

YUKON ASSOCIATION OF EDUCATION PROFESSIONALS HEAD OFFICE LOT 38, BLOCK 316 - 151 BLACK ST.

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- E201 POWER AND SYSTEM PLANS
- E301 ELECTRICAL SCHEDULES AND SPECIFICATION

Item	2015 National Building Code Data Matrix ¹	NBC Reference																																																			
		References are to Division B unless noted [A] for Division A or [C] for Division C																																																			
1	Project Description: Office Building <input checked="" type="checkbox"/> New <input type="checkbox"/> Addition <input type="checkbox"/> Alteration <input type="checkbox"/> Change of Use	Part 3																																																			
2	Major Occupancy(s): D - Business & Personal Services	T.3.1.2.1																																																			
3	Building Area (m ²): New: 300 Total: 300	3.2.2.62	1.4.1.2[A]																																																		
5	Number of Storeys: Above grade: 2 Below grade: 0		1.4.1.2[A]																																																		
6	Number of Streets / Fire Fighter Access: 2	3.2.2.10																																																			
7	Building Classification: Group D	3.1.2.1																																																			
8	Sprinkler System <input type="checkbox"/> Entire Building <input type="checkbox"/> Basement Only <input type="checkbox"/> In lieu of roof rating <input checked="" type="checkbox"/> not required	3.2.2.62																																																			
9	Fire Alarm required <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	3.2.4.1																																																			
10	Building Height: 8m	1.3.3.2																																																			
11	Permitted Construction <input type="checkbox"/> Combustible <input type="checkbox"/> Non-Combustible <input checked="" type="checkbox"/> Both Actual Construction <input type="checkbox"/> Combustible <input type="checkbox"/> Non-Combustible <input type="checkbox"/> Both	3.2.2.62																																																			
12	Occupant Load <input checked="" type="checkbox"/> m ² /person <input type="checkbox"/> design of building Office (9.3m ² / person) 230m ² = 25 persons Total = 25 people max	T.3.1.17.1																																																			
13	Barrier-free Design <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Complies	3.8.2.1																																																			
14	Stairs & Railings <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Complies	3.3.2.15																																																			
15	Exit width <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Complies	3.4.3.3																																																			
16	Direction of Door Swing <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Complies	3.3.1.11																																																			
17	Number of Required Exits (1) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Complies	3.4.2.1																																																			
18	Number of Required Extinguishers (1) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Complies	3.2.5.16																																																			
19	Exit Signs <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> Complies	3.4.5.1																																																			
20	Emergency Lighting <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Complies	3.2.7.3																																																			
21	Number of Required Water Closets (2): 0 Unisex 1 Male 1 Female Number of Designed Water Closets (2): 2 Unisex 0 Male 0 Female	3.7.2																																																			
22	Fire Resistance Ratings 1hr service/mech room (45min door) 45min separation between floors 45min load bearing walls and columns on main floor 45min Janitor Room	3.2.2.62																																																			
23	Spatial Separation - Construction of Exterior Walls	T.3.2.3.1-B	T.3.2.3.7																																																		
	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Wall</th> <th>Area of EBF (m²)</th> <th>Actual Area Openings</th> <th>Net Area of EBF (m²)</th> <th>Min F.R.R.</th> <th>Proposed % of Openings</th> <th>Minimum Limiting Distance</th> <th>Permitted Max. % of Openings</th> <th>Required Construction</th> <th>Required Cladding</th> </tr> </thead> <tbody> <tr> <td>East</td> <td>75.2</td> <td>15.01</td> <td>60.19</td> <td>1hr</td> <td>20%</td> <td>15.0m</td> <td>100%</td> <td>C or Nc</td> <td>C or Nc</td> </tr> <tr> <td>North</td> <td>133.6</td> <td>40.15</td> <td>93.45</td> <td>45min</td> <td>30%</td> <td>22.0m</td> <td>100%</td> <td>C or Nc</td> <td>C or Nc</td> </tr> <tr> <td>West</td> <td>62.7</td> <td>12.74</td> <td>49.96</td> <td>45min</td> <td>20%</td> <td>7.0m</td> <td>64%</td> <td>C or Nc</td> <td>Nc</td> </tr> <tr> <td>South</td> <td>143.9</td> <td>0.00</td> <td>143.9</td> <td>1hr</td> <td>0%</td> <td>0.0m</td> <td>0%</td> <td>Nc</td> <td>Nc</td> </tr> </tbody> </table>	Wall	Area of EBF (m ²)	Actual Area Openings	Net Area of EBF (m ²)	Min F.R.R.	Proposed % of Openings	Minimum Limiting Distance	Permitted Max. % of Openings	Required Construction	Required Cladding	East	75.2	15.01	60.19	1hr	20%	15.0m	100%	C or Nc	C or Nc	North	133.6	40.15	93.45	45min	30%	22.0m	100%	C or Nc	C or Nc	West	62.7	12.74	49.96	45min	20%	7.0m	64%	C or Nc	Nc	South	143.9	0.00	143.9	1hr	0%	0.0m	0%	Nc	Nc		
Wall	Area of EBF (m ²)	Actual Area Openings	Net Area of EBF (m ²)	Min F.R.R.	Proposed % of Openings	Minimum Limiting Distance	Permitted Max. % of Openings	Required Construction	Required Cladding																																												
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South	143.9	0.00	143.9	1hr	0%	0.0m	0%	Nc	Nc																																												

NOTES: ¹ This Building Code Summary is provided for project initiation, the interpretation of applicable codes is subject to the Authority Having Jurisdiction.

1 A000 CODE REVIEW NTS



REVISIONS	DESCRIPTION	BY	DATE
00	RE-ZONING	C.A.C.	2022-03-02
00	DRAFT SCHEMATIC	C.A.C.	2022-04-01
00	SCHEMATIC DESIGN	C.A.C.	2022-04-22
00	DESIGN DEV. REV.	C.A.C.	2022-12-20
00	95% REVIEW	C.A.C.	2023-03-03
00	IFC	C.A.C.	2023-04-25

DRAWN BY: C.CAMERON
 CHECKED BY: C. CAMERON, NWTAA, MRAIC

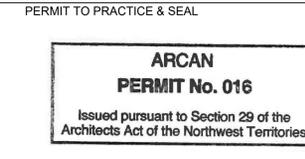
PROJECT TITLE
**YUKON TEACHERS' ASSOCIATION
 HEAD OFFICE**
 LOT 38, BLOCK 316 - 151 BLACK ST.

DRAWING TITLE
COVER SHEET
A000
 DATE: 2022-04-22
 REVISION: 00
 PROJECT No: 21-100



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 Association des professionnels de l'éducation du Yukon

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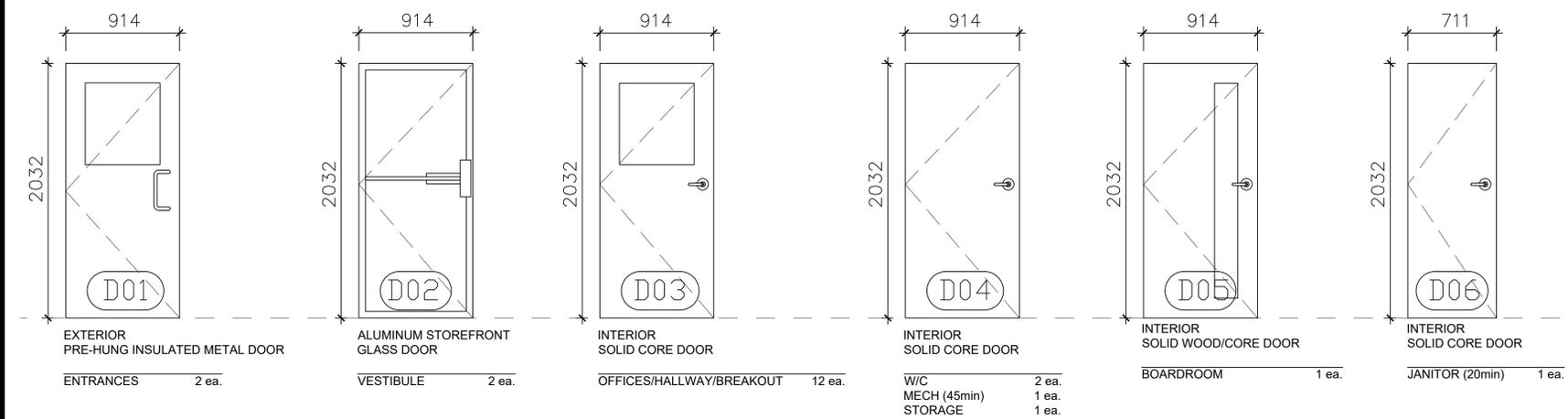
REVISIONS

REVISIONS	DESCRIPTION	BY	DATE
00	RE-ZONING	C.A.C.	2022-03-02
00	DRAFT SCHEMATIC	C.A.C.	2022-04-01
00	SCHEMATIC DESIGN	C.A.C.	2022-04-22
00	DESIGN DEV. REV.	C.A.C.	2022-12-20
00	95% REVIEW	C.A.C.	2023-03-03
00	IFC	C.A.C.	2023-04-25

DRAWN BY: C.CAMERON
 CHECKED BY: C. CAMERON, NWTAA, MRAIC

PROJECT TITLE
**YUKON TEACHERS' ASSOCIATION
 HEAD OFFICE**
 LOT 38, BLOCK 316 - 151 BLACK ST.

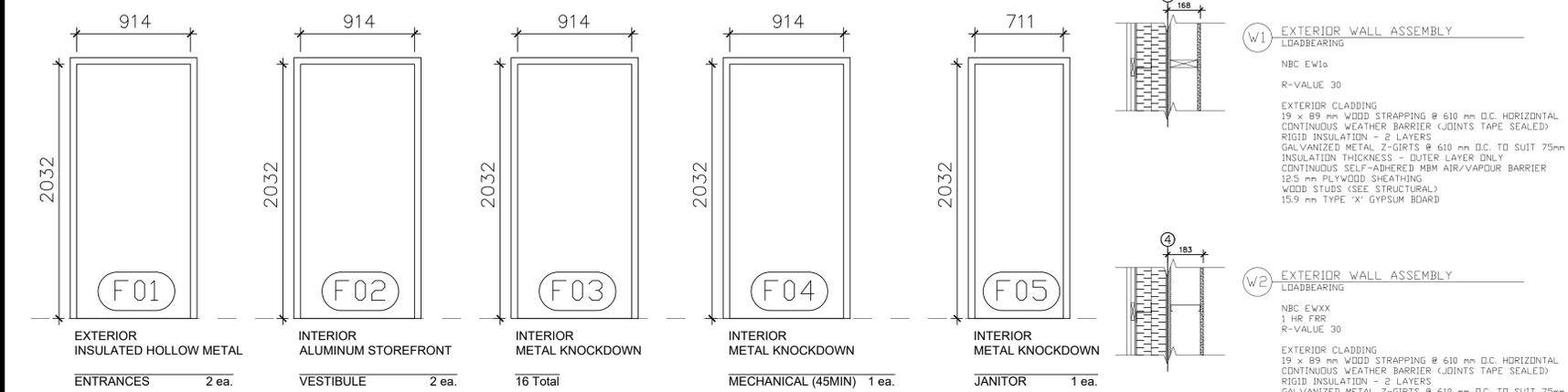
DRAWING TITLE
COVER SHEET
A000
 DATE: 2022-04-22
 REVISION: 00
 PROJECT No: 21-100



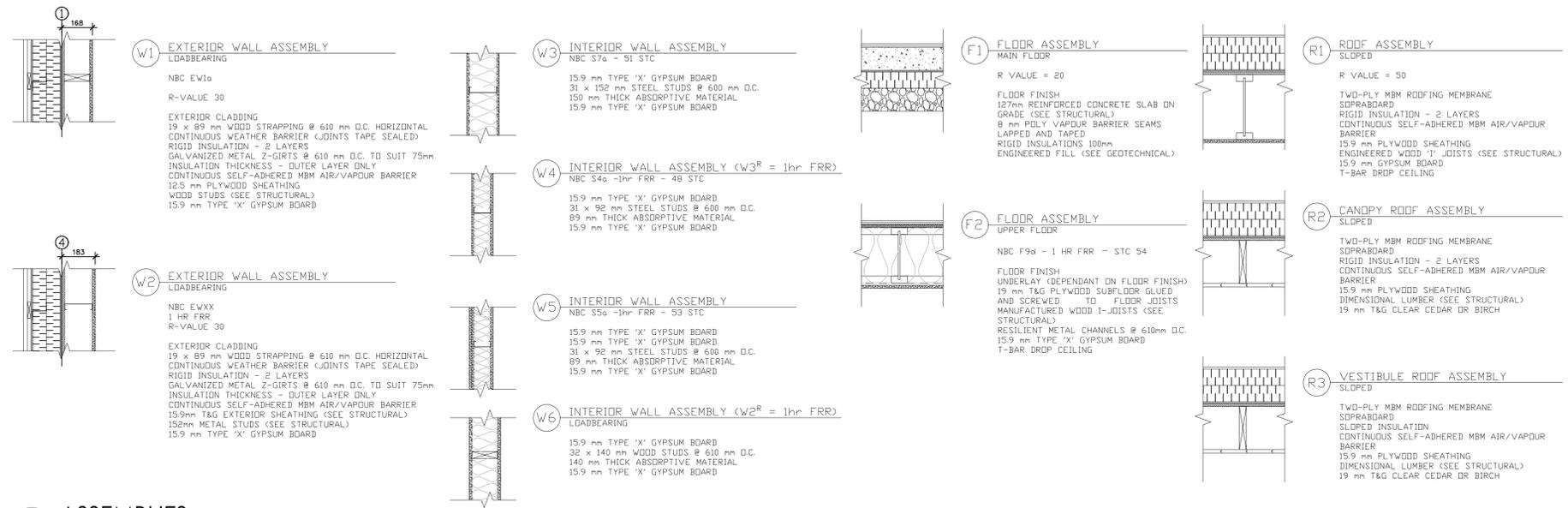
YUKON TEACHERS ASSOCIATION-YUKON			DOOR SCHEDULE									
ROOM NAME	DOOR NO.	FIRE RATING	DOORS				FRAME TYPE	Hardware Group	COMMENTS			
			TYPE	SIZE	CORE	VENEER				FINISH	GLAZING	
Vestibule	101		D02	914 x 2032 x 45	Insulated	Metal	Paint	Yes	F01	Push/Pull	Full glazing, Powered door operator, exit	
Staff Entrance	102		D01	914 x 2032 x 45	Insulated	Metal	Paint	Yes	F01		Exit	
Large Boardroom	103		D01	914 x 2032 x 45	Insulated	Metal	Paint	Yes	F01		Exit	
Reception	104		D02	914 x 2032 x 45	Glass	Glass	Aluminum	Yes	F02	Push/Pull	Full glazing, Powered door operator, exit	
Staff Entrance	105		D03	914 x 2032 x 45	Solid	Wood	Varnish	Yes	F03	Passage lever with panic	Half Lite, Closer	
Storage	106		D04	914 x 2032 x 45	Solid	Wood	Varnish		F03	Lever	Keyed	
Office	107		D03	914 x 2032 x 45	Solid	Wood	Varnish	Yes	F03	Lever	Keyed	
Office	108		D03	914 x 2032 x 45	Solid	Wood	Varnish	Yes	F03	Lever	Keyed	
Mechanical	109	45 Min	D04	914 x 2032 x 45	Solid	Wood	Paint		F04	Lever	Keyed	
Corridor	110		D03	914 x 2032 x 45	Solid	Wood	Varnish	Yes	F03	Passage lever with panic	Half Lite, Closer	
Large Boardroom	111		D05	914 x 2032 x 45	Solid	Wood	Varnish	Yes	F03	Lever	Full 1/8 Lite, Closer	
Washroom	112		D04	914 x 2032 x 45	Solid	Wood	Varnish		F03	Privacy, Lever, Lockset		
Janitor	113	20 Min	D06	711 x 2032 x 45	Solid	Wood	Varnish		F05	Lever	Keyed, Closer	
Office	114		D03	914 x 2032 x 45	Solid	Wood	Varnish	Yes	F03	Lever	Keyed	
Office	201		D03	914 x 2032 x 45	Solid	Wood	Varnish	Yes	F03	Lever	Keyed	
Breakout	202		D03	914 x 2032 x 45	Solid	Wood	Varnish	Yes	F03	Lever	Full 1/8 Lite, Closer	
Office	203		D03	914 x 2032 x 45	Solid	Wood	Varnish	Yes	F03	Lever	Keyed	
Washroom	204		D04	914 x 2032 x 45	Solid	Wood	Varnish		F03	Privacy, Lever, Lockset		
Office	205		D03	914 x 2032 x 45	Solid	Wood	Varnish	Yes	F03	Lever	Keyed	
Office	206		D03	914 x 2032 x 45	Solid	Wood	Varnish	Yes	F03	Lever	Keyed	
Office	207		D03	914 x 2032 x 45	Solid	Wood	Varnish	Yes	F03	Lever	Keyed	
Future Space	208		D03	914 x 2032 x 45	Solid	Wood	Varnish	Yes	F03	Lever	Keyed	

1 DOORS
A001 1:25

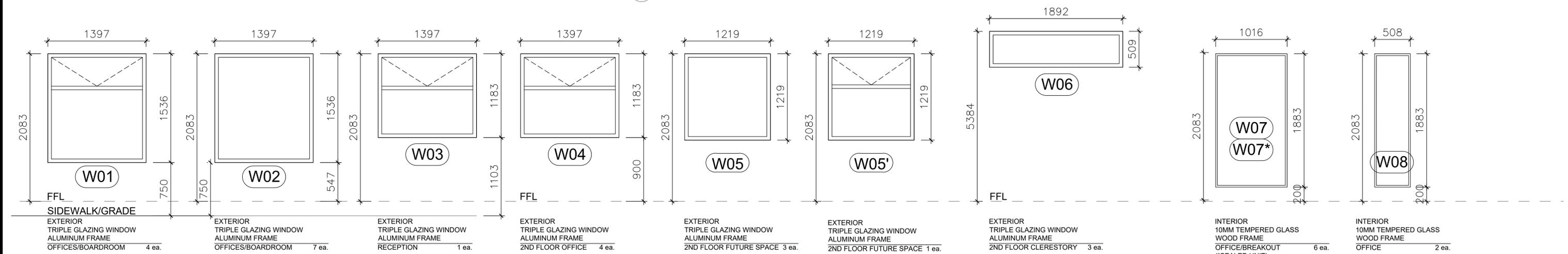
4 DOOR SCHEDULE
A001 NTS



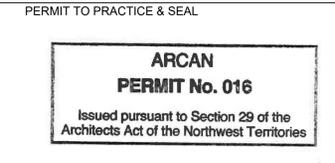
2 FRAMES
A001 1:25



5 ASSEMBLIES
A001 NTS



3 WINDOWS
A001 1:25



REVISION	DESCRIPTION	BY	DATE
00	RE-ZONING	C.A.C	2022-03-02
00	DRAFT SCHEMATIC	C.A.C	2022-04-01
00	SCHEMATIC DESIGN	C.A.C	2022-04-22
00	DESIGN DEV. REV.	C.A.C	2022-12-20
00	95% REVIEW	C.A.C	2023-03-03
00	IFC	C.A.C	2023-04-25

DRAWN BY: C.CAMERON
 CHECKED BY: C. CAMERON, NWTAA, MRAIC

PROJECT TITLE: YUKON TEACHERS' ASSOCIATION HEAD OFFICE
 LOT 38, BLOCK 316 - 151 BLACK ST.

DRAWING TITLE: ASSEMBLIES & SCHEDULES
 A001

DATE: 2022-04-22
 REVISION: 00
 PROJECT No: 21-100

FINISH SCHEDULE														
ROOM		FINISH												REMARKS
NO	NAME	FLOOR	BASEBOARD	WALL				CEILING	MILLWORK	WINDOWS & CASING	DOORS & TRIM	OTHER		
				North	East	South	West							
101	VESTIBULE	Non-slip sheet vinyl	Match T&G Wood East wall	Aluminum & glass storefront	T&G Wood	Aluminum & glass storefront	n/a	Gypsum, Paint	n/a	n/a	Aluminum & glass storefront	n/a		
102	RECEPTION / WAITING	Commercial grade LVP	100mm Rubber base	Gypsum, Paint - Field	Gypsum, Paint - Field	Gypsum, Paint - Field	Gypsum, Paint - Field	Gypsum, Paint	Reception Desk, see drawing details	Aluminum same colour in & out, gypsum returns with ply sill painted to match walls	Aluminum & glass storefront	Stair finish see drawing details		
103	CORRIDOR	Commercial grade LVP	100mm Rubber base	Gypsum, Paint - Field	Gypsum, Paint - Field	Gypsum, Paint - Field	Gypsum, Paint - Field	Gypsum, Paint	n/a	n/a	Paint Trim, Door Finish A	n/a		
104	STAFF ENTRANCE	Non-slip sheet vinyl	100mm Rubber base	Gypsum, Paint - Field	Gypsum, Paint - Field	Gypsum, Paint - Field	Gypsum, Paint - Field	Gypsum, Paint	Bench & Shelf see drawing details	n/a	Paint Door & Trim	n/a		
105	STORAGE	Commercial grade LVP	100mm Rubber base	Gypsum, Paint - Field	Gypsum, Paint - Field	Gypsum, Paint - Field	Gypsum, Paint - Field	Gypsum, Paint	n/a	n/a	Paint Trim, Door Finish A	n/a		
106	PRINTING ALCOVE	Commercial grade LVP	100mm Rubber base	Gypsum, Paint - Field	Gypsum, Paint - Accent	Gypsum, Paint - Field	n/a	Gypsum, Paint	Plastic Laminate counter - Colour A, cabinetry Colour B	n/a	n/a	n/a		
107	KITCHEN / COMMON	Commercial grade LVP	100mm Rubber base	Gypsum, Paint - Field	Gypsum, Paint - Field	Gypsum, Paint - Field	Gypsum, Paint - Field	Gypsum, Paint	Plastic Laminate counter - Colour A, cabinetry Colour B	n/a	n/a	n/a		
108	OFFICE	Carpet Tile	100mm Rubber base	Gypsum, Paint - Field	Gypsum, Paint - Field	Gypsum, Paint - Field	Gypsum, Paint - Field	Ceiling Tile	n/a	Aluminum same colour in & out, gypsum returns with ply sill painted to match walls	Paint Trim, Door Finish A	n/a		
109	OFFICE	Carpet Tile	100mm Rubber base	Gypsum, Paint - Field	Gypsum, Paint - Field	Gypsum, Paint - Field	Gypsum, Paint - Field	Ceiling Tile	n/a	Aluminum same colour in & out, gypsum returns with ply sill painted to match walls	Paint Trim, Door Finish A	n/a		
110	MECHANICAL	Painted Concrete - gray	n/a	Primed gypsum	Primed gypsum	Primed gypsum	Primed gypsum	Primed gypsum	n/a	n/a	Paint Trim, Door Finish A	n/a		
111	CORRIDOR	Commercial grade LVP	100mm Rubber base	Gypsum, Paint - Field	Gypsum, Paint - Field	Gypsum, Paint - Field	Gypsum, Paint - Field	Gypsum, Paint	n/a	n/a	Paint Trim, Door Finish A	n/a		
112	LARGE BOARDROOM	Carpet Tile	100mm Rubber base	Gypsum, Paint - Accent	Gypsum, Paint - Field	Gypsum, Paint - Field	Gypsum, Paint - Field	T&G Wood	n/a	Ext: Aluminum same colour in & out, gypsum returns with ply sill painted to match walls Int: wood frames painted to match trim	Paint Door & Trim	n/a		
113	WASHROOM	Non-slip sheet vinyl	100mm Rubber base	Gypsum, Paint - Field	Gypsum, Paint - Field	Gypsum, Paint - Field	Gypsum, Paint - Field	Gypsum, Paint	n/a	n/a	Paint Trim, Door Finish A	n/a		
114	JANITOR	Non-slip sheet vinyl	100mm Rubber base	Gypsum, Paint - Field	Gypsum, Paint - Field	Gypsum, Paint - Field	Gypsum, Paint - Field	Gypsum, Paint	n/a	n/a	Paint Trim, Door Finish A	n/a		
115	OFFICE	Carpet Tile	100mm Rubber base	Gypsum, Paint - Field	Gypsum, Paint - Field	Gypsum, Paint - Accent	Gypsum, Paint - Field	Ceiling Tile	n/a	Ext: Aluminum same colour in & out, gypsum returns with ply sill painted to match walls Int: wood frames painted to match trim	Paint Trim, Door Finish A	n/a		
201	CORRIDOR	Carpet Tile	100mm Rubber base	Gypsum, Paint - Field	Gypsum, Paint - Field	Gypsum, Paint - Field	Gypsum, Paint - Field	Gypsum, Paint	n/a	Wood frames painted to match trim	Paint Trim, Door Finish A	n/a		
202	OFFICE	Carpet Tile	100mm Rubber base	Gypsum, Paint - Accent	Gypsum, Paint - Field	Gypsum, Paint - Field	Gypsum, Paint - Field	Ceiling Tile	n/a	Ext: Aluminum same colour in & out, gypsum returns with ply sill painted to match walls Int: wood frames painted to match trim	Paint Trim, Door Finish A	n/a		
203	BREAKOUT ROOM	Carpet Tile	100mm Rubber base	Gypsum, Paint - Field	Gypsum, Paint - Field	Gypsum, Paint - Field	Gypsum, Paint - Field	Ceiling Tile	n/a	Wood frames painted to match trim	Paint Trim, Door Finish A	n/a		
204	OFFICE	Carpet Tile	100mm Rubber base	Gypsum, Paint - Field	Gypsum, Paint - Field	Gypsum, Paint - Field	Gypsum, Paint - Field	Ceiling Tile	n/a	Ext: Aluminum same colour in & out, gypsum returns with ply sill painted to match walls Int: wood frames painted to match trim	Paint Trim, Door Finish A	n/a		
205	WASHROOM	Non-slip sheet vinyl	100mm Rubber base	Gypsum, Paint - Field	Gypsum, Paint - Field	Gypsum, Paint - Field	Gypsum, Paint - Field	Ceiling Tile	n/a	n/a	Paint Trim, Door Finish A	n/a		
206	OFFICE	Carpet Tile	100mm Rubber base	Gypsum, Paint - Field	Gypsum, Paint - Field	Gypsum, Paint - Field	Gypsum, Paint - Field	Ceiling Tile	n/a	Ext: Aluminum same colour in & out, gypsum returns with ply sill painted to match walls Int: wood frames painted to match trim	Paint Trim, Door Finish A	n/a		
207	OFFICE	Carpet Tile	100mm Rubber base	Gypsum, Paint - Field	Gypsum, Paint - Field	Gypsum, Paint - Field	Gypsum, Paint - Field	Ceiling Tile	n/a	Wood frames painted to match trim	Paint Trim, Door Finish A	n/a		
208	OFFICE	Carpet Tile	100mm Rubber base	Gypsum, Paint - Field	Gypsum, Paint - Field	Gypsum, Paint - Field	Gypsum, Paint - Field	Ceiling Tile	n/a	Ext: Aluminum same colour in & out, gypsum returns with ply sill painted to match walls Int: wood frames painted to match trim	Paint Trim, Door Finish A	n/a		
209	BREAKOUT / COMMON / PRINTING	Carpet Tile	100mm Rubber base	Gypsum, Paint - Field	Gypsum, Paint - Accent	Gypsum, Paint - Field	Gypsum, Paint - Field	Ceiling Tile	n/a	n/a	n/a	n/a		
210	FUTURE PD SPACE	Plywood	n/a	Primed gypsum	Primed gypsum	Primed gypsum	Primed gypsum	Primed gypsum	n/a	Aluminum same colour in & out, gypsum returns with ply sill painted to match walls	Paint Trim, Door Finish A	n/a		

** Exterior Roof IMP to be Skyline profile in Zinc Gray

1 FINISH SCHEDULE
A002 NTS



88 ENTERPRISE DR
YELLOWKNIFE, NT X1A 0S2
PH: (867) 873 2520
WEB: WWW.ARCAN.NT.CA

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Yukon Association of Education Professionals
Association des professionnels de l'éducation du Yukon

CONSULTANTS

PERMIT TO PRACTICE & SEAL

ARCAN
PERMIT No. 016
Issued pursuant to Section 29 of the Architects Act of the Northwest Territories

REVISIONS

REVISION	DESCRIPTION	BY - DDMMYY
00	RE-ZONING	C.A.C 2022-03-02
00	DRAFT SCHEMATIC	C.A.C 2022-04-01
00	SCHEMATIC DESIGN	C.A.C 2022-04-22
00	DESIGN DEV. REV.	C.A.C 2022-12-20
00	95% REVIEW	C.A.C 2023-03-03
00	IFC	C.A.C 2023-04-25

DRAWN BY
C.CAMERON

CHECKED BY
C. CAMERON, NWTAA, MRAIC



PROJECT TITLE
YUKON TEACHERS' ASSOCIATION HEAD OFFICE

LOT 38, BLOCK 316 - 151 BLACK ST.

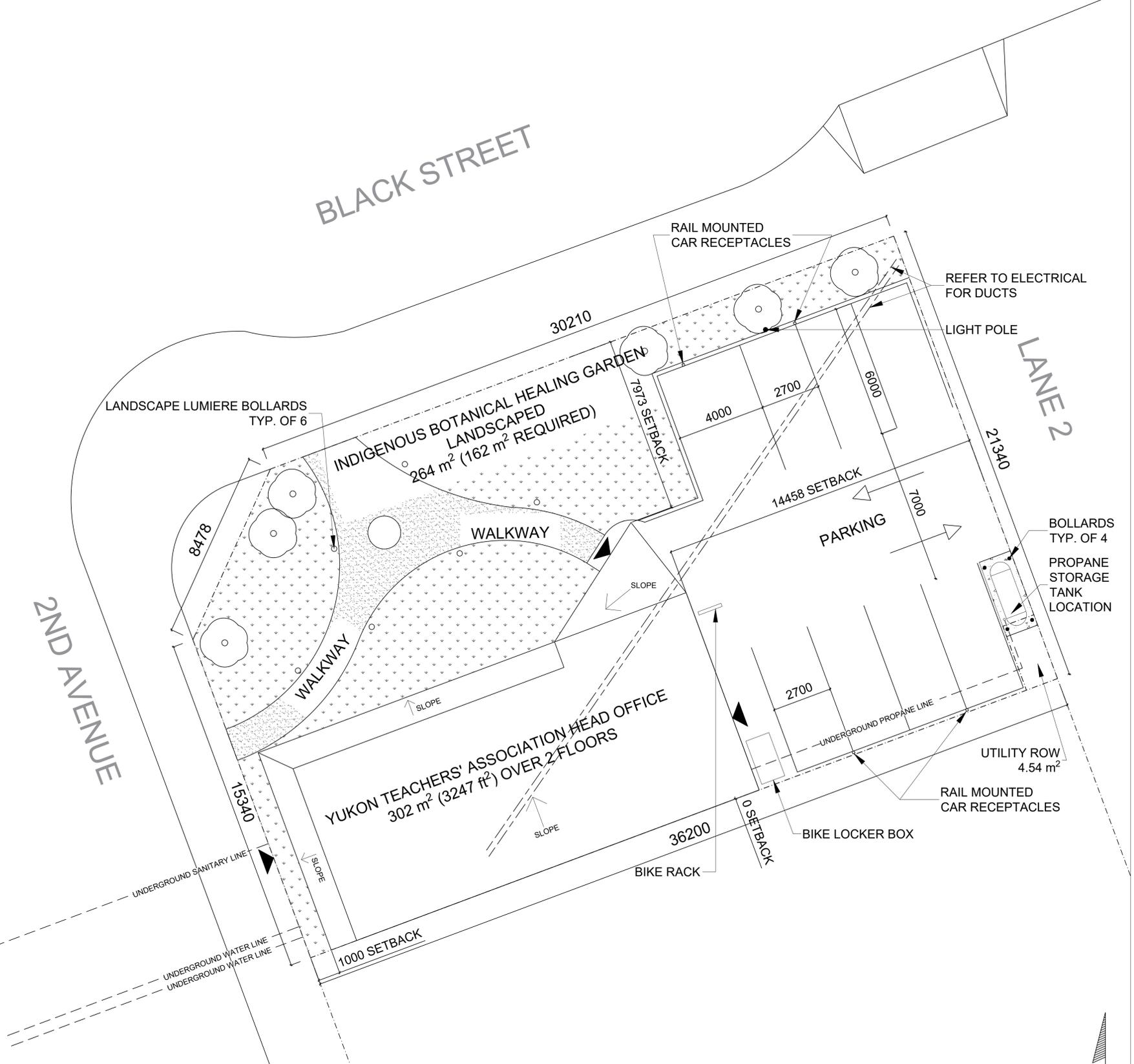
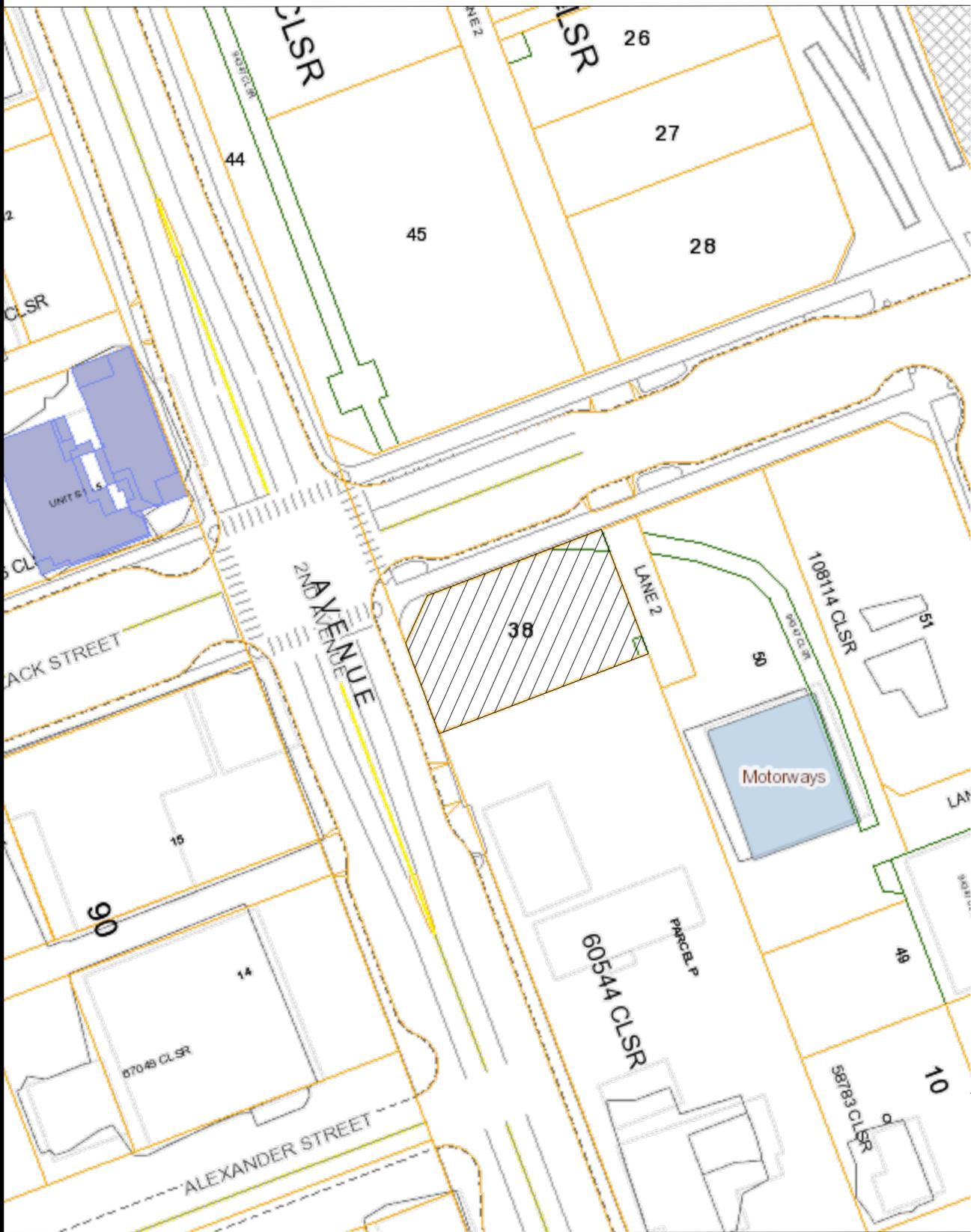
DATE
2022-04-22

REVISION
00

PROJECT No
21-100

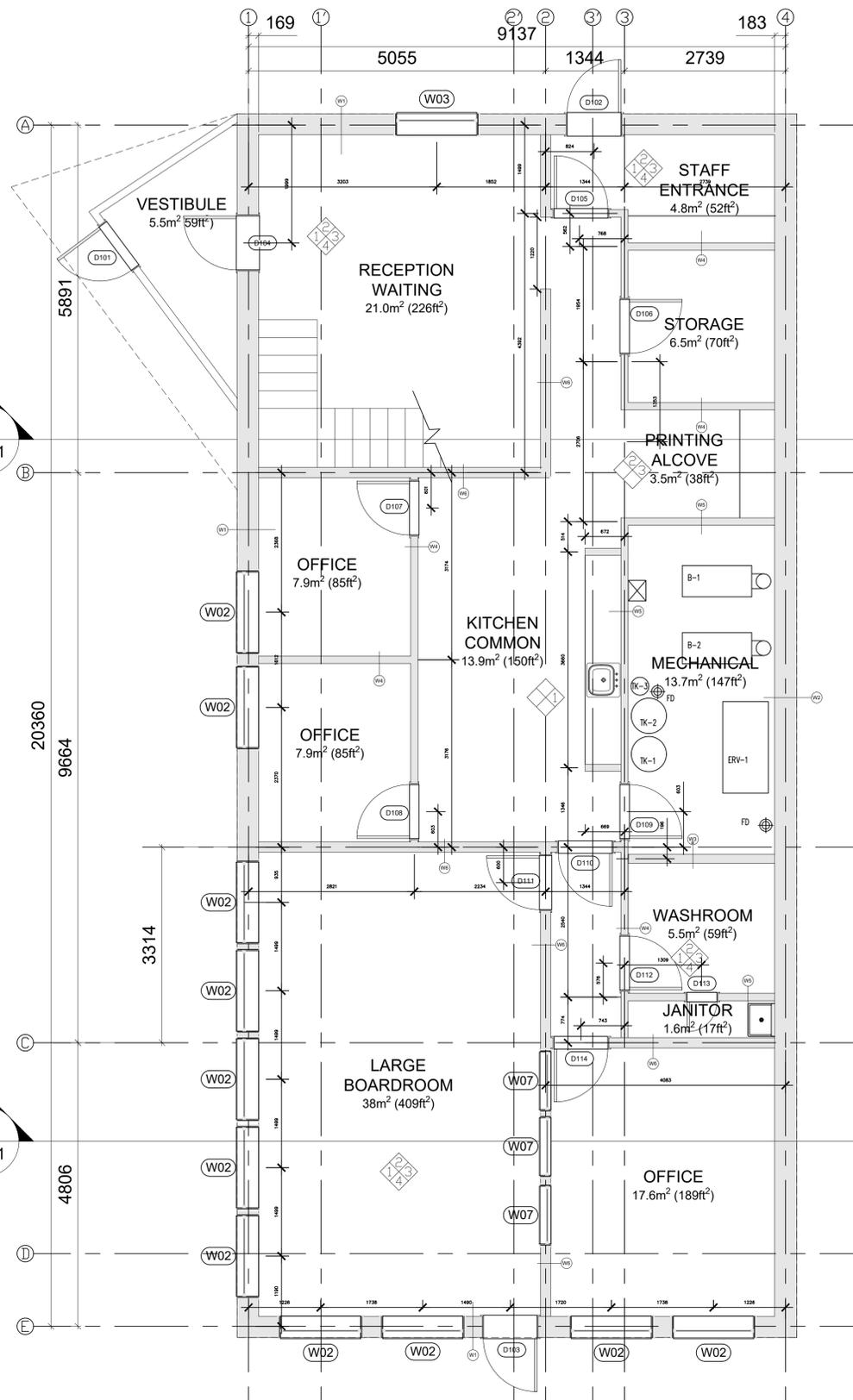
DRAWING TITLE
FINISH SCHEDULE

DWG No
A002

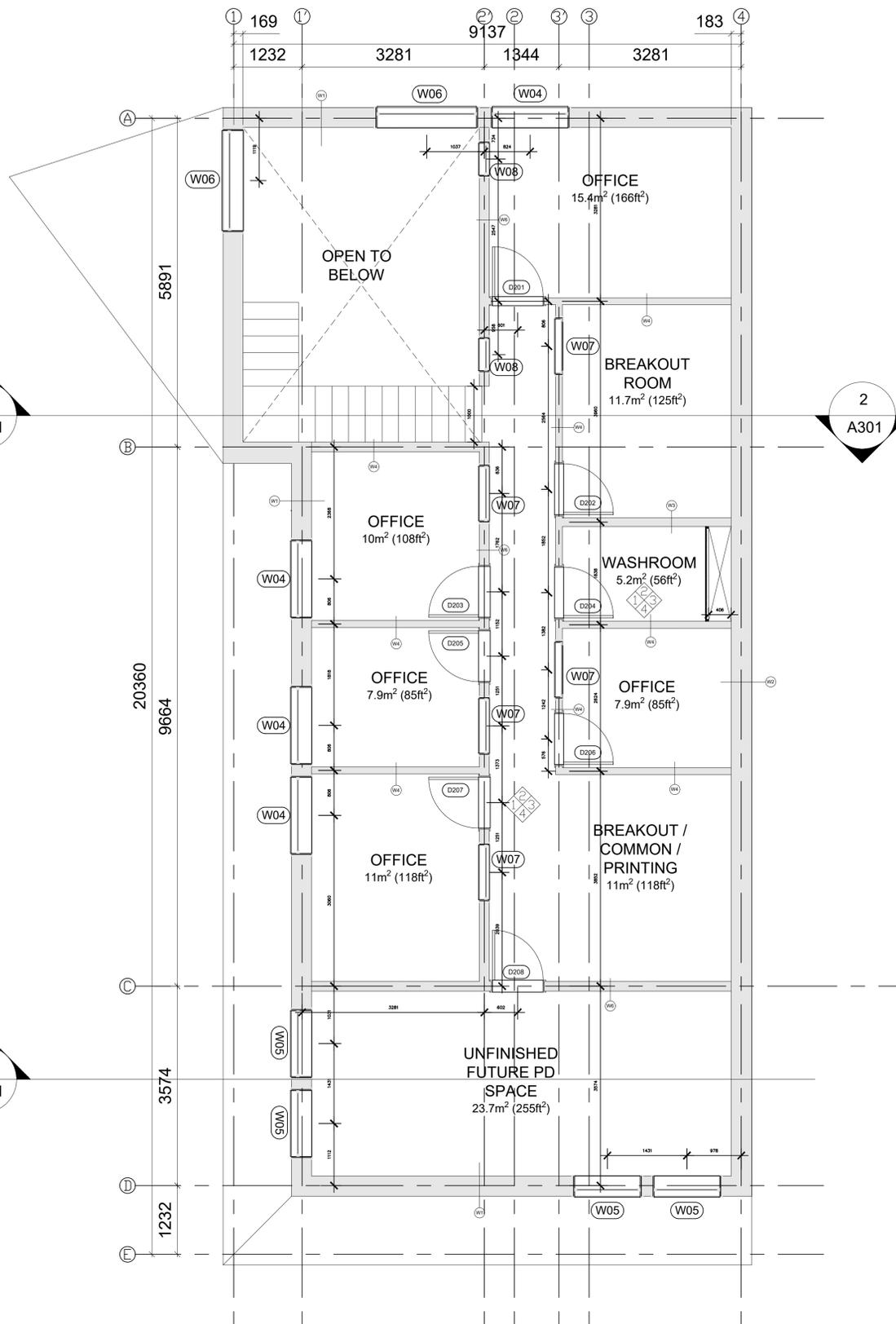


1 LOCATION PLAN
A100 NTS

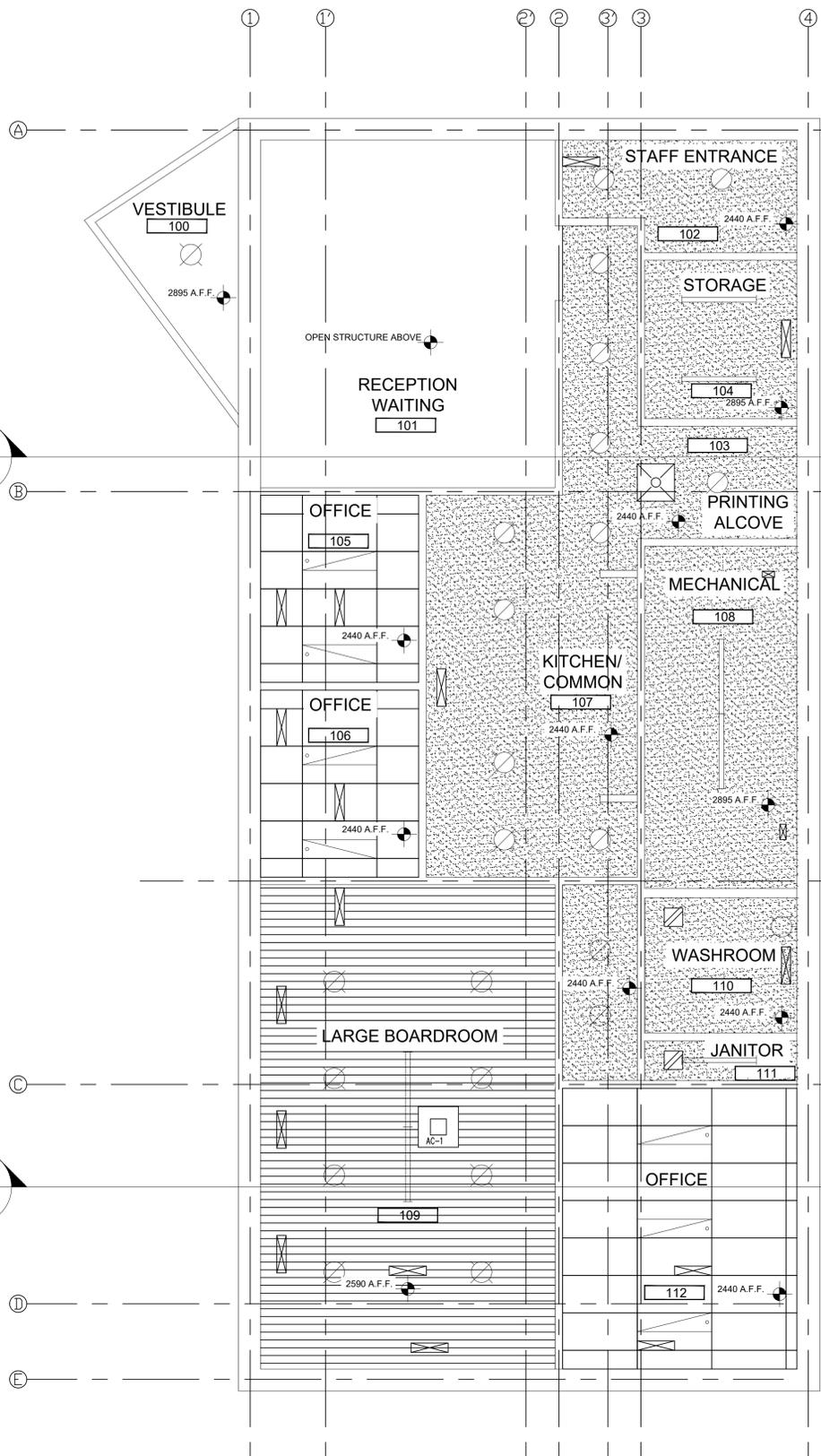
2 SITE PLAN
A100 1:100



1 MAIN FLOOR PLAN
A200 1:50



2 SECOND FLOOR PLAN
A200 1:50



1
A301

3
A301

1
A201
MAIN FLOOR PLAN
1:50

2
A301

LEGEND:

