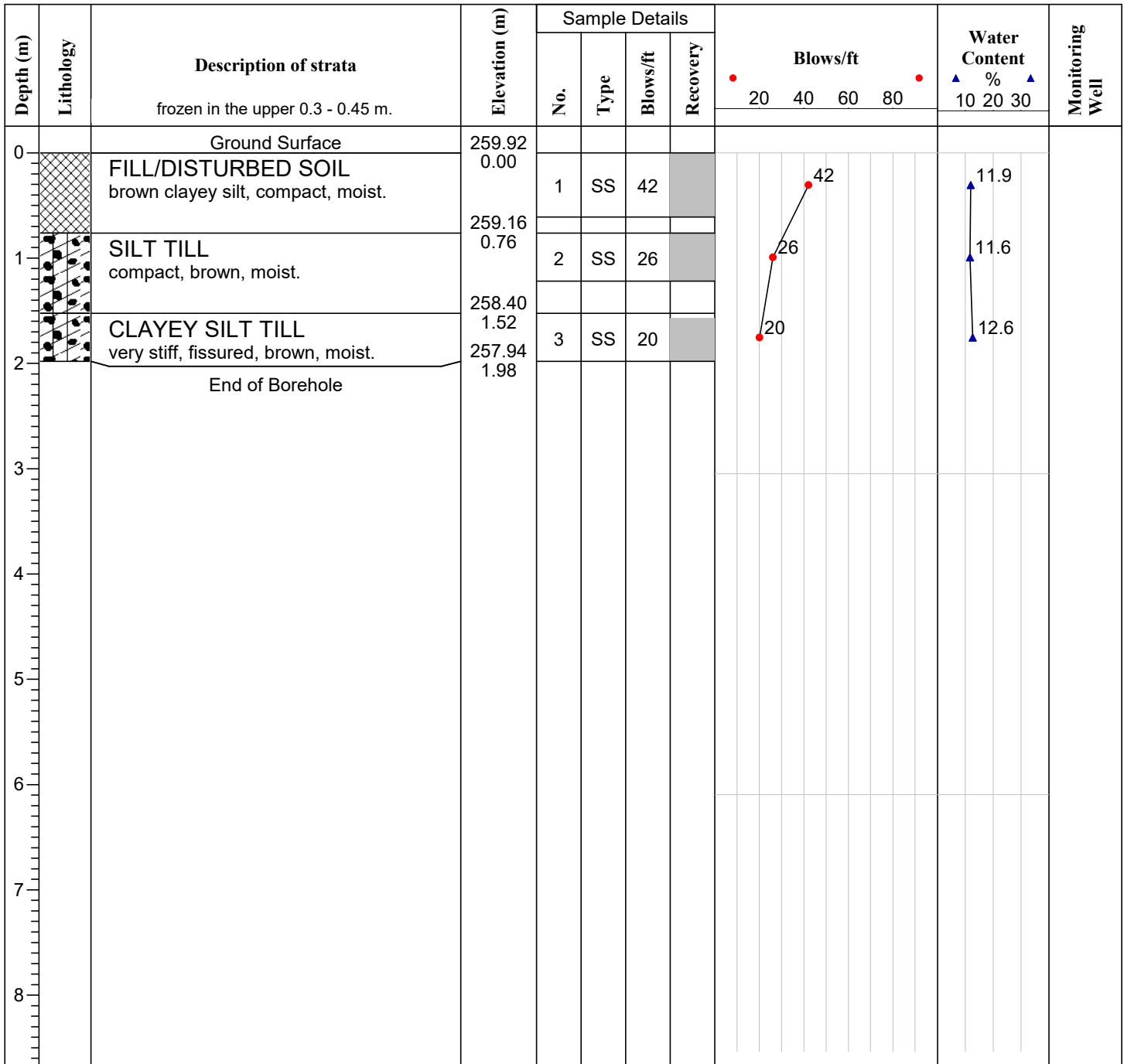
Log of Borehole BH-42

Project: PROPOSED MAYFIELD WEST #2 PUBLIC SCHOOL

Client: PDSB c/o HOSSACK ARCHITECTURE

Enclosure: 43

Location: PETCH AVE. & TWEEDHILL AVE., CALEDON, ON.

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

Drill Method: CME 55 - SOLID

Drill Date: 17 JAN. 2025

Datum: GEODETIC

Engineer: P.R.

Checked by: G.S.

Sheet No. 1 of 1

APPENDIX B

ENGINEERED FILL REPORT



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
TEL: (705) 721-7863
FAX: (705) 721-7864

MISSISSAUGA
TEL: (905) 542-7605
FAX: (905) 542-2769

OSHAWA
TEL: (905) 440-2040
FAX: (905) 725-1315

NEWMARKET
TEL: (905) 853-0647
FAX: (905) 881-8335

MUSKOKA
TEL: (705) 721-7863
FAX: (705) 721-7864

HAMILTON
TEL: (905) 777-7956
FAX: (905) 542-2769

November 11, 2024

Reference No.: 2411-M017.1

Page 1 of 2

Peel District School Board
5650 Hurontario Street
Mississauga, Ontario
L5R 1C6

Attention: Mr. Phillip Sousa, Planning and Accommodation Support Services

**Re: Engineered Fill Certification
Block 261 – School Block
Mayfield McLaughlin Developments Inc. Subdivision
Registered Plan No.: 43M-2114
Town of Caledon**

Dear Sir:

We inspected the earth fill placement at the captioned block and the placement meets our engineered fill requirements and the requirements set out in clause 7.04(b), (i), (ii), (ii), and (iv) of the Agreement of Purchase and Sale as per below:

- i. All of the fill deposited on the School Site is clean, engineered fill of the quality specified in Section 8.02 which has been deposited and compacted in accordance with sound engineering practices;
- ii. All of the requirements set out in Section 8.02 of the Agreement of Purchase and Sale have been fully complied with;
- iii. Compaction testing has been fully complied with;
- iv. The School Site will support the construction of a normal slab-on-grade two-storey school building foundation, without the use of piers, caissons, footings at a depth of more than 1.2 meters below grade, or any other extraordinary construction techniques.