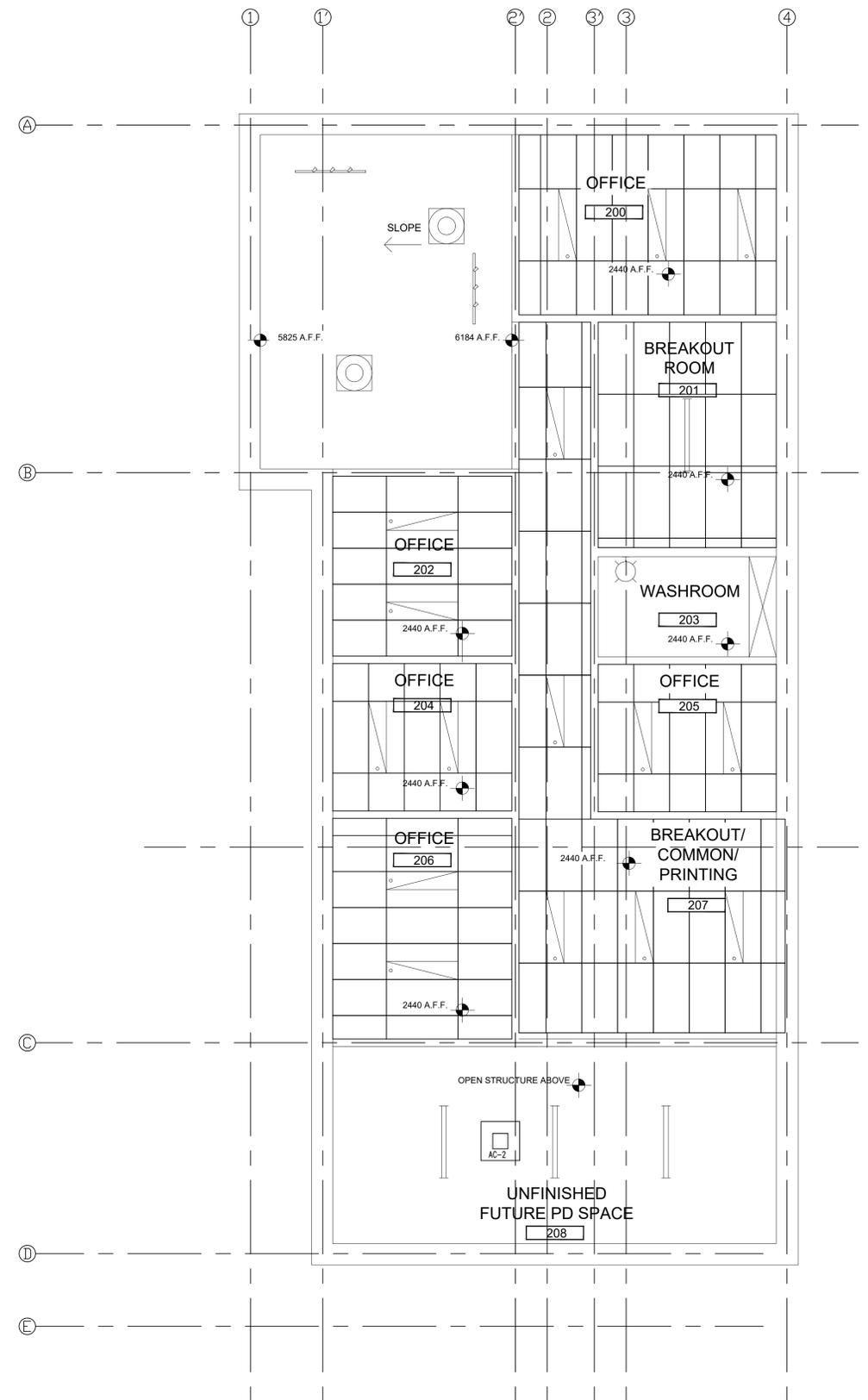
- SUSPENDED ACOUSTIC TILE CEILING
- GYPSUM BOARD CEILING

ELECTRICAL SYMBOLS LEGEND:

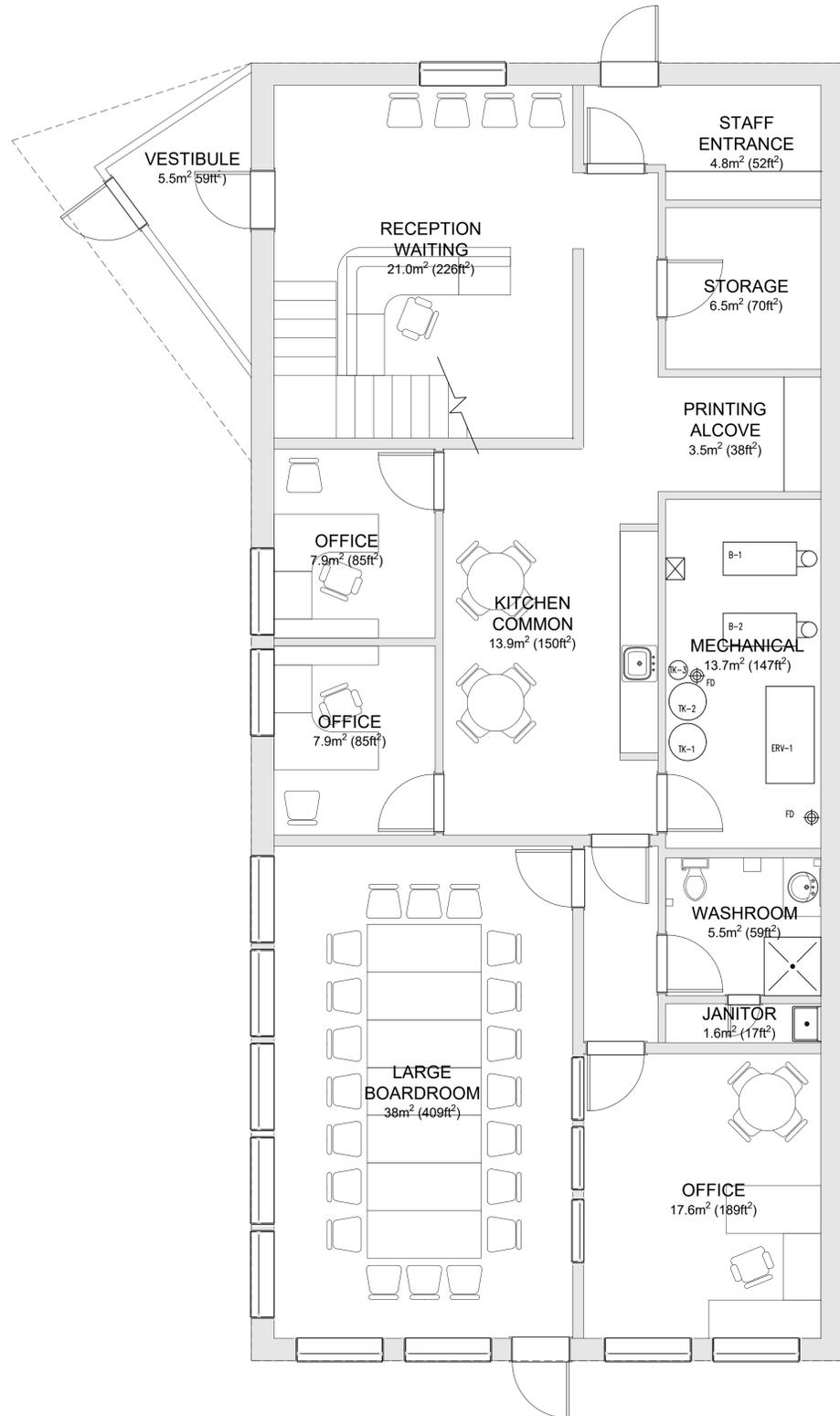
- (SEE ELECTRICAL DRAWINGS)
- RECESSED LUMINAIRE
 - SUSPENDED LINEAR LUMINAIRE
 - STRIP LUMINAIRE
 - PENDANT POT LIGHT
 - RECESSED DOWNLIGHT
 - TRACK LIGHTING
 - FEATURE LIGHTING
 - WALL MOUNT LIGHT

MECHANICAL SYMBOLS LEGEND:

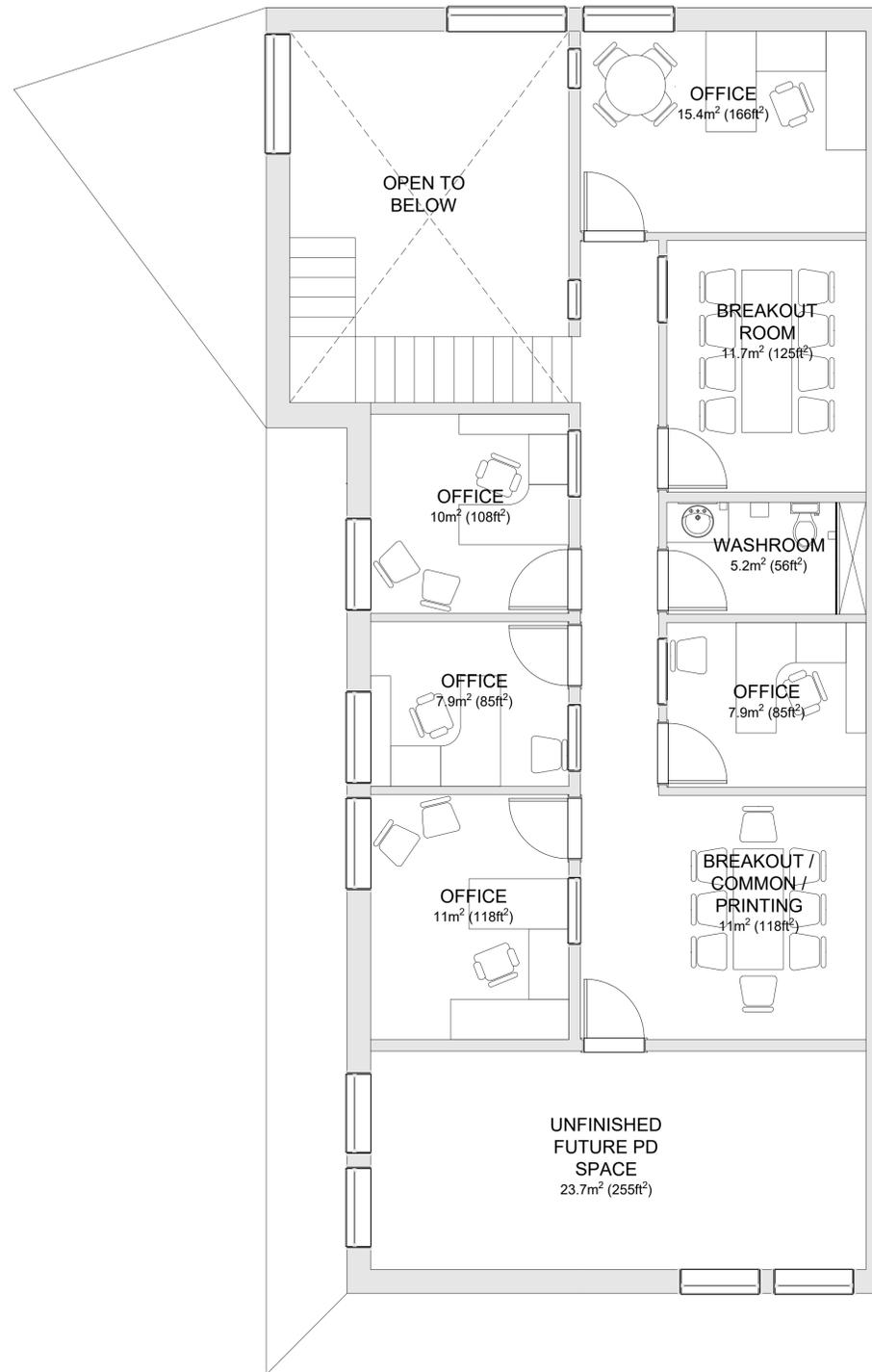
- (SEE MECHANICAL DRAWINGS)
- EXHAUST AIR DUCT
 - FRESH AIR DUCT
 - VENTILATION DUCT
 - AIR CONDITIONER



2
A201
SECOND FLOOR PLAN
1:50

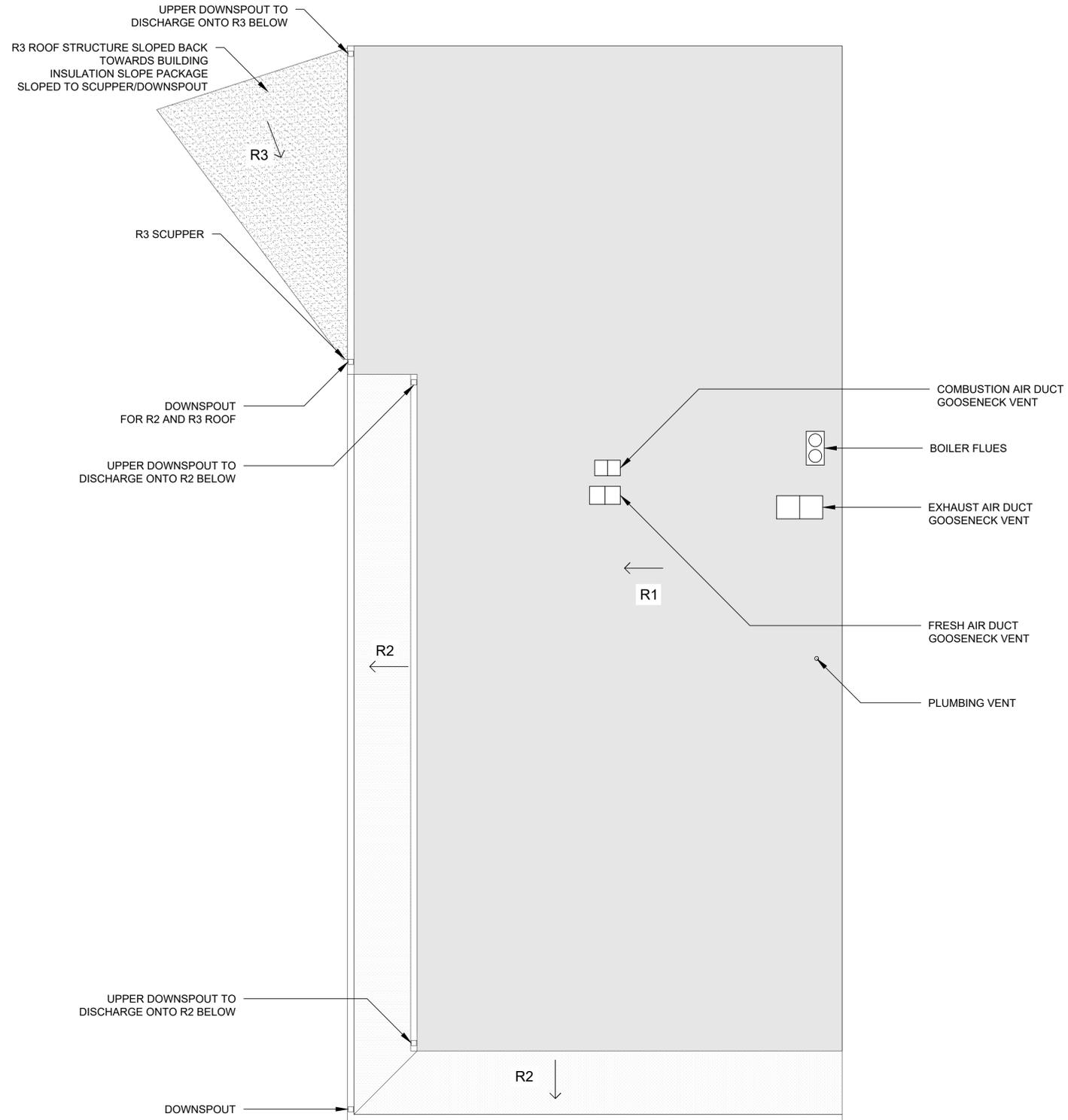


1 MAIN FLOOR PLAN
A200 1:50



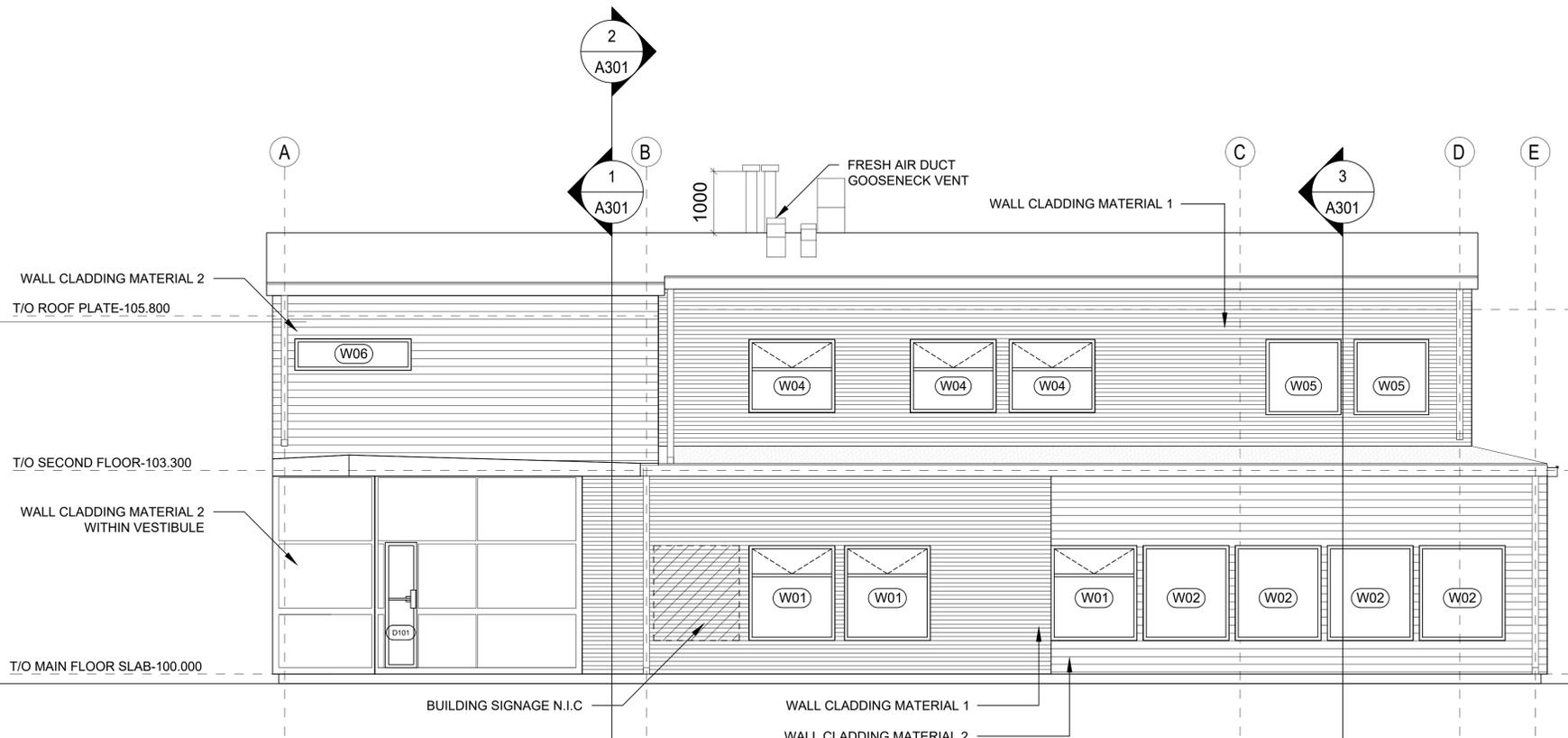
2 SECOND FLOOR PLAN
A200 1:50

NOTE
FURNITURE NOT INCLUDED IN CONTRACT

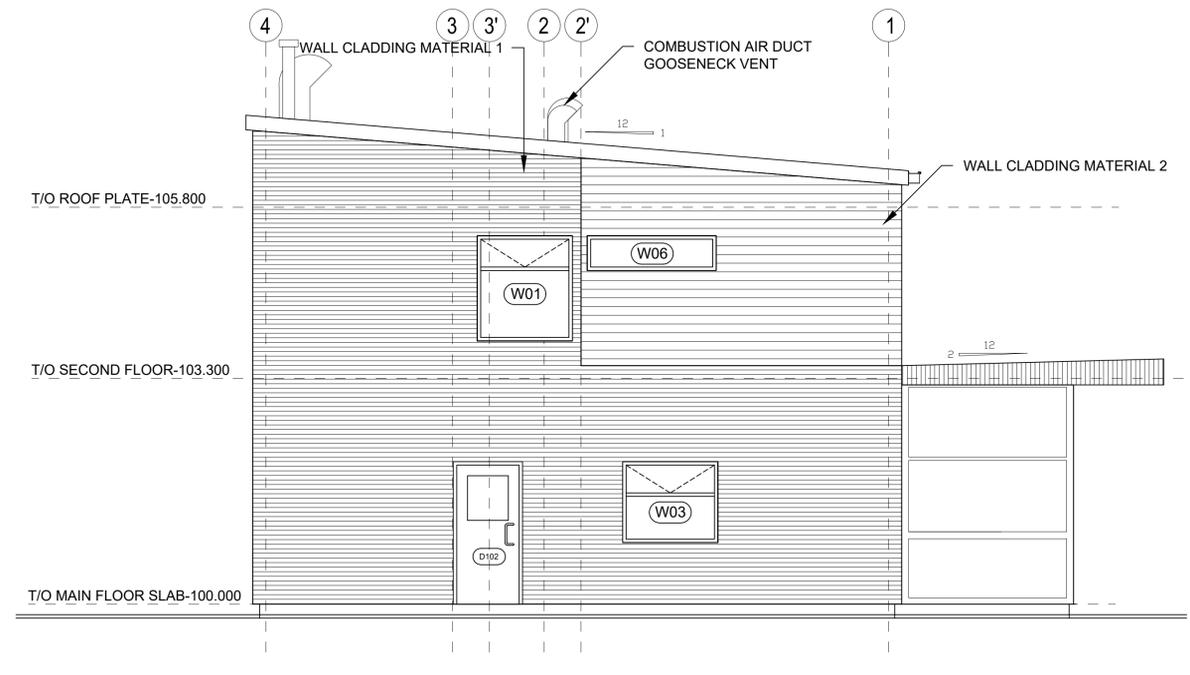


1 ROOF PLAN
A203 1:50

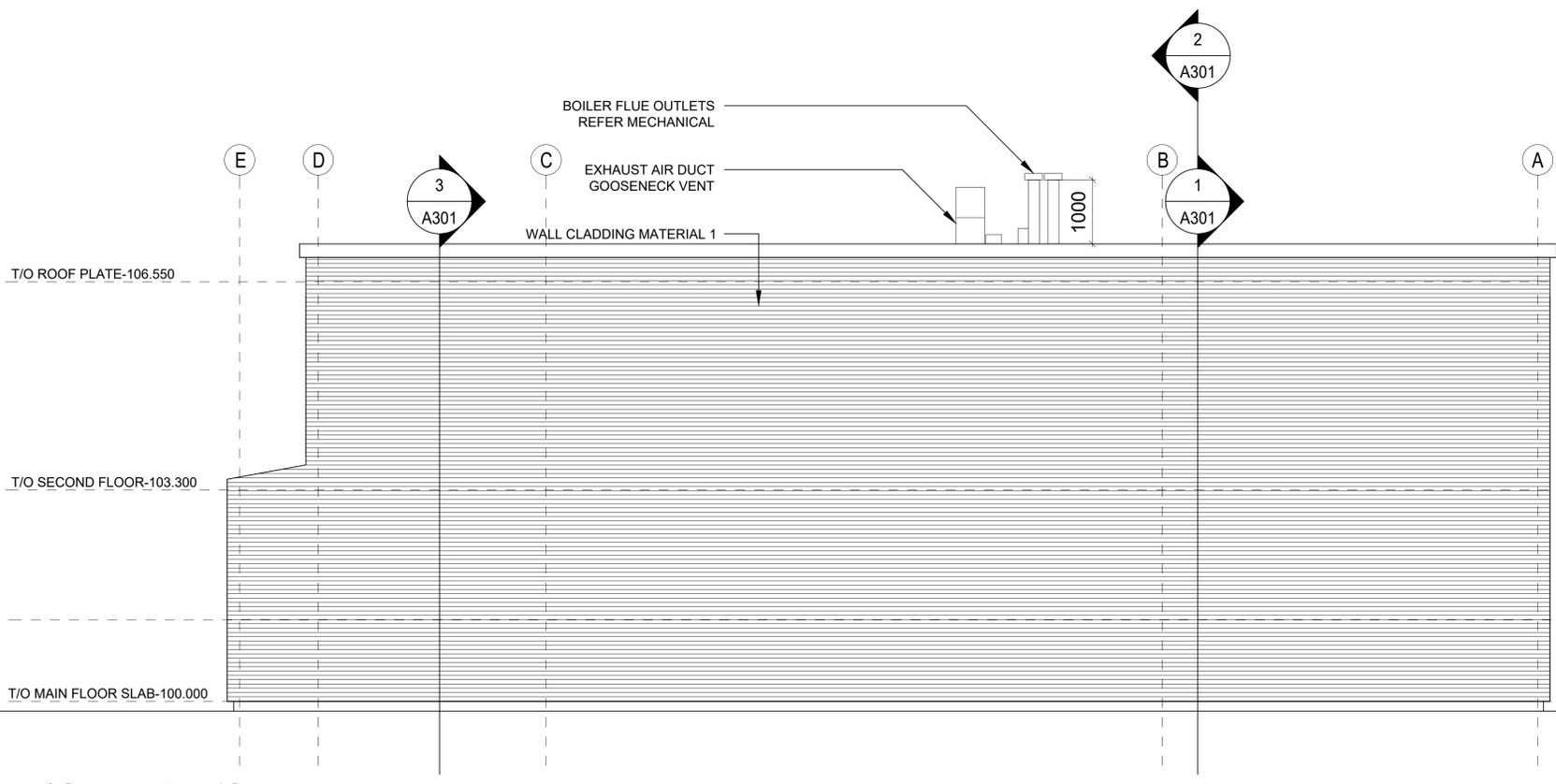




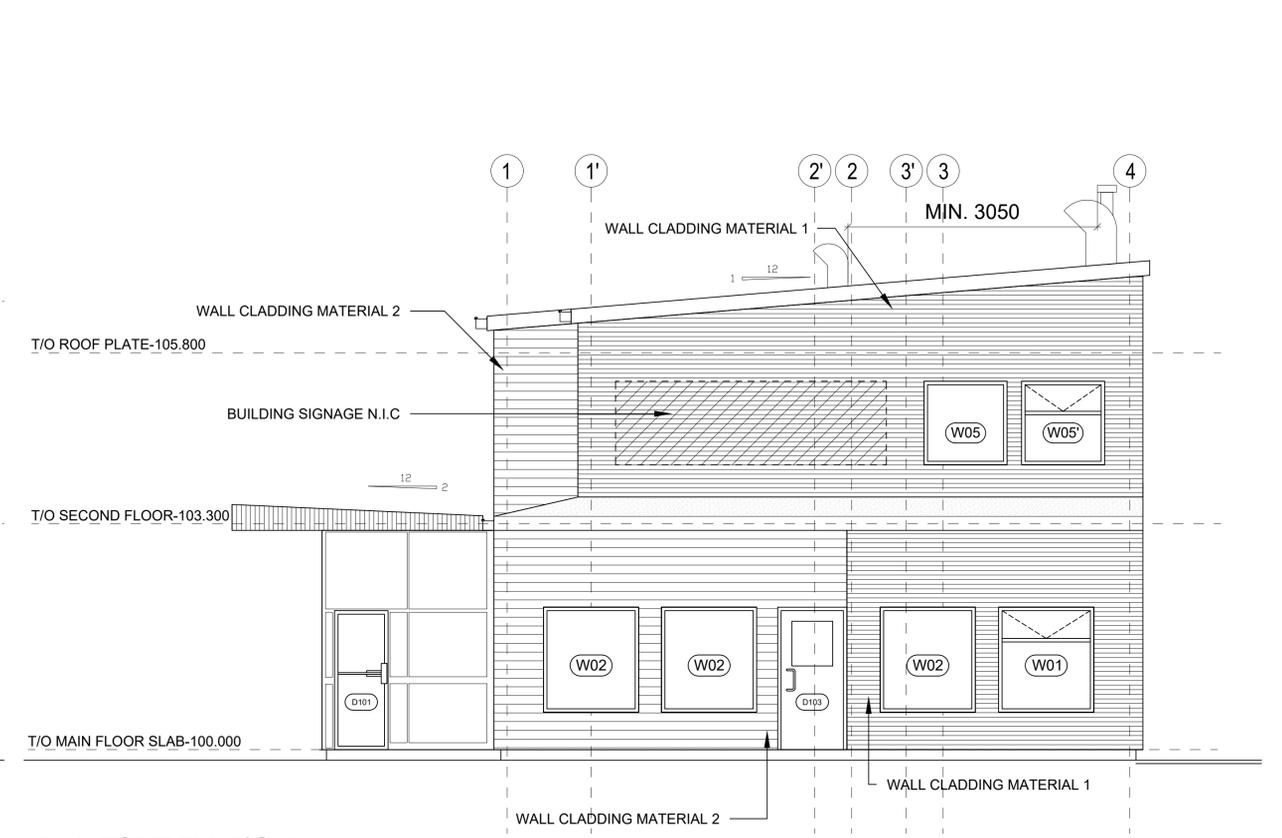
1 NORTH ELEVATION
A300 1:50



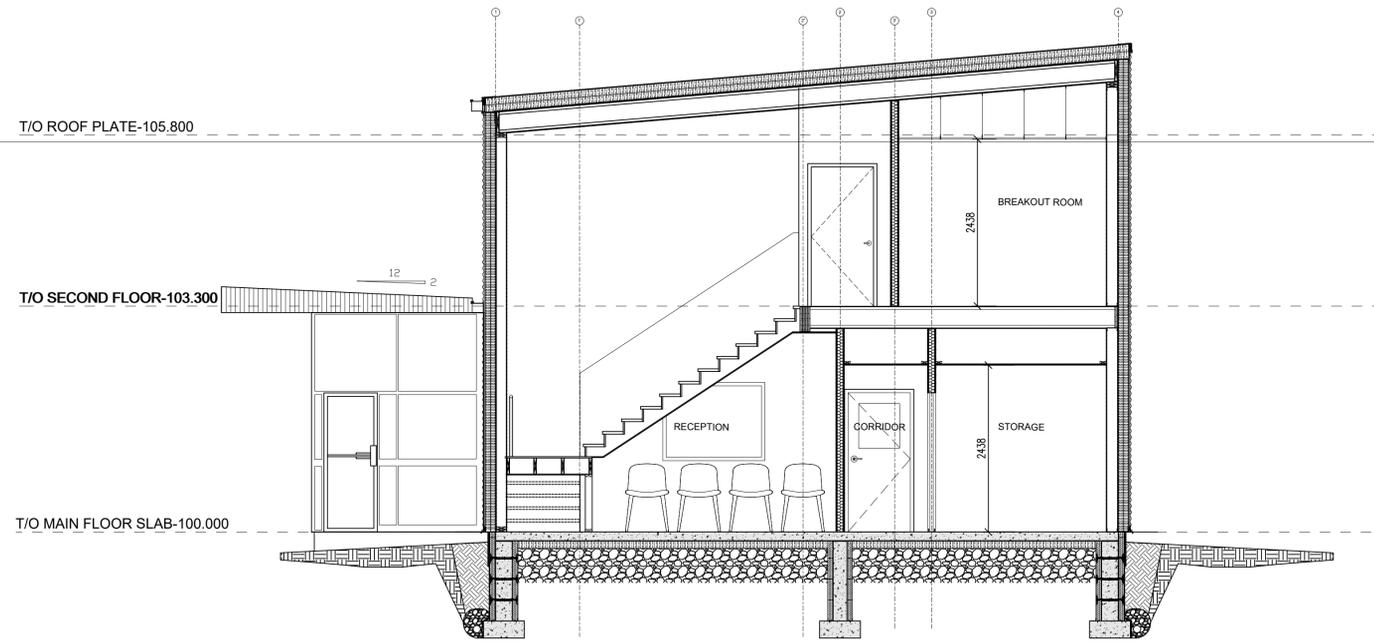
2 EAST ELEVATION
A300 1:50



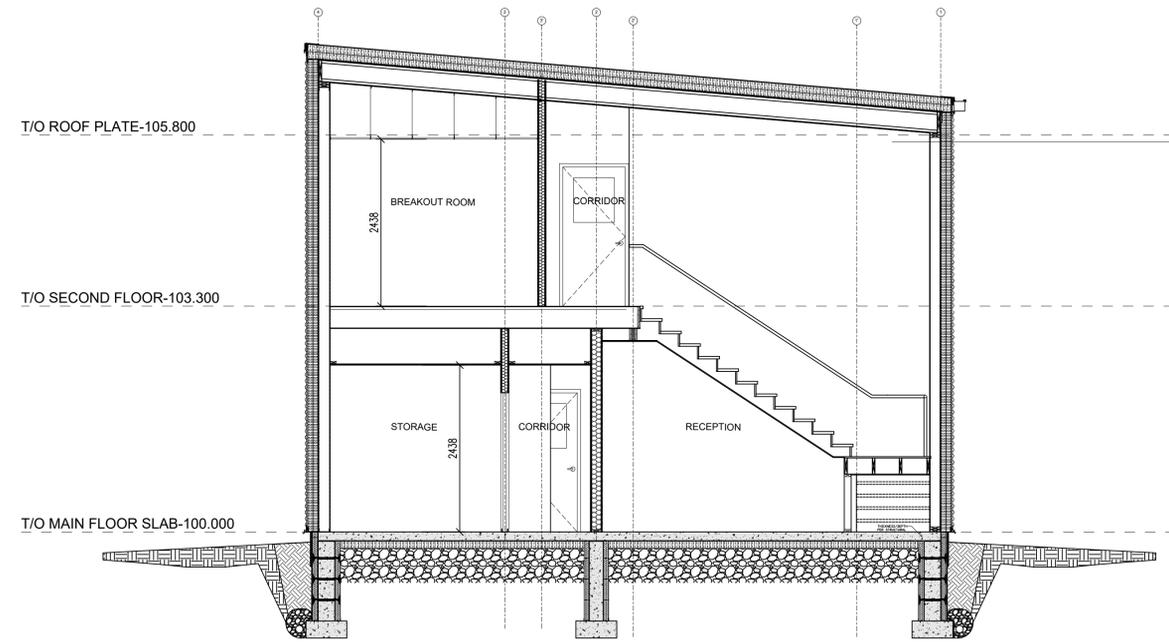
3 SOUTH ELEVATION
A300 1:50



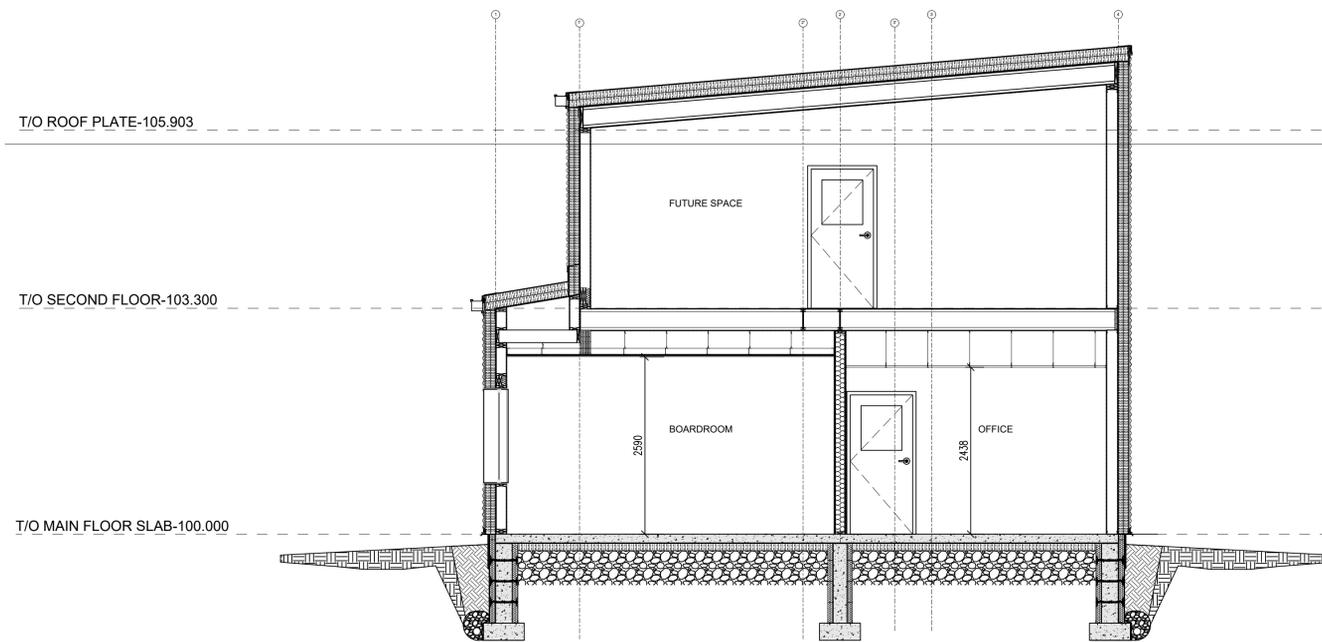
4 WEST ELEVATION
A300 1:50



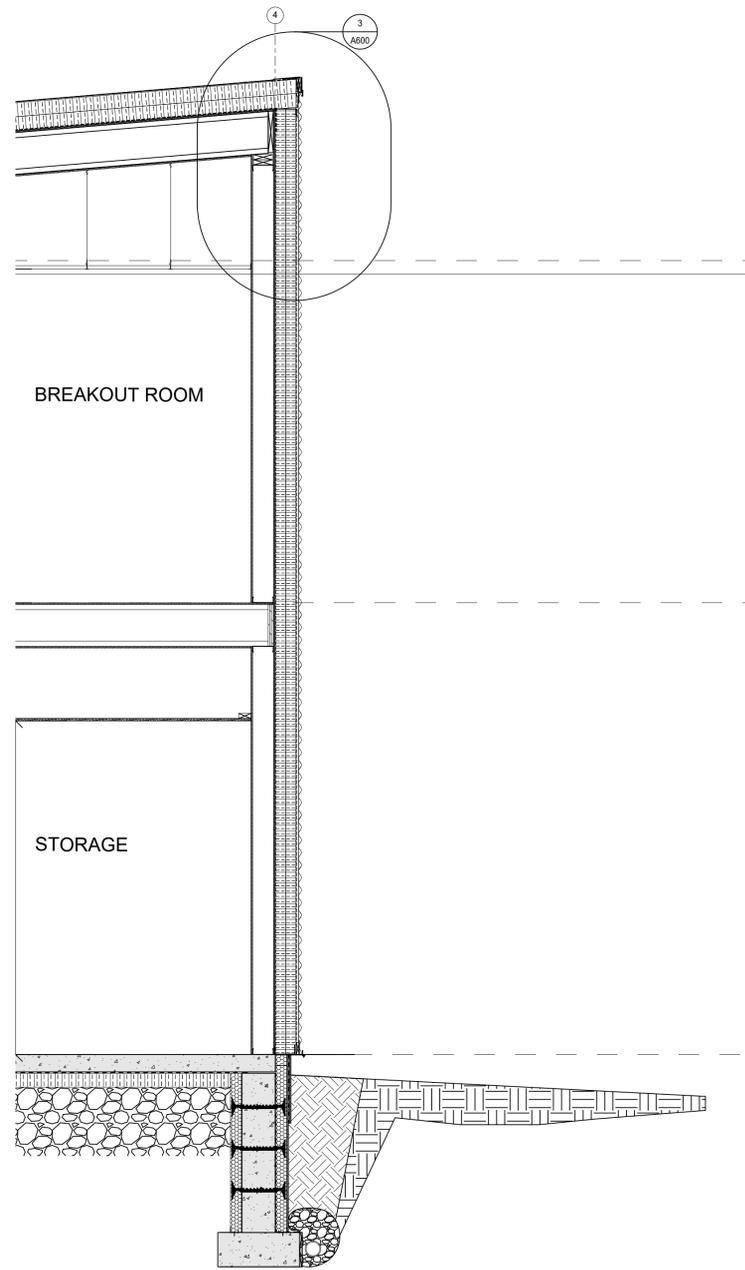
1 SECTION
A301 1:50



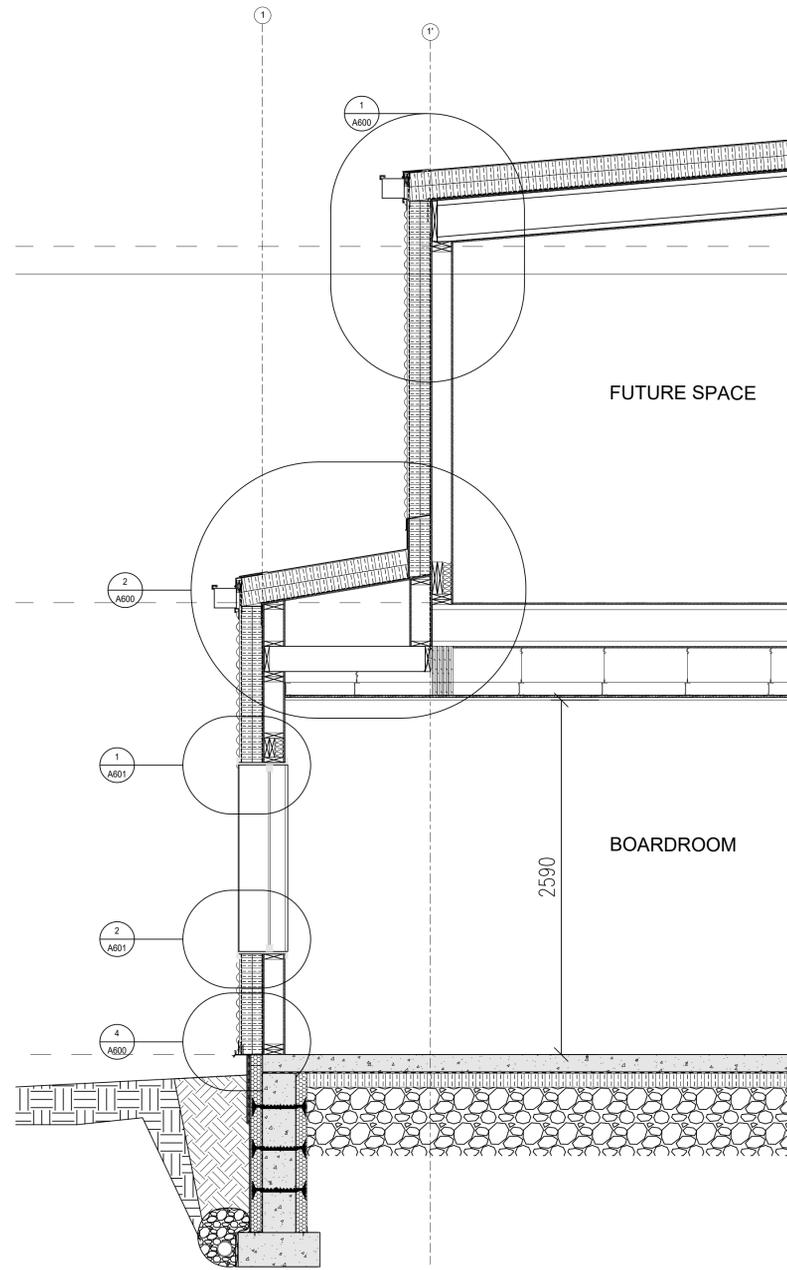
2 SECTION
A301 1:50



3 SECTION
A301 1:50



1 SECTION
A302 1:50



2 SECTION
A302 1:50

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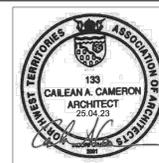
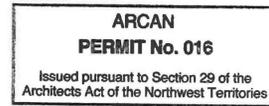
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REVISION	DESCRIPTION	BY	DATE
00	RE-ZONING	C.A.C.	2022-03-02
00	DRAFT SCHEMATIC	C.A.C.	2022-04-01
00	SCHEMATIC DESIGN	C.A.C.	2022-04-22
00	DESIGN DEV. REV.	C.A.C.	2022-12-20
00	95% REVIEW	C.A.C.	2023-03-03
00	IFC	C.A.C.	2023-04-25

DRAWN BY: C.CAMERON
CHECKED BY: C. CAMERON, NWTAA, MRAIC

PROJECT TITLE
**YUKON TEACHERS' ASSOCIATION
HEAD OFFICE**
LOT 38, BLOCK 316 - 151 BLACK ST.

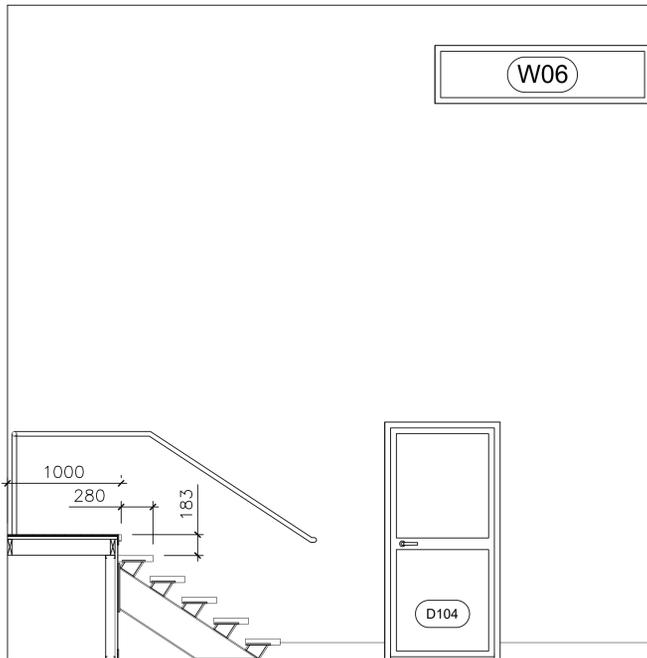
DRAWING TITLE
WALL SECTIONS

A302

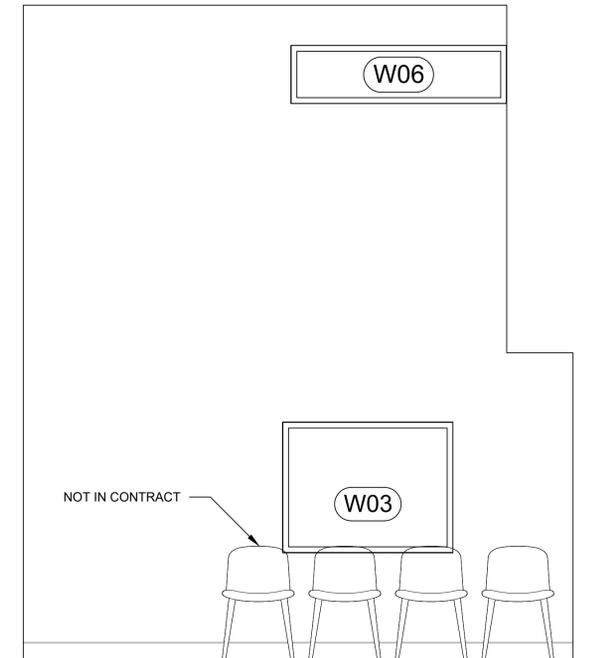
DATE
2022-04-22

REVISION PROJECT No
00 21-100

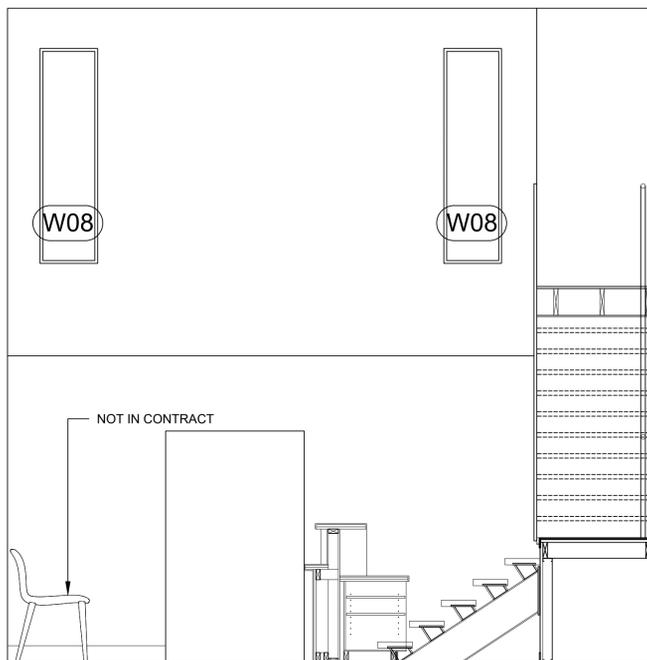
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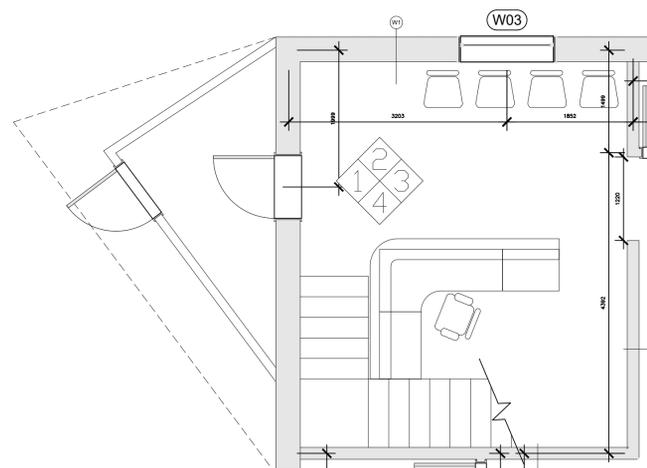
1 1- NORTH - RECEPTION/WAITING-101
A500 1:30



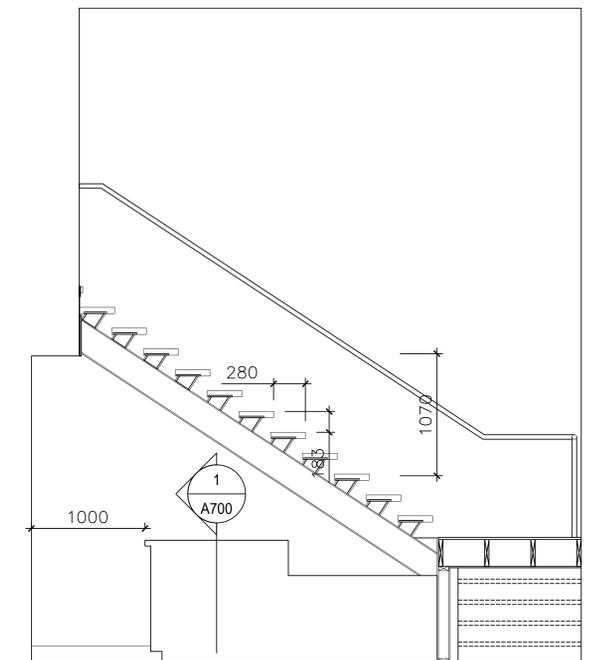
2 2- EAST - RECEPTION/WAITING-101
A500 1:30



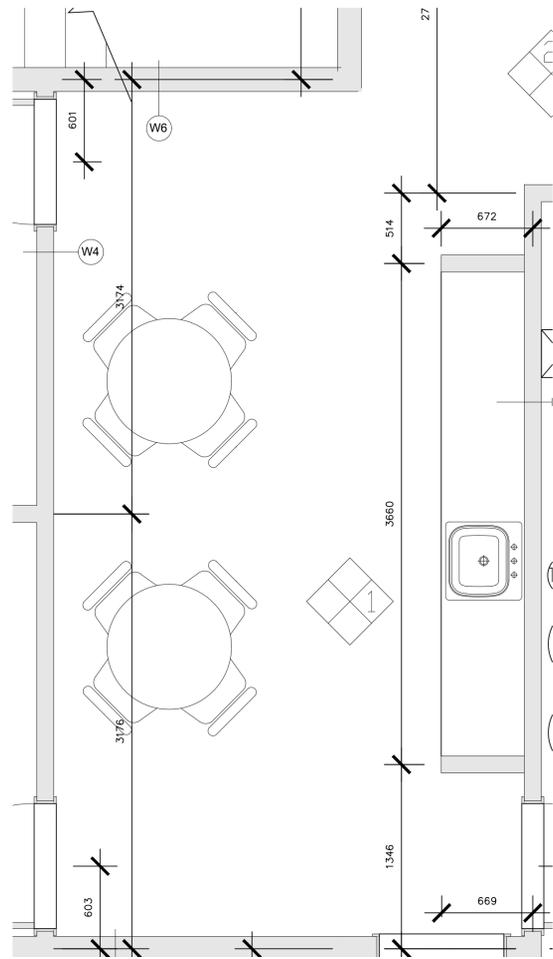
3 3- SOUTH - RECEPTION/WAITING-101
A500 1:30



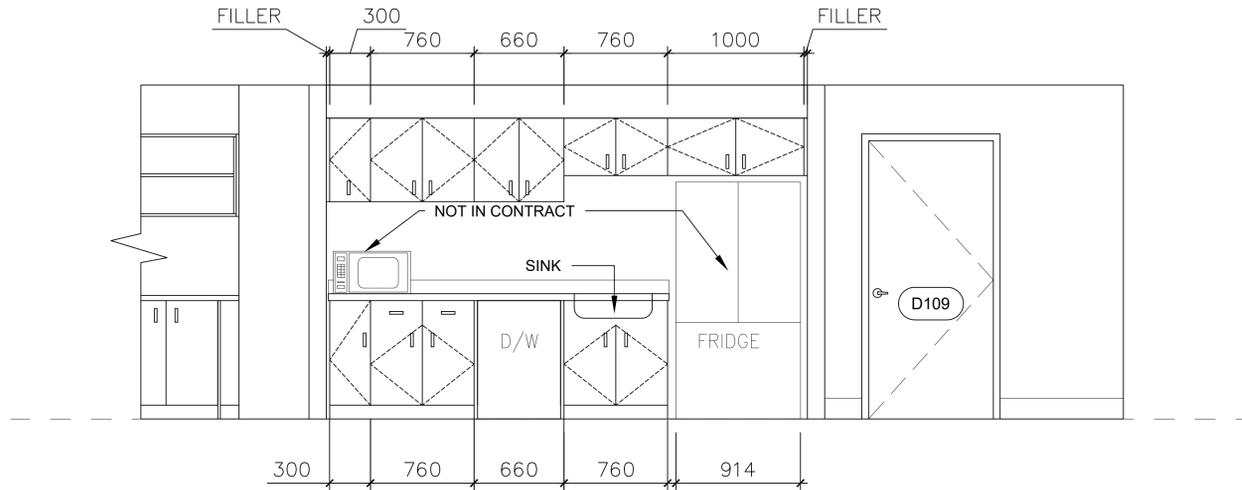
A RECEPTION/WAITING-101
A500 1:50



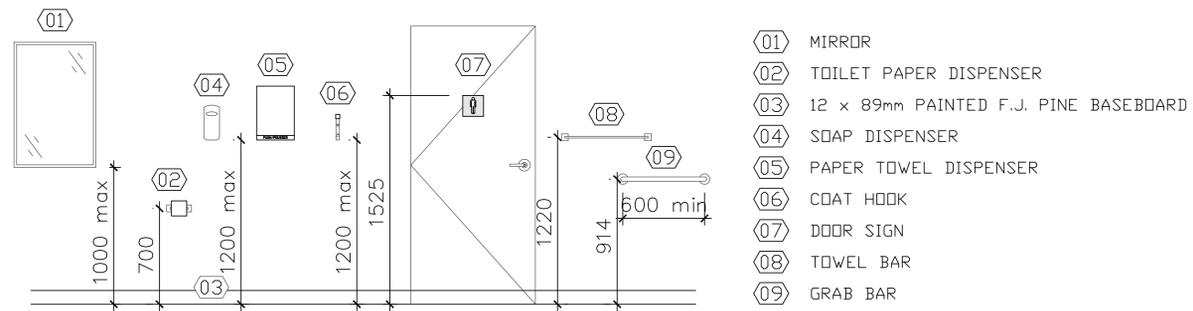
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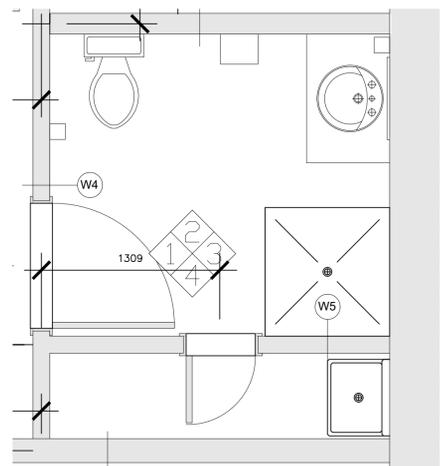
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A501
1:25
KITCHEN/COMMON-107



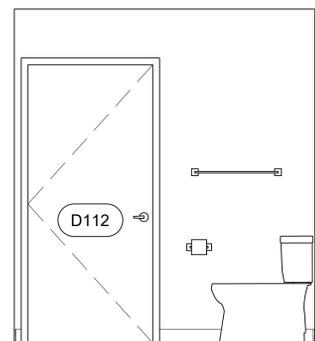
A1
A501
1:25
1 - KITCHEN/COMMON-107



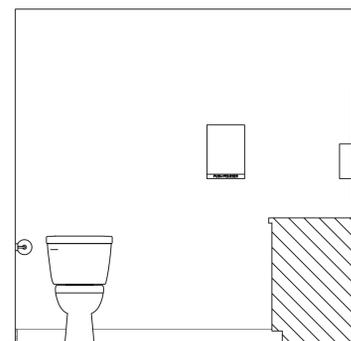
- 01 MIRROR
- 02 TOILET PAPER DISPENSER
- 03 12 x 89mm PAINTED F.J. PINE BASEBOARD
- 04 SOAP DISPENSER
- 05 PAPER TOWEL DISPENSER
- 06 COAT HOOK
- 07 DOOR SIGN
- 08 TOWEL BAR
- 09 GRAB BAR



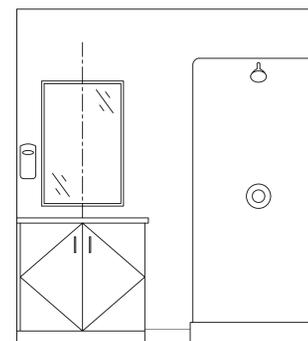
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A501
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WASHROOM-110/JANITOR -111



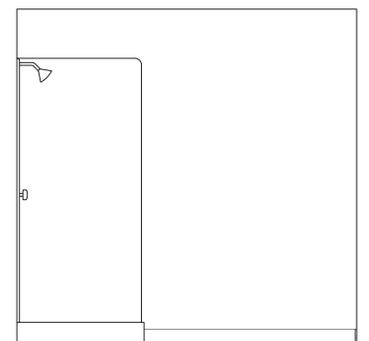
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A501
1:25
1-NORTH
WASHROOM-110/JANITOR -111



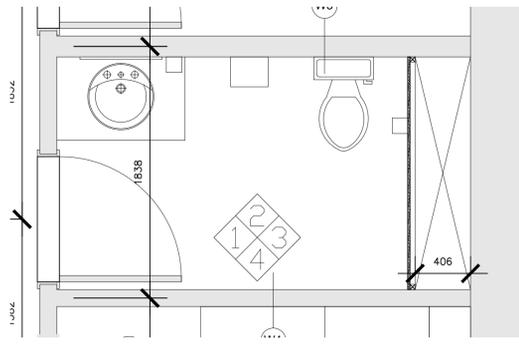
B2
A501
1:25
2-EAST
WASHROOM-110/JANITOR -111



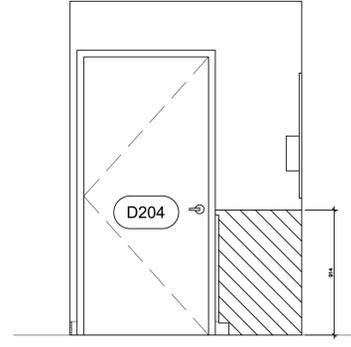
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A501
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3-SOUTH
WASHROOM-110/JANITOR -111



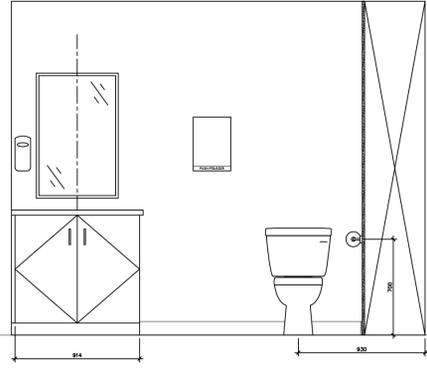
B4
A501
1:25
4-WEST
WASHROOM-110/JANITOR -111



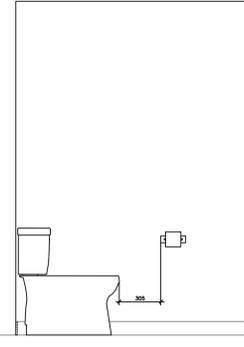
A WASHROOM-203
A502 1:25



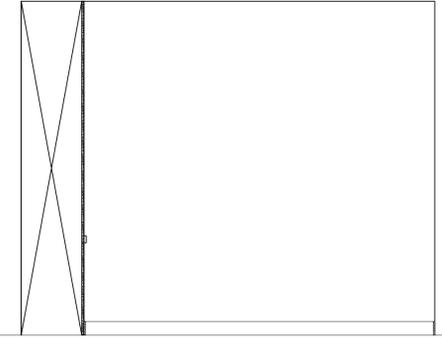
A1 1-NORTH WASHROOM-203
A502 1:25



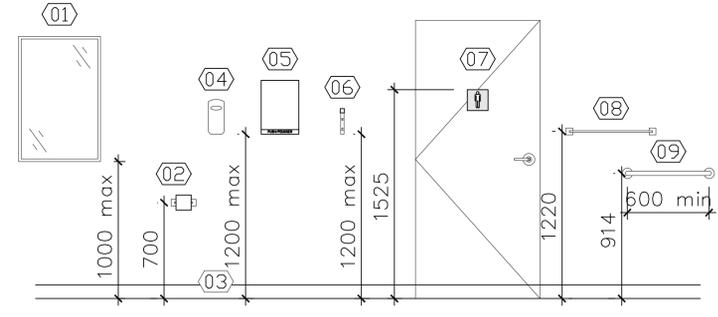
A2 2-EAST WASHROOM-203
A502 1:25



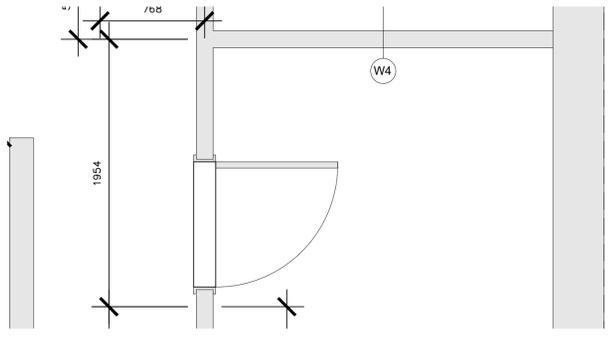
A3 3-SOUTH WASHROOM-203
A502 1:25



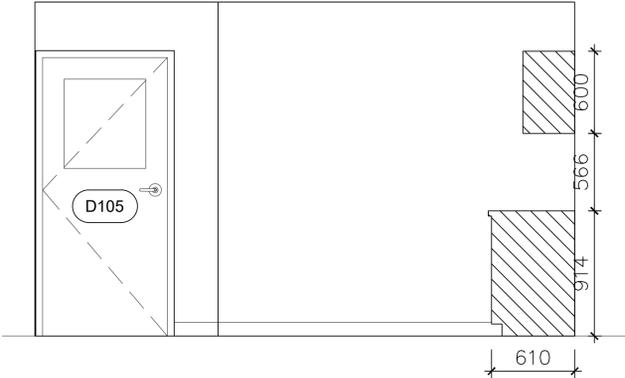
A4 4-WEST WASHROOM-203
A502 1:25



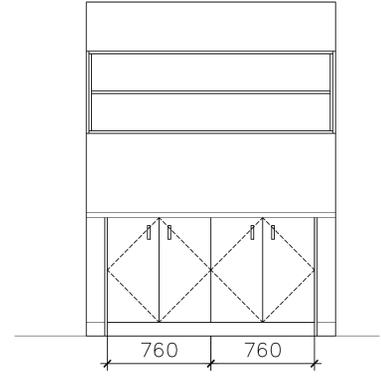
- 01 MIRROR
- 02 TOILET PAPER DISPENSER
- 03 12 x 89mm PAINTED F.J. PINE BASEBOARD
- 04 SOAP DISPENSER
- 05 PAPER TOWEL DISPENSER
- 06 COAT HOOK
- 07 DOOR SIGN
- 08 TOWEL BAR
- 09 GRAB BAR



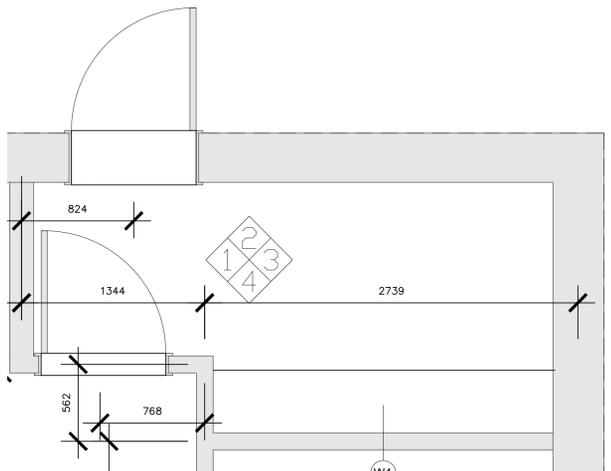
B PRINTING ALCOVE-103
A502 1:25



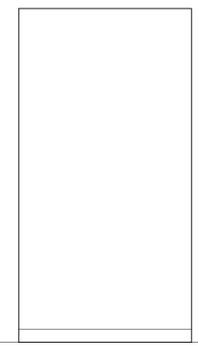
B1 2-EAST PRINTING ALCOVE-103
A502 1:25



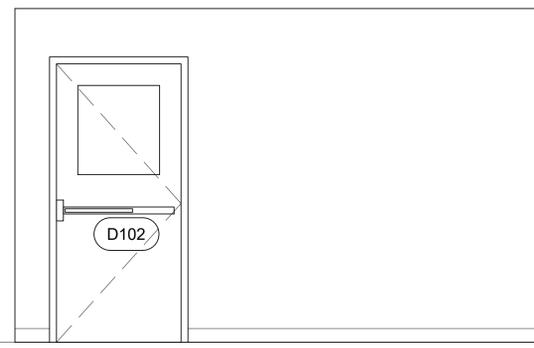
B2 3-SOUTH PRINTING ALCOVE-103
A502 1:25



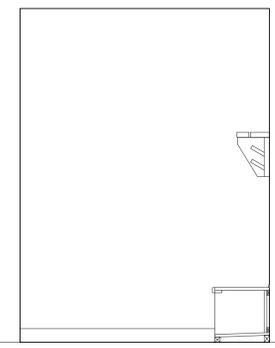
C STAFF ENTRANCE-102
A502 1:25



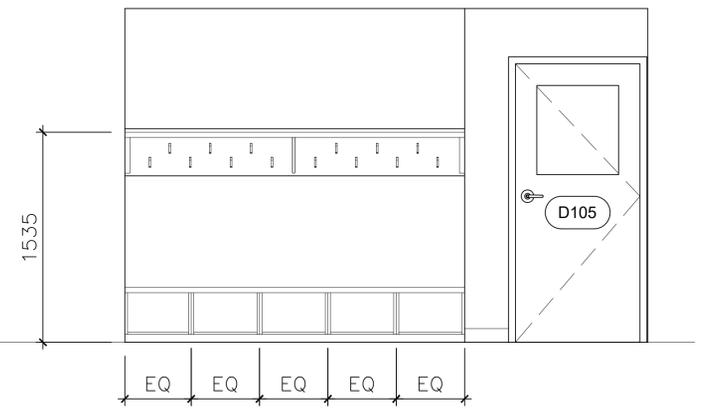
C1 1-NORTH STAFF ENTRANCE-102
A502 1:25



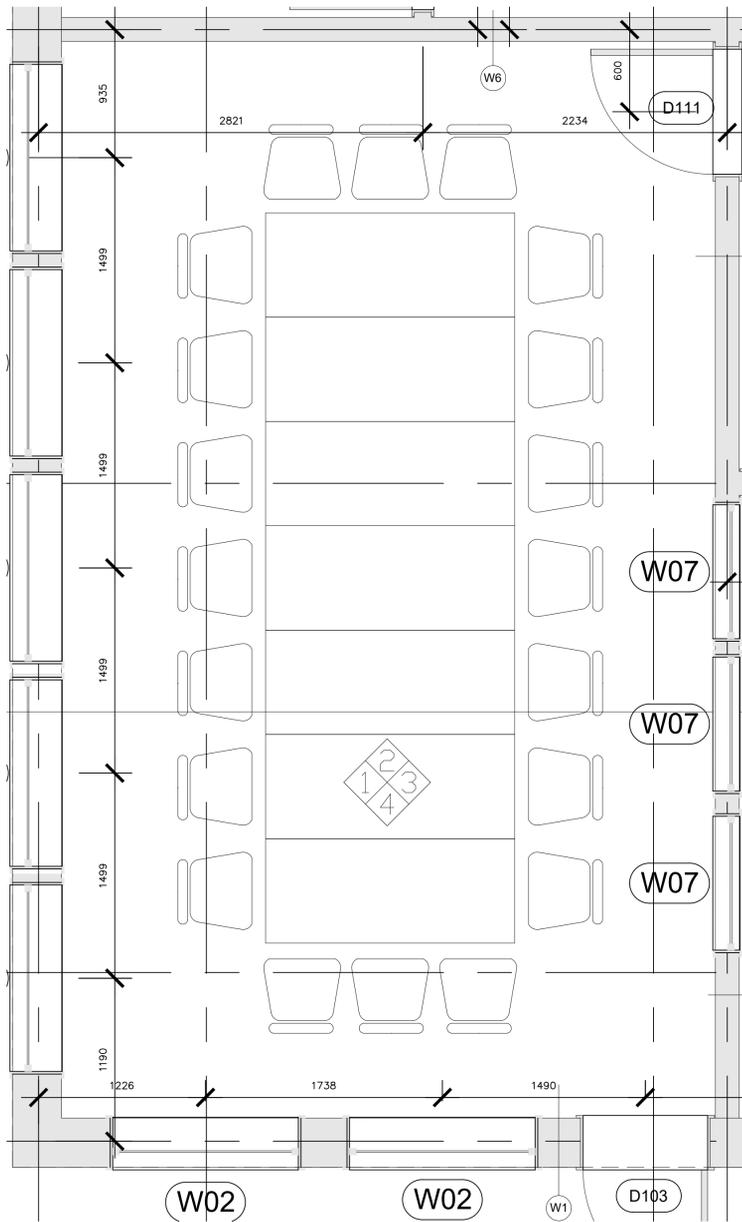
C2 2-EAST STAFF ENTRANCE-102
A502 1:25



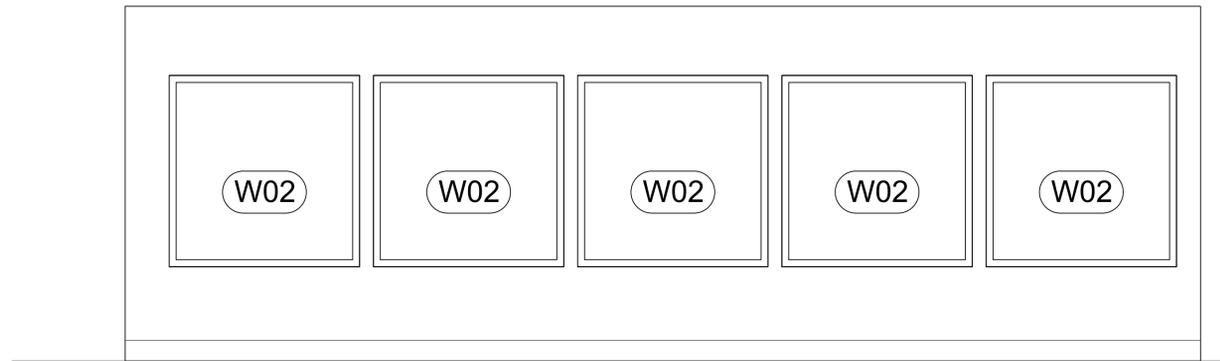
C3 3-SOUTH STAFF ENTRANCE-102
A502 1:25



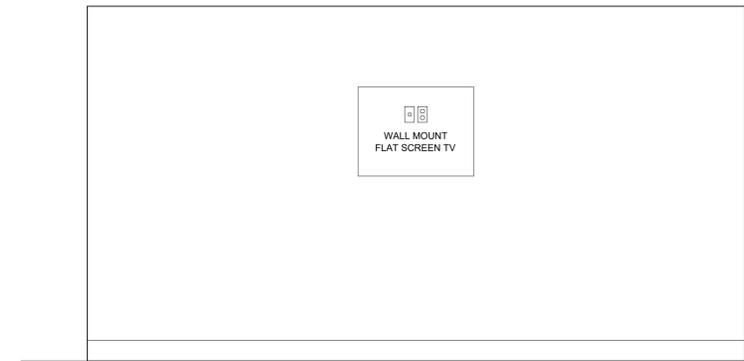
C4 4-WEST STAFF ENTRANCE-102
A502 1:25



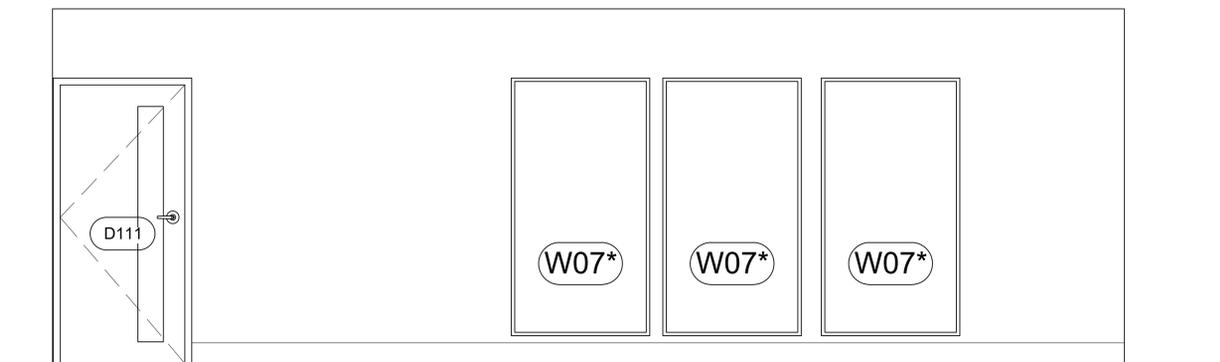
A
A503
LARGE BOARDROOM-109
1:25



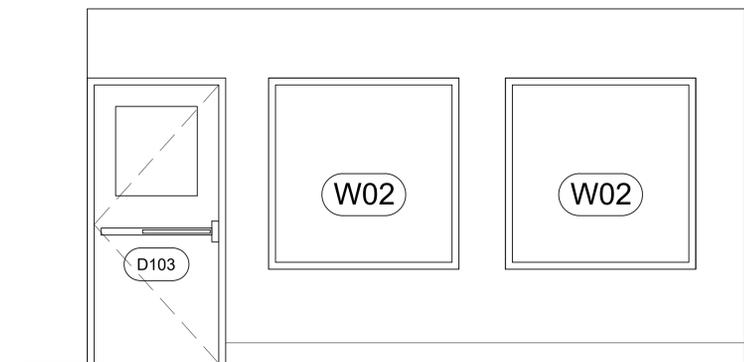
A1
A503
1-NORTH
BOARDROOM-109
1:25



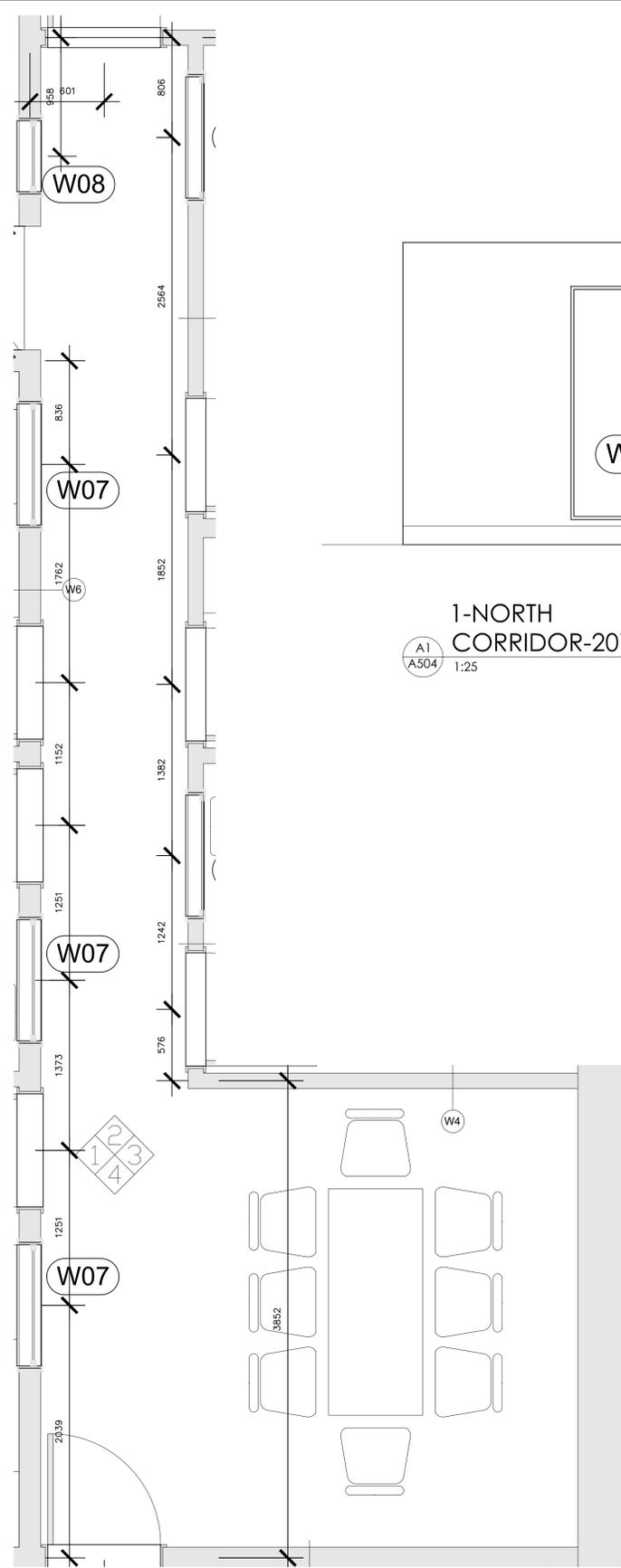
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A503
2-EAST
BOARDROOM-109
1:25



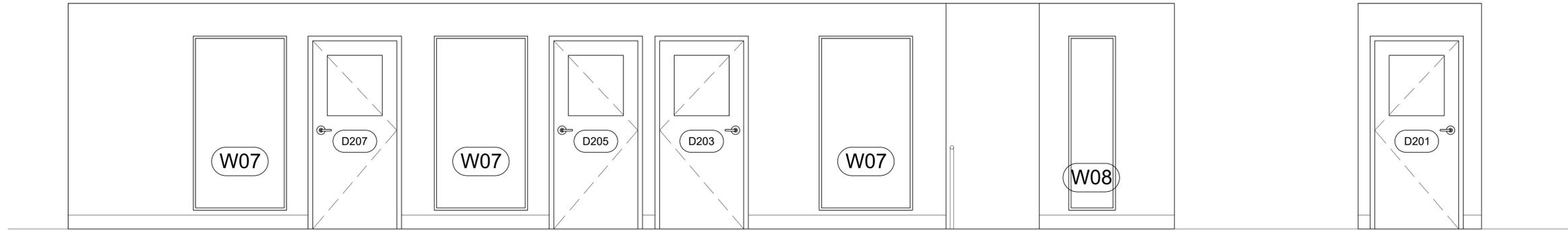
A3
A503
3-SOUTH
BOARDROOM-109
1:25



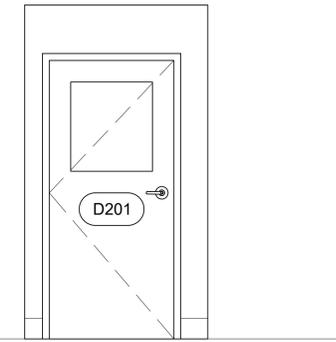
A4
A503
4-WEST
BOARDROOM-109
1:25



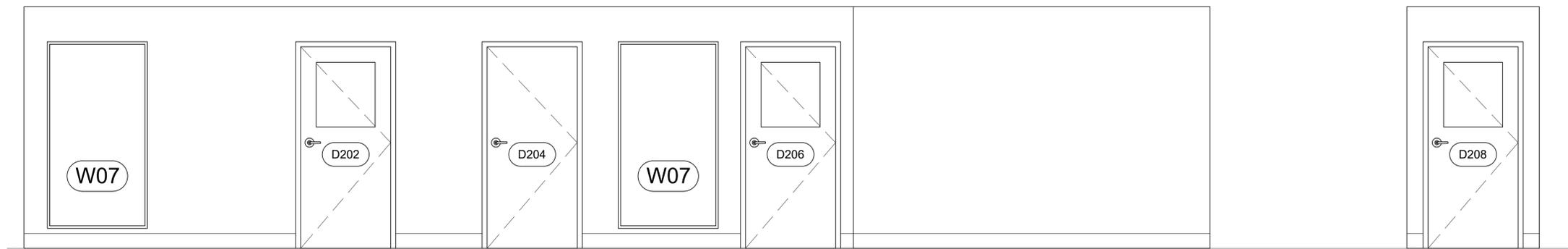
A
A504
CORRIDOR-207
1:25



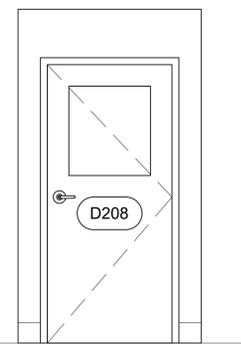
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1-NORTH
CORRIDOR-207
1:25



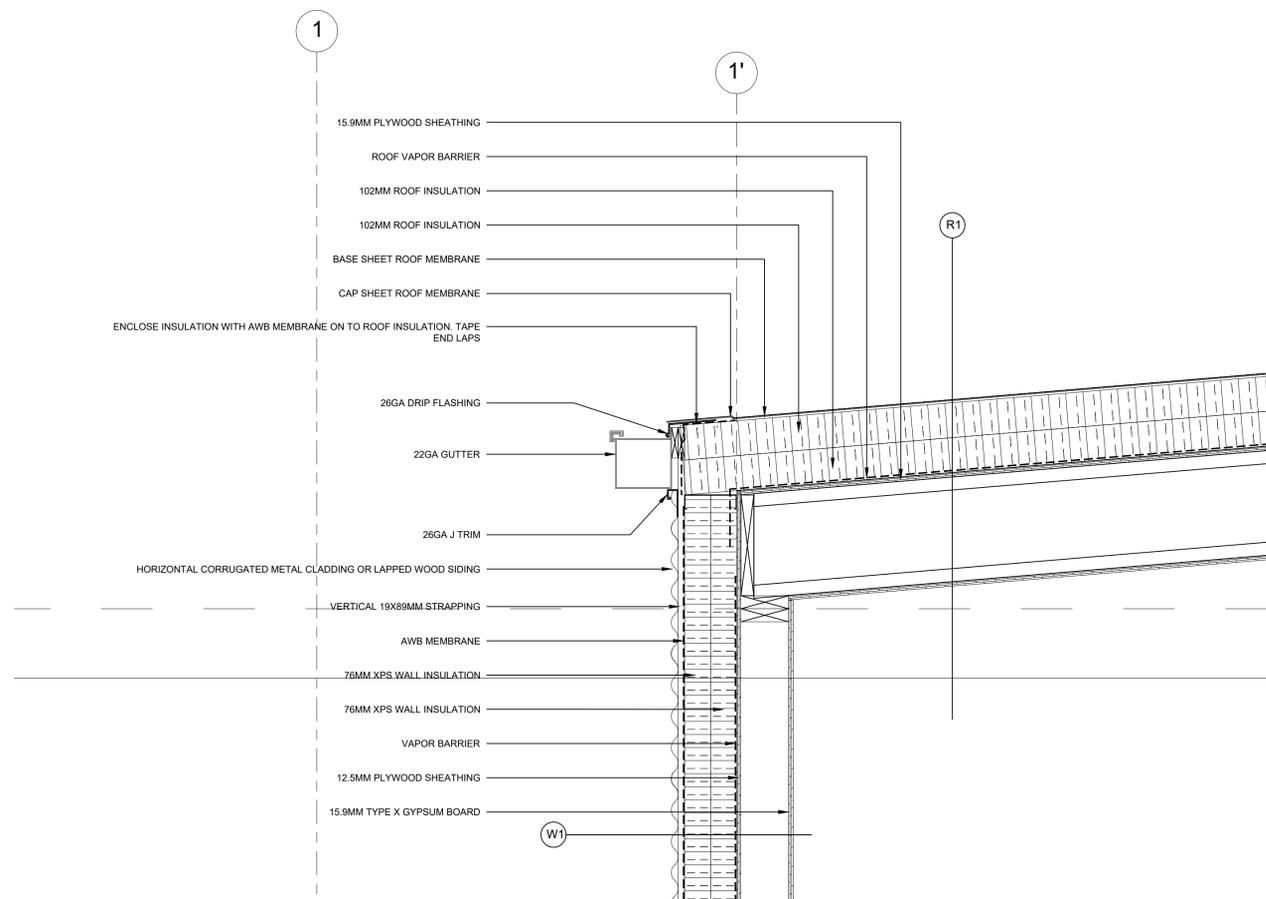
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A504
2-EAST
CORRIDOR-207
1:25



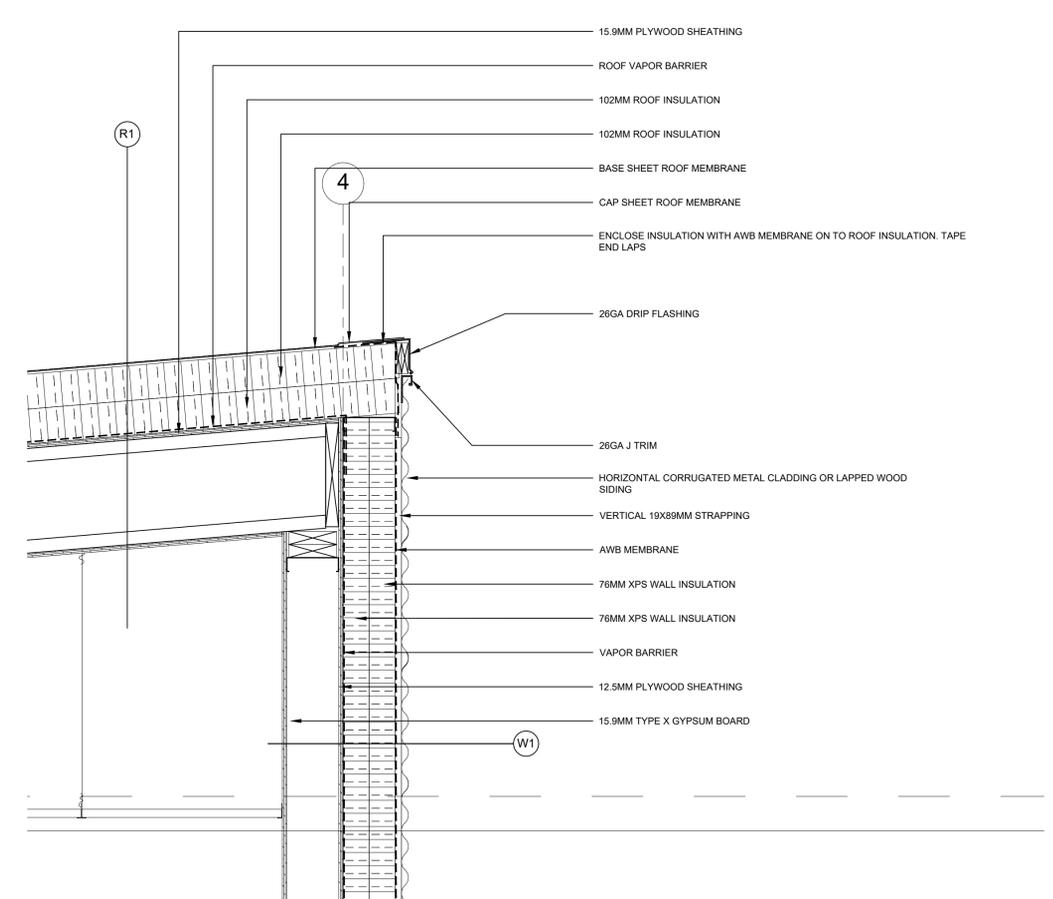
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A504
3-SOUTH
CORRIDOR-207
1:25