It should be noted that the as-built engineered fill elevations which is to be recorded by others shall form part of this 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 150kPa, 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 two (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.
- 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 construction disturbance and/or environmental degradation and are a minimum of 3.0 m 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, the strip footings and the upper section of the foundation walls must be reinforced continuously (minimum of 1.0 m overlap) by two No. 5 (15 mm), or equivalent, steel bars.

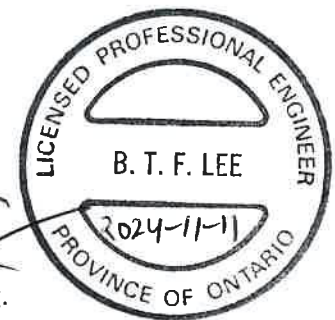
If any one of the above qualifications is not met, Soil Engineers Ltd. cannot warrant the condition of the engineered fill and explicitly accepts no liability for any damage resulting from placement of foundations or structures on the engineered fill.

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

Yours truly,
SOIL ENGINEERS LTD.

For 
Emmanuel Siapno, C.E.T.
BL/ES:ak


Benjamin Lee, P. Eng.



C: Mayfield McLaughlin Developments Inc.
Attn: Mr. Harrison Demone, P. Eng.

David Schaeffer Engineering Ltd.
Attn: Mr. Todd McNair
Mr. Vishal Reddy, P. Eng.
Mr. Elliott Burlon



APPENDIX C

**REPORT BY
FRONTWAVE GEOPHYSICS INC.**



FRONTWAVE
GEOPHYSICS

**SHEAR WAVE VELOCITY TESTING
FOR SEISMIC SITE CLASSIFICATION
PROPOSED ELEMENTARY SCHOOL
TWEEDHILL AVENUE AND PETCH AVENUE, CALEDON, ONTARIO**

Submitted to:

Forward Engineering & Associates Inc.
244 Brockport Drive, Unit 15
Toronto, Ontario M9W 6X9

Attention:

Mr. Pablo Rios

Email: pablo@forwardengineering.ca

File No. F-25280

February 19, 2025

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

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1 INTRODUCTION

Frontwave Geophysics Inc. was retained by Forward Engineering & Associates Inc. to carry out a geophysical investigation for the proposed Mayfield West elementary school at the intersection of Tweedhill Avenue and Petch Avenue in Caledon, 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 February 14, 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.

2 INVESTIGATION METHODOLOGY

2.1 Multichannel Analysis of Surface Waves (MASW)

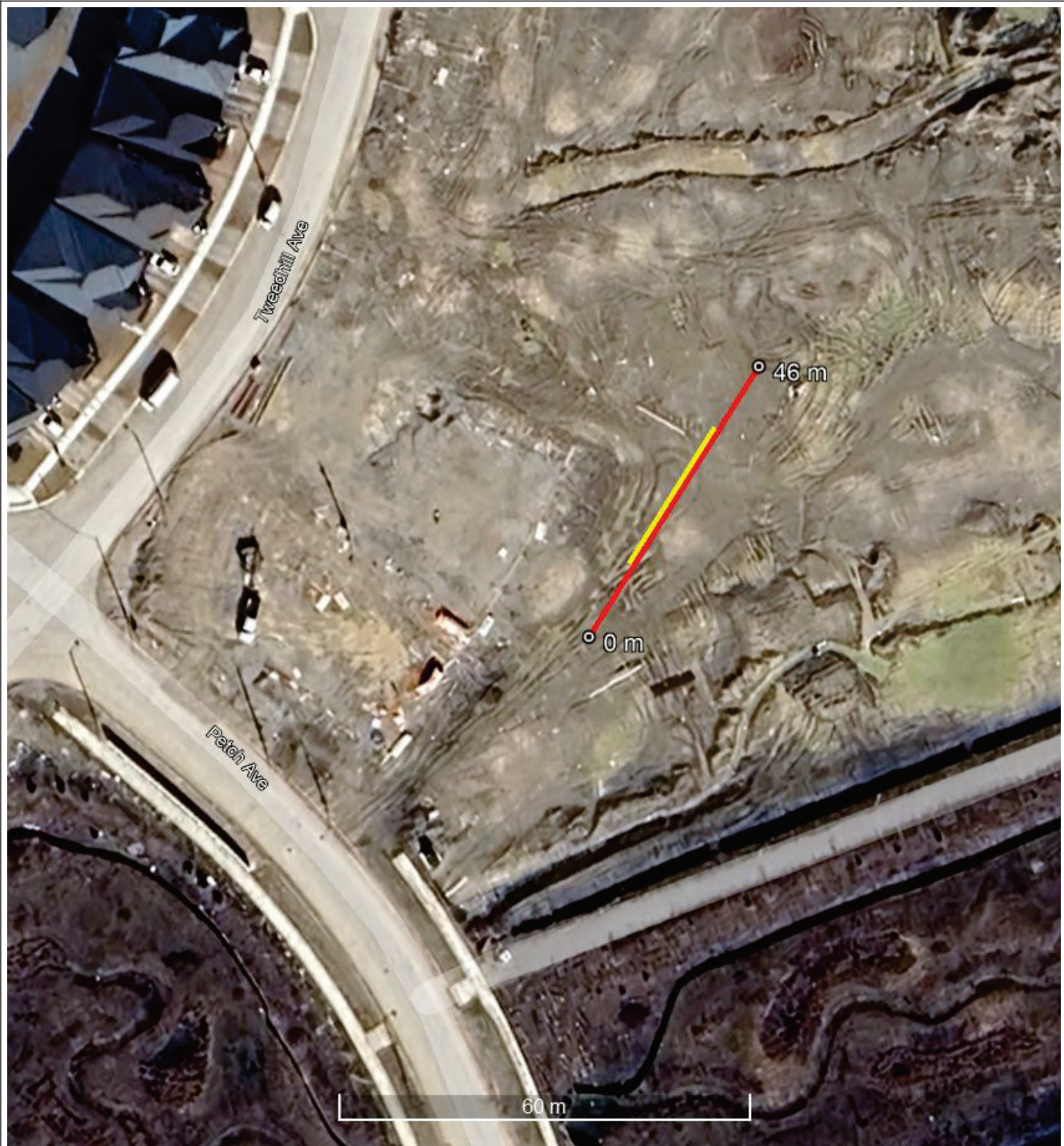
Overview

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 five locations per spread: one shot in the middle of the spread, two shots close to the ends of the spread, and two shots with an offset of 12 m from 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 2024