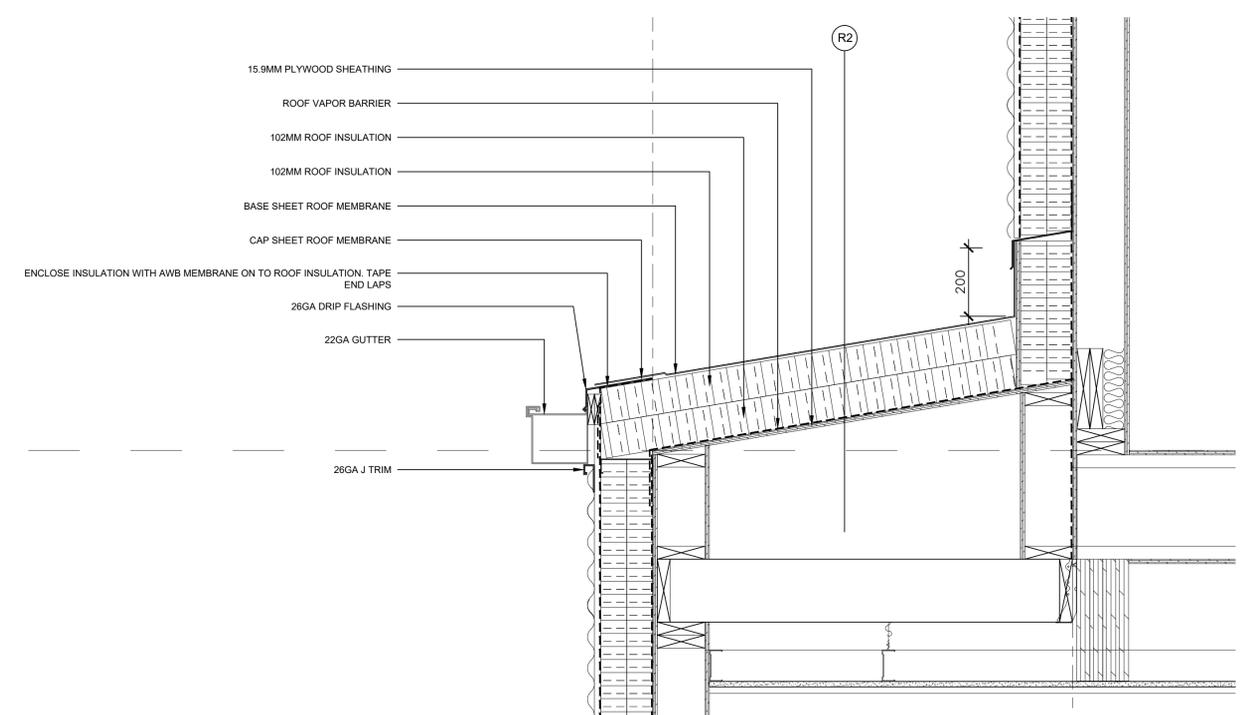
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A504
4-WEST
CORRIDOR-207
1:25



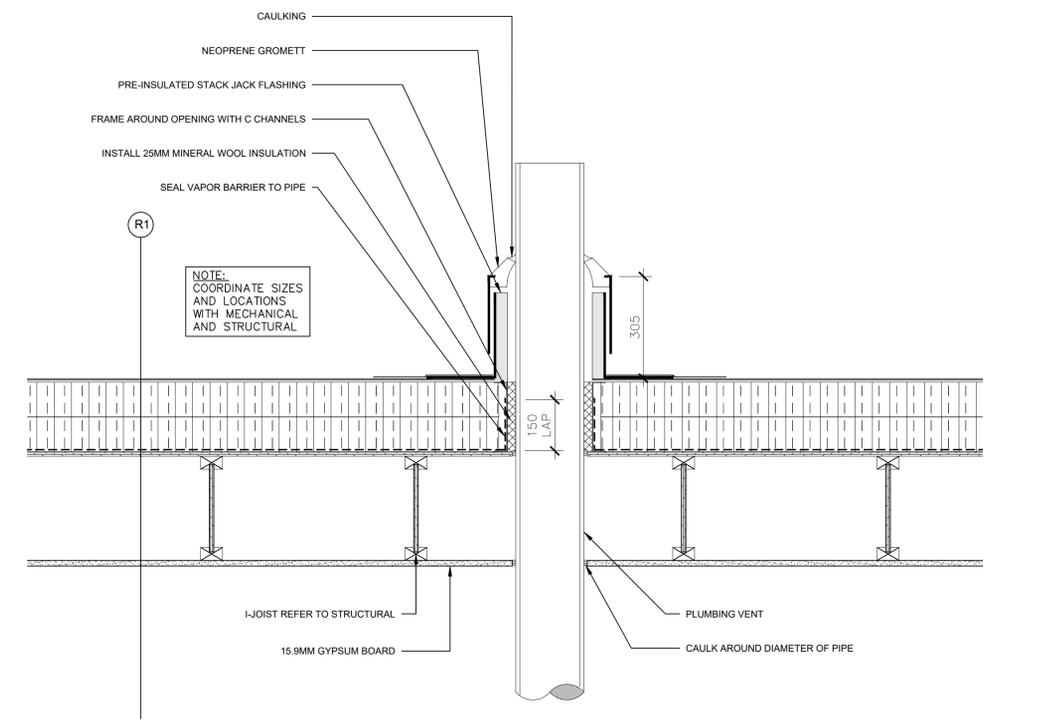
1 ROOF DETAIL 1
A600 1:10



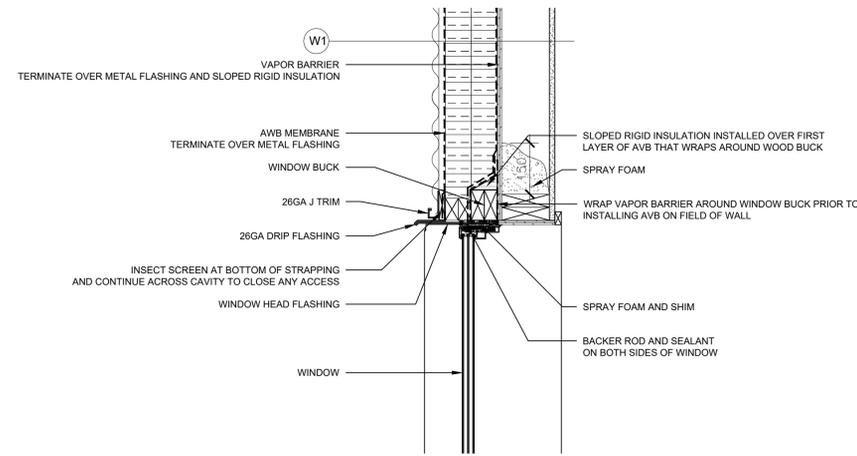
3 ROOF DETAIL 3
A600 1:10



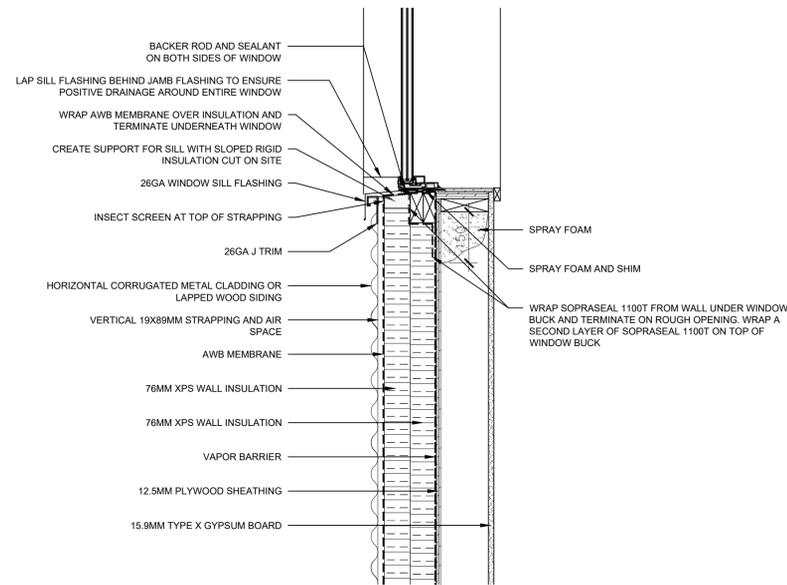
2 ROOF DETAIL 2
A600 1:10



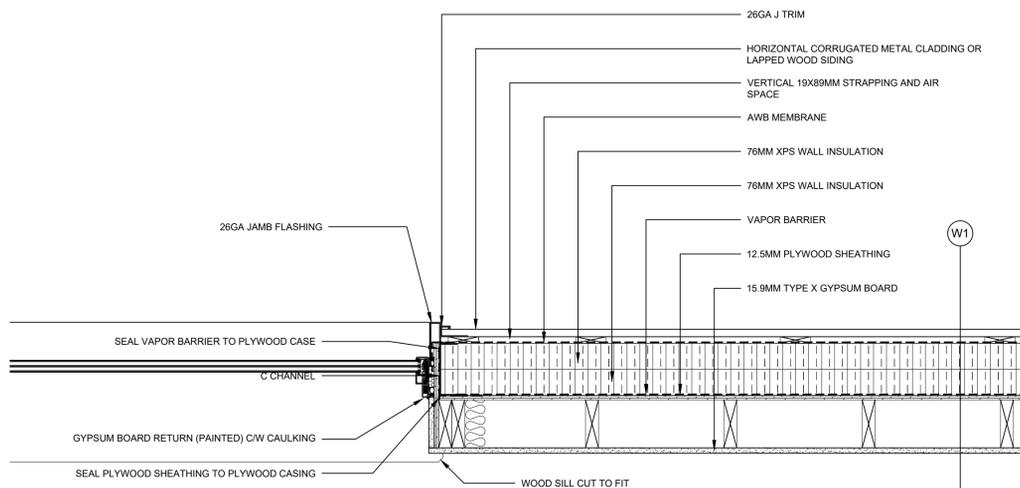
4 ROOF DETAIL 4
A600 1:10



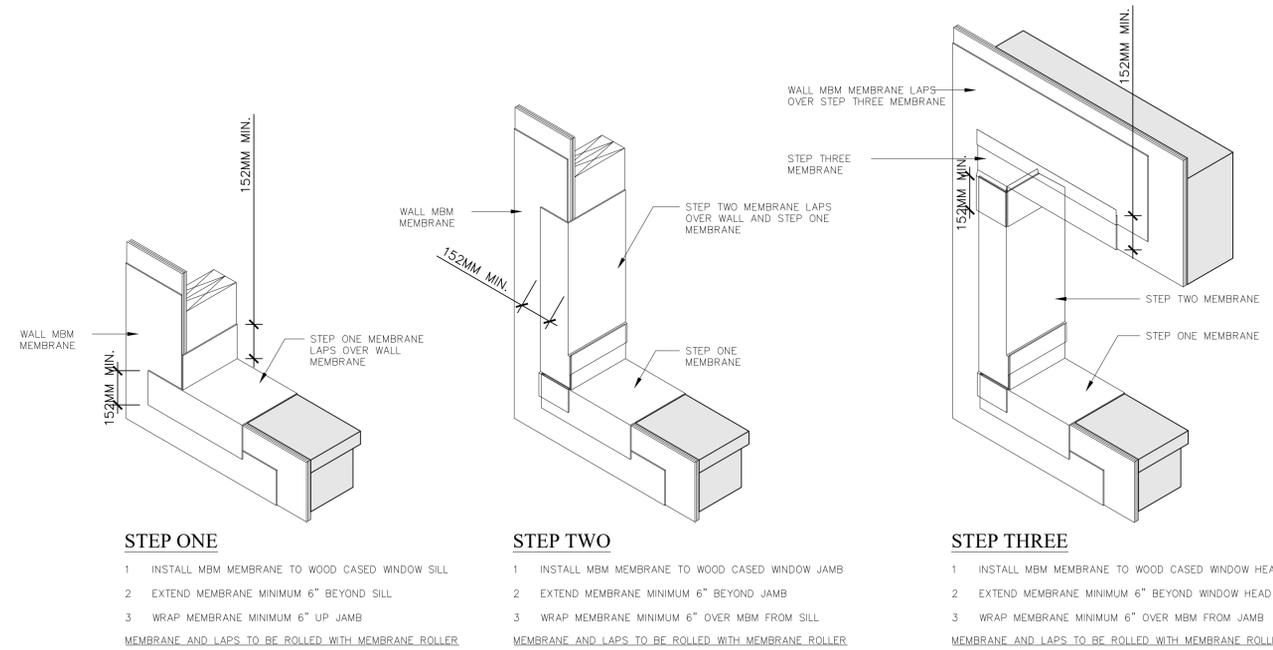
1 WINDOW HEAD DETAIL
A601 1:10



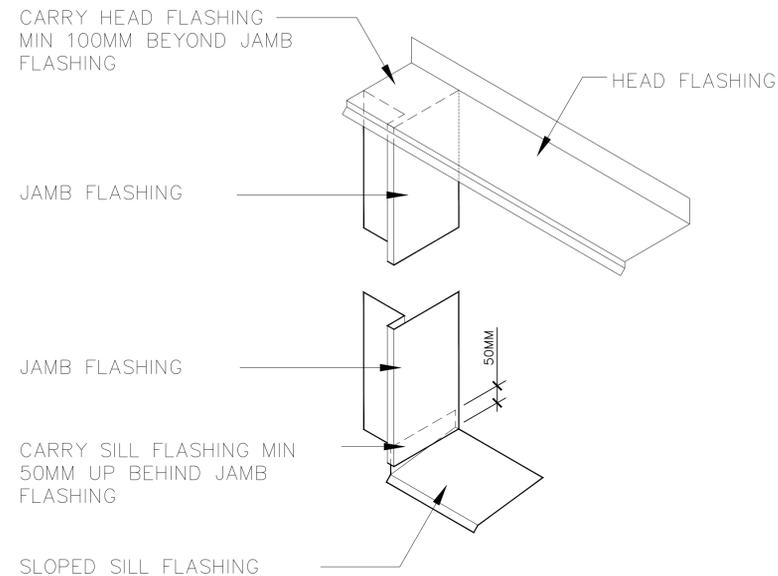
2 WINDOW SILL DETAIL
A601 1:10

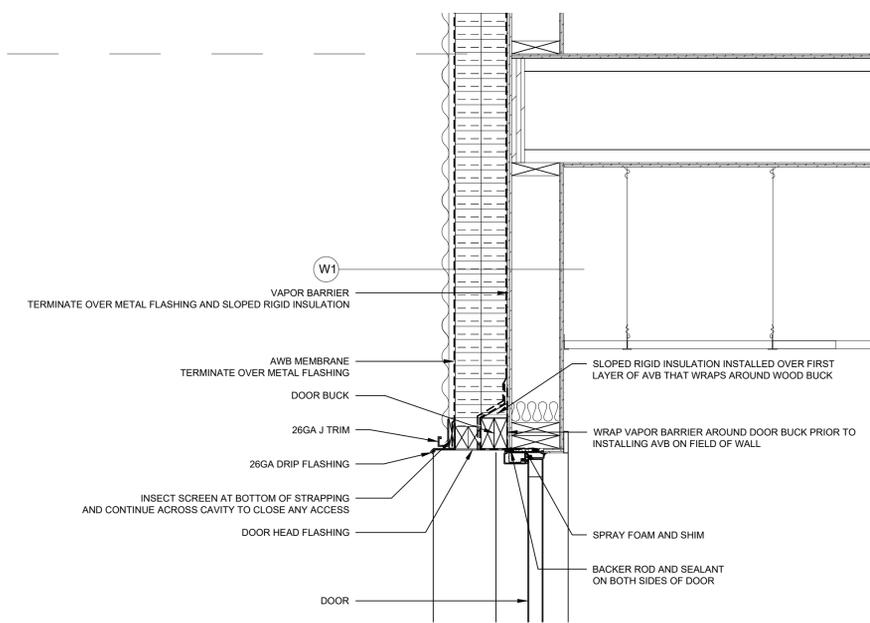


3 WINDOW JAMB DETAIL
A601 1:10

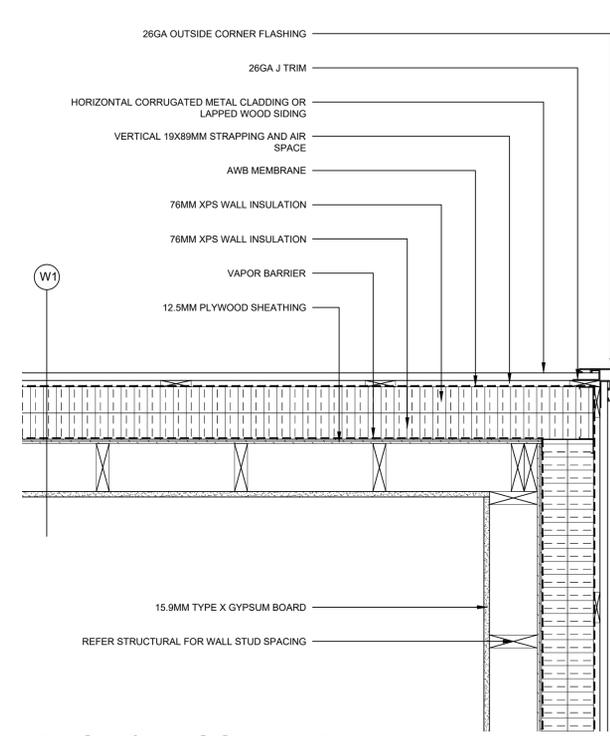


4 WINDOW MEMBRANE AND FLASHING SEQUENCE
A601 1:10

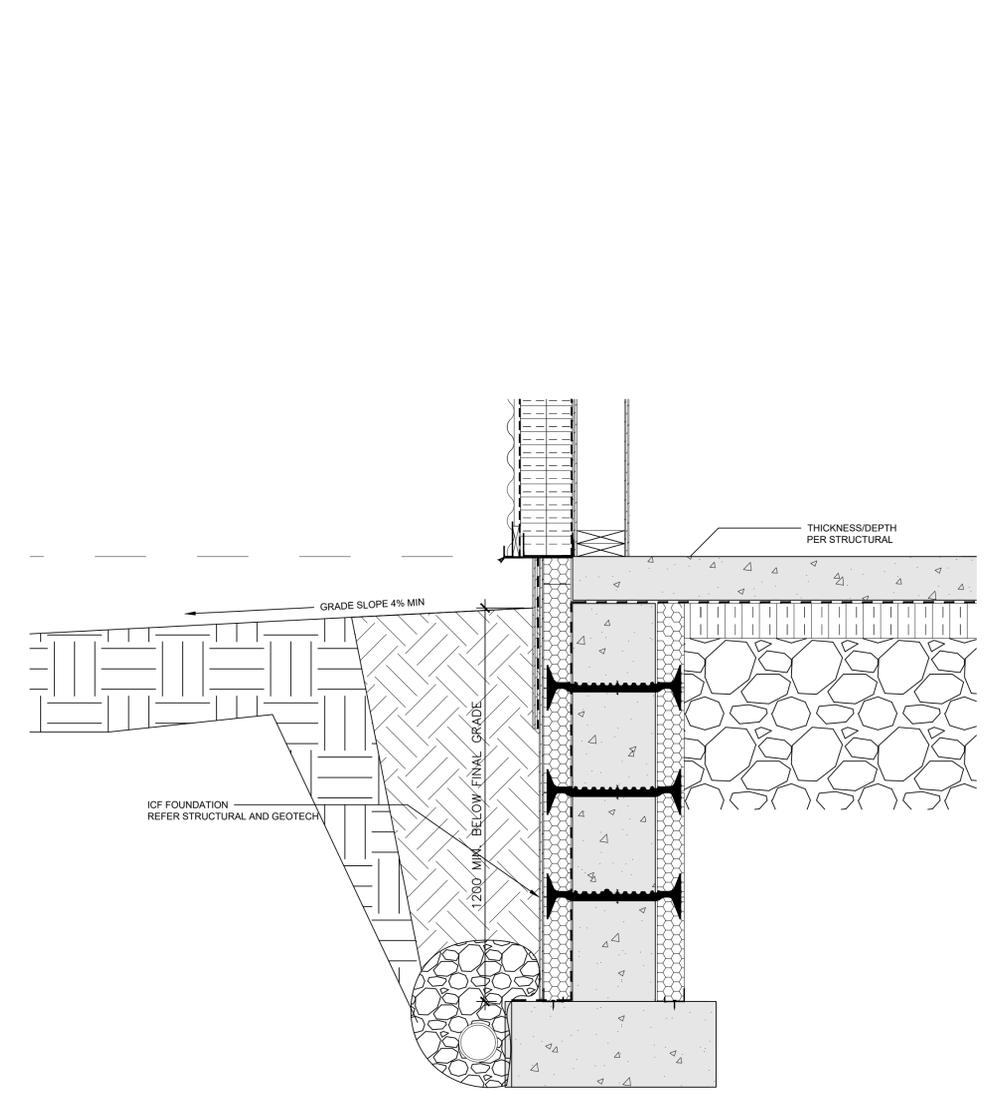




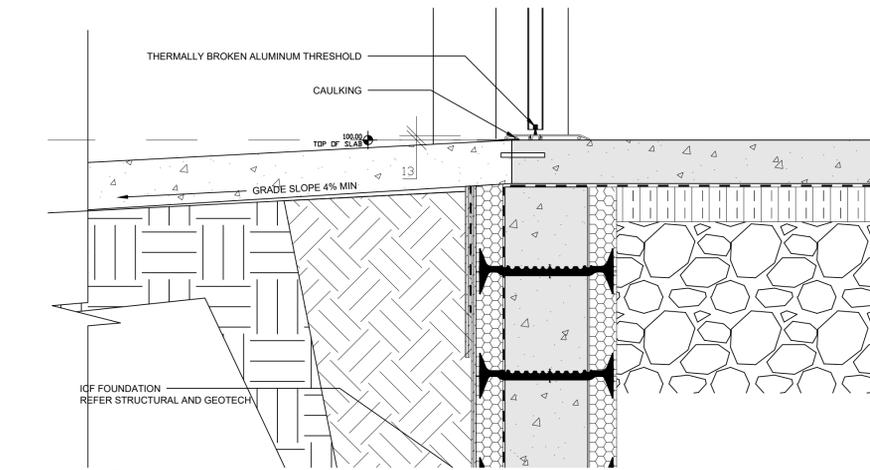
1 DOOR HEAD DETAIL
A602 1:10



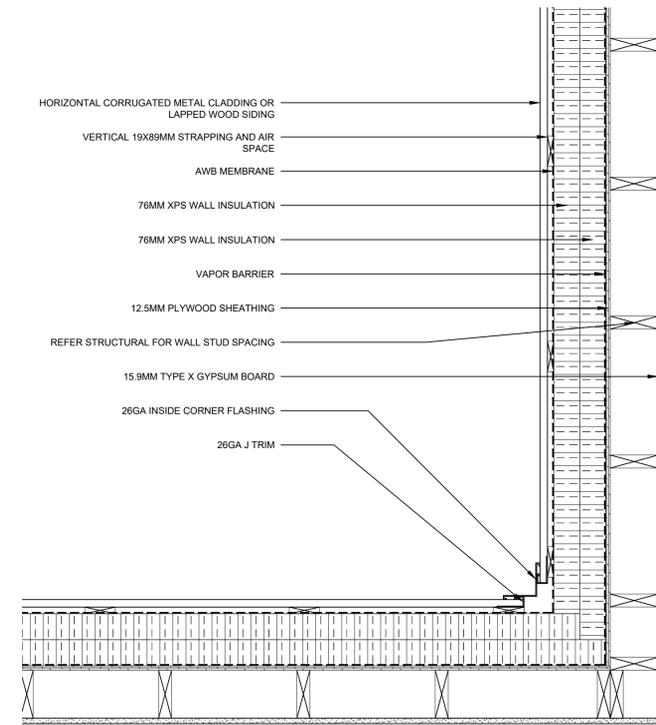
4 OUTSIDE CORNER DETAIL
A602 1:10



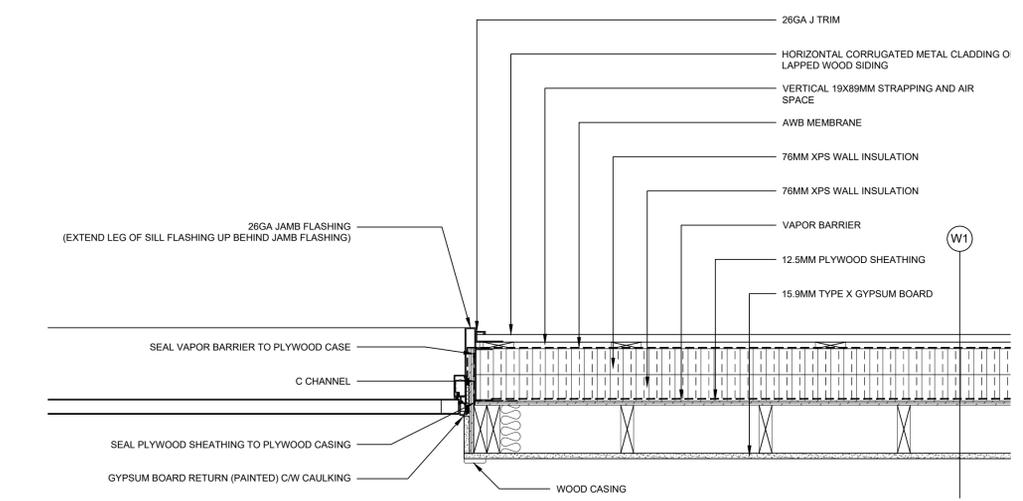
6 FOUNDATION INSULATION AT PERIMETER
A602 1:10



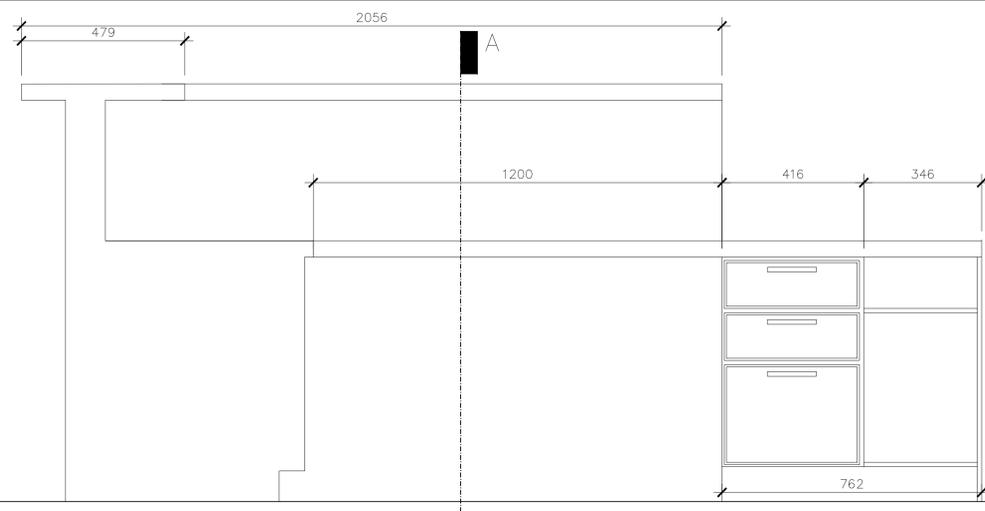
2 DOOR SILL DETAIL
A602 1:10



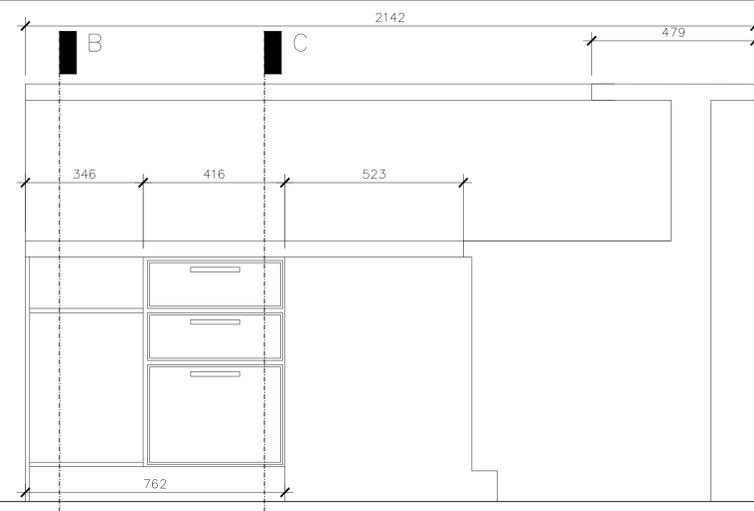
5 INSIDE CORNER DETAIL
A602 1:10



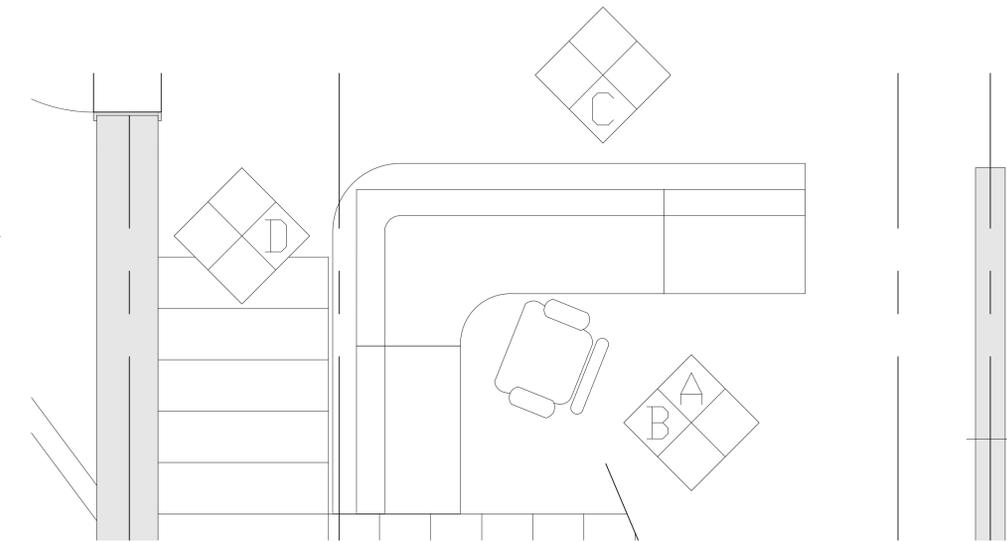
3 DOOR JAMB DETAIL
A602 1:10



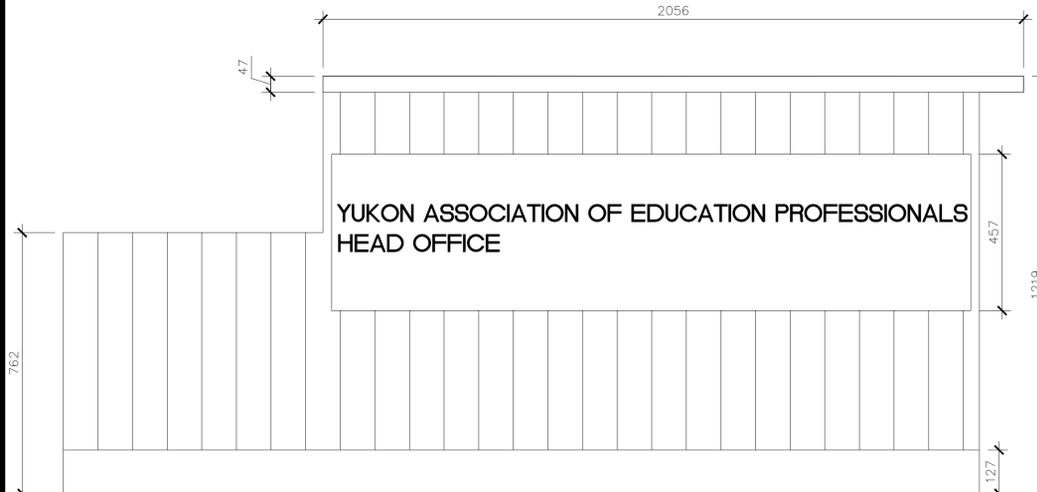
ELEVATION A



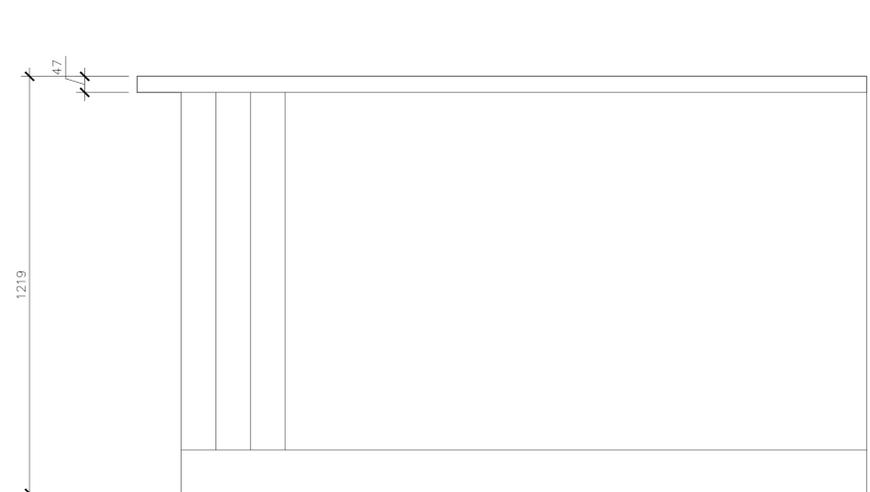
ELEVATION B



1 RECEPTION DESK
A700 1:50

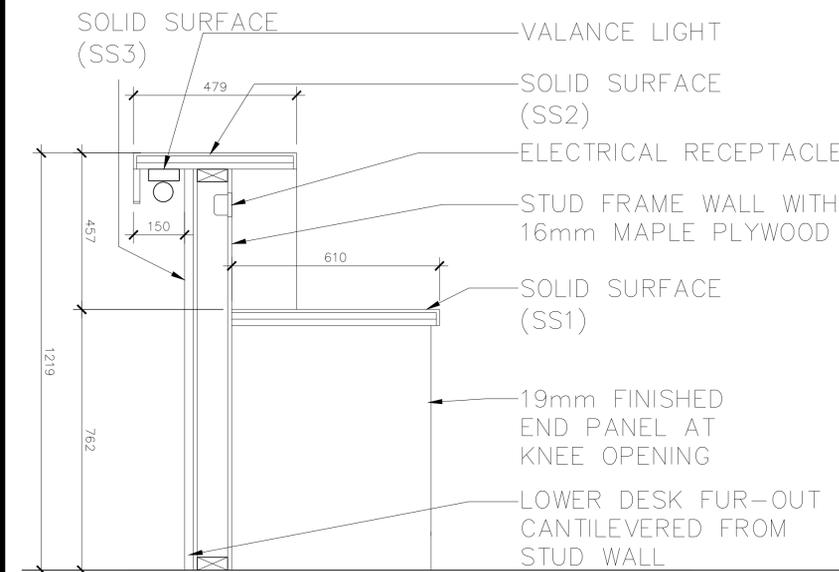


ELEVATION C

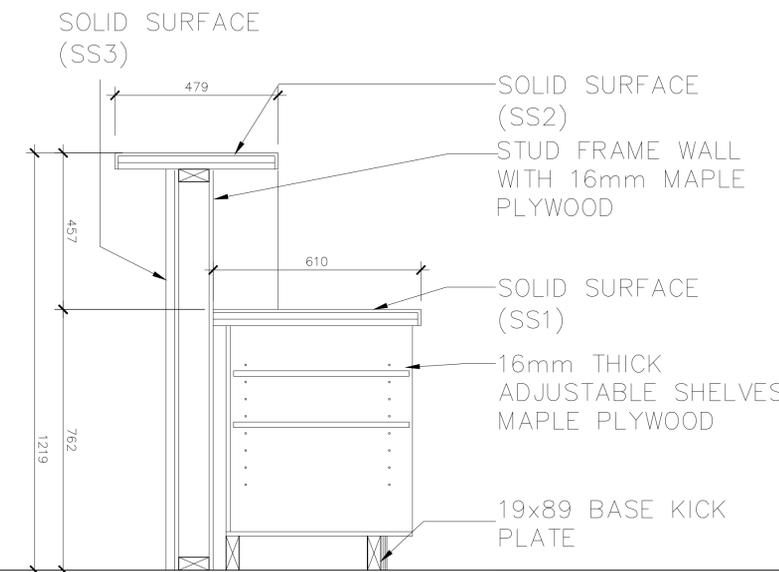


ELEVATION D

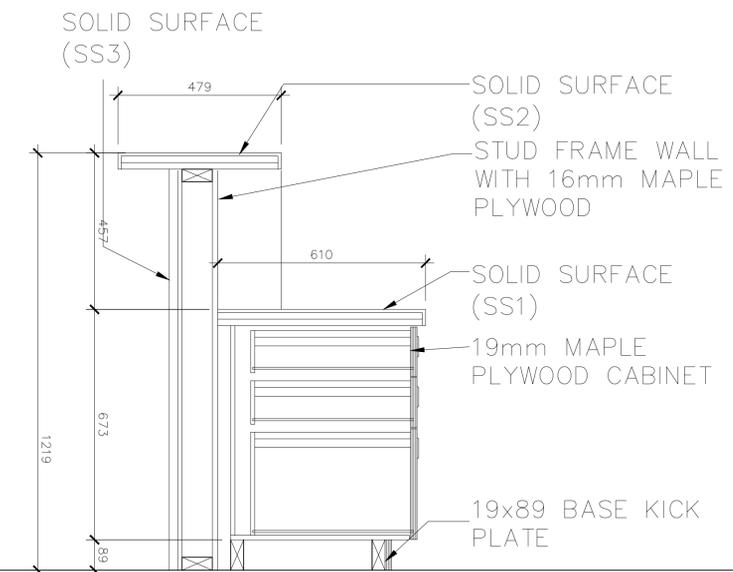
2 FRONT DESK ELEVATIONS
A700 1:10



SECTION A



SECTION B



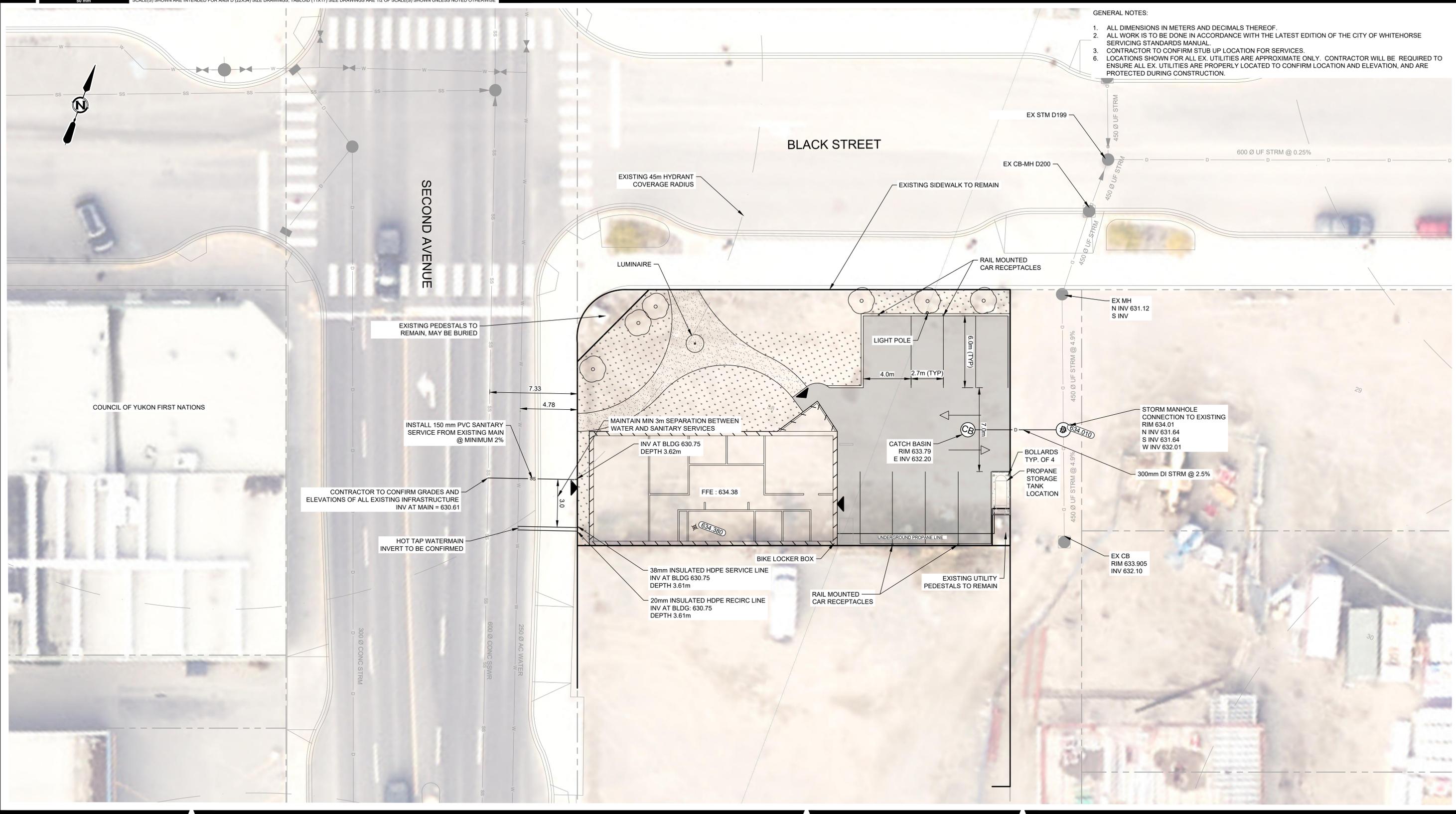
SECTION C

3 FRONT DESK SECTIONS
A700 1:10

IF NOT 50 mm ADJUST SCALES
50 mm

SCALE(S) SHOWN ARE INTENDED FOR ANSI D (22X34) SIZE DRAWINGS. TABLOID (11X17) SIZE DRAWINGS ARE 1/2 OF SCALE(S) SHOWN UNLESS NOTED OTHERWISE

- GENERAL NOTES:
1. ALL DIMENSIONS IN METERS AND DECIMALS THEREOF.
 2. ALL WORK IS TO BE DONE IN ACCORDANCE WITH THE LATEST EDITION OF THE CITY OF WHITEHORSE SERVICING STANDARDS MANUAL.
 3. CONTRACTOR TO CONFIRM STUB UP LOCATION FOR SERVICES.
 6. LOCATIONS SHOWN FOR ALL EX. UTILITIES ARE APPROXIMATE ONLY. CONTRACTOR WILL BE REQUIRED TO ENSURE ALL EX. UTILITIES ARE PROPERLY LOCATED TO CONFIRM LOCATION AND ELEVATION, AND ARE PROTECTED DURING CONSTRUCTION.



PLOT DATE: 2023-04-18 1:29:59 PM
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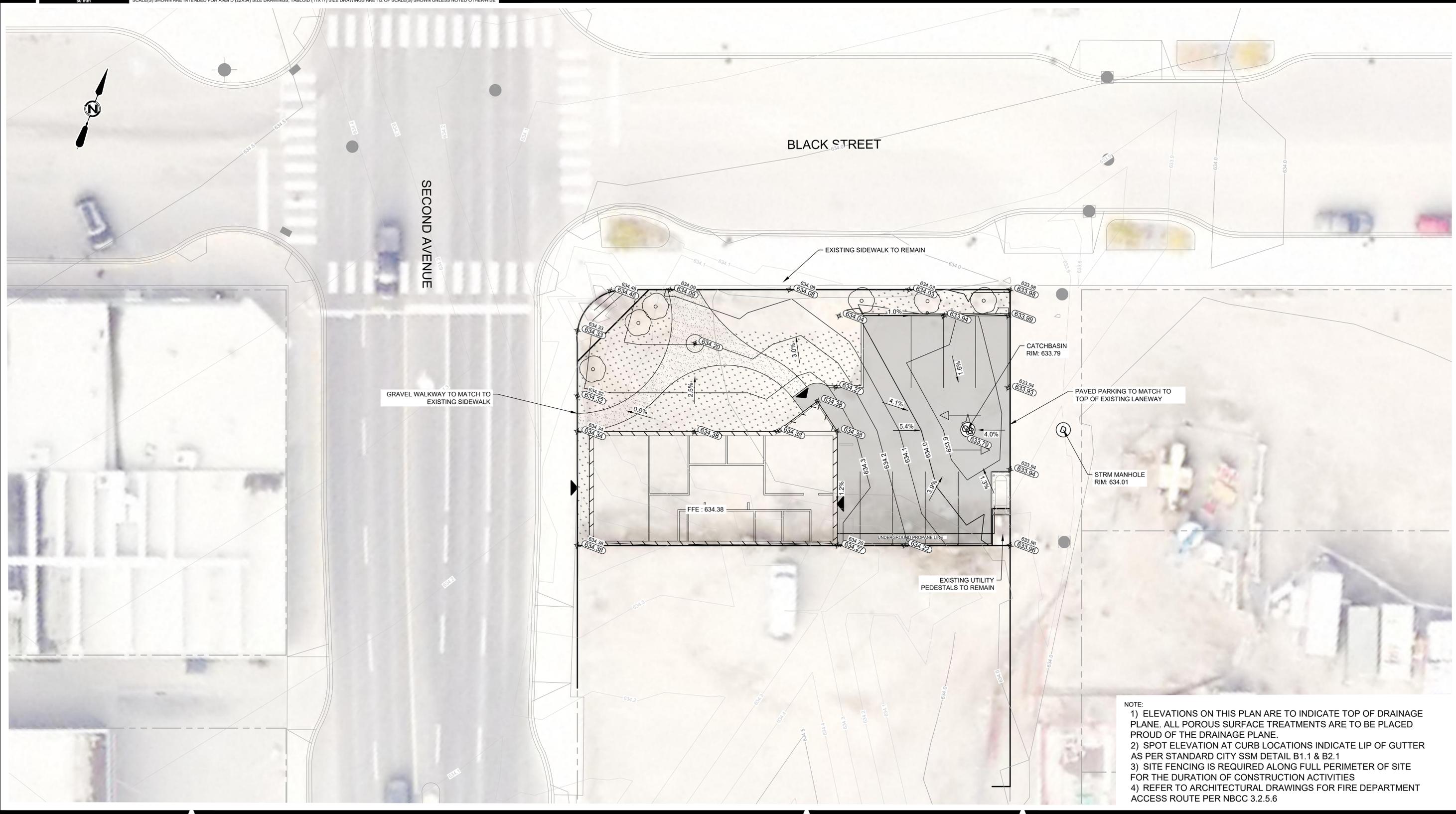


REV	DATE	DESIGN	DRAWN	DESCRIPTION
E	2023APR18	S. BARTSCH	J. KULESZA	REISSUED FOR CONSTRUCTION
D	2023APR14	S. BARTSCH	J. KULESZA	ISSUED FOR CONSTRUCTION
C	2023MAR02	S. BARTSCH	J. KULESZA	ISSUED FOR 90% REVIEW
B	2022DEC02	S. BARTSCH	J. KULESZA	ISSUED FOR 50% REVIEW
A	2022MAR31	S. BARTSCH	H. MCINTYRE	ISSUED FOR 30% REVIEW

YUKON TEACHERS ASSOCIATION
 HEAD OFFICE BUILDING
 CIVIL DESIGN SERVICES
 2022-2455-00
 SCALE: AS SHOWN

DRAWING	REVISION	SHEET
2455-00-C-101	E	1

CIVIL
 SITE SERVICING PLAN
 PLAN VIEW



NOTE:
 1) ELEVATIONS ON THIS PLAN ARE TO INDICATE TOP OF DRAINAGE PLANE. ALL POROUS SURFACE TREATMENTS ARE TO BE PLACED PROUD OF THE DRAINAGE PLANE.
 2) SPOT ELEVATION AT CURB LOCATIONS INDICATE LIP OF GUTTER AS PER STANDARD CITY SSM DETAIL B1.1 & B2.1
 3) SITE FENCING IS REQUIRED ALONG FULL PERIMETER OF SITE FOR THE DURATION OF CONSTRUCTION ACTIVITIES
 4) REFER TO ARCHITECTURAL DRAWINGS FOR FIRE DEPARTMENT ACCESS ROUTE PER NBC 3.2.5.6

PLOT DATE: 2023-04-18 1:30:36 PM
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 DESIGNED BY: KULESZA
 DRAWN BY: KULESZA



YUKON TEACHERS ASSOCIATION

REV	DATE	DESIGN	DRAWN	DESCRIPTION
D	2023APR18	S. BARTSCH	J. KULESZA	REISSUED FOR CONSTRUCTION
C	2023APR14	S. BARTSCH	J. KULESZA	ISSUED FOR CONSTRUCTION
B	2023MAR03	S. BARTSCH	J. KULESZA	ISSUED FOR 90%
A	2022DEC02	S. BARTSCH	J. KULESZA	ISSUED FOR 50%

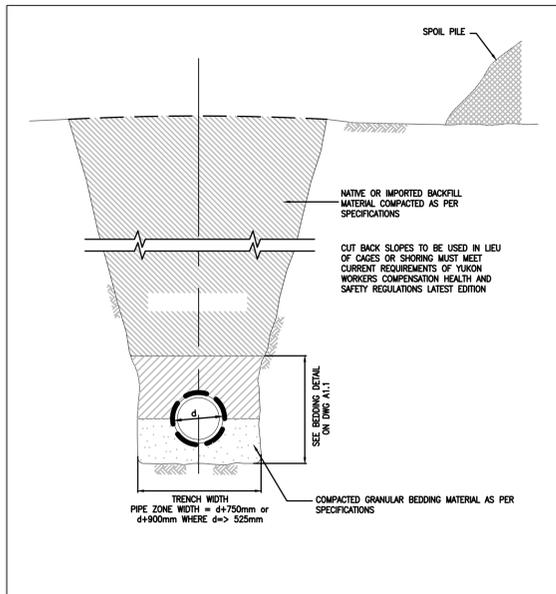
HEAD OFFICE BUILDING
 CIVIL DESIGN SERVICES

2022-2455-00

SCALE: 1:150

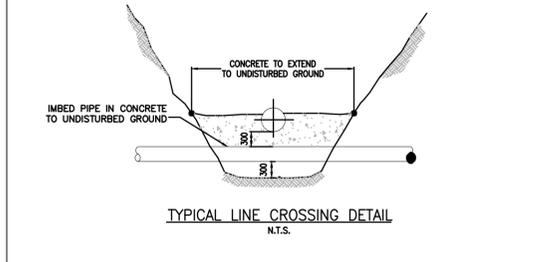
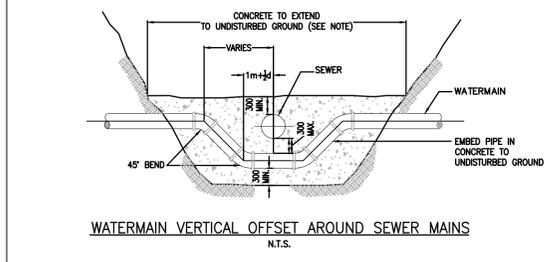
CIVIL
 SITE GRADING PLAN
 PLAN VIEW

DRAWING	REVISION	SHEET
2455-00-C-201	D	2



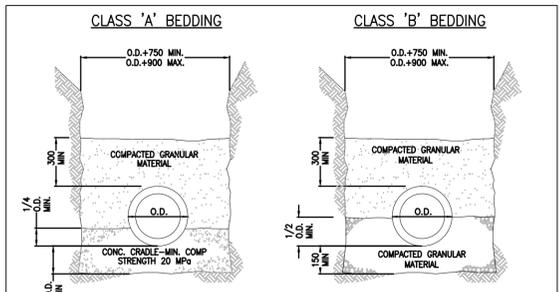
- NOTES:**
1. ALL DIMENSIONS ARE IN MILLIMETRES
 2. CONTRACTOR SHALL CONTACT YUKON WORKERS COMPENSATION HEALTH AND SAFETY BOARD TO DETERMINE CURRENT CUTBACK SLOPE REQUIREMENTS
 3. d = PIPE OUTSIDE DIAMETER

<p>Engineering Department DATE: JANUARY 2007</p>	TRENCHING WIDTHS	STD DWG
		A1.0

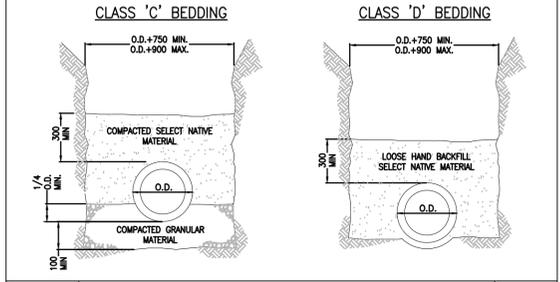


- NOTES:**
1. MINIMUM WIDTH OF CONCRETE TO BE DIAMETER OF LARGEST PIPE + 300
 2. ALL DIMENSIONS ARE IN MILLIMETRES
 3. d = PIPE DIAMETER
 4. ALL CONCRETE TO BE 20 MPa @ 28 DAYS
 5. SHOULD THE SEPARATION BETWEEN PIPES BE GREATER THAN 300, PIPE BEDDING COMPACTED TO 98% S.P.D. WILL BE REQUIRED.
 6. RESTRAINT JOINTS TO BE USED TO TIE THE BENDS TOGETHER PRIOR TO POURING CONCRETE.

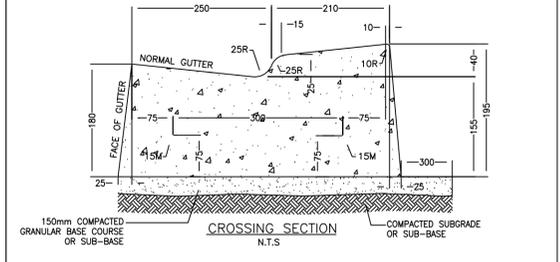
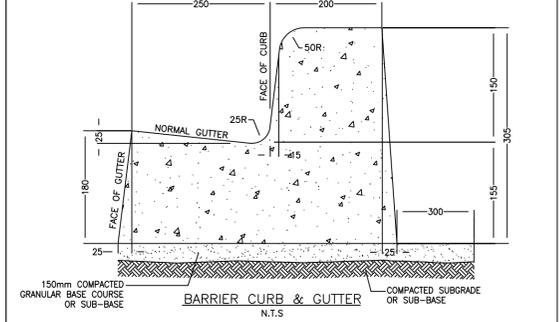
<p>Engineering Department DATE: JANUARY 2007</p>	TYPICAL WATER & SEWER LINE CROSSING DETAILS	STD DWG
		A2.3



- NOTE:**
1. COMPACTION OF BEDDING AND PIPE ZONE BACKFILL SHALL BE AS PER SPECIFICATIONS. (MIN. 95% S.P.D.)
 2. ALL DIMENSIONS ARE GIVEN IN MILLIMETRES

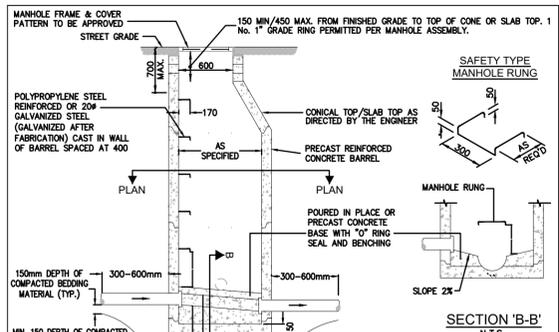


<p>Engineering Department DATE: JANUARY 2007</p>	PIPE BEDDING DETAILS	STD DWG
		A1.1



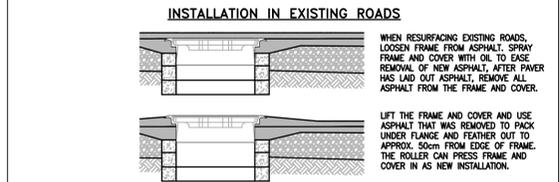
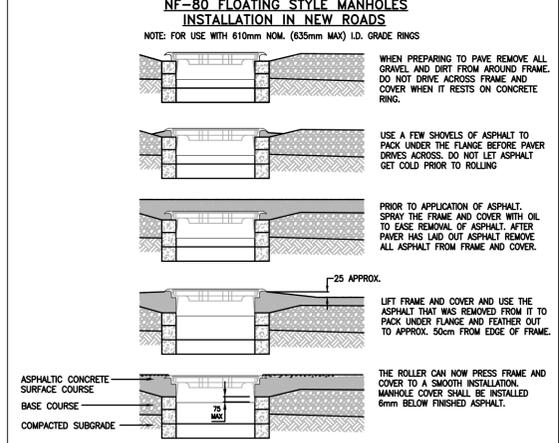
- NOTE:**
1. REINFORCEMENT NOT REQUIRED AT PRIVATE CROSSING
 2. ALL DIMENSIONS ARE IN MILLIMETRES.

<p>Engineering Department DATE: JANUARY 2015</p>	150mm BARRIER CURB & GUTTER AND CROSSING DETAILS COMMERCIAL, LANE & PRIVATE	STD DWG
		B2.1



- NOTES:**
1. ALL PRECAST MANHOLES MUST CONFORM TO ASTM C478.
 2. POURED IN PLACE CONCRETE SHALL HAVE 28 DAYS COMPRESSIVE STRENGTH 20 MPa. BENCHING TO UTILIZE TYPE 50 SCANT.
 3. AN O-RING RUBBER GASKET OR BUTYL RUBBER SEALANT (OR RESPECTIVE APPROVED ALTERNATE) IS TO BE INSTALLED AT EACH BARREL JOINT IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
 4. ALL BARREL JOINTS ARE TO BE MORTARED ON THE OUTSIDE.
 5. FORM FLOW THROUGH IN PARTIALLY SET CONCRETE AND TROWEL SMOOTH.
 6. ALL DIMENSIONS GIVEN IN MILLIMETRES.
 7. MAX. DIST FROM RIM TO TOP RING IS 700mm.
 8. BACKFILL MANHOLE WITH SELECT NATIVE MATERIAL OR IMPORTED GRANULAR MATERIAL.
 9. SLAB TOPS SHALL BE USED WHEN THE DISTANCE FROM THE BOTTOM OF THE RINGS TO THE MH BASE IS LESS THAN 2.2 m.
 10. SAFETY PLATFORM REQUIRED IF MANHOLE OVER 6m DEEP.
 11. IN SITUATIONS WHERE GRADE RINGS EXCEED MAX. 450mm, A BARREL SECTION IS TO BE USED.
 12. ACCESS TO MANHOLE TO BE LOCATED OVER MAIN RING.
 13. FIRST SECTION OF PIPE (AT INTERFACE OF MANHOLE) TO BE 300-600mm IN LENGTH.

<p>Engineering Department DATE: SEPTEMBER, 2020</p>	TYPICAL MANHOLE DETAIL	STD DWG
		A4.0



<p>Engineering Department DATE: DECEMBER 2010</p>	FLOATING MANHOLE COVER INSTALLATION	STD DWG
		A3.1a

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YUKON TEACHERS ASSOCIATION

HEAD OFFICE BUILDING
CIVIL DESIGN SERVICES

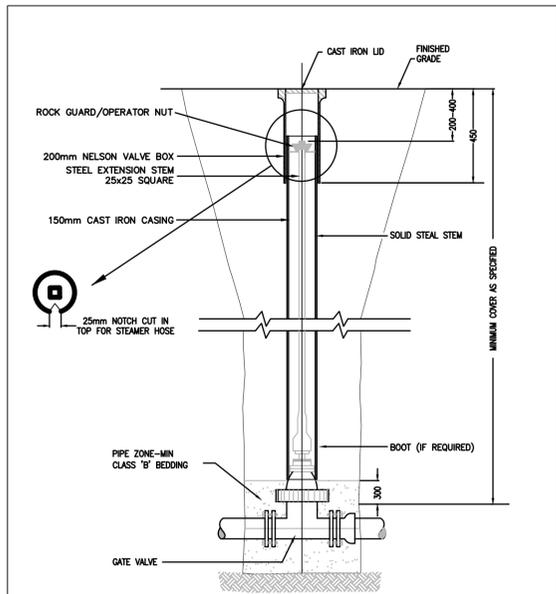
2022-2455-00

SCALE: AS SHOWN

C	2023APR18	S. BARTSCH	J. KULESZA	REISSUED FOR CONSTRUCTION
B	2023APR14	S. BARTSCH	J. KULESZA	ISSUED FOR CONSTRUCTION
A	2023MAR03	S. BARTSCH	J. KULESZA	ISSUED FOR 90% REVIEW
REV	DATE	DESIGN	DRAWN	DESCRIPTION

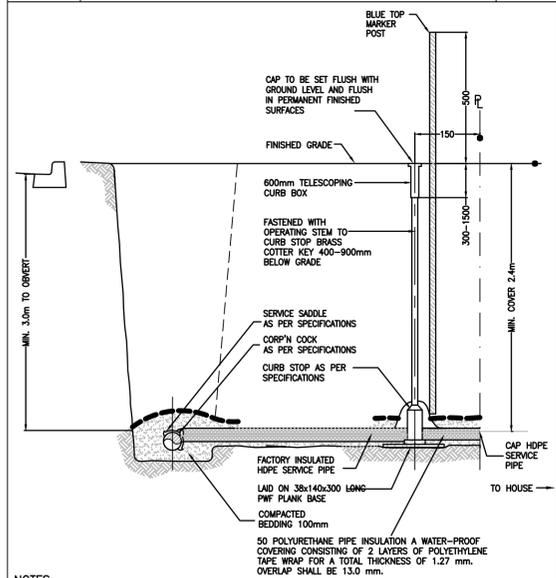
CIVIL
GENERAL DETAILS
1 OF 3

DRAWING	REVISION	SHEET
2427-00-C-501	C	3



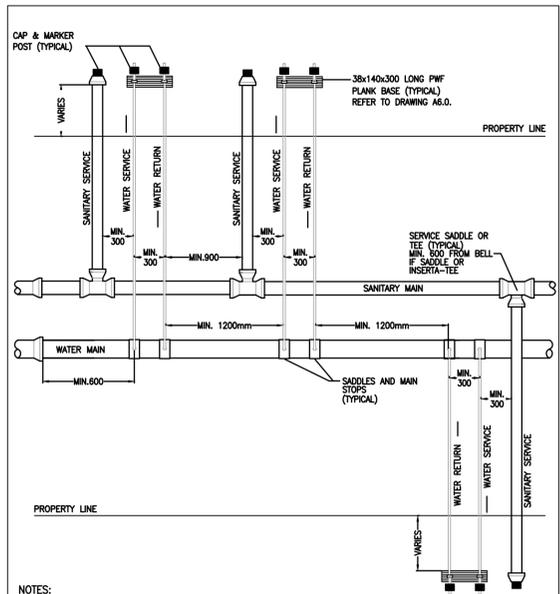
- NOTES:**
1. ALL DIMENSIONS GIVEN IN MILLIMETRES
 2. VALVE TO BE ADEQUATELY PROTECTED AGAINST LATERAL MOVEMENT

	STANDARD VALVE INSTALLATION DETAIL	STD DWG
	DATE: JANUARY 2015	A2.1



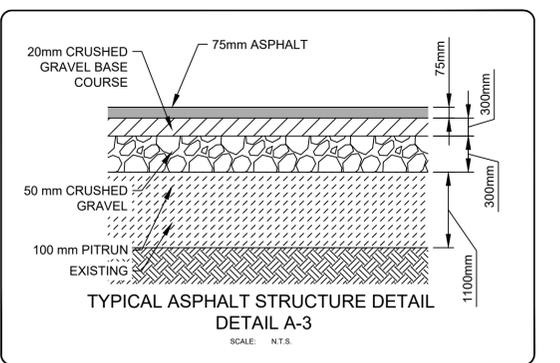
- NOTES:**
1. ALL DIMENSIONS ARE GIVEN IN MILLIMETRES
 2. INSULATION THICKNESS (50mm MIN) AND DEPTH OF COVER TO BE VERIFIED BY THERMAL ANALYSIS.
 3. 50x100 TREATED MARKER POST TO EXTEND TO INVERT OF PIPE.
 4. COMPACTION REQUIREMENTS AS PER DETAILED SPECIFICATIONS
 5. MIN. 150mm OVERLAP OF CURB BOX AND STEM
 6. NO COUPLING ARE TO BE IN THE ROADWAY
 7. CURB BOX TO NOT BE TIGHTENED AT FINAL INSTALL AND TO BE MAINTAINED AT GRADE WITH COMPACTED BACKFILL.

	INSULATED WATER SERVICE CONNECTION	STD DWG
	DATE: JANUARY, 2020	A6.0



- NOTES:**
1. ENDS OF SERVICES TO BE MARKED WITH A 50mm x 100mm STAKE PROTRUDING 500mm ABOVE GROUND PAINTED AS FOLLOWS:
A. SANITARY SERVICE - RED
B. WATER SERVICE & RECIRO - BLUE
SEWER SERVICES MUST BE PROPERLY CAPPED.
 2. SEWER SERVICES MUST BE PROPERLY CAPPED.
 3. ALL DIMENSIONS GIVEN IN MILLIMETRES.

	SINGLE AND DOUBLE SERVICE LAYOUT	STD DWG
	DATE: FEB. 2019	A6.3



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YUKON TEACHERS ASSOCIATION

HEAD OFFICE BUILDING
CIVIL DESIGN SERVICES

2022-2455-00

SCALE: AS SHOWN

REV	DATE	DESIGN	DRAWN	DESCRIPTION
C	2023APR18	S. BARTSCH	J. KULESZA	REISSUED FOR CONSTRUCTION
B	2023APR14	S. BARTSCH	J. KULESZA	ISSUED FOR CONSTRUCTION
A	2023MAR03	S. BARTSCH	J. KULESZA	ISSUED FOR 90% REVIEW

CIVIL
GENERAL DETAILS
2 OF 3

DRAWING	REVISION	SHEET
2427-00-C-502	C	4

STRUCTURAL NOTES

GENERAL

- ALL CONSTRUCTION IS TO CONFORM TO THE NATIONAL BUILDING CODE (2015).
- ALL REFERENCES TO CONSTRUCTION STANDARDS NOTED ON THESE DRAWINGS REFER TO THE LATEST REVISED ISSUE.
- THE DRAWING PREPARED BY McELHANNEY ARE INTENDED FOR STRUCTURAL REQUIREMENTS OF THE FLOOR SUPPORTS AND BUILDING FOUNDATION STRUCTURAL FRAMING ONLY. ALL OTHER ASPECTS ASSOCIATED WITH THIS PROJECT WHICH INCLUDE, BUT ARE NOT LIMITED TO, METAL BUILDING FRAMING, ARCHITECTURAL, CIVIL, GEOTECHNICAL, MECHANICAL, ELECTRICAL, FIRE PROTECTION, OCCUPANT SAFETY, ACCESSIBILITY AND BUILDING ENVELOPE ARE TO BE DESIGNED, SPECIFIED AND APPROVED BY OTHERS AND ARE CONSIDERED BEYOND McELHANNEY SCOPE OF WORK.
- STRUCTURAL ELEMENTS PRESENTED ON THESE DRAWINGS ARE FOR PERMANENT STRUCTURE AND FOUNDATIONS ONLY. THE CONTRACTOR IS RESPONSIBLE FOR ALL TEMPORARY AND CONSTRUCTION BRACING AND SUPPORT INCLUDING GEOTECHNICAL REQUIREMENTS UNTIL THE PROJECT IS COMPLETED.
- REFER TO ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS AND SPECIFICATIONS FOR DIMENSIONS, GRADES, FLOOR ELEVATIONS, ROOF ELEVATIONS, ROOF SLOPES, AND FOR DIMENSIONS AND LOCATIONS OF DOORS, WINDOWS, RECESSES, SLEEVES, EQUIPMENT SHAFTS, INSERTS, NAILERS, CHAMFERS, ETC. GRADES, ELEVATIONS AND SLOPES SHOWN ON STRUCTURAL DRAWINGS ARE FOR REFERENCE ONLY AND MUST BE CONFIRMED WITH ARCHITECTURAL DRAWINGS AND/OR SITE CONDITIONS PRIOR TO CONSTRUCTION.
- THE CONTRACTOR IS RESPONSIBLE FOR DIMENSIONS TO BE CONFIRMED AND CORRELATED AT THE JOB SITE, FOR INFORMATION THAT PERTAINS SOLELY TO FABRICATION PROCESSES OR TO TECHNIQUES OF CONSTRUCTION AND INSTALLATION AND FOR COORDINATION OF THE WORK OF ALL SUB-TRADES.

REFERENCED DRAWINGS

- BUILDING LAYOUT AND STRUCTURAL SIZING IS BASED ON ARCHITECTURAL DESIGN DRAWINGS PREPARED BY CAELIN CAMERON OF ARCTIC CANADA CONSTRUCTION, DATED MAR.2023.
- McELHANNEY HAS RELIED ON THE ARCHITECTURAL DRAWING SET AS ACCURATE AND TRUE. McELHANNEY IS NOT RESPONSIBLE FOR ANY ERROR/OMISSIONS ON THESE DRAWINGS AS A RESULT OF ERRORS OR SUBSEQUENT CHANGES TO THE ARCHITECTURAL DRAWING SET OR UNKNOWN SITE AND AS-BUILT CONDITIONS.
- IF CHANGES ARE MADE TO THE LAYOUT OF THE BUILDING OR METAL BUILDING COLUMN REACTIONS, OR SITE CONDITIONS VARY FROM ASSUMED, OR THE ASSUMED LOAD PATHS ARE ALTERED (RELOCATED POSTS, BEAMS, ETC.) THE ARCHITECT AND STRUCTURAL ENGINEER SHOULD BE NOTIFIED SUCH THAT CHANGES CAN BE MADE TO THE DESIGN IF REQUIRED.

FIELD REVIEWS BY McELHANNEY

- McELHANNEY ASSUMES NO RESPONSIBILITY FOR FIELD REVIEWS OF THE CONSTRUCTION OR VERIFICATION OF THE CONSTRUCTION UNLESS EXPRESSLY RETAINED TO DO SO.
- McELHANNEY LTD. (McELHANNEY) PROVIDE FIELD REVIEWS ONLY FOR THE WORK SHOWN ON THESE DRAWINGS. FIELD REVIEWS BY McELHANNEY ARE PERIODIC AND AT THE SOLE DISCRETION OF McELHANNEY IN ORDER TO ASCERTAIN THAT THE WORK IS IN GENERAL CONFORMANCE WITH THE DESIGN DRAWINGS AND SUPPORTING DOCUMENTS.
- FIELD REVIEWS BY McELHANNEY ARE NOT FOR THE CONTRACTORS BENEFIT NOR DOES IT MAKE McELHANNEY GUARANTORS OF THE CONTRACTORS WORK. IT REMAINS THE CONTRACTORS RESPONSIBILITY TO BUILD THE WORK IN CONFORMANCE WITH THE CONTRACT DOCUMENTS.
- McELHANNEY WILL NOT BE RESPONSIBLE FOR THE ACTS OR OMISSIONS OF THE CONTRACTOR, SUB-CONTRACTOR, OR ANY OTHER PERSONS PERFORMING ANY OF THE WORK OR FOR THE FAILURE OF ANY OF THEM TO CARRY OUT THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
- IF McELHANNEY IS RETAINED FOR FIELD REVIEWS THEN THE CONTRACTOR IS TO PROVIDE NOTICE PRIOR TO CONCRETE POURS AND BEFORE ENCLOSING FRAMING ELEMENTS. FIELD REVIEWS ARE TO BE CALLED OUT DURING NORMAL BUSINESS HOURS UNLESS SPECIAL ARRANGEMENTS ARE MADE WITH McELHANNEY.

DESIGN STANDARDS:

- DESIGN METHODOLOGY: LIMIT STATES DESIGN
- CLIMATIC INFORMATION:
 - ROOF DESIGN CRITERIA
 - S_s = 2.0 kPa
 - S_w = 0.1 kPa
 - S_c = 1.0
 - WIND DESIGN CRITERIA
 - 1/10 YEARS = 0.29 kPa
 - 1/50 YEARS = 0.38 kPa
 - 1/100 YEARS = 0.46 kPa
 - 1/10 YEARS = 0.29 kPa
 - 1/50 YEARS = 0.38 kPa
 - 1/100 YEARS = 0.46 kPa
 - SEISMIC DESIGN PARAMETERS
 - AS PER NATIONAL BUILDING CODE (2015)
 - S_w(2) = 0.334
 - S_w(5) = 0.258
 - S_w(10) = 0.170
 - S_w(20) = 0.094
 - S_w(50) = 0.033
 - S_w(100) = 0.012
 - PGA = 0.154
 - PGV = 0.184
 - I_e = 1.0
 - R_d = 2.5
 - R_o = 1.7
- DESIGN LOAD INFORMATION:
 - DEAD LOAD: 0.7 kPa + 0.5 kPa COLLATERAL LOAD
 - LIVE LOAD: 4.8 kPa

GEOTECHNICAL INFORMATION:

- REFER TO THE GEOTECHNICAL REPORT PREPARED BY HEMMERA ENVIROCHEM INC. (DATED FEBRUARY 23, 2022, GEOTECHNICAL INVESTIGATION REPORT, LOT 38, 2ND AVENUE AND FRONT STREET, WHITEHORSE, YT) FOR SOIL CONDITIONS TO BE CONSIDERED ON THIS SITE. THE SPREAD FOOTING CAN BE DESIGNED USING AN ALLOWABLE BEARING CAPACITY 140 kPa. STRIP FOOTING CAN BE DESIGNED USING AN ALLOWABLE BEARING CAPACITY 120 kPa.
- IT IS THE RECOMMENDATION OF McELHANNEY LTD. THAT THE OWNER RETAIN A QUALIFIED GEOTECHNICAL ENGINEER TO CONFIRM THE SUITABILITY OF THE ACTUAL GEOTECHNICAL CONDITIONS AND RECOMMENDATIONS FOR THIS PROJECT.

LIGHT STEEL FRAMING (LSF) AND STEEL STUDS

- LIGHT STEEL FRAMING (LSF) AND STEEL STUDS TO MEET THE REQUIREMENTS OF CAN/CSA-S136-2016 "NORTH AMERICAN SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS".
- STEEL STUD/JOIST MATERIAL PROPERTIES:
 - MINIMUM YIELD STRENGTH = 60 KSI OR 345 MPA
 - YOUNG'S MODULUS = 29000 KSI OR 200003 MPA
- CONTRACTOR TO CONFIRM SUPPLIED MATERIALS MEET THE SPECIFICATIONS ABOVE.
- THE LSF AND STEEL STUD SUPPLIER IS TO SUBMIT SHOP DRAWINGS AND LAYOUT PLANS IN ACCORDANCE WITH BUILDING SPECIFICATIONS TO THE ENGINEER FOR REVIEW, MINIMUM 2 WEEKS PRIOR TO FABRICATION.
- THE SHOP DRAWINGS ARE TO INCLUDE BUT NOT BE LIMITED TO THE FOLLOWING: PROJECT NAME, PROJECT ADDRESS, DESIGN LOADS, DESIGN METHODS, LIVE LOAD AND TOTAL LOAD DEFLECTIONS, STEEL STUD LAYOUT, MEMBER SIZES, GAUGES, MATERIAL GRADE, BRACING SYSTEMS, BEARING REQUIREMENTS, BEARING ATTACHMENT, MEMBER CONNECTION DETAILS AND INSTALLATION PROCEDURE.

ROUGH CARPENTRY

- ALL FRAMING IS TO BE S-P-F #2 OR BETTER, S4S, SEASONED DRY UNLESS INDICATED OTHERWISE ON DRAWINGS.
- ALL FIRE STOPS, BLOCKING, BRIDGING, STRAPPING, NAILERS AND LEDGERS ARE TO BE CONSTRUCTION GRADE (MIN.).
- LAMINATE STUDS UNDER ALL WALL BEAMS AND LINTELS TO FORM COLUMNS OF SAME WIDTH AS BEAM AND PROVIDE SOLID BLOCKING BETWEEN JOISTS UNDER COLUMNS.
- USE PL400 SUBFLOOR ADHESIVE FOR ALL FLOOR SHEATHING.
- PLYWOOD SHEATHING IS TO CONFORM TO CSA 0121 - DOUGLAS FIR 1220mm x 2440mm SQUARE EDGED EXCEPT TONGUE AND GROOVED (T&G) FOR FLOORS.
- ORIENTATED STRAND BOARD (OSB) SHEATHING IS TO CONFORM TO CSA 0437 0 - GRADE 0-2, 1220mm x 2440mm SQUARE EDGED EXCEPT TONGUE AND GROOVED (T&G) FOR FLOORS.
- MINIMUM NAILING OF PLYWOOD SHEATHING ON WALLS AND ROOFS (UNLESS NOTED OTHERWISE ON PLANS):
 - 64mm (2-1/2") x 3.33mmØ COMMON NAILS @ 150mm o/c PERIMETER AND SUPPORTED SHEET EDGES.
 - 64mm (2-1/2") x 3.33mmØ COMMON NAILS @ 305mm o/c INTERMEDIATE.
 - STAPLES ARE NOT PERMITTED.
- PROVIDE T&G SHEATHING FOR FLOOR SHEATHING OR AS SPECIFIED ON DRAWING AND ALL FLOOR SHEATHING TO BE GLUED AND ATTACHED WITH SCREWS.
- ALL BUILT-UP BEAMS OR HEADERS TO BE NAILED TOGETHER WITH 3 ROWS OF 76 2mm x 3.66mmØ NAILS @ 300mm o/c MINIMUM OR AS SPECIFIED BY SCL SUPPLIER.
- INDIVIDUAL MEMBERS OF BUILT-UP BEAMS OR HEADERS TO BE UNSPLICED BETWEEN SUPPORTS.
- ALL SAWN TIMBER EXPOSED TO EXTERIOR, IN CONTACT WITH CONCRETE, MASONRY IS TO BE PRESSURE TREATED IN CONFORMANCE WITH BUILDING CODE REQUIREMENTS.
- USE APPROVED JOIST HANGERS AT ALL FLUSH BEAMS. MANUFACTURER TO BE SIMPSON STRONG TIE OR PRE-APPROVED EQUAL. MINIMUM 1200 LBS CAPACITY.
- ALL BUILT-UP MEMBERS OR INDIVIDUAL JOISTS FRAMING TO FLUSH BEAMS OR HEADERS ARE TO BE CONNECTED WITH METAL HANGERS PRE-APPROVED BY ENGINEER, ELMER STRONG TIE OR PRE-APPROVED EQUAL.)
- ALL LOADBEARING STUD WALLS TO BE ANCHORED TO CONCRETE AT THE BASE WITH 12mm DIAMETER BOLTS @ 1220mm MAXIMUM. FASTEN NON-LOADBEARING PARTITION WALLS WITH POWER ACTIVATED FASTENERS @ 610mm o/c MAXIMUM.
- PROVIDE MINIMUM SOLID BLOCKING @ 610mm o/c OR DOUBLE TRIMMER JOISTS AT LOCATIONS WHERE BEARING WALLS RUN PARALLEL WITH THE JOIST SPAN.
- CONTINUE ALL POSTS/BUILT-UPS AND CRIPPLES DOWN TO FOUNDATION COMPLETE WITH BLOCKING IN JOIST SPACE.

CONCRETE

- PREPARATION, PLACING AND FINISHING OF CONCRETE IS TO CONFORM TO CSA A23.1. CONCRETE DESIGN IS CONFIRM TO CSA A23.3.
- TESTING OF CONCRETE IS TO CONFORM TO CSA A23.2. THE FREQUENCY AND NUMBER OF TESTS IS NOT TO BE LESS THAN ONE STRENGTH, SLUMP AND AIR TEST FOR FOOTINGS, FOUNDATIONS AND SLABS.
- IT IS THE CONTRACTORS RESPONSIBILITY TO COORDINATE THE TESTING SCHEDULE AND TIMING WITH THE TESTING AGENCY.
- IF A CONCRETE HARDENER IS SELECTED BY THE OWNER/ARCHITECT THEN THE AIR CONTENT OF THE CONCRETE IS TO BE COORDINATED WITH THE MANUFACTURER FOR COMPATIBILITY.
- CONCRETE PROPERTIES:

ITEM	28 DAY STRENGTH	EXPOSURE CLASS	W/C	AIR (%)	CEMENT TYPE	AGG. SIZE (")
FOOTINGS	25 MPa	F-2	.55	4 - 7	GU	3/4
FOUNDATIONS	25 MPa	F-2	.55	4 - 7	GU	3/4
INTERIOR SLAB	25 MPa	F-2	.55	4 - 7	GU	3/4
EXTERIOR SLAB	32 MPa	C-1	.45	5 - 8	GU	3/4

REINFORCING

- REINFORCING STEEL IS TO CONFORM TO CSA G30.12M - GRADE 400 MPa.
- REINFORCING STEEL IS TO BE PLACED AS DETAILED TO 10mm TOLERANCE AND IS TO BE SUPPORTED BY METAL OR PLASTIC SUPPORTS AND/OR HANGERS IN ACCORDANCE WITH CAN/CSA A23.1
- LAP ALL REINFORCING BAR SPICES 32 BAR DIAMETERS MINIMUM UNLESS INDICATED OTHERWISE ON THE DRAWINGS.
- REINFORCING STEEL IS TO BE CLEAN, FREE OF CORROSION AND UNDAMAGED.
- DO NOT WELD BARS OR USE HEAT TO BEND REINFORCING STEEL.
- WELDED WIRE MESH IS TO CONFORM TO CSA G30.15.
- CONCRETE COVER OVER REINFORCEMENT IS TO BE:
 - SURFACE PLACED IN CONTACT WITH GROUND = 75mm
 - FORMED SURFACE EXPOSED TO GROUND OR WEATHER = 50mm
 - SLABS = 39mm

STRUCTURAL MOVEMENTS

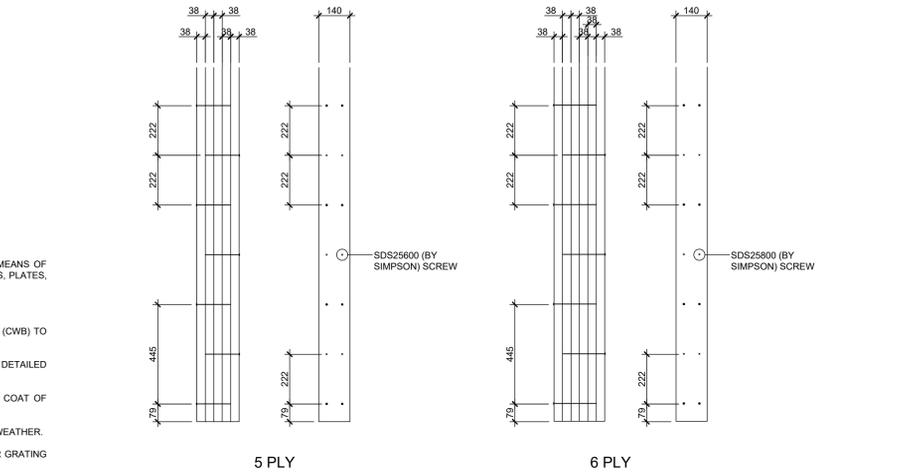
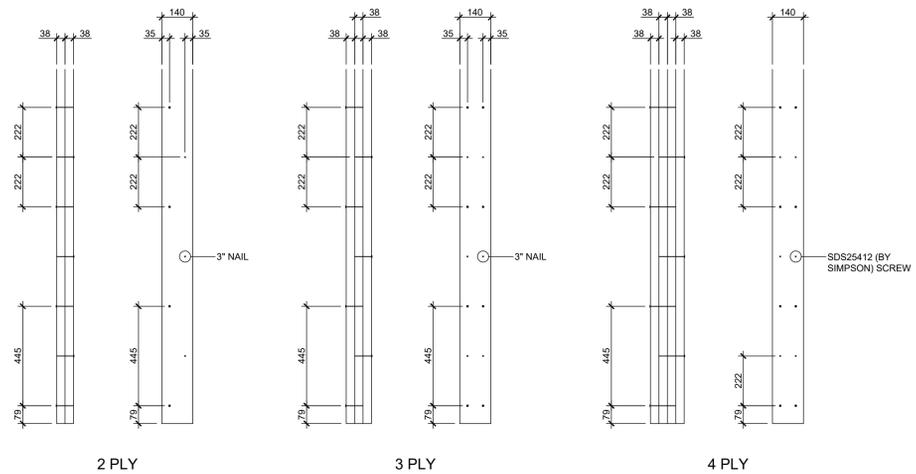
- THIS STRUCTURE WILL UNDERGO NORMAL TYPES OF MOVEMENT AND DEFLECTIONS DURING ITS LIFE AND PERFORMANCE. NON-STRUCTURAL COMPONENTS ARE TO BE DESIGNED AND DETAILED TO ACCOMMODATE THESE MOVEMENTS AND DEFLECTIONS. THE DESIGN AND DETAILING OF THESE NON-STRUCTURAL ITEMS ARE BY OTHERS AND IS CONSIDERED BEYOND THE SCOPE OF WORK AND RESPONSIBILITY OF McELHANNEY.
- FOLLOWING ARE EXAMPLES AND ESTIMATES OF POSSIBLE MOVEMENT:
 - DIFFERENTIAL VERTICAL MOVEMENT BETWEEN ADJACENT COLUMNS AND BETWEEN ADJACENT COLUMNS AND WALLS = APPROXIMATELY 20mm ±
 - VERTICAL DEFLECTION OF COLUMNS AND WALLS DUE TO SHRINKAGE AND CREEP = APPROXIMATELY 6mm± PER 3.6m HEIGHT
 - VERTICAL DEFLECTION OF EDGE BEAMS AND SLAB EDGES = APPROXIMATELY 25mm±
 - DIFFERENTIAL DEFLECTION OF EDGE BEAMS AND SLAB EDGES = APPROXIMATELY 16mm±
 - VERTICAL DEFLECTIONS AT INTERIOR FLOORS = APPROXIMATELY 25mm±
 - DIFFERENTIAL DEFLECTIONS AT INTERIOR FLOORS = APPROXIMATELY 16mm±
 - HORIZONTAL DRIFT DURING WIND AND EARTHQUAKE BETWEEN FLOORS = APPROXIMATELY 12mm±
 - LONG TERM SETTLEMENT AT NAILER = 3mm
- ALL STRUCTURES ARE ALSO SUBJECT TO CONSTRUCTION TOLERANCES AND SHOULD BE ALLOWED FOR IN DETAILING NON-STRUCTURAL COMPONENTS IN ADDITION TO THE ABOVE MOVEMENTS.

CONTRACTOR NOTE

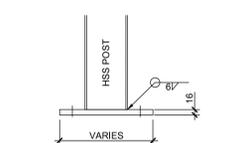
THESE DRAWINGS IDENTIFY STRUCTURAL FRAMING DETAILS ONLY AND DIMENSIONS SHOWN ON THIS PLAN ARE FOR REFERENCE ONLY. REFER TO THE ARCHITECTURAL PLANS PREPARED BY CAELIN CAMERON OF ARCTIC CANADA CONSTRUCTION, DATED JUNE 2021. FOR ALL DIMENSIONS, INSULATION, VAPOUR BARRIER, AIR BARRIER, AND DRAINAGE REQUIREMENTS PRIOR TO CONSTRUCTION. THIS DRAWING HAS BEEN DESIGNED TO PART 4 OF NBCC (2015) REPORT ALL DISCREPANCIES TO ENGINEER.