Date: 2025-02-19

File No: F-25280

Title: Survey location plan

Location: Tweedhill Ave & Petch Ave
Caledon, ON

Figure:
1

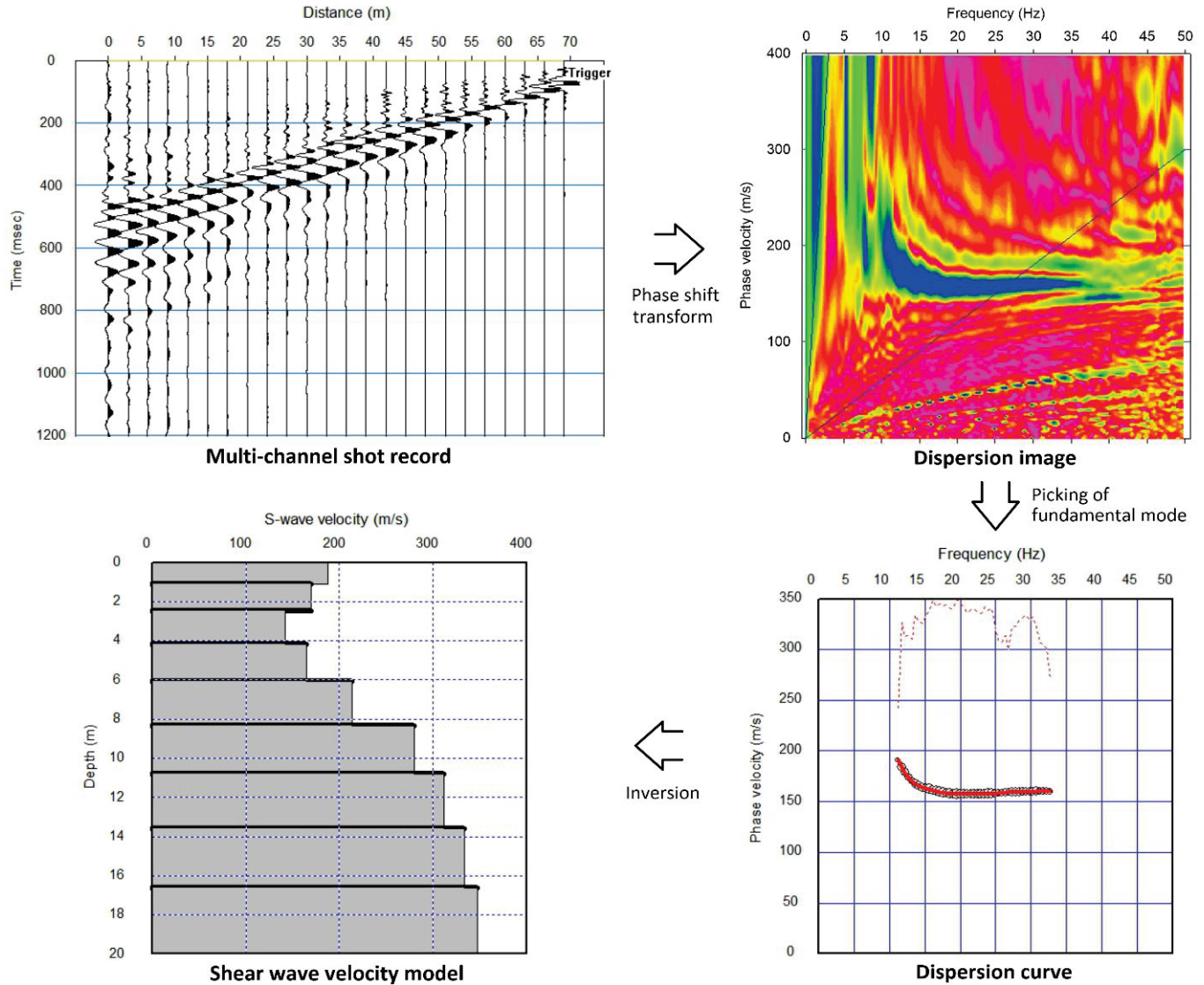


Figure 2 The procedure of MASW data processing using the SeisImager SW software package.

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-priori information to optimize model parameters for more accurate results. Hence, if the a-priori 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.

2.2 Seismic Refraction

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.

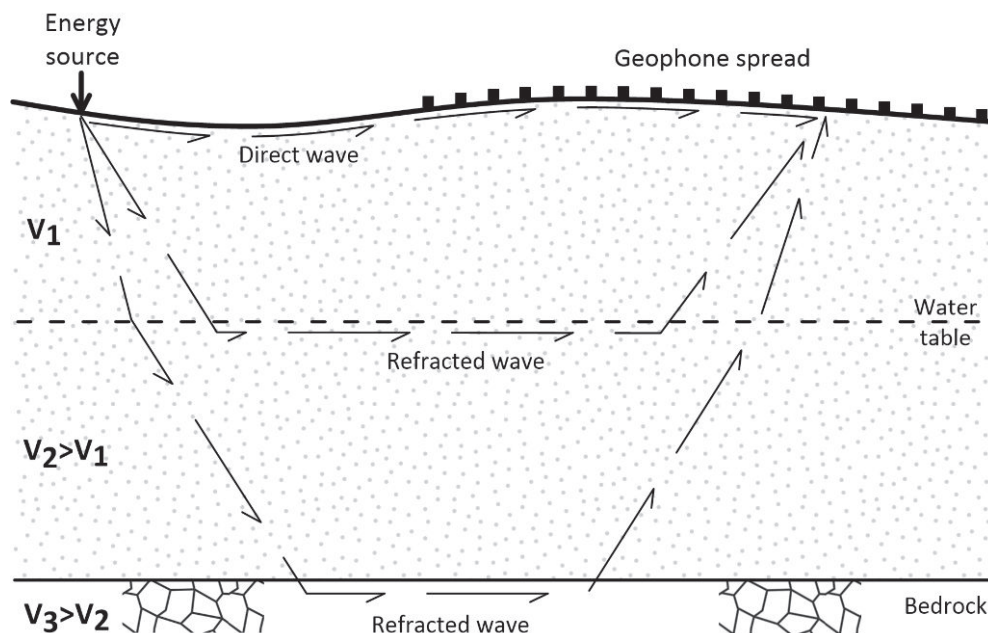


Figure 3 Seismic model showing the basic principle of refraction method.

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%.

3 RESULTS

The quality of seismic shot records was very good; first arrivals of refracted waves and MASW dispersion curves were well defined. Example S-wave refraction shot record 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 competent bedrock ranged from 7.8 to 9.4 m below the ground surface. The shear wave velocity in the bedrock measured using the refraction method was 1717 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 the rock. According to Commentary J (Paragraph 96) of the National Building Code of Canada 2015 (NBC), 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. The average S-wave velocity is plotted in the chart as a solid line. The dashed lines represent the upper and lower bound S-wave velocity profiles.

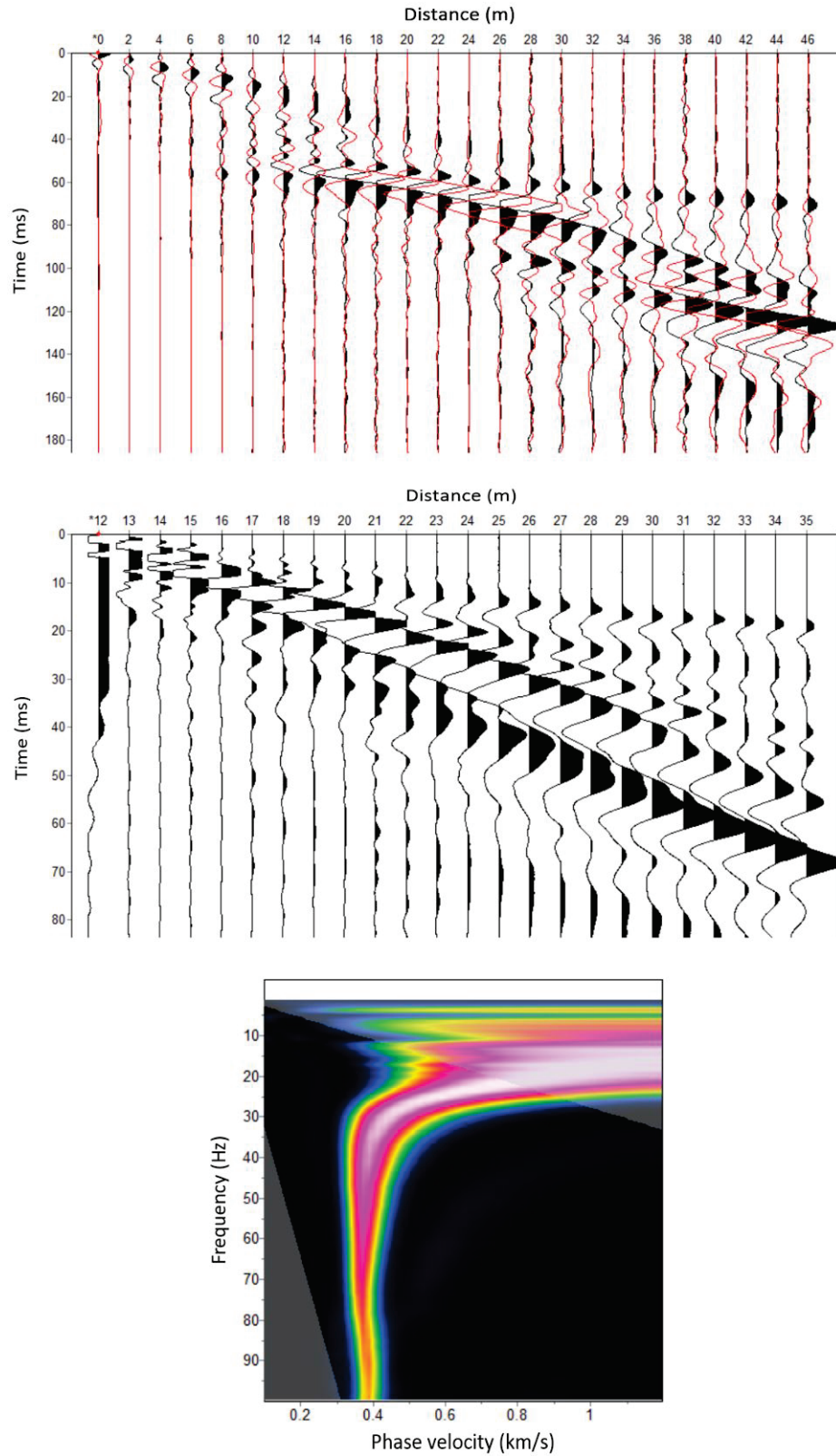


Figure 4 Data examples displaying a stacked S-wave refraction shot record (top), MASW shot record (middle), and MASW dispersion image (bottom).