STRUCTURAL COMPOSITE LUMBER AND WOOD I JOISTS

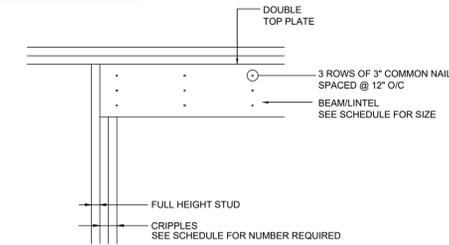
- STRUCTURAL COMPOSITE LUMBER (SCL) AND ALL OTHER STRUCTURAL COMPONENTS ARE TO BE DESIGNED AND FABRICATED IN ACCORDANCE WITH PART 4 OF THE NATIONAL BUILDING CODE OF CANADA (2015), CSA806.1, TPIC PROCEDURES AND LOCAL BYLAWS.
- ALL ROOF SUPPORTING COMPONENTS ARE TO BE DESIGNED FOR BALANCED AND UNBALANCED LOAD CONDITIONS, INCLUDING SNOW DRIFTING, AS PER THE NATIONAL BUILDING CODE OF CANADA (2015) AND NBC STRUCTURAL COMMENTARIES.
- DEFLECTION CRITERIA FOR ALL STRUCTURAL COMPOSITE LUMBER AND WOOD I-JOISTS PRODUCTS TO BE AS FOLLOWS:
 - MAXIMUM LIVE LOAD DEFLECTION IS TO BE L/360
 - MAXIMUM TOTAL LOAD DEFLECTION IS TO BE L/180
- THE STRUCTURAL COMPOSITE LUMBER (SCL) AND WOOD I-JOIST MANUFACTURER IS TO SUBMIT SHOP DRAWINGS, DESIGN RUNS AND LAYOUT PLANS INCLUDING: MEMBER LAYOUT, SIZE, SPACING AND CONNECTION DETAILS INCLUDING WEB STIFFENERS, BRACING SYSTEM, BLOCKING REQUIREMENTS, LIVE LOAD AND TOTAL LOAD DEFLECTIONS, BEARING REQUIREMENTS, BEARING ATTACHMENT, LAMINATION METHODS FOR MULTIPLE PLY MEMBERS, HANGER SCHEDULE, LOAD TRANSFER DETAILS AND INSTALLATION PROCEDURE.
- THE SHOP DRAWINGS AND CALCULATION SHEETS ARE TO INCLUDE: DESIGN LOADS, MEMBER LAYOUT, SIZE, SPACING, STRESSES AND CONNECTION DETAILS INCLUDING WEB STIFFENERS, BRACING SYSTEM, BLOCKING REQUIREMENTS, LIVE LOAD AND TOTAL LOAD DEFLECTIONS, BEARING REQUIREMENTS, BEARING ATTACHMENT, LAMINATION METHODS FOR MULTIPLE PLY MEMBERS, HANGER SCHEDULE, LOAD TRANSFER DETAILS AND INSTALLATION PROCEDURE.
- THE DRAWINGS ARE TO BE SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN YUKON CERTIFYING SUPPLIED SCL AND I-JOISTS ARE CORRECT FOR SPECIFIED DESIGN LOADS AND THAT THE I-JOISTS AND COMPOSITE LUMBER CONFORM TO N.B.C. AND C.S.A. STANDARDS.
- THE SCL-I-JOIST MANUFACTURER IS TO SUPPLY ALL CONNECTION HARDWARE AND TIE-DOWNS, AND TO PROVIDE BEARING DETAILS WHERE REQUIRED BEARING AREA EXCEEDS THE ACTUAL BEARING AREA AVAILABLE. ANY SPECIAL FASTENERS (OTHER THAN FASTENERS COMMONLY FOUND ON CONSTRUCTION SITES) TO BE SUPPLIED BY SCL-I-JOIST MANUFACTURER.
- GENERAL CONTRACTOR TO COORDINATE ALL MECHANICAL LOADS, DUCT OPENINGS, CURB SIZES, AND ROOF TOE UNIT LOCATIONS WITH THE SCL AND WOOD I-JOIST FABRICATOR AND MECHANICAL CONTRACTOR.
- FIELD DRILLING, CUTTING, NOTCHING OR OTHER MODIFICATIONS TO THE MEMBERS IS NOT PERMITTED WITHOUT THE PRIOR WRITTEN APPROVAL OF THE FABRICATOR'S SPECIALTY PROFESSIONAL ENGINEER. COPIES OF ANY MODIFICATION APPROVALS TO BE SUBMITTED TO PROJECT ENGINEER.
- STRUCTURAL COMPOSITE LUMBER IS TO CONFORM TO:
 - PARALLEL STRAND LUMBER (PSL) = 2.0E
 - LAMINATED VENER LUMBER (LVL) = 2.0E
 - LAMINATED STRAND LUMBER (LSL) = 1.3E, 1.5E, 1.7E AND 1.9E



1 38x140 BUILT UP POST NAILING PATTERN SCALE: 1:15



2 POST BASE PLATE DETAIL SCALE: 1:10



3 TYPICAL HEADER/CRIPPLE DETAIL SCALE: 1:15

STRUCTURAL DRAWING LIST

S	DESCRIPTION
S100	GENERAL NOTES
S201	FOOTING LAYOUT AND DETAILS
S202	SLAB SAWCUT LAYOUT AND DETAILS
S301	MAIN FLOOR BEAM LAYOUT AND DETAILS
S401	FLOOR JOISTS LAYOUT AND DETAILS
S501	ROOF FRAME LAYOUT AND DETAILS
S601	SHEAR WALL AND BUILT UP COLUMN LAYOUT
S602	SHEAR WALL DETAILS
S701	BUILDING SECTION



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ISSUED FOR 95% REVIEW	SW	03/03/2023
ISSUED FOR CONSTRUCTION	SW	24/04/2023

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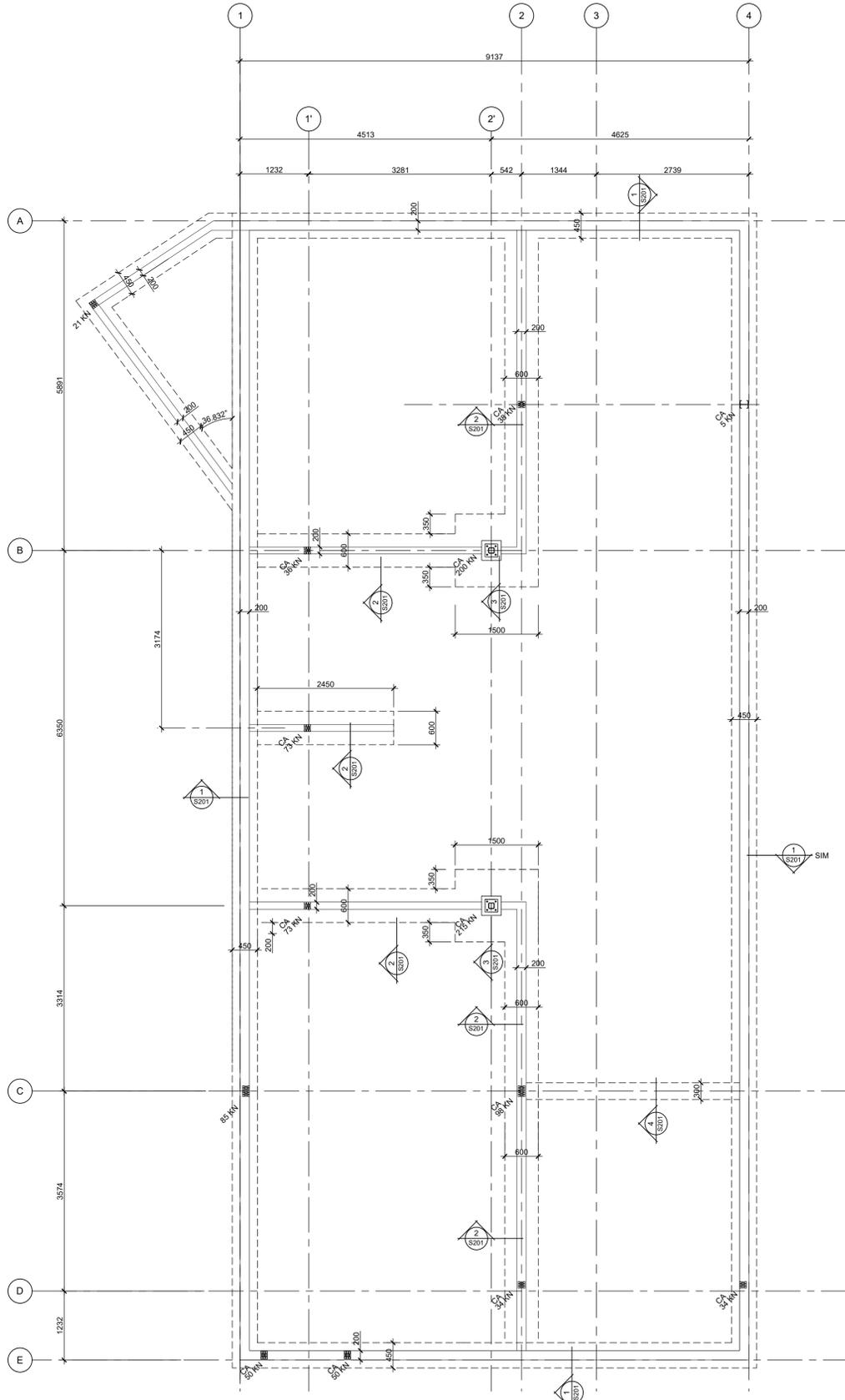
client
YUKON TEACHERS' ASSOCIATION HEAD OFFICE
LOT 38, BLOCK 316 - 151 BLACK ST.

approved by SW
designed by SW
drawn by SW
client ARCTIC CANADA CONSTRUCTION LTD.
drawing title
GENERAL NOTES

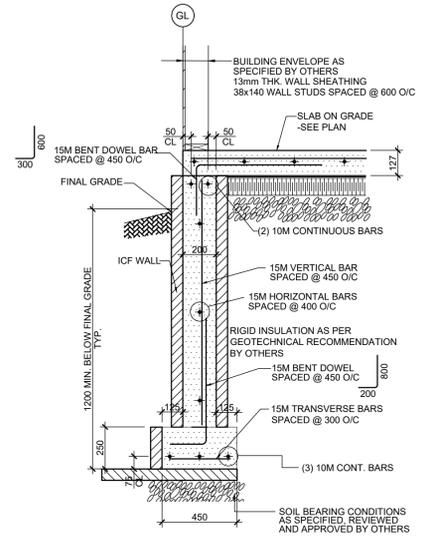
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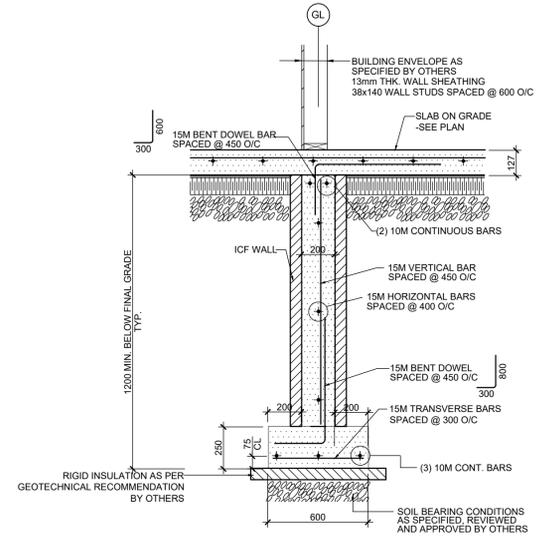
CONSTRUCTION NORTH



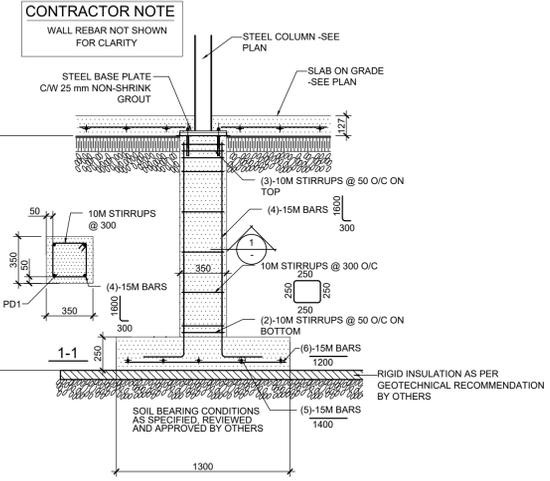
CA - COLUMN ABOVE
A FOOTING LAYOUT PLAN
SCALE: 1:50



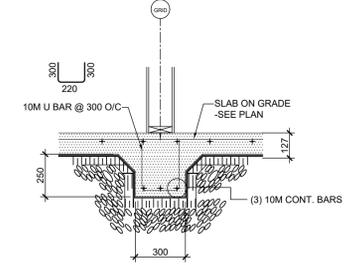
1 TYPICAL FOUNDATION WALL SECTION
SCALE: 1:20



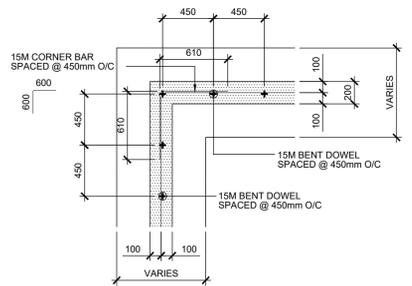
2 TYPICAL FOUNDATION INTERIOR WALL SECTION
SCALE: 1:20



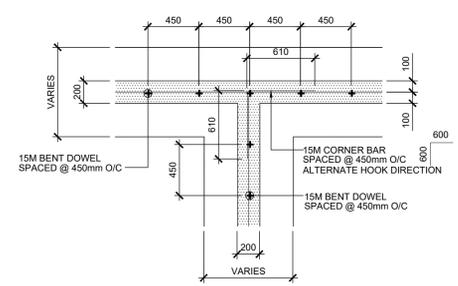
3 FOOTING SECTION AND PEDESTAL 1" PD1" DETAIL
SCALE: 1:25



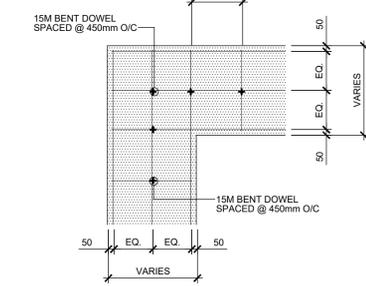
4 SHEAR WALL FOOTING DETAIL
SCALE: 1:25



5 FOUNDATION WALL CORNER DETAIL
SCALE: 1:30



6 INTERSECTING WALL DETAIL
SCALE: 1:30



7 FOOTING CORNER DETAIL
SCALE: 1:30



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ISSUED FOR 95% REVIEW	SW	03/03/2023
ISSUED FOR CONSTRUCTION	SW	24/04/2023

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project title
YUKON TEACHERS' ASSOCIATION HEAD OFFICE LOT 38, BLOCK 316 - 151 BLACK ST.

approved by SW
designed by SW
drawn by SW

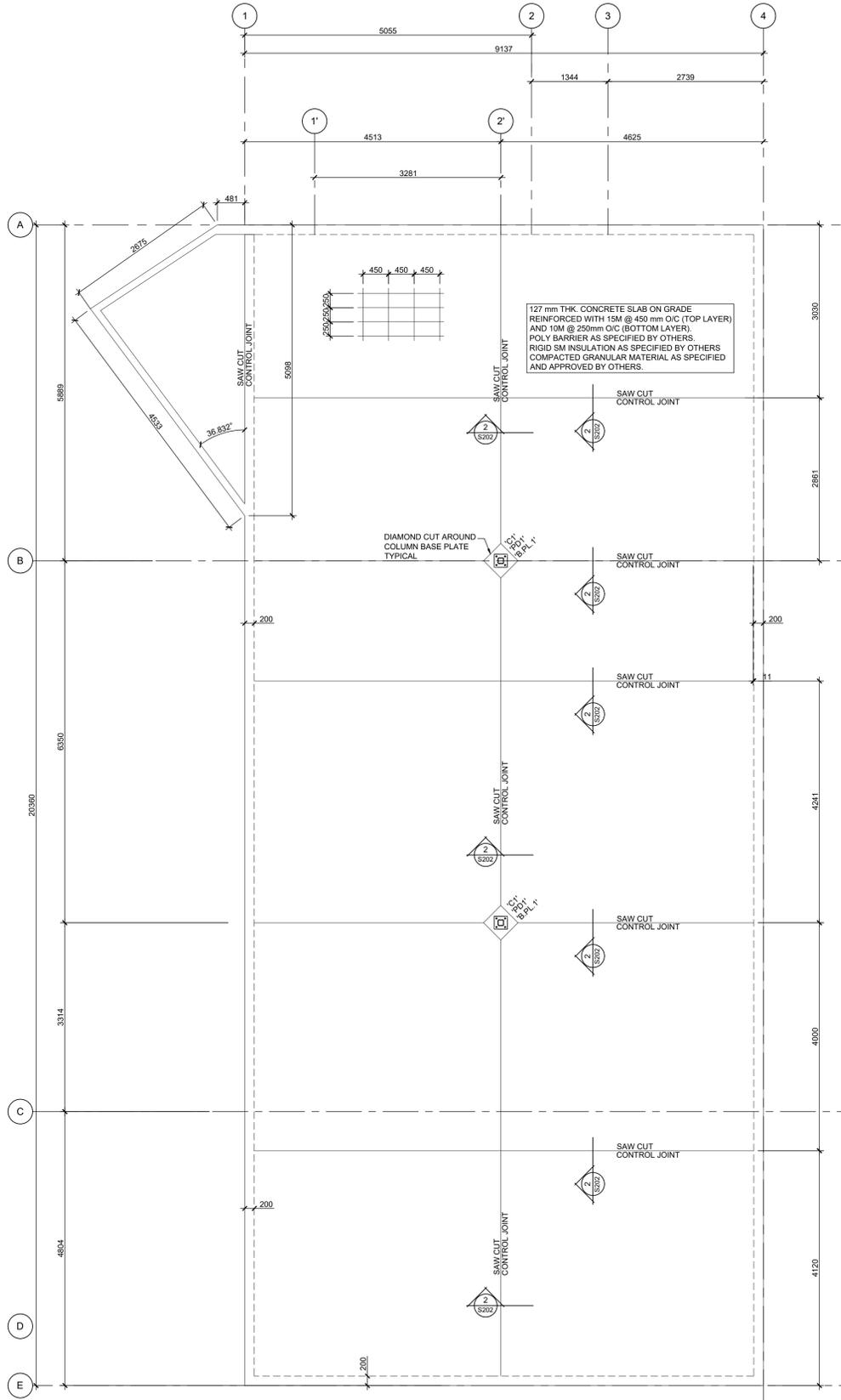
client ARCTIC CANADA CONSTRUCTION LTD.

drawing title
FOOTING LAYOUT AND DETAILS

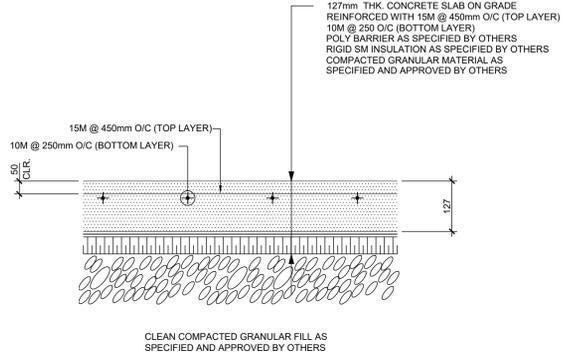
project no.	sheet	revision no.
21-100	S201	0



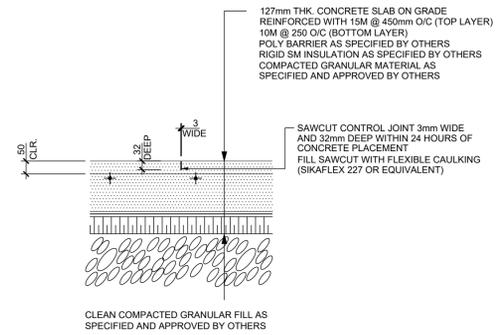
CONSTRUCTION
NORTH



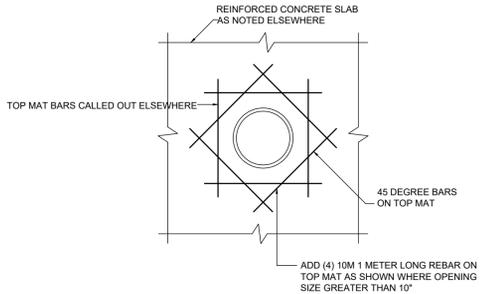
FOOTING LAYOUT PLAN
SCALE: 1:50



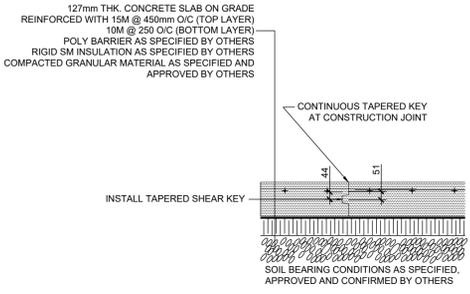
TYPICAL CONCRETE SLAB SECTION
SCALE: 1:10



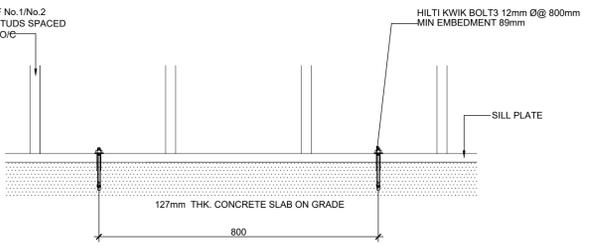
SAWCUT CONTROL JOINT DETAIL
SCALE: 1:10



TYPICAL SLAB OPENING DETAIL
N.T.C.



CONSTRUCTION JOINT DETAIL
SCALE: 1:20



SILL PLATE ANCHER DETAIL
SCALE: 1:15

BASE PLATE DETAIL B.PL.1
19mm THICK BASE PLATE C/W 4-19mm Ø A. BOLTS DRILLED AND EPOXIED USING HILTI HIT HY200 ADHESIVE. PROVIDE MIN. 150mm EMBEDMENT ON 25mm NON-SHRINK GROUT. BASE PLATE HOLE DIAMETER 6mm GREATER THAN ANCHOR ROD DIAMETER.

PEDESTAL SCHEDULE	
TYPE	DETAIL NUMBER
PEDESTAL "PD1"	SEE DETAIL (3)

STEEL COLUMN SCHEDULE		
TYPE	DESCRIPTION	COMMENTS
C1	HSS 127x127x6.4	350W OR A500 STEEL



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client

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YUKON TEACHERS' ASSOCIATION HEAD OFFICE LOT 38, BLOCK 316 - 151 BLACK ST.

approved by SW

designed by SW

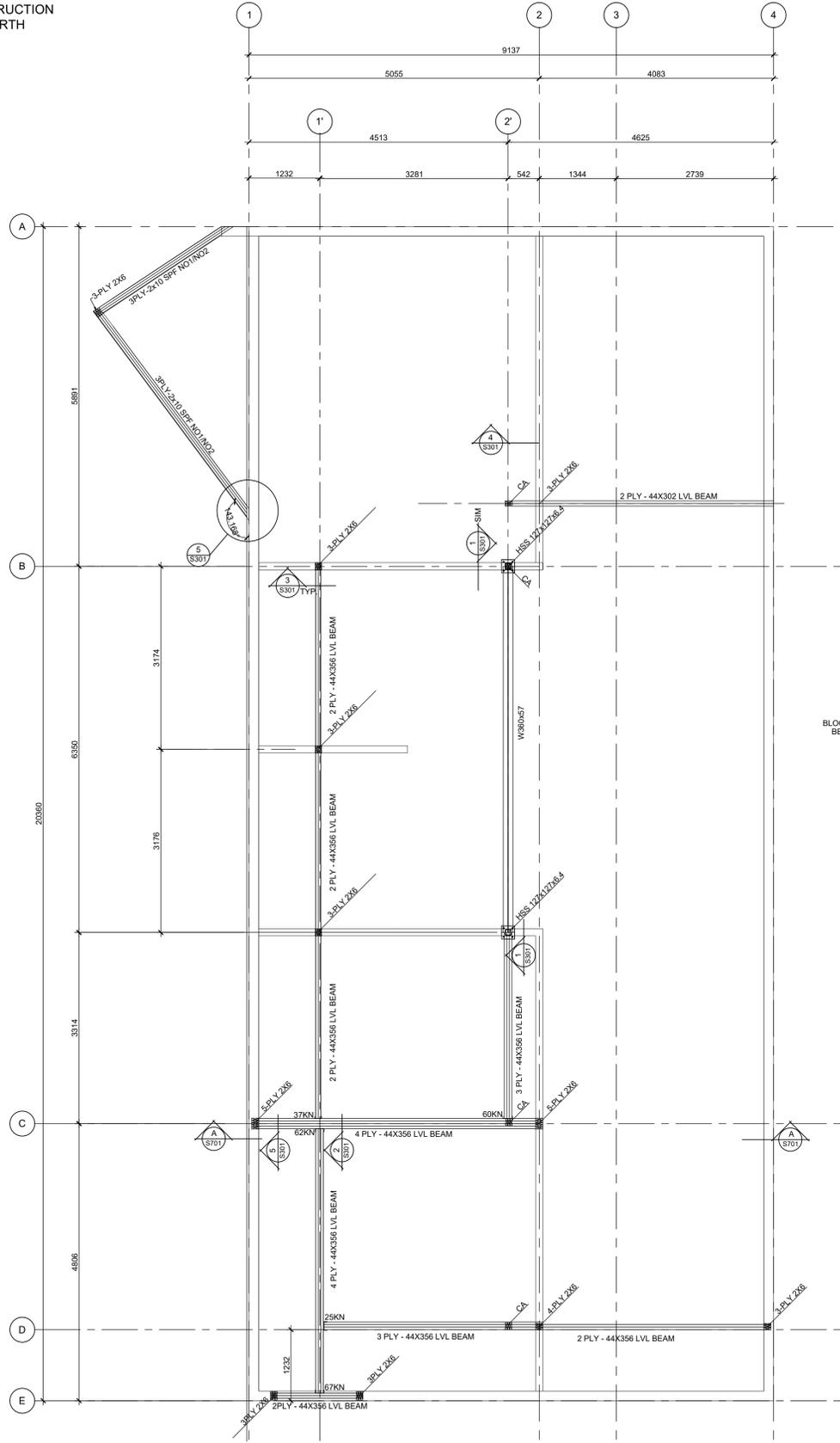
drawn by SW

client ARCTIC CANADA CONSTRUCTION LTD.

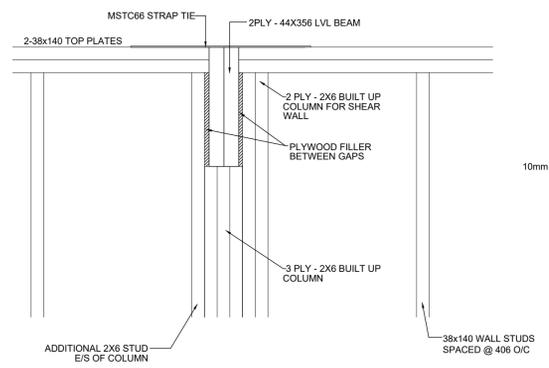
drawing title

SLAB SAWCUT LAYOUT AND DETAILS

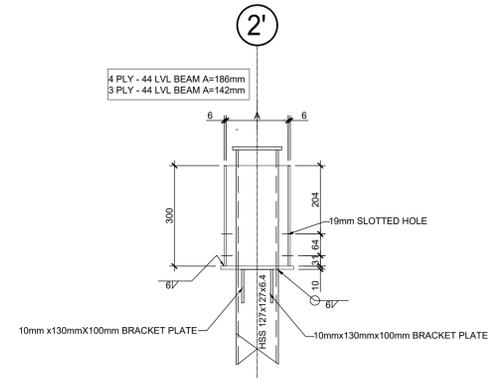
project no.	sheet	revision no.
21-100	S202	B



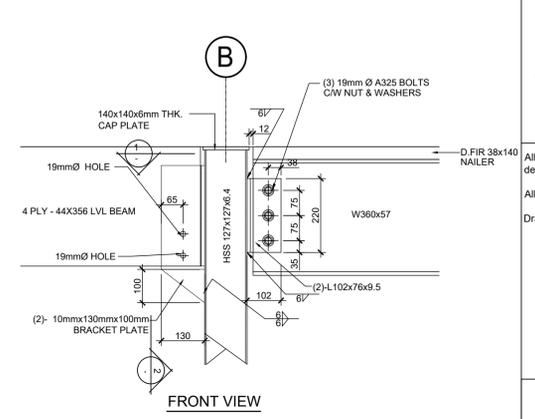
CA - COLUMN ABOVE
MAIN FLOOR BEAM LAYOUT PLAN
 SCALE: 1:50



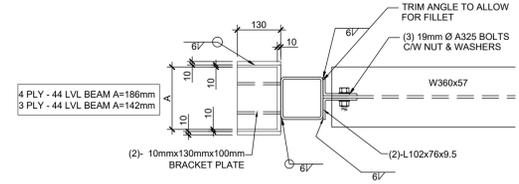
3 PARTIAL SECTION
 SCALE: 1:10



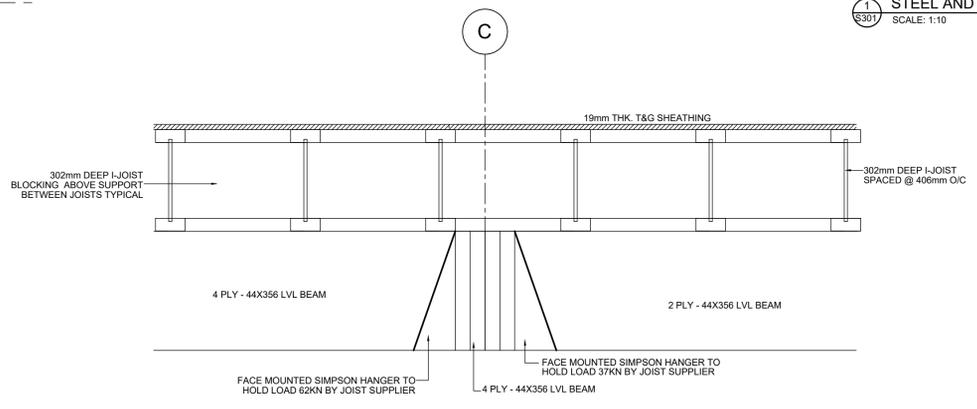
SIDE VIEW 2-2



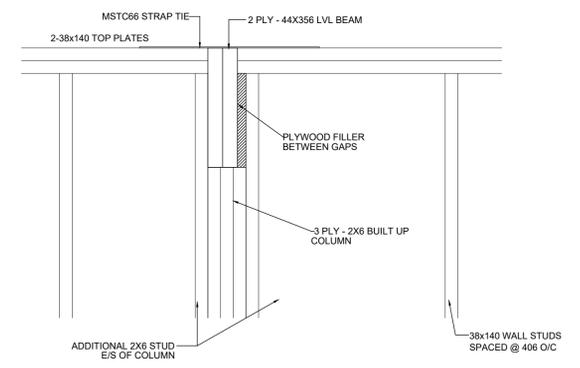
FRONT VIEW



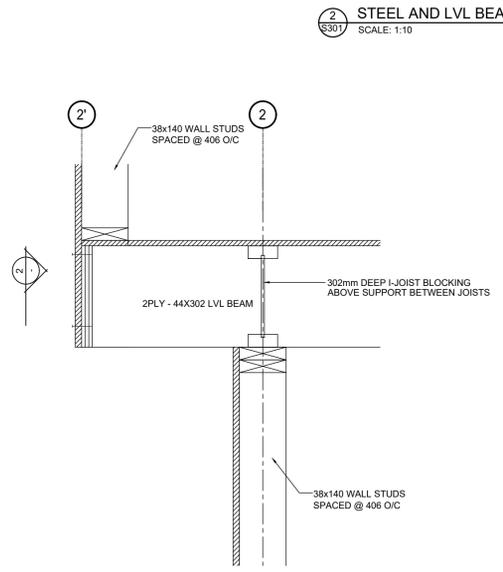
PLAN 1-1



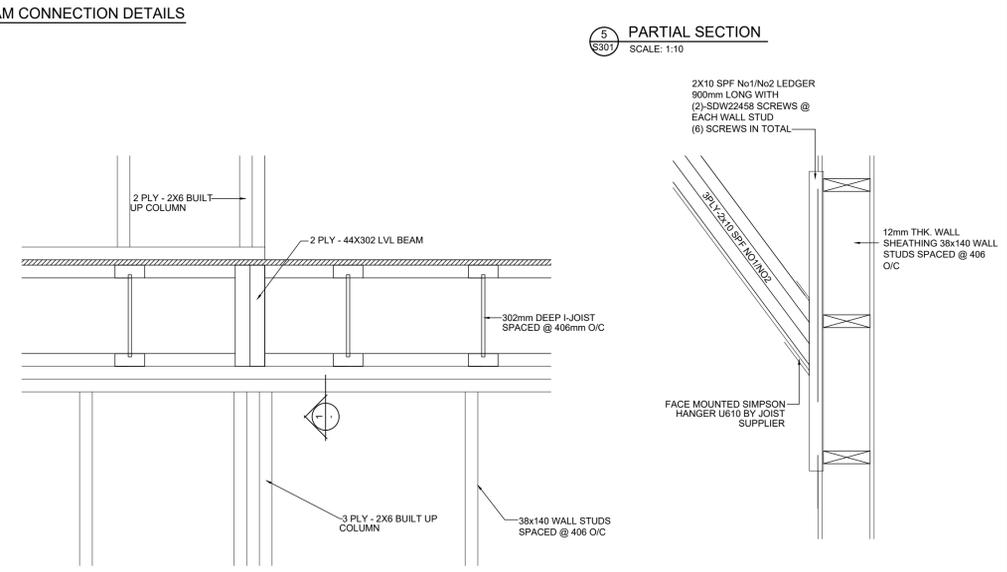
1 STEEL AND LVL BEAM CONNECTION DETAILS
 SCALE: 1:10



2 PARTIAL SECTION
 SCALE: 1:10



SECTION 1-1



SECTION 2-2

4 PARTIAL SECTION
 SCALE: 1:10

5 PARTIAL SECTION
 SCALE: 1:10



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client
YUKON TEACHERS' ASSOCIATION HEAD OFFICE
 LOT 38, BLOCK 316 - 151 BLACK ST.

approved by SW
 designed by SW
 drawn by SW

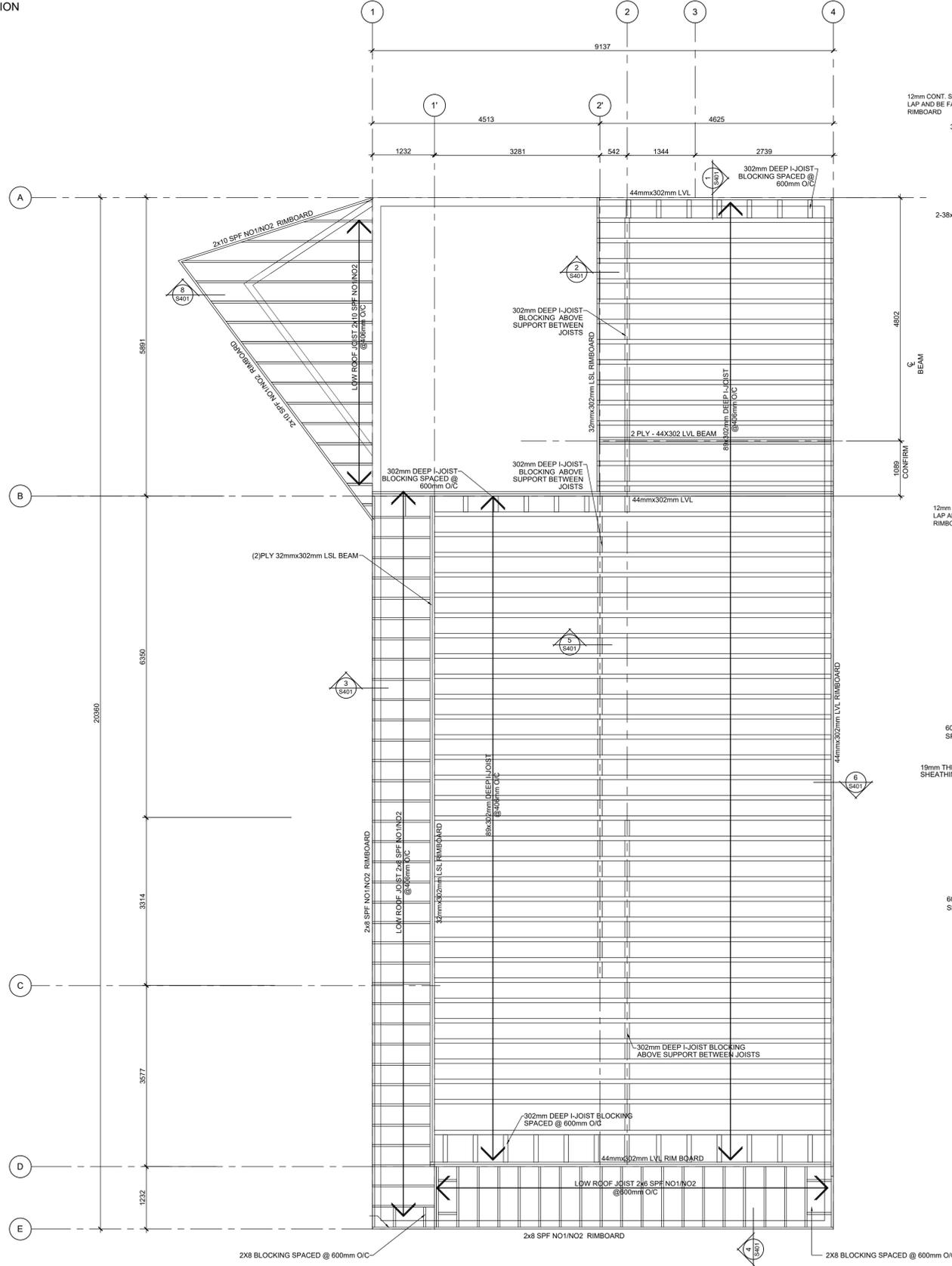
client ARCTIC CANADA CONSTRUCTION LTD.
 drawing title

MAIN FLOOR BEAM LAYOUT AND DETAILS

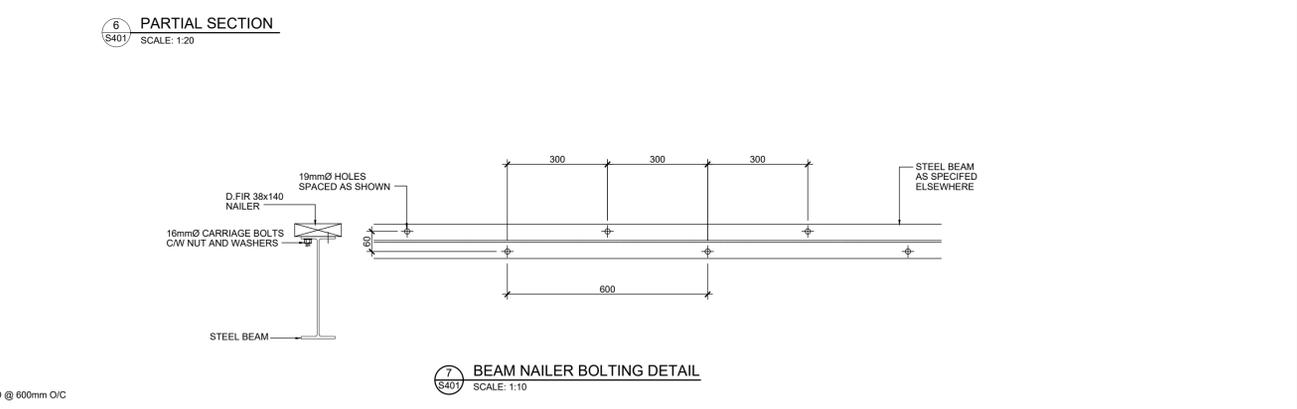
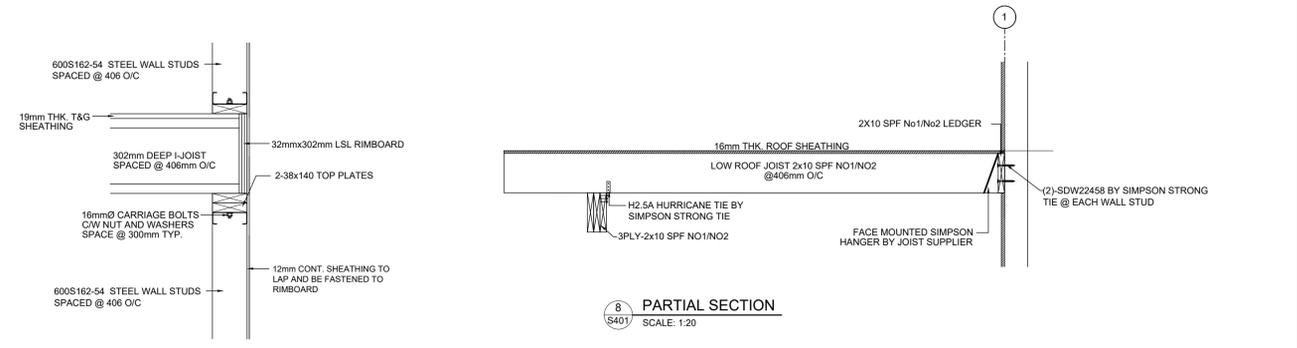
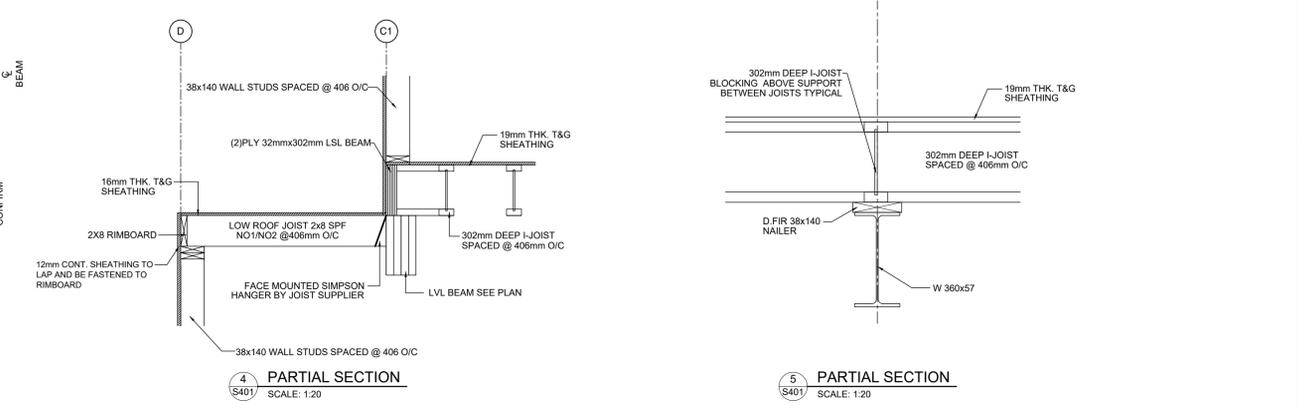
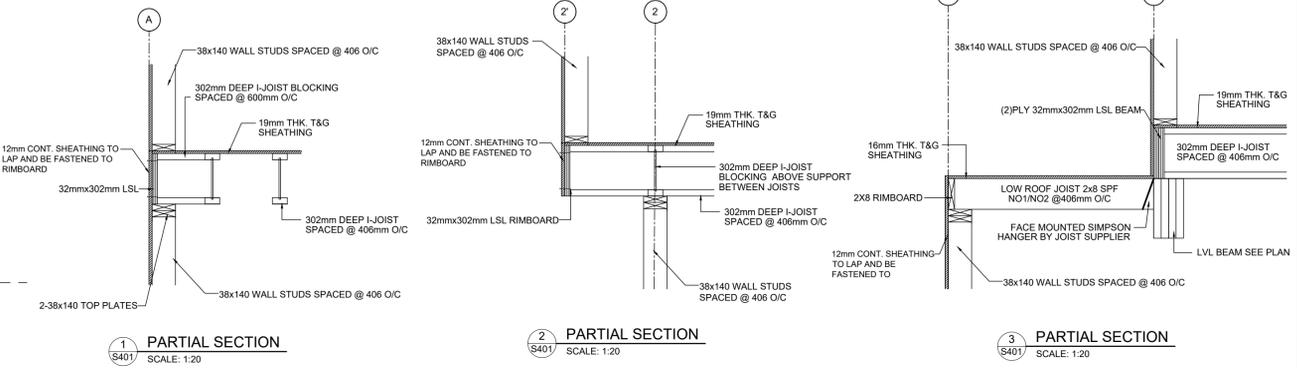
project no.	sheet	revision no.
21-100	S301	0



CONSTRUCTION
NORTH



SECOND FLOOR JOIST PLAN
SCALE: 1:50



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Association des professionnels de l'éducation du Yukon

McElhanney

1800 Willowbrook Drive
Cranbrook, BC
Canada V1C 7H9
Tel (250) 489-3013

PROJECT NUMBER:
2441-01196-00

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ISSUED FOR 95% REVIEW	SW	03/03/2023
ISSUED FOR CONSTRUCTION	SW	24/04/2023

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client

project title

YUKON TEACHERS' ASSOCIATION HEAD OFFICE
LOT 38, BLOCK 316 - 151 BLACK ST.

approved by SW

designed by SW

drawn by SW

client ARCTIC CANADA CONSTRUCTION LTD.