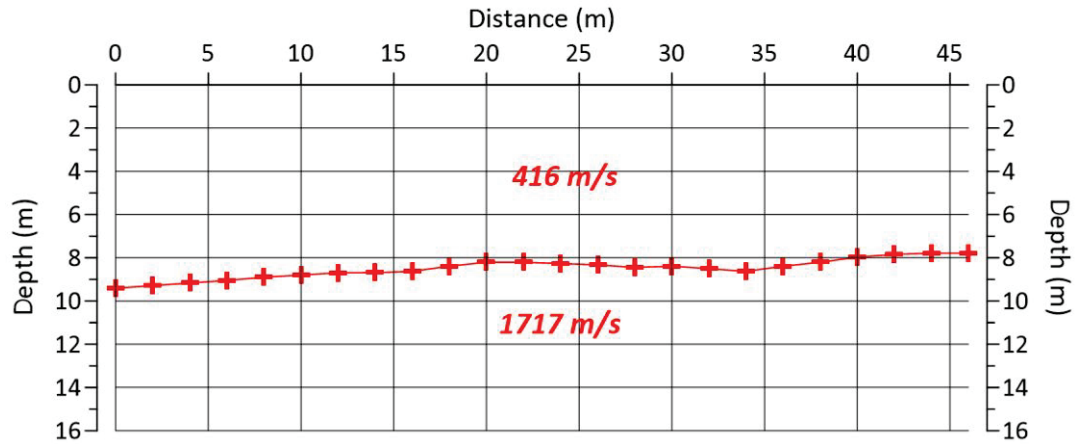


Figure 5 *Interpreted depth to competent bedrock from S-wave refraction.*

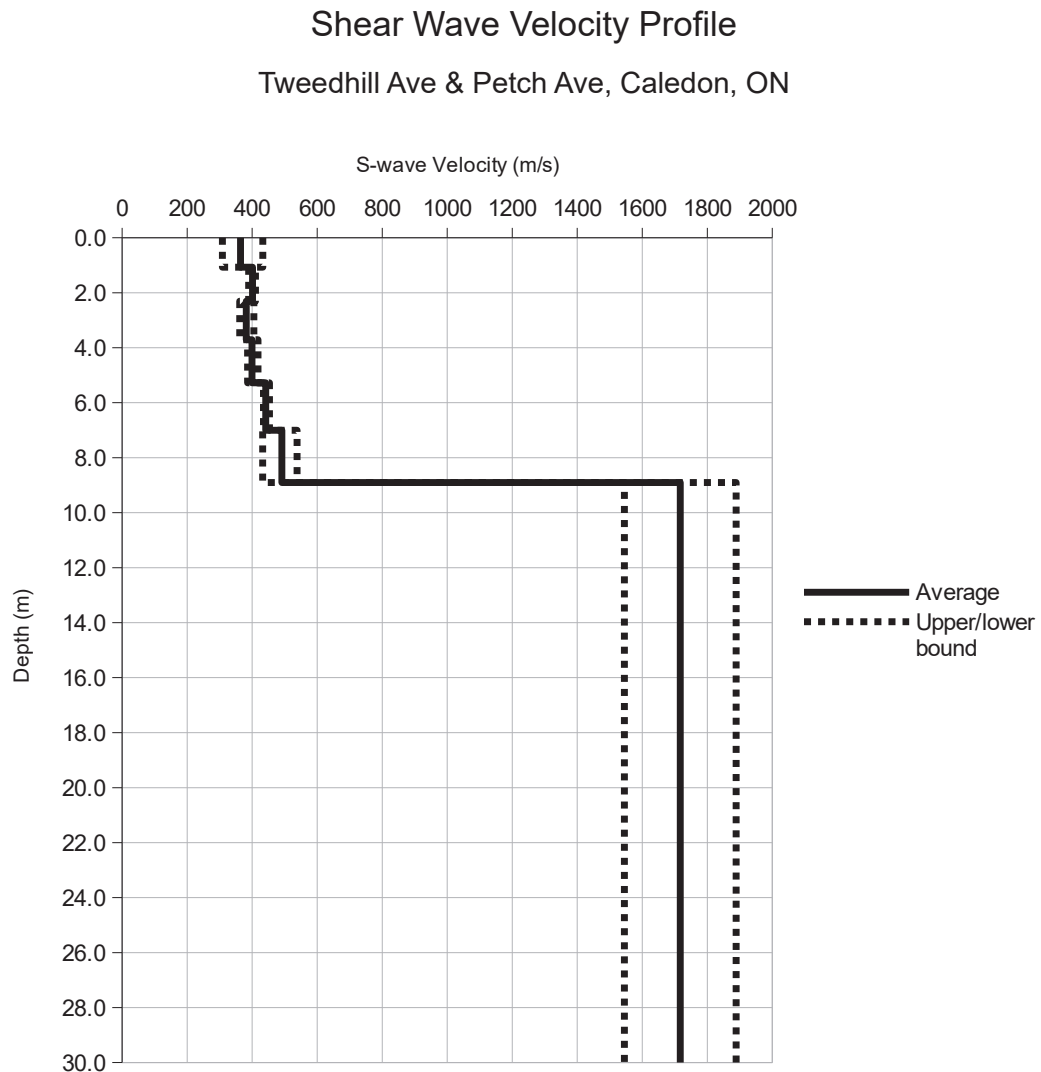


Figure 6 *Shear wave velocity profile from MASW sounding and S-wave refraction.*

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

Table 1 *Shear wave velocities from MASW sounding and S-wave refraction.*

Depth Interval (m)		S-wave Velocity (m/s)
From	To	
0.0	1.1	364
1.1	2.3	401
2.3	3.7	382
3.7	5.3	400
5.3	7.0	442
7.0	8.9	491
8.9	30.0	1717

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:

$$V_{s30} = 30 / \sum (d/V_s),$$

where d is the thickness of any layer and V_s 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.

Table 2 *V_{s30} values from MASW sounding.*

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	820	891	961	X₇₆₀

The V_{s30} values obtained from the MASW sounding varied from 820 m/s to 961 m/s with an average of 891 m/s.

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 at this site, the **Site Designation** is **X₇₆₀**.

4 CLOSURE

Shear wave velocity testing involving the multi-channel analysis of surface waves (MASW) method was carried out for the proposed Mayfield West elementary school at the intersection of Tweedhill Avenue and Petch Avenue in Caledon, Ontario.

The average shear wave velocity (V_{s30}) value calculated from in situ shear wave velocity measurements was **891 m/s**. 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), **the applicable Site Designation is X₇₆₀**.

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

Frontwave Geophysics Inc.



Ilia Gusakov, P.Geo.

Geophysicist

(647) 514-4724

ilia.gusakov@frontwave.ca





7460

February 21, 2025

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

Attention: Ms. Christine Stasevich
Dipl. Arch. Tech. C.Tech. OACETT

Dear Mdm:

**Re: Soil Chemical Testing Report
Proposed Mayfield West # 2 Public School
Petch Avenue and Tweedhill Avenue
Caledon, 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 in January 2025.

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
2508019-01	S1 (1/2)	Metals and Inorganics
2508019-02	S2 (4/2)	Metals and Inorganics
2508019-03	S3 (5/2)	Metals and Inorganics
2508019-04	S4 (12/2)	Metals and Inorganics
2508019-05	S5 (13/2)	Metals and Inorganics
2508019-06	S6 (16/2)	Metals and Inorganics

* S1 (1/2) stands for sample No. S1, obtained from Borehole No. 1, Split Spoon No. (2).

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 B, 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 purpose, 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.

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: 2508019		PROJECT: 7460							
REPORT DATE: 02/21/2025		REFERENCE: SO Forward Engineering & Associates Inc. - ENV							
Parameter	Units	MDL	Regulation	Sample					
				S(1) (1/2) 2508019-01	S(2) (4/2) 2508019-02	S(3) (5/2) 2508019-03	S(4) (12/2) 2508019-04	S(5) (13/2) 2508019-05	S(6) (16/2) 2508019-06
Sample Date (m/d/y)			Reg 406/19 -T1 Res/Park/Ind/Com	02/11/2025 01:00 PM	02/11/2025 01:00 PM	02/11/2025 01:00 PM	02/11/2025 01:00 PM	02/11/2025 01:00 PM	02/11/2025 01:00 PM
Physical Characteristics									
% Solids	% by Wt.	0.1		89.2	85.5	89.8	87.3	90.0	90.0
General Inorganics									
SAR	N/A	0.01	2.4	0.14	0.37	0.23	0.39	0.26	0.32
Conductivity	mS/cm	0.005	0.57	0.174	0.216	0.172	0.278	0.201	0.251
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		7.43	7.45	7.60	7.55	7.58	7.55
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	4.7	5.8	4.7	6.2	6.2	5.9
Barium	ug/g dry	1.0	220	66.8	96.1	45.9	89.9	70.7	80.7
Beryllium	ug/g dry	0.5	2.5	0.5	0.7	<0.5	0.7	0.6	0.8
Boron, available	ug/g dry	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Boron	ug/g dry	5.0	36	7.6	9.3	5.1	5.5	16.4	9.1
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	<0.2
Chromium	ug/g dry	5.0	70	17.7	23.9	13.3	21.9	19.8	22.4
Cobalt	ug/g dry	1.0	21	11.2	13.1	7.3	10.9	9.1	10.8
Copper	ug/g dry	5.0	92	29.0	27.5	26.3	34.6	30.8	32.5
Lead	ug/g dry	1.0	120	7.8	8.7	7.5	9.0	7.3	9.7
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	21.3	27.2	14.7	23.9	20.0	22.8
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	25.0	32.9	21.3	33.2	30.9	33.9
Zinc	ug/g dry	20.0	290	43.8	49.8	37.0	50.7	43.2	54.8

Certificate of Analysis

Forward Engineering & Associates Inc.

244 Brockport Dr., Unit 15

Toronto, ON M9W 6X9

Attn: George Semaan

Client PO:

Project: 7460

Custody:

Report Date: 21-Feb-2025

Order Date: 14-Feb-2025

Order #: 2508019

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

Paracel ID	Client ID
2508019-01	S(1) (1/2)
2508019-02	S(2) (4/2)
2508019-03	S(3) (5/2)
2508019-04	S(4) (12/2)
2508019-05	S(5) (13/2)
2508019-06	S(6) (16/2)

Approved By:



Alex Enfield, MSc

Lab Manager

Certificate of Analysis

Report Date: 21-Feb-2025

Client: Forward Engineering & Associates Inc.

Order Date: 14-Feb-2025

Client PO:

Project Description: 7460

Analysis Summary Table

Analysis	Method Reference/Description	Extraction Date	Analysis Date
Boron, available	MOE (HWE), EPA 200.8 - ICP-MS	20-Feb-25	20-Feb-25
Chromium, hexavalent - soil	MOE E3056 - Extraction, colourimetric	19-Feb-25	20-Feb-25
Conductivity	MOE E3138 - probe @25 °C, water ext	20-Feb-25	20-Feb-25
Cyanide, free	MOE E3015 - Auto Colour, water extraction	19-Feb-25	19-Feb-25
Mercury by CVAA	EPA 7471B - CVAA, digestion	19-Feb-25	20-Feb-25
pH, soil	EPA 150.1 - pH probe @ 25 °C, CaCl buffered ext.	18-Feb-25	19-Feb-25
REG 153: Metals by ICP/MS, soil	EPA 6020 - Digestion - ICP-MS	20-Feb-25	20-Feb-25
SAR	Calculated	20-Feb-25	20-Feb-25
Solids, %	CWS Tier 1 - Gravimetric	19-Feb-25	20-Feb-25

Certificate of Analysis

Report Date: 21-Feb-2025

Client: Forward Engineering & Associates Inc.