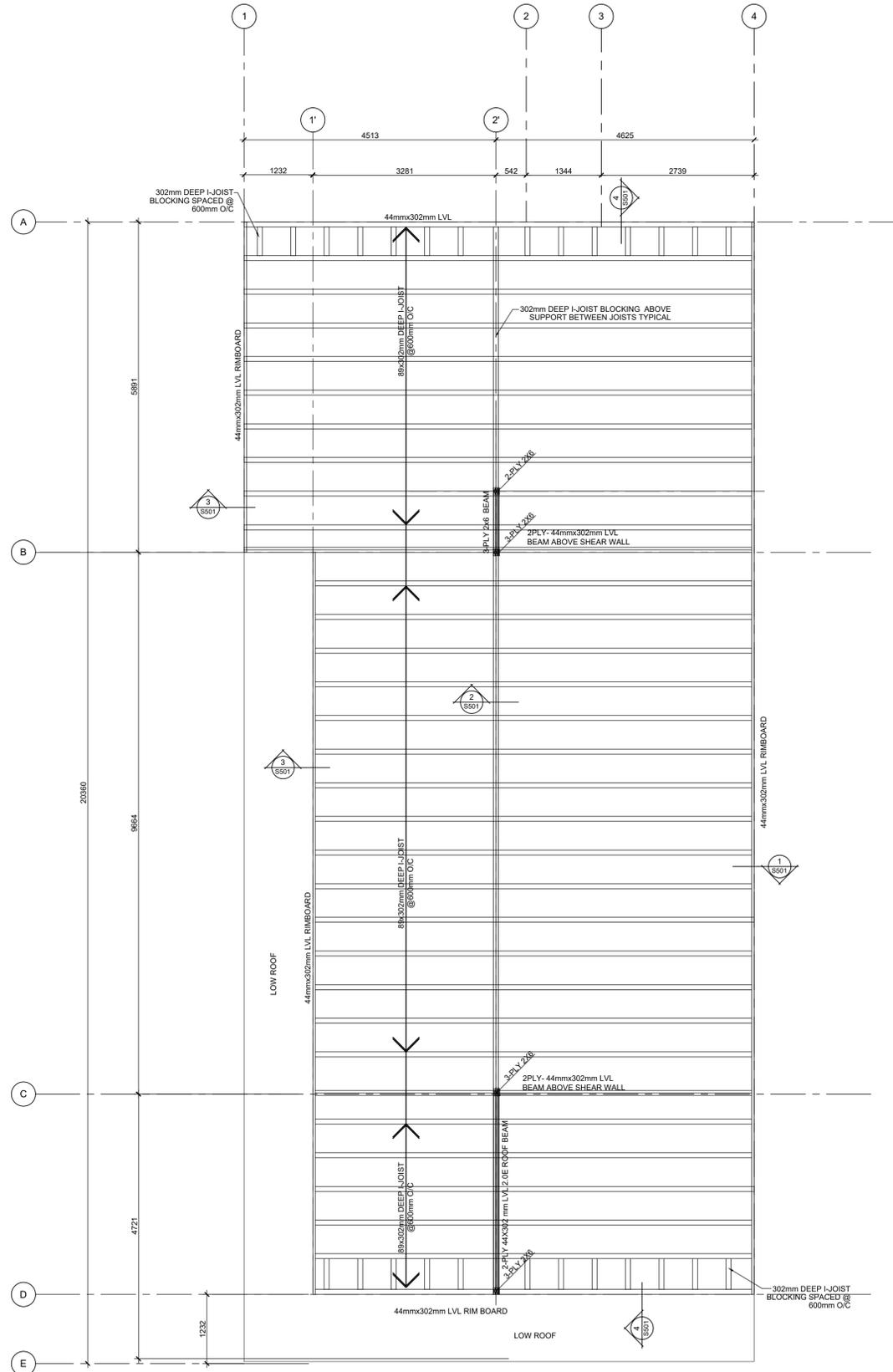
drawing title

FLOOR JOISTS LAYOUT AND DETAILS

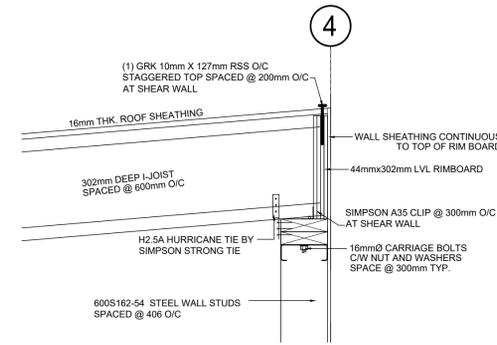
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21-100	S401	0



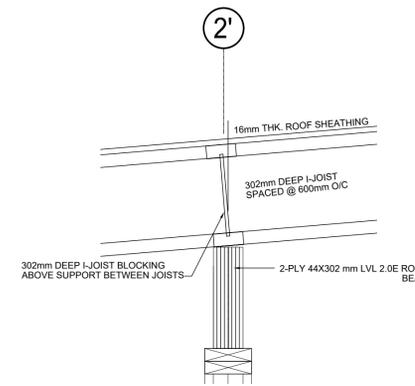
CONSTRUCTION
NORTH



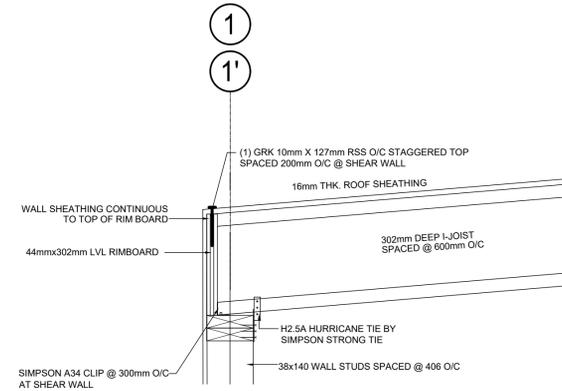
ROOF FRAMING PLAN
SCALE: 1:50



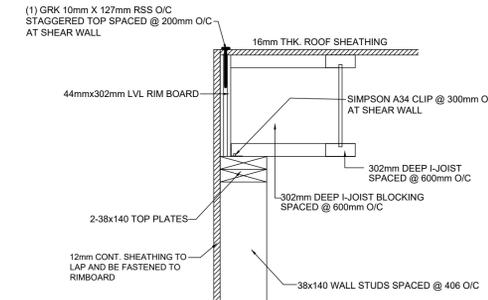
PARTIAL SECTION 1
SCALE: 1:10



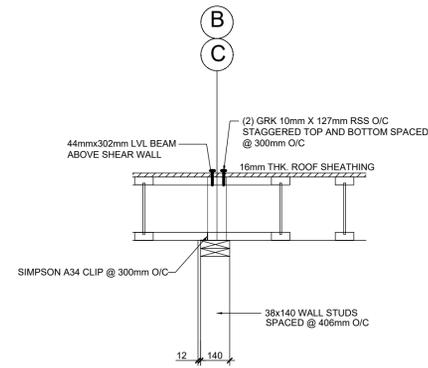
PARTIAL SECTION 2
SCALE: 1:10



PARTIAL SECTION 3
SCALE: 1:10



PARTIAL SECTION 4
SCALE: 1:20



TYPICAL INTERIOR ROOF SHEAR WALL DETAIL
SCALE: 1:16



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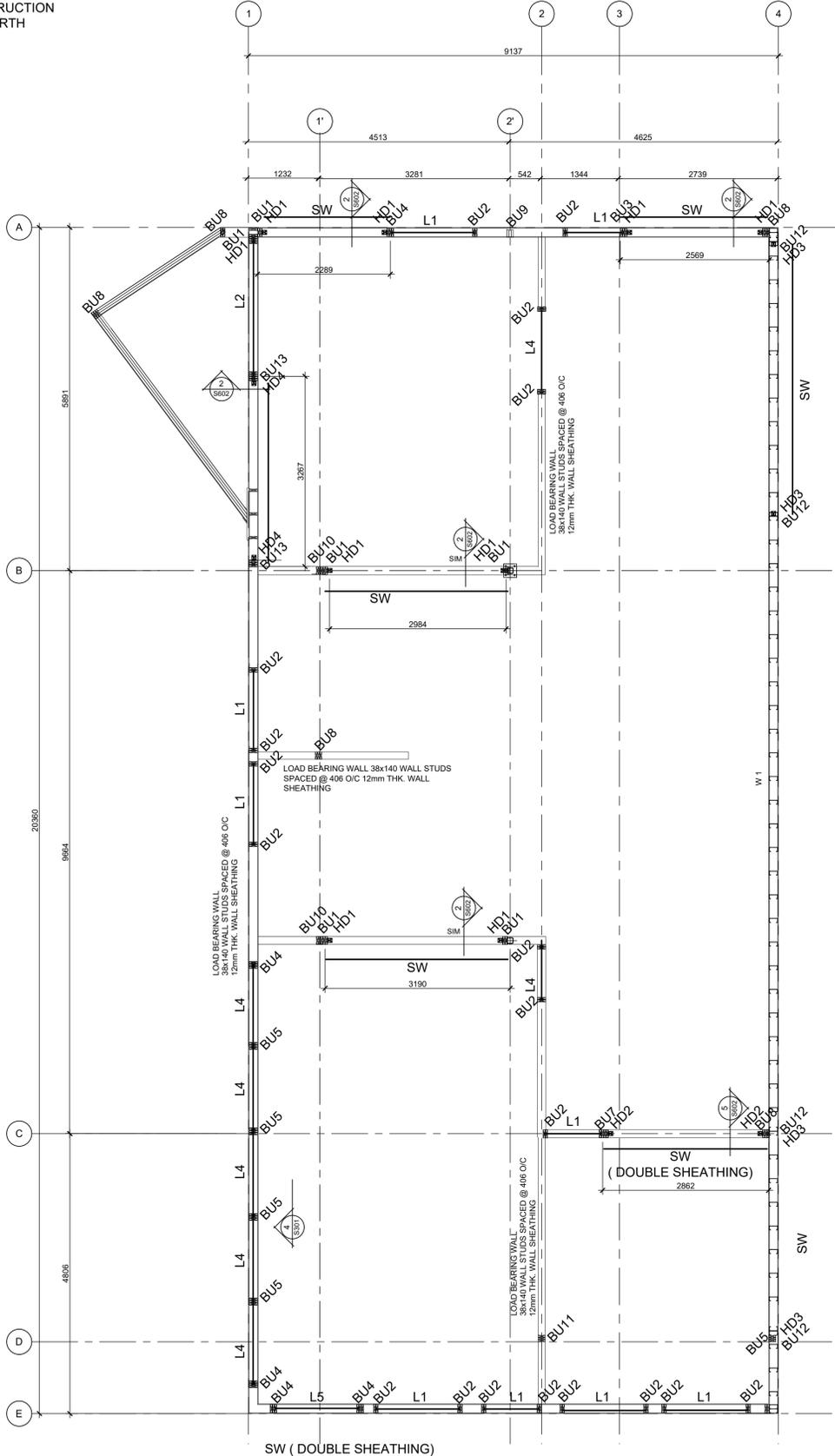
drawing title

ROOF FRAME LAYOUT AND DETAILS

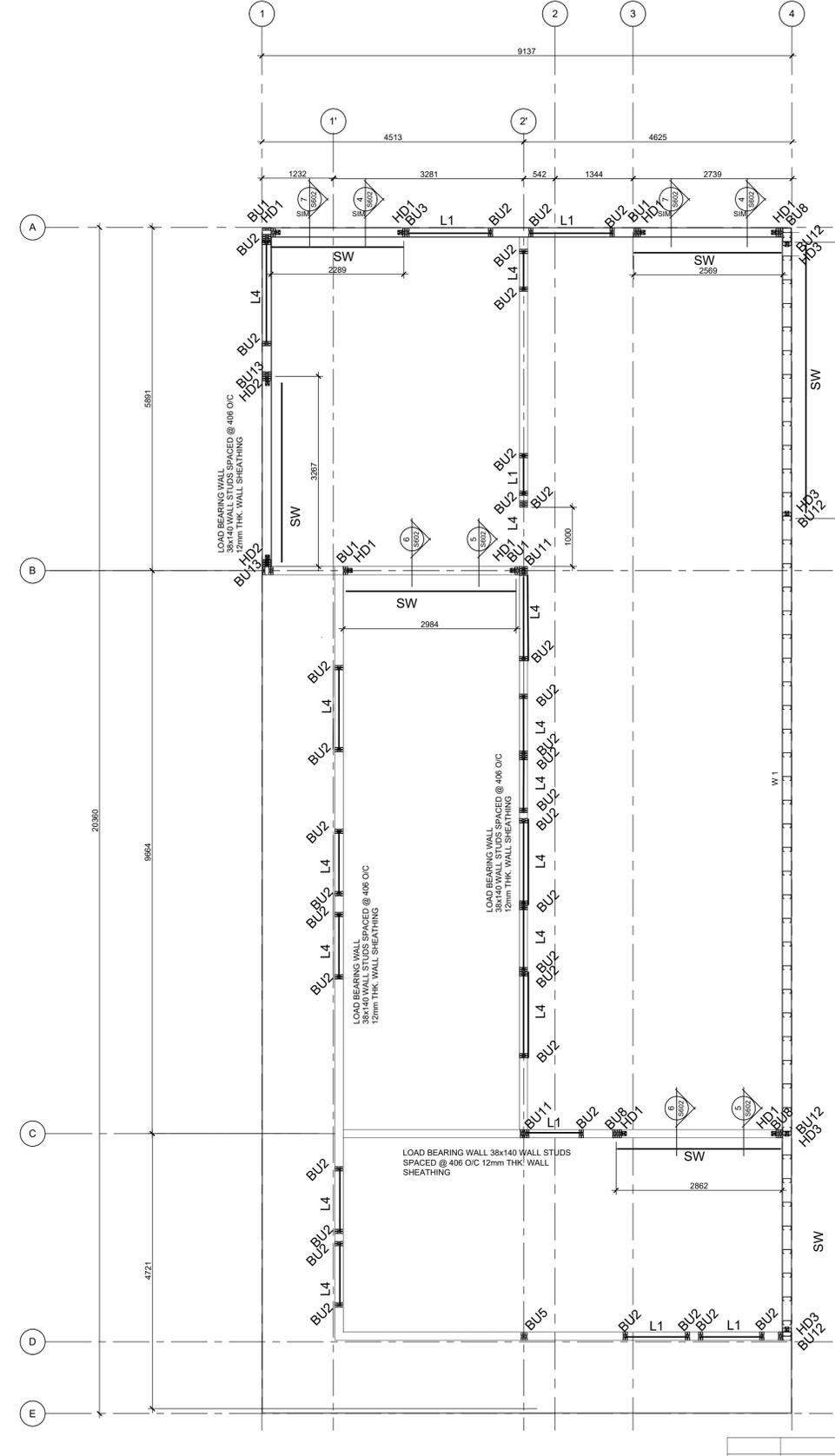
project no.	sheet	revision no.
21-100	S501	0



CONSTRUCTION
NORTH



MAIN FLOOR SHEAR WALL PLAN
SCALE: 1:50



SECOND FLOOR SHEAR WALL PLAN
SCALE: 1:50

SHEAR WALLS

- INSTALL SHEAR WALLS AT LOCATION SHOWN ON DRAWINGS AND DENOTED AS: SW
- HOLD-DOWN ANCHORS ARE TO BE SIMPSON STRONG TIE OR APPROVED EQUIVALENT AND ARE DENOTED ON DRAWINGS AS: SEE DETAIL
- INSTALL 12mm PLYWOOD SHEATHING PANELS FOR ALL SHEAR WALLS. OSB IS AN ACCEPTABLE ALTERNATIVE.
- ALL PANEL JOINTS IN SHEAR WALLS ARE TO BE BLOCKED BETWEEN WALL STUDS.
- SHEATHING PANEL NAILING PATTERNS ARE AS FOLLOWS:
 - PANEL EDGES = 64mm (2-1/2") x 3.25mmØ COMMON NAILS @ 75mm o/c
 - PANELS INTERIOR = 64mm (2-1/2") x 3.25mmØ COMMON NAILS @ 305mm o/c
 - STAPLES ARE NOT AN ACCEPTABLE SUBSTITUTION FOR SHEAR WALL NAILS
- NAIL GUNS MAY BE USED TO INSTALL NAILS, PROVIDED THE CORRECT TYPE, QUANTITY, LENGTH AND DIAMETER OF NAILS ARE PROPERLY INSTALLED. SEE MANUFACTURERS SPECIFICATIONS FOR COMMON NAIL EQUIVALENTS.

LIGHTWEIGHT STEEL FRAMING SHEAR WALLS

- LIGHT STEEL FRAMING (LSF) SHEAR WALL TO MEET THE REQUIREMENTS OF AISI S213 "NORTH AMERICAN STANDARD FOR COLD-FORMED STEEL FRAMING - LATERAL DESIGN", AND CAN/CSA-S16-2016 "NORTH AMERICAN SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS".
- SHEATHING PANEL SCREW PATTERNS ARE AS FOLLOWS:
 - PANEL EDGES = #8 FRAMING SCREW @ 75mm o/c
 - PANELS INTERIOR = #8 FRAMING SCREW @ 305mm o/c
- FRAMING SCREWS SHALL BE A MINIMUM NO. 8 IN ACCORDANCE WITH ASTM C1513.
- FASTENERS ALONG THE EDGES IN SHEAR PANELS SHALL BE PLACED IN FROM PANEL EDGES NOT LESS THAN 12.5mm.
- PANELS LESS THAN 305 MM WIDE SHALL NOT BE USED.
- ALL SHEATHING EDGES SHALL BE ATTACHED TO FRAMING MEMBERS OR BLOCKING, WHERE USED AS BLOCKING, FLAT STRAPPING SHALL BE A MINIMUM THICKNESS OF 33 MILS WITH A MINIMUM WIDTH OF 38.1mm. THE SCREWS SHALL BE INSTALLED THROUGH THE SHEATHING TO THE BLOCKING.

LINTEL SCHEDULE	
BEAM TYPE	DESCRIPTION
L1	(3) PLY 38x140 SPF No.1/No.2 BUILT-UP LINTEL
L2	(3) PLY 38x286 SPF No.1/No.2 BUILT-UP LINTEL
L3	(2) PLY 38x286 SPF No.1/No.2 BUILT-UP LINTEL
L4	(3) PLY 38x184 SPF No.1/No.2 BUILT-UP LINTEL
L5	(2) PLY 44x356 LVL 2.0E BUILT-UP LINTEL

BUILT-UP POST SCHEDULE	
POST TYPE	DESCRIPTION
BU1	38x140 SPF No.1/No.2, (2) FULL HEIGHT
BU2	38x140 SPF No.1/No.2, (1) CRIPPLES, (1) FULL HEIGHT
BU3	38x140 SPF No.1/No.2, (1) CRIPPLES, (2) FULL HEIGHT
BU4	38x140 SPF No.1/No.2, (2) CRIPPLES, (1) FULL HEIGHT
BU5	38x140 SPF No.1/No.2, (3) CRIPPLES
BU6	38x140 SPF No.1/No.2, (2) CRIPPLES, (2) FULL HEIGHT
BU7	38x140 SPF No.1/No.2, (1) CRIPPLES, (3) FULL HEIGHT
BU8	38x140 SPF No.1/No.2, (3) FULL HEIGHT
BU9	44x140 LVL 2.0E, (4) CRIPPLES
BU10	89x140 LVL 2.0E, (3) CRIPPLES
BU11	38x140 SPF No.1/No.2, (4) CRIPPLES
BU12	(2) STEEL STUD 800S162-54 BACK TO BACK
BU13	38x140 SPF No.1/No.2, (5) FULL HEIGHT

STEEL STUD WALL SCHEDULE		
TYPE	WALL FRAMING	REMARKS
WALL "W1"	STEEL STUD: 800S162-54 @ 406 O/C BOTTOM TRACK: 800T125-54 TOP SLOT TRACK: (BAILEY MST 250 -54)	MAXIMUM BRIDGING SPACE 1500mm

HOLD-DOWN/STRAP TIE SCHEDULE					
ITEM	MODEL	Ga	ANCHOR BOLT DIA.	FASTENERS	MIN. STUDS MANUFACTURER
HD1	HDU5-SDS2.5	14	(16mm)	(14) SDS 1/4"x2 1/2"	2 SIMPSON STRONG-TIE
HD2	HDU8-SDS2.5	10	(22mm)	(20) SDS 1/4"x2 1/2"	3 SIMPSON STRONG-TIE
HD3	S/HDU4		(16mm)	(6) #14 SCREWS	2 SIMPSON STRONG-TIE
HD4	HDU11-SDS2.5	10	(25mm)	(30) SDS 1/4"x2 1/2"	5 SIMPSON STRONG-TIE



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client

project title
YUKON TEACHERS' ASSOCIATION HEAD OFFICE LOT 38, BLOCK 316 - 151 BLACK ST.

approved by SW

designed by SW

drawn by SW

client ARCTIC CANADA CONSTRUCTION LTD.

drawing title

SHEAR WALL AND BUILT UP COLUMN LAYOUT

project no.	sheet	revision no.
21-100	S601	0

DESCRIPTION	INITIALS	DD/MM/YYYY
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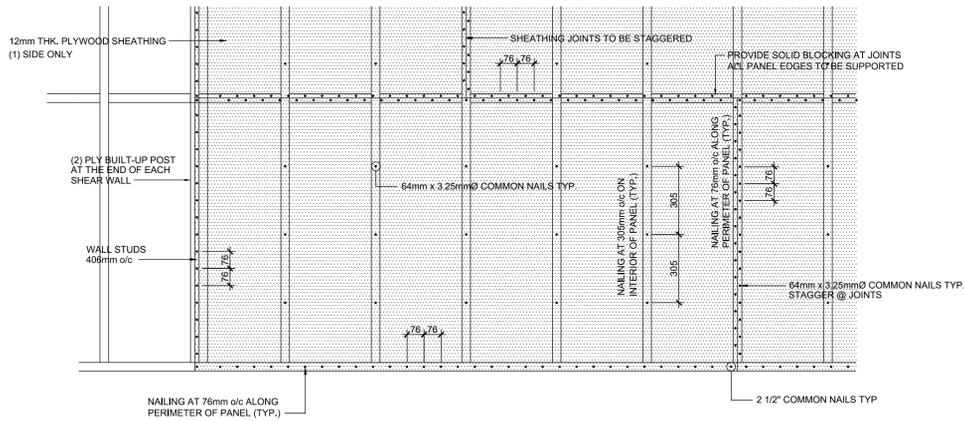
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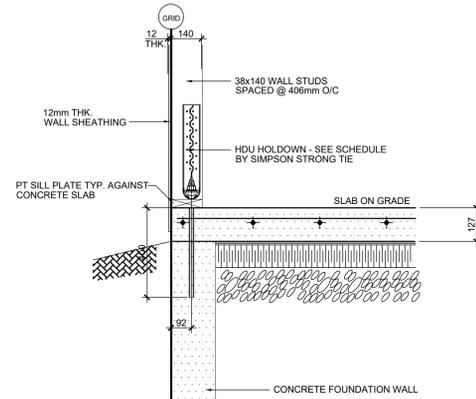
drawing title

SHEAR WALL DETAILS

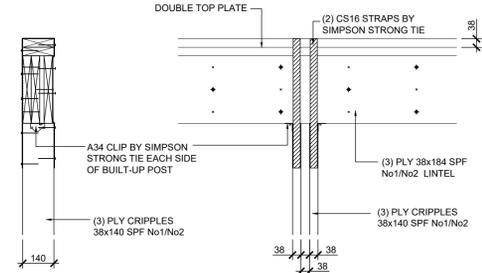
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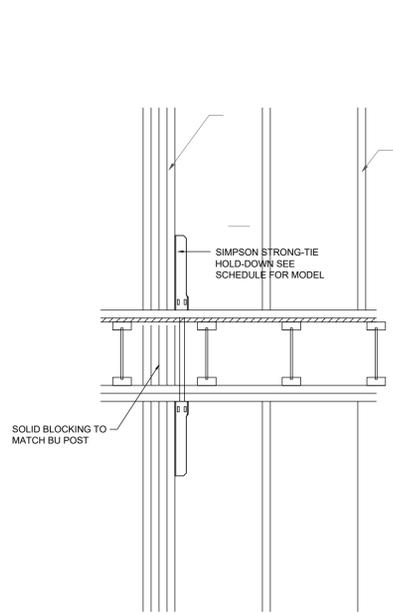
1 TYPICAL SHEAR WALL NAILING PATTERN
SCALE: 1:15



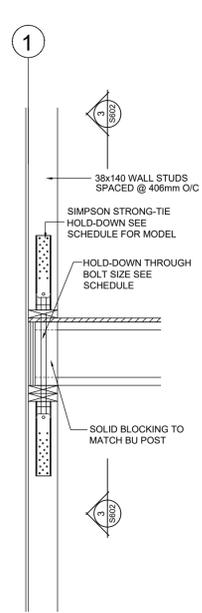
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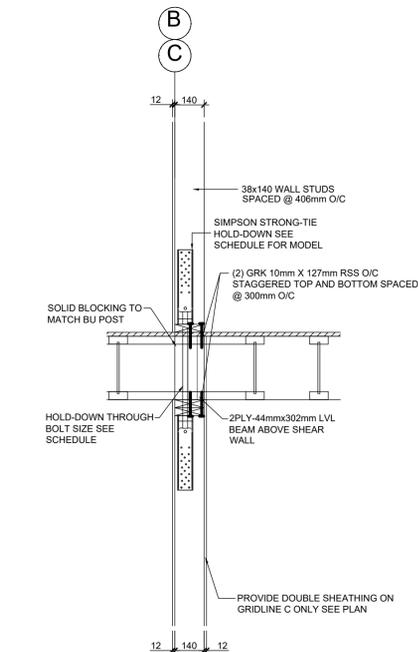
5 TYPICAL BU5 DETAIL
SCALE: 1:15



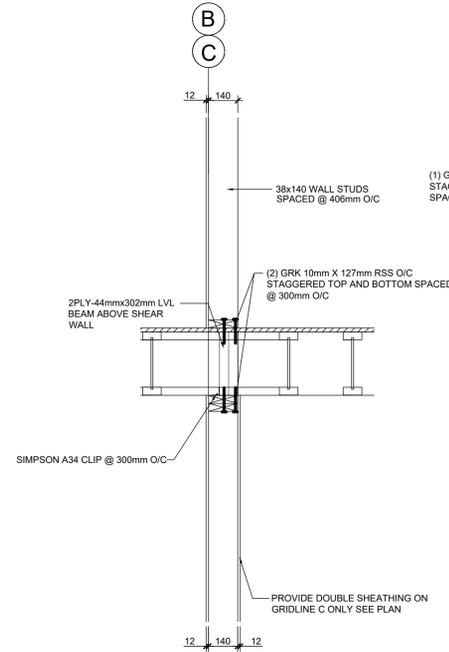
3 EXTERIOR WALL HOLD DOWN DETAIL
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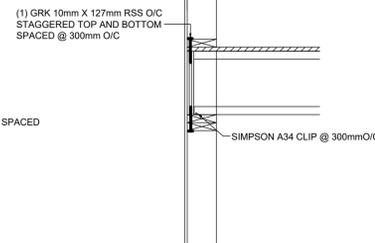
4 HOLD-DOWN DETAIL
SCALE: 1:16



5 TYPICAL INTERIOR SHEAR WALL HOLD DOWN DETAIL
SCALE: 1:16



6 TYPICAL INTERIOR SHEAR WALL DETAIL
SCALE: 1:16



7 TYPICAL INTERIOR SHEAR WALL DETAIL
SCALE: 1:16



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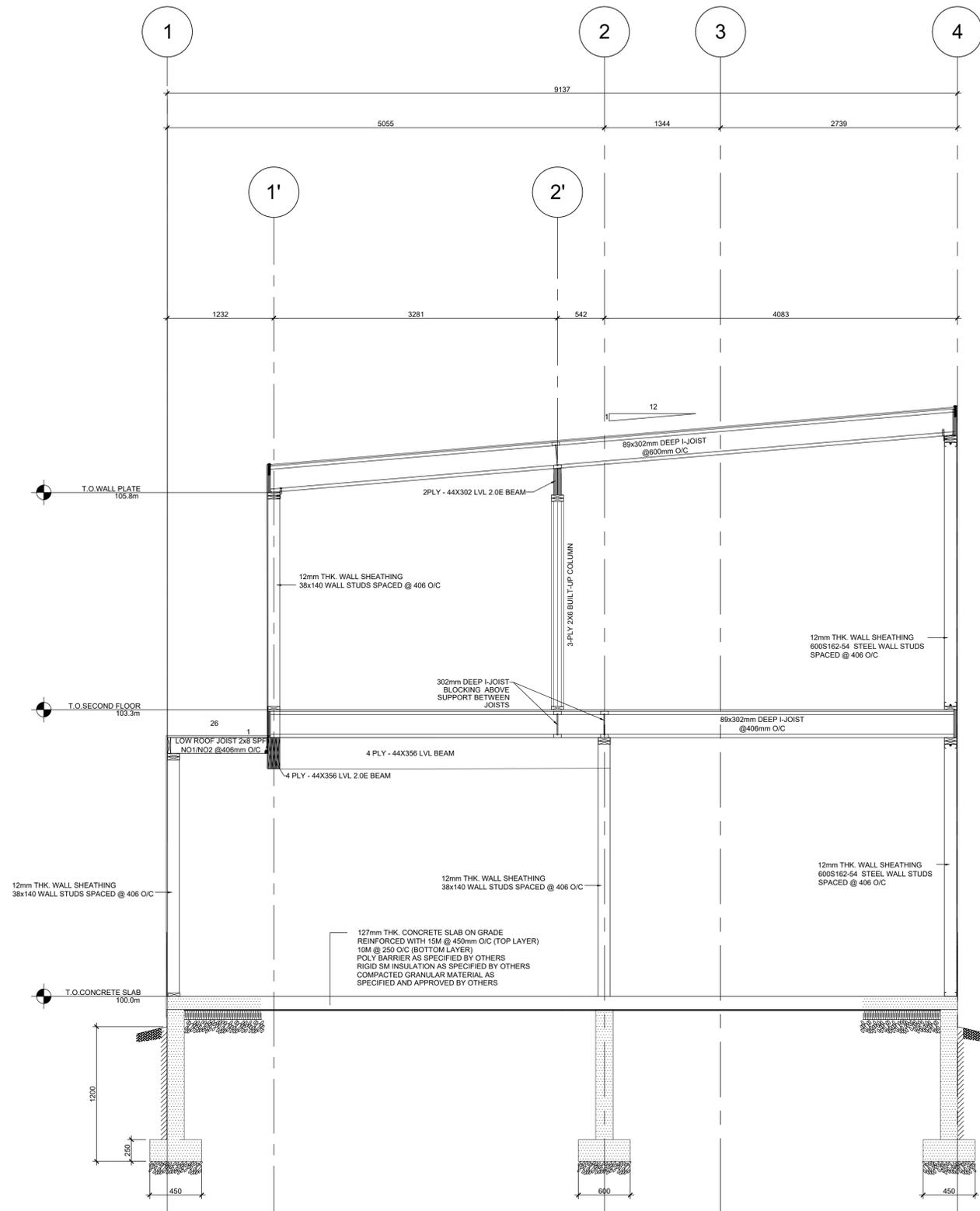
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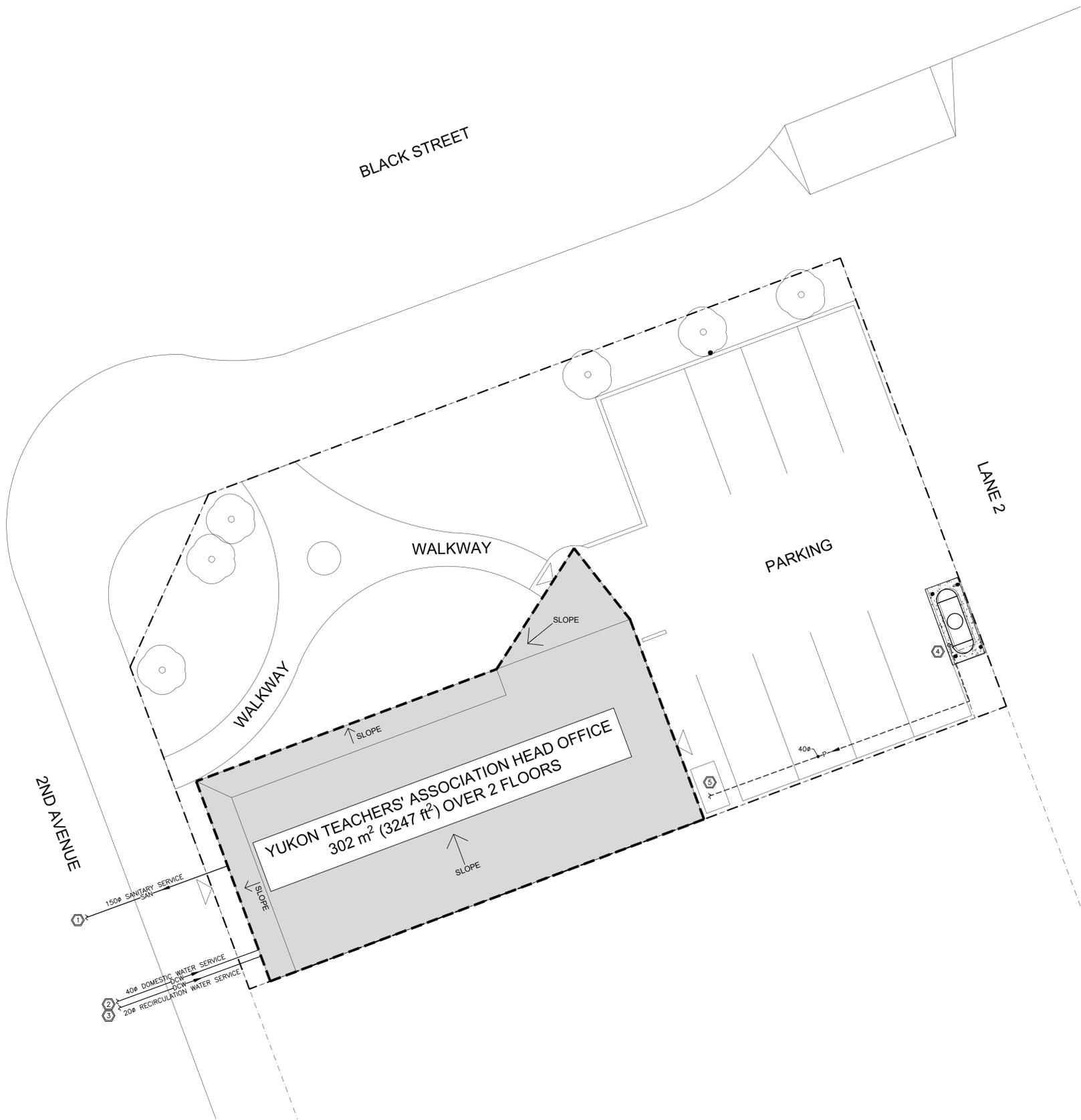
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drawing title
BUILDING SECTION

project no.	sheet	revision no.
21-100	S701	0



A BUILDING SECTION
SCALE: 1:30



KEY NOTES	
①	150# SANITARY SERVICE. REFER TO CIVIL DRAWINGS BY OTHERS.
②	40# DOMESTIC WATER SERVICE. REFER TO CIVIL DRAWINGS BY OTHERS.
③	20# RECIRCULATION WATER SERVICE. REFER TO CIVIL DRAWINGS BY OTHERS.
④	40# PROPANE LINE TO PROPANE STORAGE TANK, TANK AND UNDERGROUND LINE TO BE SUPPLIED AND INSTALLED BY PROPANE SUPPLIER.
⑤	40# UNDERGROUND PROPANE LINE TO BUILDING. REFER TO DRAWING M200 FOR CONTINUATION.

DRAWING LEGEND	
M000	MECHANICAL SITE PLAN
M100	FOUNDATION PLAN
M200	PLUMBING PLANS
M300	VENTILATION PLANS
M400	ENLARGED MECHANICAL ROOM PLAN
M500	MECHANICAL SCHEDULES
M501	MECHANICAL SPECIFICATION

MECHANICAL LEGEND	
SYMBOL	DESCRIPTION
—SAN—	SANITARY DRAIN
—STW—	STORM DRAIN
---V---	VENT PIPE
—DCW—	DOMESTIC COLD WATER
—DHW—	DOMESTIC HOT WATER
—DHWR—	DOMESTIC HOT WATER RECIRC.
—P—	PROPANE
—HGS—	HEATING GLYCOL SUPPLY
—HGR—	HEATING GLYCOL RETURN
→	FLOW DIRECTION
↗	ELBOW RISING
↘	TAKE-OFF
↙	ELBOW DROPPING
⊥	SHUT-OFF VALVE
⊥	SHUT-OFF VALVE - VERTICAL MOUNT
⊥	FLOW BALANCING VALVE
⊥	CHECK VALVE
⊥	PLUG VALVE
⊥	2-WAY CONTROL VALVE
⊥	MECHANICAL PRESSURE REDUCING VALVE
⊥	RELIEF VALVE
⊥	UNION OR FLANGE
⊥	AUTOMATIC AIR VENT
⊥	STRAINER
⊥	CAP OR PLUG
⊥	PUMP
⊥ CO	CLEANOUT
⊥ HB	HOSE BIBB/COMPRESSED AIR OUTLET
⊥ FD	FLOOR DRAIN (PLAN)/FLOOR DRAIN (SCHEMATIC)
⊥ HD	HUB DRAIN/ROOF DRAIN
⊥	REDUCED PRESSURE BACKFLOW ASSEMBLY
⊥	SANITARY VENT CAP
⊥	P-TRAP
⊥	SUPPLY DUCT (UP AND DOWN)
⊥	RETURN DUCT (UP AND DOWN)
⊥	EXHAUST DUCT (UP AND DOWN)
⊥	OUTDOOR AIR DUCT (UP AND DOWN)
⊥	ROUND DUCT (UP AND DOWN)
⊥	FLEXIBLE DUCT CONNECTION
⊥	BALANCING DAMPER
⊥	MOTORIZED DAMPER
⊥	SUPPLY OUTLET (WALL TYPE)
⊥	RETURN OR EXHAUST INLET (WALL TYPE)
⊥	SQUARE DIFFUSER / ROUND DIFFUSER
⊥	FIRE DAMPER / SMOKE DAMPER / BACKDRAFT DAMPER
⊥	TURNING VANES
⊥	ACOUSTIC LINED DUCTWORK
⊥	NEW THERMOSTAT / THERMOSTAT C/W GUARD / HUMIDISTAT
⊥	SWITCH
⊥	FIRE EXTINGUISHER
⊥	PLUMBING FIXTURE TAG (TYPE NOTED)
⊥	EQUIPMENT NUMBER
⊥	AIR OUTLET OR INLET

PROPANE UTILITY SCHEDULE			
TAG	DESCRIPTION	PROPANE LOAD	
		MBH	(kW)
B-1	BOILER	400	(117)
B-2	BOILER	400	(117)
TOTAL		800	(234)

NOTES:
 1. PRIOR TO COMMENCING INSTALLATION WITHIN THE BUILDING, VERIFY THE LOCATION AND INVERT ELEVATIONS OF SERVICE LINES INCLUDING SANITARY SEWER, STORM SEWER, WATER MAINS, AND PROPANE MAINS WITH AUTHORITIES HAVING JURISDICTION TO ENSURE SERVICES CAN BE INSTALLED AS SHOWN.
 2. MINIMUM DISTANCE BETWEEN PROPANE LINE AND UNDERGROUND SERVICES: 6"-6" (200mm).
 MAXIMUM DISTANCE BETWEEN INCOMING PROPANE LINE ABOVE MECHANICAL ROOM FLOOR: 6" (150mm)

1 M000 MECHANICAL SITE PLAN SCALE: 1:100

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 Association des professionnels de l'éducation du Yukon

CONSULTANTS

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Job Number: 22037, Project Contact: Kyle Greshuk

PERMIT TO PRACTICE & SEAL

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 CONCEPT ENGINEERING INC.
 Signature: [Signature]
 Date: APRIL 20, 2023
 PERMIT NUMBER: PP752
 The Association of Professional Engineers of Yukon

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 Western Province of Mechanical Engineering, Design, Report On and Commission P/EC, Plumbing and Fire Protection Layout for Commercial, Institutional, Residential and Industrial Buildings.

REVISION	DESCRIPTION	BY	DD/MM/YYYY
00	50% REVIEW	TL	2022-12-09
01	95% REVIEW	TL	2023-02-03
02	100% REVIEW	TL	2023-03-03
03	CONSTRUCTION	TTG	2023-04-20

DRAWN BY: TL CHECKED BY: TTG

PROJECT TITLE
 YUKON TEACHERS' ASSOCIATION HEAD OFFICE
 LOT 38, BLOCK 316 - 151 BLACK ST.

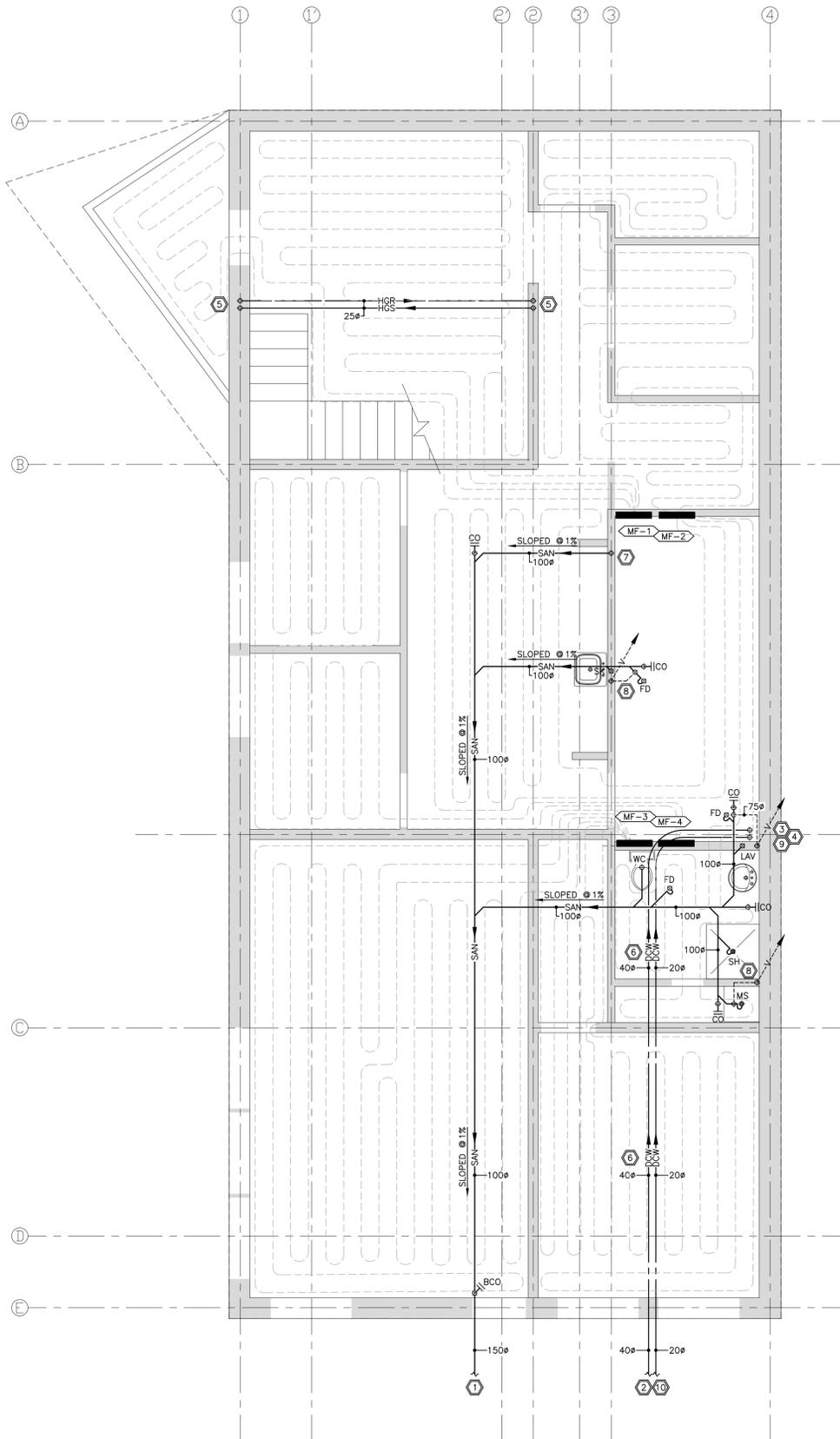
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DATE
 2023-04-19

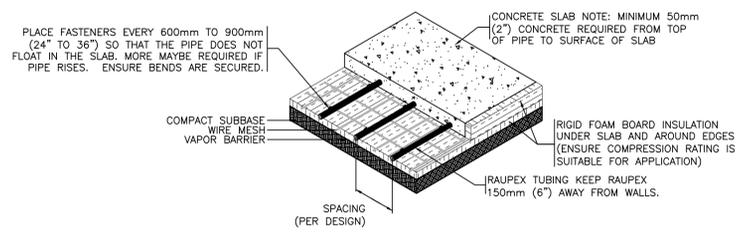
DWG No
 M000

REVISION
 02

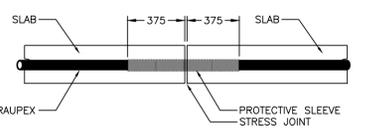
PROJECT No
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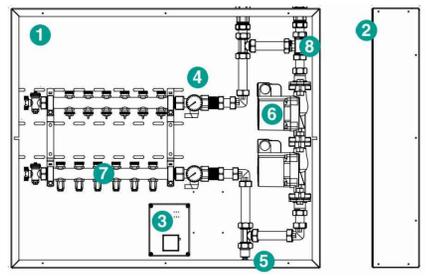
1 FOUNDATION PLAN
SCALE: 1:50



2 SLAB ON GRADE NYLON PIPE TIES DETAIL
SCALE: N.T.S.



3 PROTECTIVE SLEEVE IN COLD AND/OR EXPANSION JOINTS
SCALE: N.T.S.



- LEGEND**
1. STAINLESS STEEL BACKPLATE
 2. LOCKABLE STAINLESS STEEL COVER
 3. TAMAS CONTROL BOX WITH CONTROL
 4. TEMPERATURE GAUGE
 5. AIR VENT
 6. SYSTEM PUMP
 7. STAINLESS STEEL HEATING MANIFOLD
 8. 3 WAY MIXING VALVE

NOTE: FOR REFERENCE PURPOSES, CONTROLS CONTRACTOR MAY BE PROVIDING THEIR OWN CONTROLS COMPONENTS. MECHANICAL TO COORDINATE WITH CONTROLS AND HYDRONICS SUPPLIER AS REQUIRED.

4 MANIFOLD DETAIL
SCALE: N.T.S.

KEY NOTES

1. 150# SANITARY SERVICE. REFER TO CIVIL DRAWINGS BY OTHERS.
2. 40# DOMESTIC WATER SERVICE. REFER TO CIVIL DRAWINGS BY OTHERS.
3. 40# DOMESTIC WATER SERVICE UP TO METER. REFER TO DRAWING M400.
4. 75# PLUMBING VENT UP. REFER TO DRAWING M200.
5. 25# HEATING GLYCOL SUPPLY AND RETURN LINES UP. REFER TO DRAWING M200.
6. 40# DOMESTIC COLD WATER SERVICE AND 20# RECIRCULATION WATER SERVICE LINES TO BE SOFT COPPER OR PEX WITH NO JOINTS RUNNING UNDER THE BUILDING.
7. 100# SANITARY LINE FROM ABOVE. REFER TO DRAWING M200.
8. 50# PLUMBING VENT UP. REFER TO DRAWING M200.
9. 20# RECIRCULATION WATER SERVICE UP TO METER. REFER TO DRAWING M400.
10. 20# RECIRCULATION WATER SERVICE. REFER TO CIVIL DRAWINGS BY OTHERS.

CONNECTIONS TABLE

FIXTURE	DCW	DHW	SAN	VENT
WC	15#	-	100#	40#
UR	20#	-	100#	40#
SK	15#	15#	40#	30#
SH	15#	15#	50#	40#
MS	15#	15#	50#	40#
HB	20#	-	-	-
FD	NOTE 1	-	100#	40#

NOTES:

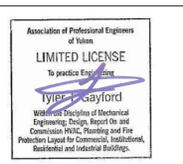
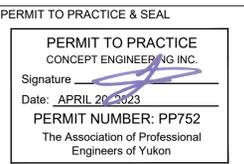
1. C/W PROVENT TRAP GUARD MODEL# TG-34IP.
2. PLUMBING VENT PIPING RUN BELOW SLAB TO BE A MINIMUM OF 50#.

IN-SLAB HEATING NOTES

1. INSTALLERS SHOULD BE PROPERLY TRAINED BY REHAU OR A REHAU AUTHORIZED REPRESENTATIVE.
2. IN ADDITION TO ALL LOCAL AND NATIONAL CODES, INSTALLERS MUST FOLLOW ALL REHAU TECHNICAL GUIDELINES INCLUDING BUT NOT LIMITED TO: TECHNICAL MANUALS, INSTALLATION GUIDES, TECHNICAL BULLETINS AND PRODUCT SUBMITTALS. THE MOST CURRENT AND APPLICABLE VERSIONS OF ALL THE TECHNICAL LITERATURE IS AVAILABLE ON THE REHAU NORTH AMERICA WEBSITE AT NA.REHAU.COM/RESOURCECENTER.
3. PEXA PIPE SHOULD NOT BE STORED OUTDOORS. KEEP PEXA PIPE IN ITS ORIGINAL PACKAGING, UNTIL TIME OF USE TO PROTECT PIPE FROM SUNLIGHT, DIRT, DAMAGE, ETC.
4. PEXA PIPE SHOULD NOT BE DRAGGED ACROSS ROUGH SURFACES OR OBJECTS.
5. PROTECT PEXA PIPE FROM OIL, GREASE, OIL-BASED PAINTS AND OTHER INCOMPATIBLE SUBSTANCES.
6. DO NOT APPLY ADHESIVES TAPE TO PEXA PIPE, UNLESS APPROVED DIRECTLY BY REHAU.
7. DO NOT BURY PEXA PIPE IN CONTAMINATED SOILS.
8. CUTTING - USE A PIPE CUTTER DESIGNED FOR PLASTIC PIPE THAT IS SHARP AND PRODUCES CLEAN, SQUARE CUTS. DO NOT CUT RAUPEX WITH A SAW BLADE, AS THE ROUGH EDGES WILL INTERFERE WITH FITTING CONNECTIONS. A CLEAN, SQUARE CUT IS REQUIRED.
9. KEEP PIPE AT LEAST 6" (15 CM) FROM THE EDGES OF SLABS, WALLS OR OTHER PERMANENT OBJECTS.
10. LABEL PIPES AS THEY ARE INSTALLED. RECORD THIS INFORMATION ON THE MANIFOLD, NEAR THE MANIFOLD, OR WITH TABS ON THE PIPE. RECORD ACTUAL CIRCUIT LENGTHS ALONG WITH CIRCUIT NUMBERS.
11. THE MANIFOLD SHOULD BE SECURELY MOUNTED IN IT'S FINAL POSITION. PROTECT THE MANIFOLD FROM DAMAGE AND VANDALISM DURING AND AFTER CONSTRUCTION.
12. SECURING RAUPEX - ALL SIZES OF RAUPEX SHOULD BE SECURED EVERY 2' TO 3' (0.6M TO 0.9 M) ON STRAIGHT RUNS AND N THE START, FINISH AND MIDPOINT OF ANY TURNS, TO HOLD THE ESTABLISHED LAYING PATTERN. PIPE BENDS SHOULD BE CAREFULLY FORMED TO PREVENT KINKING.
13. A PRESSURE TEST MUST ALWAYS BE PERFORMED ON THE SYSTEM PRIOR TO AND DURING THE INSTALLATION OF THE THERMAL MASS TO ENSURE THAT PEXA PIPE AND CONNECTIONS ARE LEAK-FREE. FOR DRY SYSTEMS SUCH AS JUST SPACE APPLICATIONS, A PRESSURE TEST MUST BE PERFORMED AFTER INSTALLATION AND UP TO THE TIME THAT THE SYSTEM IS PUT INTO OPERATION. PLEASE SEE REHAU TECHNICAL INSTALLATION GUIDE FOR THE DETAILED INFORMATION INCLUDING THE SPECIFIC REQUIREMENTS.
14. TESTS OF HYDRONIC HEATING SYSTEMS SHALL COMPLY WITH LOCAL CODES, AND WHERE REQUIRED, SHALL BE WITNESSED BY THE BUILDING OFFICIAL.
15. PRESSURE TESTS MUST BE DONE WITH ALL CIRCUIT VALVES ON THE MANIFOLD FULLY OPEN. ALL PIPES AND THE MANIFOLDS MUST BE TESTED TOGETHER.
16. PRESSURE GAUGES MUST SHOW PRESSURE INCREMENTS OF 1 PSIG AND SHOULD BE LOCATED AT OR NEAR THE LOWEST POINT IN THE DISTRIBUTION SYSTEM. USE AN AIR TEST IF WATER COULD POTENTIALLY FREEZE IN THE SYSTEM. DO NOT EXCEED 150 PSIG (POUNDS PER SQUARE INCH GAUGE) [1030 KPA].