Order Date: 14-Feb-2025

Client PO:

Project Description: 7460

Client ID:	S(1) (1/2)	S(2) (4/2)	S(3) (5/2)	S(4) (12/2)	-	-
Sample Date:	11-Feb-25 13:00	11-Feb-25 13:00	11-Feb-25 13:00	11-Feb-25 13:00	-	-
Sample ID:	2508019-01	2508019-02	2508019-03	2508019-04	-	-
Matrix:	Soil	Soil	Soil	Soil	-	-
MDL/Units						

Physical Characteristics

% Solids	0.1 % by Wt.	89.2	85.5	89.8	87.3	-	-
----------	--------------	------	------	------	------	---	---

General Inorganics

SAR	0.01 N/A	0.14	0.37	0.23	0.39	-	-
Conductivity	0.005 mS/cm	0.174	0.216	0.172	0.278	-	-
Cyanide, free	0.03 ug/g	<0.03	<0.03	<0.03	<0.03	-	-
pH	0.05 pH Units	7.43	7.45	7.60	7.55	-	-

Metals

Antimony	1.0 ug/g	<1.0	<1.0	<1.0	<1.0	-	-
Arsenic	1.0 ug/g	4.7	5.8	4.7	6.2	-	-
Barium	1.0 ug/g	66.8	96.1	45.9	89.9	-	-
Beryllium	0.5 ug/g	0.5	0.7	<0.5	0.7	-	-
Boron	5.0 ug/g	7.6	9.3	5.1	5.5	-	-
Boron, available	0.5 ug/g	<0.5	<0.5	<0.5	<0.5	-	-
Cadmium	0.5 ug/g	<0.5	<0.5	<0.5	<0.5	-	-
Chromium	5.0 ug/g	17.7	23.9	13.3	21.9	-	-
Chromium (VI)	0.2 ug/g	<0.2	<0.2	<0.2	<0.2	-	-
Cobalt	1.0 ug/g	11.2	13.1	7.3	10.9	-	-
Copper	5.0 ug/g	29.0	27.5	26.3	34.6	-	-
Lead	1.0 ug/g	7.8	8.7	7.5	9.0	-	-
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	21.3	27.2	14.7	23.9	-	-
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: 21-Feb-2025

Client: Forward Engineering & Associates Inc.

Order Date: 14-Feb-2025

Client PO:

Project Description: 7460

Client ID:	S(1) (1/2)	S(2) (4/2)	S(3) (5/2)	S(4) (12/2)		
Sample Date:	11-Feb-25 13:00	11-Feb-25 13:00	11-Feb-25 13:00	11-Feb-25 13:00	-	-
Sample ID:	2508019-01	2508019-02	2508019-03	2508019-04		
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	25.0	32.9	21.3	33.2	-	-
Zinc	20.0 ug/g	43.8	49.8	37.0	50.7	-	-

Certificate of Analysis

Report Date: 21-Feb-2025

Client: Forward Engineering & Associates Inc.

Order Date: 14-Feb-2025

Client PO:

Project Description: 7460

Client ID:	S(5) (13/2)	S(6) (16/2)			
Sample Date:	11-Feb-25 13:00	11-Feb-25 13:00			
Sample ID:	2508019-05	2508019-06			
Matrix:	Soil	Soil			
MDL/Units					

Physical Characteristics

% Solids	0.1 % by Wt.	90.0	90.0	-	-	-	-
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General Inorganics

SAR	0.01 N/A	0.26	0.32	-	-	-	-
Conductivity	0.005 mS/cm	0.201	0.251	-	-	-	-
Cyanide, free	0.03 ug/g	<0.03	<0.03	-	-	-	-
pH	0.05 pH Units	7.58	7.55	-	-	-	-

Metals

Antimony	1.0 ug/g	<1.0	<1.0	-	-	-	-
Arsenic	1.0 ug/g	6.2	5.9	-	-	-	-
Barium	1.0 ug/g	70.7	80.7	-	-	-	-
Beryllium	0.5 ug/g	0.6	0.8	-	-	-	-
Boron, available	0.5 ug/g	<0.5	<0.5	-	-	-	-
Boron	5.0 ug/g	16.4	9.1	-	-	-	-
Cadmium	0.5 ug/g	<0.5	<0.5	-	-	-	-
Chromium	5.0 ug/g	19.8	22.4	-	-	-	-
Chromium (VI)	0.2 ug/g	<0.2	<0.2	-	-	-	-
Cobalt	1.0 ug/g	9.1	10.8	-	-	-	-
Copper	5.0 ug/g	30.8	32.5	-	-	-	-
Lead	1.0 ug/g	7.3	9.7	-	-	-	-
Mercury	0.1 ug/g	<0.1	<0.1	-	-	-	-
Molybdenum	1.0 ug/g	<1.0	<1.0	-	-	-	-
Nickel	5.0 ug/g	20.0	22.8	-	-	-	-
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	-	-	-	-

Certificate of Analysis

Report Date: 21-Feb-2025

Client: Forward Engineering & Associates Inc.

Order Date: 14-Feb-2025

Client PO:

Project Description: 7460

Client ID:	S(5) (13/2)	S(6) (16/2)			
Sample Date:	11-Feb-25 13:00	11-Feb-25 13:00			- -
Sample ID:	2508019-05	2508019-06			
Matrix:	Soil	Soil			
MDL/Units					

Metals

Uranium	1.0 ug/g	<1.0	<1.0	-	-	-	-
Vanadium	10.0 ug/g	30.9	33.9	-	-	-	-
Zinc	20.0 ug/g	43.2	54.8	-	-	-	-

Certificate of Analysis

Report Date: 21-Feb-2025

Client: Forward Engineering & Associates Inc.

Order Date: 14-Feb-2025

Client PO:

Project Description: 7460

Method Quality Control: Blank

Analyte	Result	Reporting Limit	Units	%REC	%REC Limit	RPD	RPD Limit	Notes
General Inorganics								
SAR	ND	0.01	N/A					
Conductivity	ND	0.005	mS/cm					
Cyanide, free	ND	0.03	ug/g					
Metals								
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, available	ND	0.5	ug/g					
Boron	ND	5.0	ug/g					
Cadmium	ND	0.5	ug/g					
Chromium (VI)	ND	0.2	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					
Mercury	ND	0.1	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					

Certificate of Analysis

Report Date: 21-Feb-2025

Client: Forward Engineering & Associates Inc.

Order Date: 14-Feb-2025

Client PO:

Project Description: 7460

Method Quality Control: Duplicate

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
General Inorganics									
SAR	1.07	0.01	N/A	1.22			13.1	30	
Conductivity	2.06	0.005	mS/cm	2.05			0.2	5	
Cyanide, free	ND	0.03	ug/g	ND			NC	35	
pH	11.06	0.05	pH Units	11.08			0.2	10	
Metals									
Antimony	ND	1.0	ug/g	ND			NC	30	
Arsenic	3.2	1.0	ug/g	2.7			17.4	30	
Barium	103	1.0	ug/g	98.9			3.6	30	
Beryllium	0.5	0.5	ug/g	ND			NC	30	
Boron, available	0.78	0.5	ug/g	0.81			3.7	35	
Boron	11.1	5.0	ug/g	11.1			0.1	30	
Cadmium	0.9	0.5	ug/g	0.7			18.6	30	
Chromium (VI)	ND	0.2	ug/g	ND			NC	35	
Chromium	37.9	5.0	ug/g	36.3			4.2	30	
Cobalt	6.0	1.0	ug/g	5.8			3.7	30	
Copper	28.1	5.0	ug/g	27.0			4.0	30	
Lead	21.0	1.0	ug/g	19.3			8.2	30	
Mercury	ND	0.1	ug/g	ND			NC	30	
Molybdenum	ND	1.0	ug/g	ND			NC	30	
Nickel	18.3	5.0	ug/g	17.8			2.9	30	
Selenium	ND	1.0	ug/g	ND			NC	30	
Silver	0.4	0.3	ug/g	0.4			2.7	30	
Thallium	ND	1.0	ug/g	ND			NC	30	
Uranium	ND	1.0	ug/g	ND			NC	30	
Vanadium	35.0	10.0	ug/g	33.5			4.3	30	
Zinc	94.7	20.0	ug/g	87.9			7.5	30	
Physical Characteristics									
% Solids	89.6	0.1	% by Wt.	90.0			0.4	25	

Certificate of Analysis

Report Date: 21-Feb-2025

Client: Forward Engineering & Associates Inc.

Order Date: 14-Feb-2025

Client PO:

Project Description: 7460

Method Quality Control: Spike

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
General Inorganics									
Cyanide, free	0.305	0.03	ug/g	ND	92.3	70-130			
Metals									
Antimony	44.9	1.0	ug/g	ND	89.8	70-130			
Arsenic	49.6	1.0	ug/g	1.1	97.1	70-130			
Barium	87.0	1.0	ug/g	39.6	94.9	70-130			
Beryllium	47.2	0.5	ug/g	ND	94.1	70-130			
Boron, available	3.37	0.5	ug/g	0.81	51.3	70-122			QM-07
Boron	52.7	5.0	ug/g	ND	96.4	70-130			
Cadmium	47.3	0.5	ug/g	ND	93.9	70-130			
Chromium (VI)	5.3	0.2	ug/g	ND	96.0	70-130			
Chromium	64.7	5.0	ug/g	14.5	100	70-130			
Cobalt	51.8	1.0	ug/g	2.3	98.9	70-130			
Copper	58.2	5.0	ug/g	10.8	94.9	70-130			
Lead	53.3	1.0	ug/g	7.7	91.1	70-130			
Mercury	1.62	0.1	ug/g	ND	108	70-130			
Molybdenum	51.9	1.0	ug/g	ND	103	70-130			
Nickel	56.9	5.0	ug/g	7.1	99.5	70-130			
Selenium	48.5	1.0	ug/g	ND	96.5	70-130			
Silver	44.1	0.3	ug/g	ND	87.8	70-130			
Thallium	47.7	1.0	ug/g	ND	94.8	70-130			
Uranium	47.6	1.0	ug/g	ND	94.8	70-130			
Vanadium	64.3	10.0	ug/g	13.4	102	70-130			
Zinc	81.6	20.0	ug/g	35.1	92.9	70-130			

Certificate of Analysis

Client: Forward Engineering & Associates Inc.

Client PO:

Report Date: 21-Feb-2025

Order Date: 14-Feb-2025

Project Description: 7460

Qualifier Notes:**QC Qualifiers:**

QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on other acceptable QC.

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 unless 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 liability 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.



Client Name: Forward Engineering & Associates Inc.	Project Ref: 7460	Page 1 of 1
Contact Name: George Semaan	Quote #:	Turnaround Time ☐ 1 day ☐ 3 day ☐ 2 day ☒ Regular
Address: 244 Brockport Dr., Unit 15 Toronto ON M9W 6X9	PO #:	
Telephone: (416) 798-3500	E-mail: george@forwardengineering.ca	
		Date Required: _____

☐ REG 153/04 ☒ REG 406/19	Other Regulation	Matrix Type: S (Soil/Sed.) GW (Ground Water) SW (Surface Water) SS (Storm/Sanitary Sewer) P (Paint) A (Air) O (Other)	Required Analysis															
☐ Table 1 ☐ Res/Park ☐ Med/Fine ☐ Table 2 ☐ Ind/Comm ☐ Coarse ☐ Table 3 ☐ Agri/Other ☐ Table _____ For RSC: ☐ Yes ☐ No	☐ REG 558 ☐ PWQO ☐ CCME ☐ MISA ☐ SU - Sani ☐ SU - Storm Mun: _____ ☐ Other: _____	Matrix Air Volume # of Containers Sample Taken Date Time	PHCs F1-F4+BTEX	VOCs	PAHs	Metals by ICP	Hg	Cd	B (HWS)	METALS & INORGANICS								
Sample ID/Location Name																		
1	S(1) (1/2)	S	1	FEB 11/2025	1 PM													
2	S(2) (4/2)	S	1															
3	S(3) (5/2)	S	1															
4	S(4) (12/2)	S	1															
5	S(5) (13/2)	S	1															
6	S(6) (16/2)	S	1															
7																		
8																		
9																		
10																		

Comments:		Method of Delivery: Rabbex	
Relinquished By (Sign):	Received By Driver/Depot:	Received at Lab: km	Verified By: km
Relinquished By (Print): PABLO RIOS	Date/Time: 14-Feb-25 1109	Date/Time: 2/18/25 1629	Date/Time: 2/18/25 1630
Date/Time:	Temperature: 8.7 °C	Temperature: 8.6	pH Verified: ☐ By: NA