IN-SLAB HEATING - SLAB ON GRADE NOTES

1. IN A STRUCTURAL SLAB THE TOP OF THE PIPE MUST BE EMBEDDED WITHIN THE SLAB TO A MINIMUM OF 2" (50 mm) BELOW THE SURFACE. IN A NON-STRUCTURAL SLAB THE TOP OF THE PIPE MUST BE EMBEDDED IN THE GYPSUM OR CONCRETE WITH A MINIMUM OF 3/4" (20 mm).
2. SUBGRADE SHOULD BE COMPACTED, FLAT AND SMOOTH TO PREVENT DAMAGE TO PIPE OR INSULATION. APPROVED VAPOR BARRIER MATERIAL SHOULD BE INSTALLED. REINFORCING WIRE MESH, IF REQUIRED BY STRUCTURAL DESIGN, MUST BE FLAT AND LEVEL, WITH ALL SHARP ENDS POINTING DOWN TO PREVENT TOUCHING THE PIPE.
3. IT IS RECOMMENDED TO INSTALL MINIMUM 1" (25 mm) THICK EDGE INSULATION VERTICALLY ALONG ALL EXTERIOR SLAB EDGES, INCLUDING WHERE THE SLAB WILL TOUCH FOOTINGS OR WALLS. CHECK WITH LOCAL CODE REQUIREMENTS.
4. INSULATION UNDER THE SLAB IS ALSO RECOMMENDED, BOTH TO PREVENT HEAT LOSS TO THE EARTH BELOW, AND TO DECREASE THE RESPONSE TIME OF THE HEATED SLAB.
5. EPS (EXTRUDED POLYSTYRENE) AND PUR (POLYURETHANE) INSULATION IS RECOMMENDED, AS LONG AS THE PRODUCT MEETS LOADING REQUIREMENTS.
6. NYLON PIPE TIES - USE NYLON PIPE TIES TO FASTEN RAUPEX PIPE TO WIRE MESH OR REBAR IN THE PATTERN INDICATED BY THE DESIGN. WHEN USING NYLON PIPE TIES, PULL THEM SNUG, BUT NOT TOO TIGHT. ALSO, MAKE SURE THAT THE ENDS OF THE TIES ARE POINTED DOWN TOWARDS THE BOTTOM OF THE SLAB SO THEY WILL NOT BE EXPOSED AFTER THE SLAB IS POURED. IF TIES ARE NOT POINTED DOWN, YOU WILL HAVE TO CUT THEM LATER BEFORE POURING THE SLAB. SPACE TIES EVERY 2-3 FEET (600-900 mm). PIPE MUST BE FASTENED AT THE BEGINNING, MIDPOINT AND END OF EACH BEND.
7. SCREW CLIP METHOD - PLASTIC SCREW CLIPS ARE DESIGNED TO BE INSTALLED IN EPS RIGID BOARD INSULATION THAT IS AT LEAST 1" (25 mm) THICK.
8. SPACE FIXING RAIL EVERY 2-3 FEET (600-900 mm). PIPE MUST ALSO BE FASTENED AT THE BEGINNING, MIDPOINT AND END OF EACH 180° BEND. FIXING RAIL CAN BE FASTENED TO THE SUBFLOOR WITH SCREWS OR NAILS, USING PRE-DRILLED HOLES IN THE BOTTOM OF THE TRACK. AT BENDS AND HARD-TO-REACH AREAS, YOU MAY NEED TO USE PIPE TIALONS (NAILED IN WITH A HAMMER) OR PLASTIC STAPLE CLIPS TO HOLD THE PIPE. FIXING RAIL IS FASTENED TO THE INSULATION (AT LEAST 1 1/2" [40 mm] THICK) USING REHAU PLASTIC HOLDING PINS.
9. PIPE MUST NOT OVERLAP WHEN IT WILL BE ENCASED IN A THERMAL MASS, AS THIS WILL REDUCE THE THICKNESS OF THE THERMAL MASS AT THAT POINT, POSSIBLY LEADING TO THERMAL MASS DAMAGE AND/OR "HOT SPOTS".
10. IF EVERLOC FITTINGS AND SLEEVES WILL BE INSTALLED AND ENCASED IN A THERMAL MASS, THEY MUST BE COMPLETELY WRAPPED IN WATERPROOF, ADHESIVE-FREE TAPE OR RAUCROSS HEAT SHRINK TUBING TO HELP REDUCE CORROSION CAUSED BY THE SURROUNDING ENVIRONMENT - CHECK LOCAL CODES FOR COMPLIANCE. LOCATIONS ARE TO BE NOTED ON PLANS.
11. PIPE CIRCUITS MUST BE PLANNED AND INSTALLED TO MINIMIZE PASSES THROUGH EXPANSION JOINTS, SAW CUTS OR OTHER "MOVEMENT" JOINTS IN THE THERMAL MASS.
12. REHAU REQUIRES THE USE OF PE PROTECTION SLEEVE IN LOCATIONS WHERE RAUPEX PIPE PASSES THROUGH A THERMAL MASS, OR IN PLACES WHERE PIPE MAY RUB AGAINST AN ABRASIVE OBJECT. IN ALL CASES, COVER THE PIPE ON BOTH SIDES OF THE JOINT OR PENETRATION, AND SECURE THE PROTECTIVE SLEEVE IN PLACE OVER THE PIPE.
13. IN AREAS WITH HIGH PIPE CONCENTRATIONS (CLOSER THAN 4" [100 mm]) SUCH AS NEAR MANIFOLDS, IF THE THICKNESS OF THE THERMAL MASS PERMITS, INSULATE THE PIPES TO PREVENT "HOT SPOTS".
14. REHAU RECOMMENDS THE USE OF PIPE PROTECTION WHERE RAUPEX PIPE ENTERS THE THERMAL MASS AT THE BASE OF A MANIFOLD. PVC BEND GUIDES HOLD THE PIPE IN A 90° BEND AND PROTECT THE PIPE FROM DAMAGE BY THE CONCRETE. CONTRACTORS AND FLOOR FINISHERS.
15. INSTALL NAIL GUARDS WHERE NAILING IS LIKELY, SUCH AS DOORWAYS.
16. PIPE SHOULD NOT BE INSTALLED IN AREAS UNDER CABINETS USED FOR FOOD STORAGE OR UNDER APPLIANCES SUCH AS FREEZERS. IT IS ACCEPTABLE TO INSTALL PIPE UNDER BATHTUBS AND SHOWER STALLS TO WARM THE BASES. KEEP RAUPEX PIPE AT LEAST 6" AWAY FROM ANY TOILET INSTALLATION TO ENSURE THAT THE HEAT FROM THE PIPE DOES NOT DO DAMAGE TO WAX RING.
17. MANIFOLDS SHOULD BE LOCATED A MINIMUM OF 16" (400mm) ABOVE FINISH FLOOR LEVEL. MANIFOLDS SHOULD REMAIN ACCESSIBLE FOR SERVICE AFTER THE COMPLETION OF THE JOB. THIS MAY REQUIRE INSTALLATION OF AN ACCESS PANEL.



REVISION

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02	100% REVIEW	TL	2023-03-03
03	CONSTRUCTION	TTG	2023-04-20

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YUKON TEACHERS' ASSOCIATION
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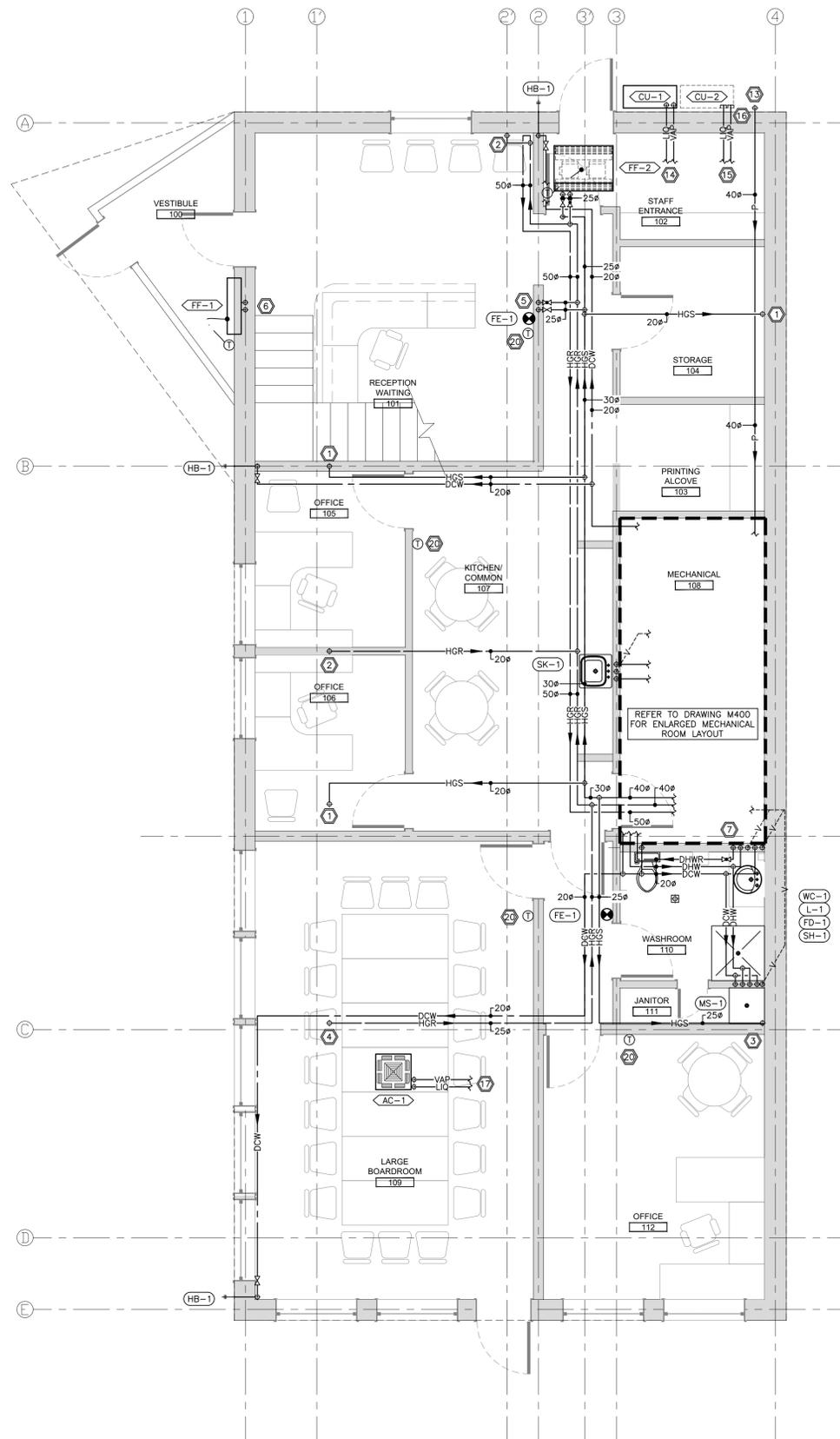
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FOUNDATION PLAN

DWG No
M100

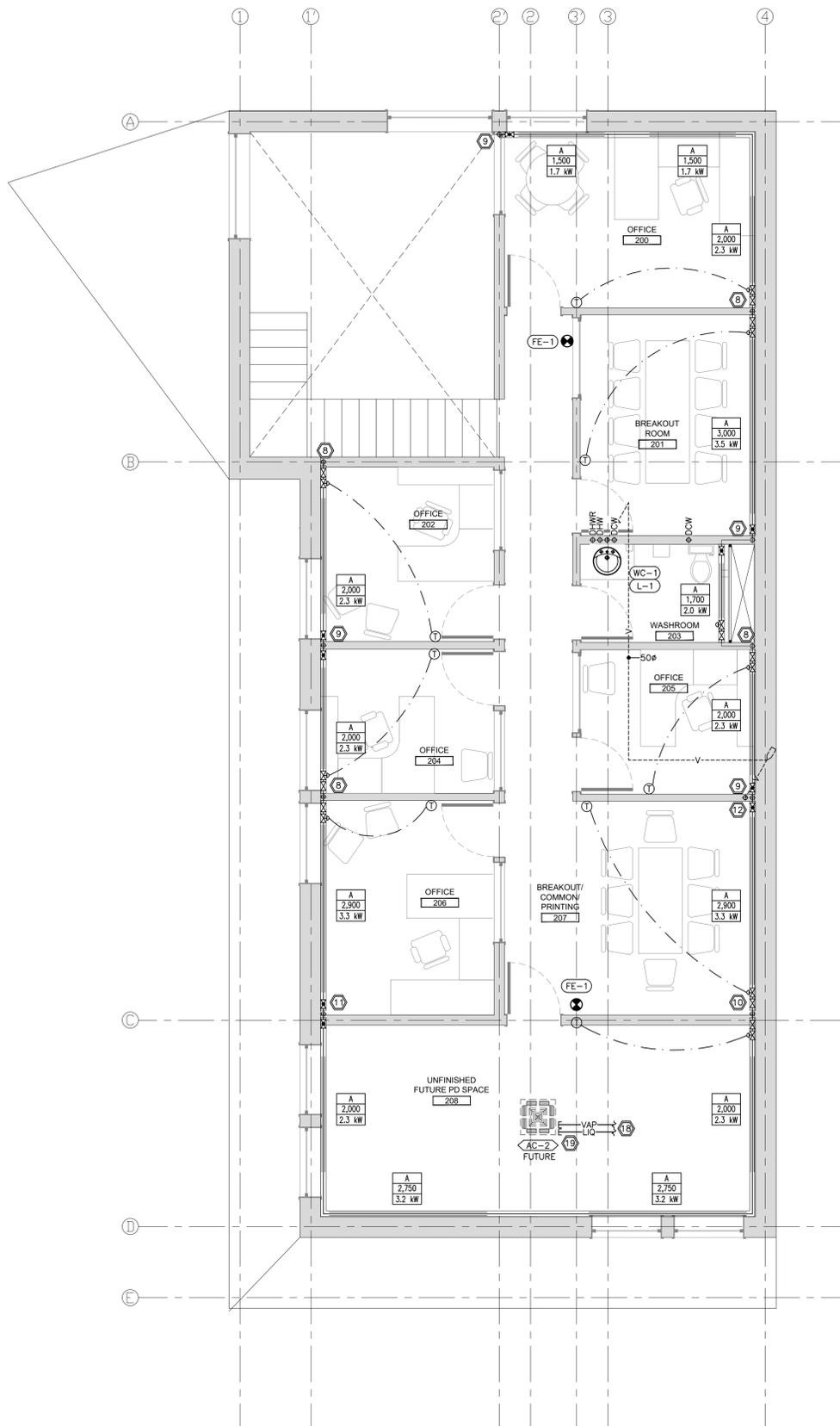
DATE
2023-04-19

REVISION
02

PROJECT No
22037



1 MAIN FLOOR PLUMBING PLAN
M200 SCALE: 1:50



1 SECOND FLOOR PLUMBING PLAN
M200 SCALE: 1:50

- KEY NOTES**
- 1 20" HEATING GLYCOL SUPPLY LINE UP TO SECOND FLOOR. REFER TO SECOND FLOOR PLAN ON THIS PAGE FOR CONTINUATION.
 - 2 20" HEATING GLYCOL RETURN LINE FROM SECOND FLOOR ABOVE. REFER TO SECOND FLOOR PLAN ON THIS PAGE FOR CONTINUATION.
 - 3 25" HEATING GLYCOL SUPPLY LINE UP TO SECOND FLOOR. REFER TO SECOND FLOOR PLAN ON THIS PAGE FOR CONTINUATION.
 - 4 25" HEATING GLYCOL RETURN LINE FROM SECOND FLOOR ABOVE. REFER TO SECOND FLOOR PLAN ON THIS PAGE FOR CONTINUATION.
 - 5 25" HEATING GLYCOL SUPPLY AND RETURN LINES DOWN UNDER SLAB. REFER TO DRAWING M100 FOR CONTINUATION.
 - 6 25" HEATING GLYCOL SUPPLY AND RETURN LINES FROM BELOW. REFER TO DRAWING M100 FOR CONTINUATION.
 - 7 DOMESTIC HOT WATER RECIRCULATION LINE TO BE PIPED DOWN WALL AND TIED INTO HOT WATER LINE AS CLOSE AS POSSIBLE TO THE FAUCET, COMPLETE WITH BALANCING VALVE.
 - 8 20" HEATING GLYCOL SUPPLY LINE FROM MAIN FLOOR BELOW. REFER TO MAIN FLOOR PLAN ON THIS PAGE FOR CONTINUATION.
 - 9 20" HEATING GLYCOL RETURN LINE DOWN TO MAIN FLOOR. REFER TO MAIN FLOOR PLAN ON THIS PAGE FOR CONTINUATION.
 - 10 25" HEATING GLYCOL SUPPLY LINE FROM MAIN FLOOR BELOW. REFER TO MAIN FLOOR PLAN ON THIS PAGE FOR CONTINUATION.
 - 11 25" HEATING GLYCOL RETURN LINE DOWN TO MAIN FLOOR. REFER TO MAIN FLOOR PLAN ON THIS PAGE FOR CONTINUATION.
 - 12 75" PLUMBING VENT FROM MAIN FLOOR BELOW AND UP THROUGH ROOF. REFER TO DRAWING M400 FOR CONTINUATION ON MAIN FLOOR.
 - 13 40" PROPANE LINE DOWN. REFER TO DRAWING M000 FOR CONTINUATION.
 - 14 CONTRACTOR TO PROVIDE TEE-OFF WATER LINE COMPLETE WITH SHUT-OFF VALVE FOR FUTURE DISHWASHER, AS WELL AS A SANITARY CONNECTION FROM THE DISHWASHER TO THE SINK.
 - 15 REFRIGERANT LIQUID AND VAPOUR LINES RUN TO AIR CONDITIONING UNIT, AC-1. REFRIGERANT LINES TO BE PIPED AS PER MANUFACTURERS SPECIFICATIONS.
 - 16 REFRIGERANT LIQUID AND VAPOUR LINES RUN TO FUTURE AIR CONDITIONING UNIT, AC-2. REFRIGERANT LINES TO BE PIPED AS PER MANUFACTURERS SPECIFICATIONS.
 - 17 REFRIGERANT LIQUID AND VAPOUR LINES RUN TO CONDENSING UNIT, CU-1. REFRIGERANT LINES TO BE PIPED AS PER MANUFACTURERS SPECIFICATIONS.
 - 18 REFRIGERANT LIQUID AND VAPOUR LINES RUN TO FUTURE AIR CONDITIONING UNIT, CU-2. REFRIGERANT LINES TO BE PIPED AS PER MANUFACTURERS SPECIFICATIONS.
 - 19 REFRIGERANT LIQUID AND VAPOUR LINES RUN TO BE CAPPED OFF FOR FUTURE AIR CONDITIONING UNIT, AC-2. REFRIGERANT LINES TO BE PIPED AS PER MANUFACTURERS SPECIFICATIONS.
 - 20 IN-FLOOR HEATING THERMOSTAT.

CONNECTIONS TABLE

FIXTURE	DCW	DHW	SAN	VENT
WC	15"	-	100"	40"
UR	20"	-	100"	40"
SK	15"	15"	40"	30"
SH	15"	15"	50"	40"
MS	15"	15"	50"	40"
HB	20"	-	-	-
FD	NOTE 1	-	100"	40"

NOTES:
 1. C/W PROVENT TRAP GUARD MODEL# TG-34IP.
 2. PLUMBING VENT PIPING RUN BELOW SLAB TO BE A MINIMUM OF 50".

88 ENTERPRISE DR
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Job Number: 22037, Project Contact: Kyle Greshuk

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CONCEPT ENGINEERING INC.
Signature: [Signature]
Date: APRIL 20, 2023
PERMIT NUMBER: PP752
The Association of Professional Engineers of Yukon

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Tyler Bayford
Yukon Professional of Mechanical Engineering, Design, Report On and Commission PIPING, Plumbing and Fire Protection Layout for Commercial, Institutional, Residential and Industrial Buildings.

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DRAWN BY: TL
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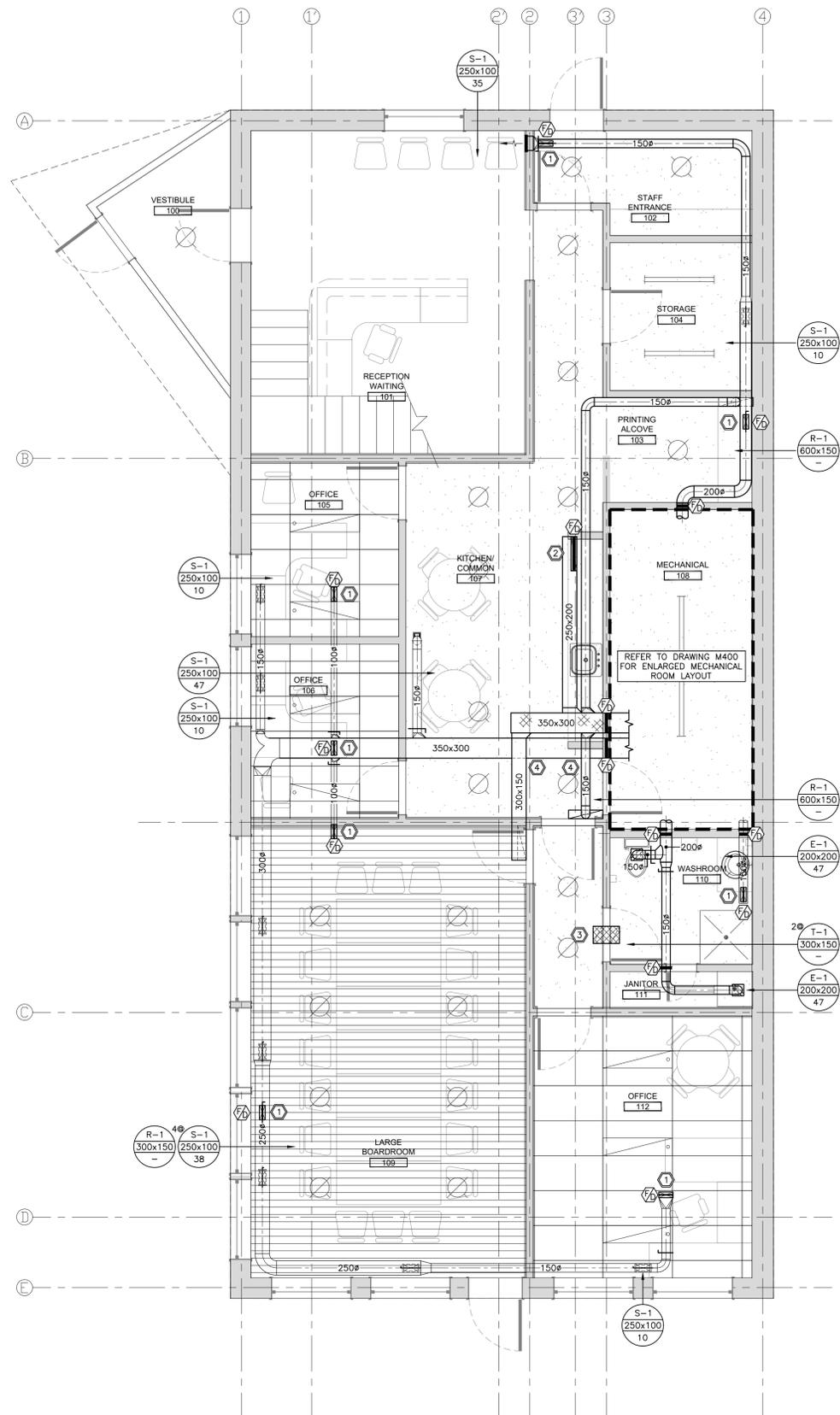
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PLUMBING PLANS
M200

DWG No
M200

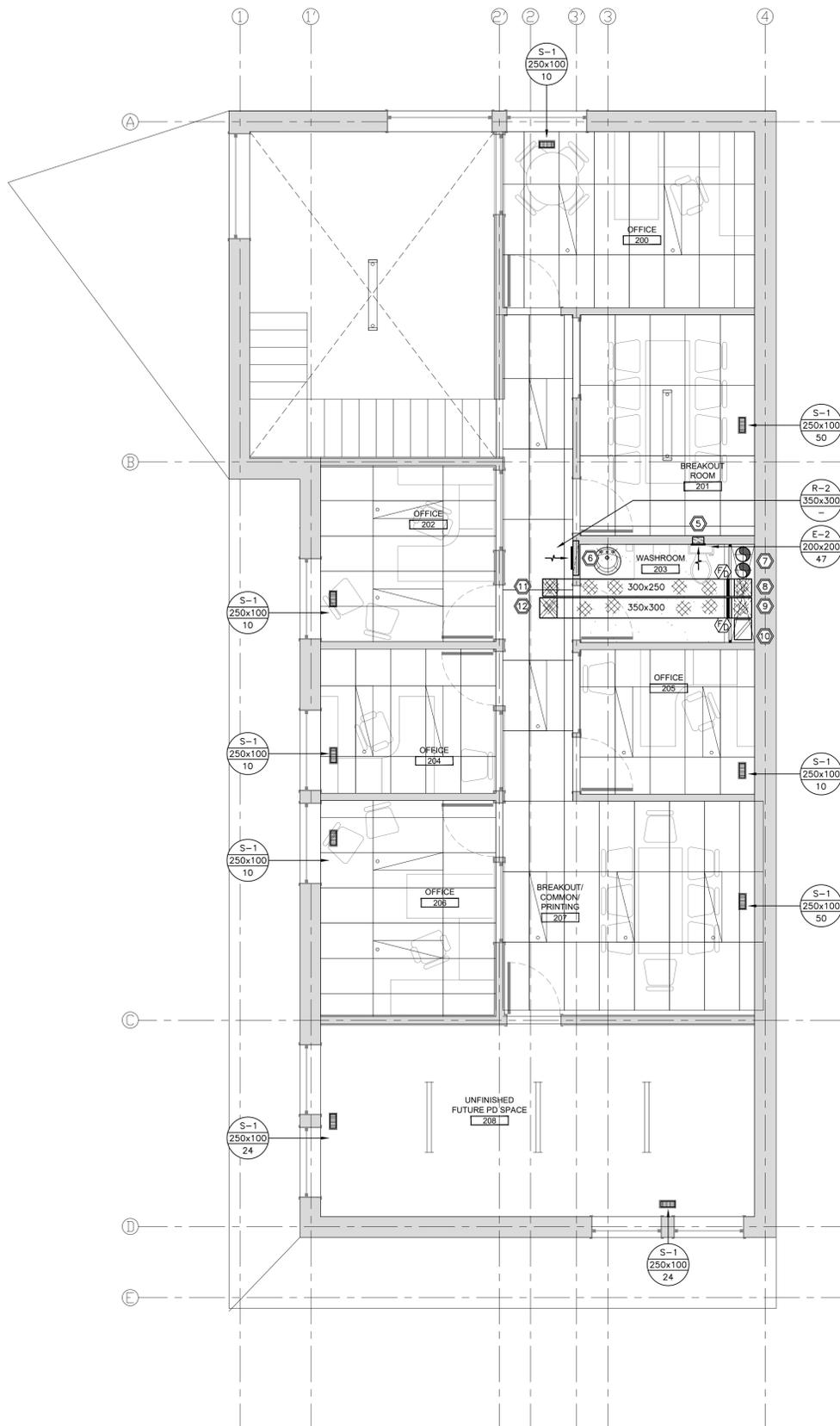
DATE
2023-04-19

REVISION
02

PROJECT No
22037



1 MAIN FLOOR VENTILATION PLAN
SCALE: 1:50



1 SECOND FLOOR VENTILATION PLAN
SCALE: 1:50

- KEY NOTES**
- 1 SUPPLY AIR DUCT TO CONNECT TO GRILLE ON FLOOR ABOVE C/W FIRE DAMPER AT FLOOR PENETRATION. REFER TO SECOND FLOOR PLAN ON THIS PAGE FOR LOCATION REQUIRING CONNECTION.
 - 2 600x100 RETURN AIR DUCT UP IN WALL TO SECOND FLOOR ABOVE C/W FIRE DAMPER AT FLOOR PENETRATION.
 - 3 300x150 ACOUSTICALLY LINED TRANSFER AIR DUCT IN CEILING SPACE.
 - 4 CONTRACTOR TO ALLOW FOR THE REQUIRED DUCTWORK OFFSETS TO ALLOW DUCTS TO CROSS EACH OTHER. COORDINATE ON SITE.
 - 5 200x100 EXHAUST AIR DUCT FROM BELOW. REFER TO DRAWING M400 FOR CONTINUATION.
 - 6 600x100 RETURN AIR DUCT DOWN IN WALL FROM MAIN FLOOR BELOW.
 - 7 (2) 250# BOILER FLUES UP THROUGH ROOF FROM MECHANICAL ROOM BELOW IN FIRE RATED SHAFT. INSTALL AS PER MANUFACTURERS INSTALLATION GUIDELINES.
 - 8 300x250 COMBUSTION AIR DUCT DOWN IN FIRE RATED SHAFT TO MECHANICAL ROOM BELOW. REFER TO DRAWING M400.
 - 9 350x300 FRESH AIR DUCT DOWN IN FIRE RATED SHAFT TO MECHANICAL ROOM BELOW. REFER TO DRAWING M400.
 - 10 350x300 EXHAUST AIR DUCT UP THROUGH ROOF FROM MECHANICAL ROOM BELOW. C/W GOOSENECK FITTING AND BIRD SCREEN. CONTRACTOR TO ENSURE A MINIMUM OF 3m (10') CLEARANCE BETWEEN EXHAUST OUTLET AND ANY FRESH AIR INTAKE.
 - 11 300x250 COMBUSTION AIR DUCT UP THROUGH ROOF. C/W GOOSENECK FITTING AND BIRD SCREEN. CONTRACTOR TO ENSURE A MINIMUM OF 3m (10') CLEARANCE BETWEEN COMBUSTION AIR INTAKE AND ANY EXHAUST OUTLET.
 - 12 350x300 FRESH AIR DUCT UP THROUGH ROOF. C/W GOOSENECK FITTING AND BIRD SCREEN. CONTRACTOR TO ENSURE A MINIMUM OF 3m (10') CLEARANCE BETWEEN FRESH AIR INTAKE AND ANY EXHAUST OUTLET.



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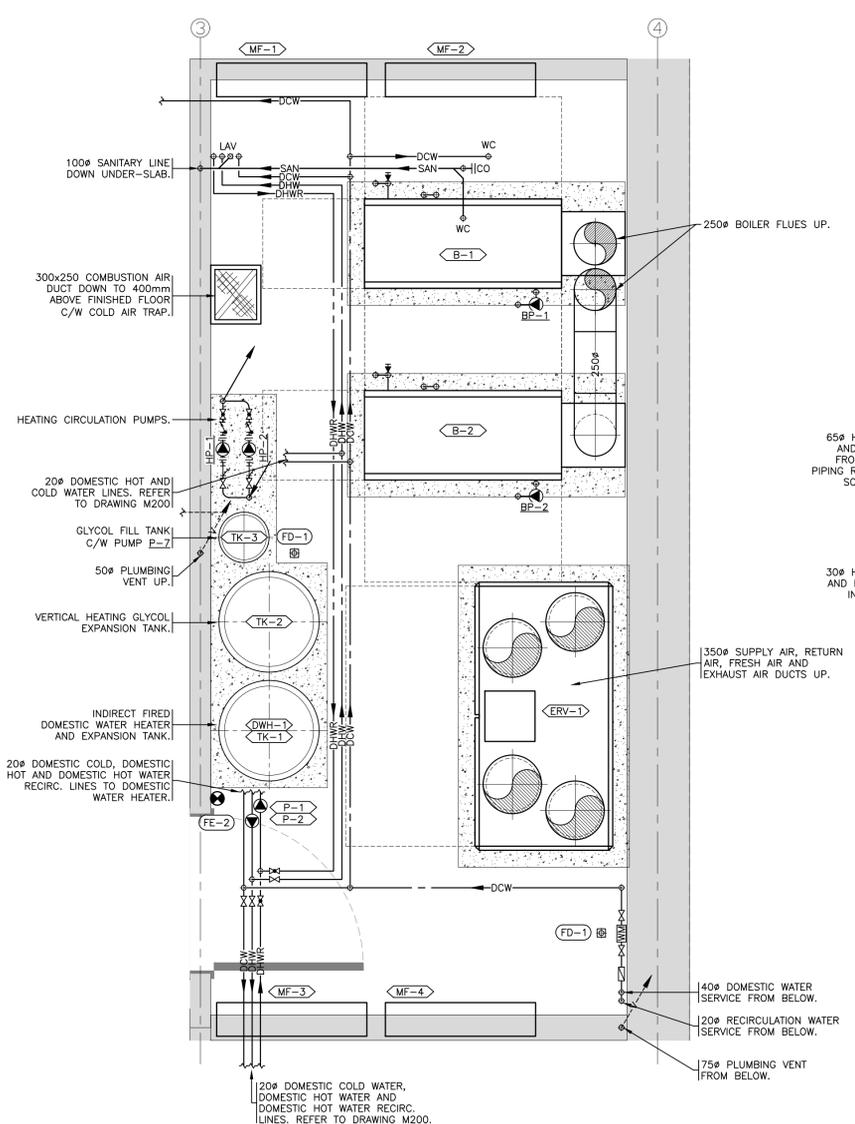
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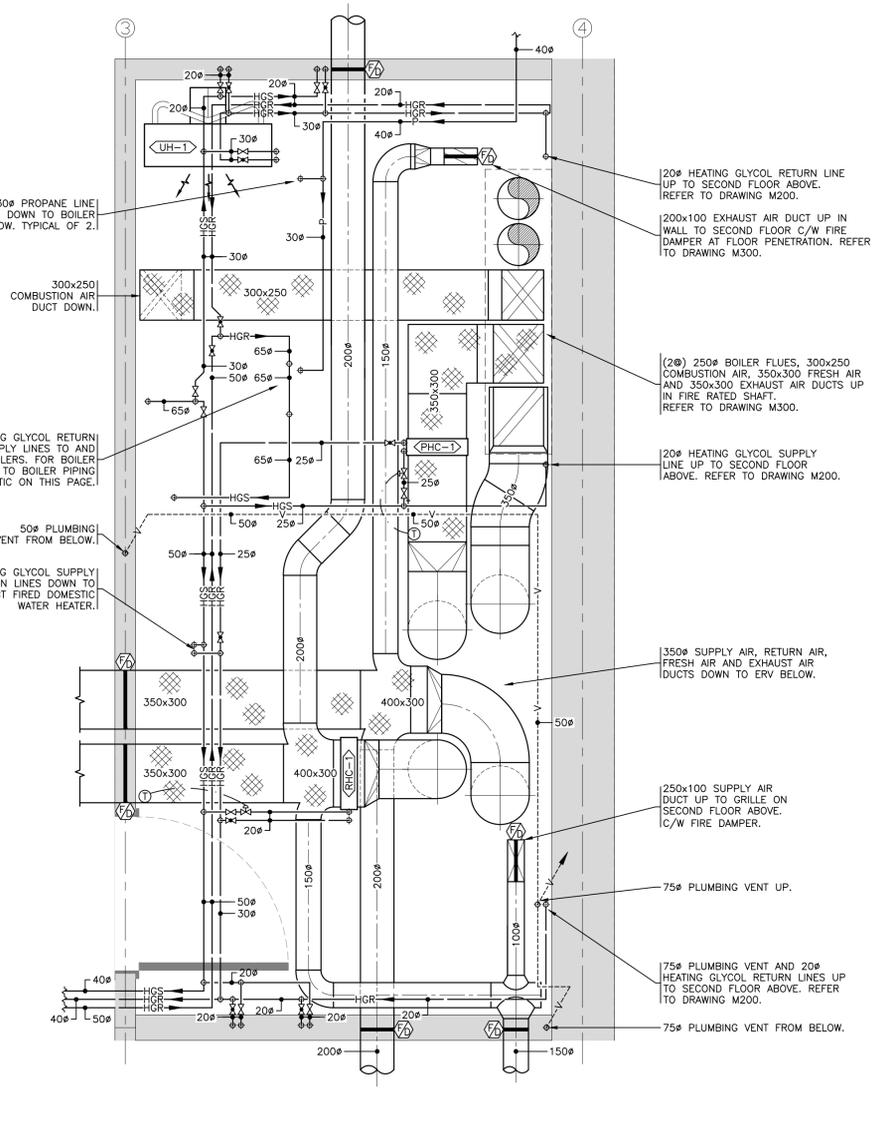
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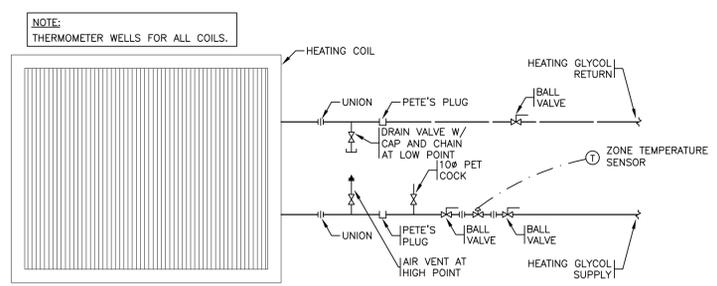
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VENTILATION PLANS
DWG No: M300
REVISION: 02
PROJECT No: 22037
DATE: 2023-04-19



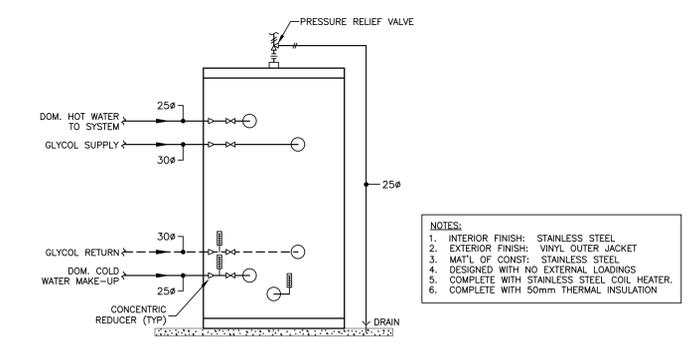
1 ENLARGED LOWER MECHANICAL ROOM PLAN
M400 SCALE: 1:20



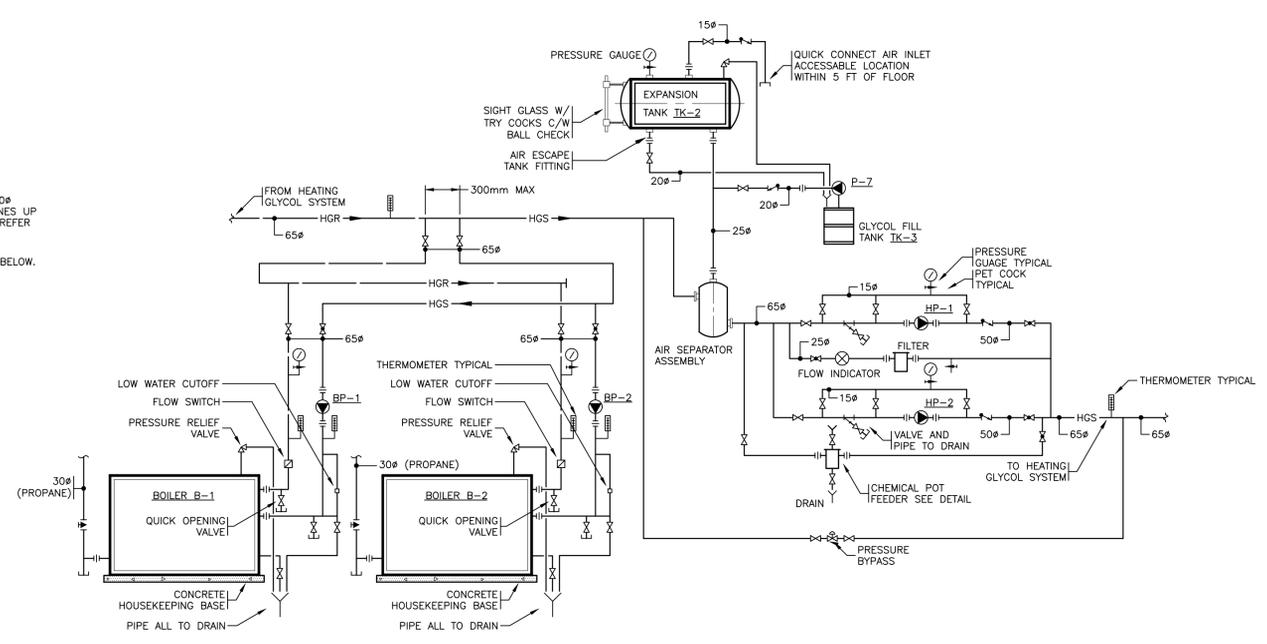
2 ENLARGED UPPER MECHANICAL ROOM PLAN
M400 SCALE: 1:20



3 HEATING COIL PIPING DETAIL
M400 SCALE: N.T.S.



4 DOMESTIC HOT WATER STORAGE TANK DETAIL
M400 SCALE: N.T.S.



5 BOILER SCHEMATIC
M400 SCALE: N.T.S.



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PROJECT TITLE
YUKON TEACHERS' ASSOCIATION HEAD OFFICE
LOT 38, BLOCK 316 - 151 BLACK ST.

DRAWING TITLE
ENLARGED MECHANICAL ROOM PLAN

DWG No
M400
REVISION
02
PROJECT No
22037

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DATE
2023-04-19

IN-DIRECT DOMESTIC WATER HEATER SCHEDULE										
TAG	MAKE	MODEL	LOCATION	CAPACITY (L)	OUTPUT REQUIRED PER HOUR (KW)	PUMP FLOW RATE (L/MIN)	MAX FLOW RATE (LPH)	DIAMETER (mm)	HEIGHT (mm)	WEIGHT (Kg)
DWH-1	TERMO2000	TURBOMAX 33	MECHANICAL ROOM	136	29	38	675	457	1,639	83

RADIANT WALL FIN SCHEDULE										
TAG	MAKE	MODEL	LOCATION	LINEAR OUTPUT (kW/m)	MEDIA	MWT (°C)	ROWS	DESCRIPTION		
A	ENG AIR	WF-1A	SEE PLANS	1.15	50% PROP. GLYCOL	77	1	300mm HIGH CABINET W/ SLOPED TOP AND OPEN BOTTOM.		

IN-SLAB HEATING MANIFOLD SCHEDULE																
TAG	MAKE	MODEL	LOCATION	SERVICE	HEATED AREA (m²)	ZONES SERVED	CIRCUITS	TUBING SIZE (mm)	TOTAL LENGTH (m)	FLOW RATE (L/MIN)	HEAD LOSS (m)	RH LOAD (kW)	EWT (°C)	DIMENSIONS		
														WIDTH (mm)	LENGTH (mm)	DEPTH (mm)
MF-1	TAMAS	T-ZM-TV-0021-UP	MECHANICAL ROOM	PRIMARY HEATING	36.4	1	2	20	100	5.6	1.5	3.5	49	922	767	210
MF-2	TAMAS	T-ZM-TV-0021-UP	MECHANICAL ROOM	PRIMARY HEATING	75.3	1	2	20	242	9.2	2.2	7.4	49	922	767	210
MF-3	TAMAS	T-ZM-TV-0021-UP	MECHANICAL ROOM	PRIMARY HEATING	17.1	1	1	20	51	2.6	0.5	1.6	49	922	767	210
MF-4	TAMAS	T-ZM-TV-0021-UP	MECHANICAL ROOM	PRIMARY HEATING	58.5	1	3	20	195	9.2	1.0	5.7	49	922	767	210

NOTES:
1. SUPPLY AND RETURN WATER PIPING SHALL CONNECT TO MANIFOLD THROUGH THE TOP OF CABINET.
2. MANIFOLD COMPLETE WITH PRO-BALANCE MIXING MODULE

AIR OUTLET SCHEDULE						
TYPE:	S-1	R-1	R-2	E-1	E-2	T-1
MANUFACTURE:	E.H. PRICE	E.H. PRICE	E.H. PRICE	E.H. PRICE	E.H. PRICE	E.H. PRICE
MODEL:	520	80	530	80	530	80
DESCRIPTION:	DOUBLE DEFLECTION SUPPLY AIR GRILLE	EGG CRATE GRILLE	RETURN WITH 45° DEFLECTION 3/4 IN. BLADE SPACING	EGG CRATE GRILLE	RETURN WITH 45° DEFLECTION 3/4 IN. BLADE SPACING	EGG CRATE GRILLE
FINISH:	B12	B12	B12	B12	B12	B12
MOUNTING:	T-BAR/GYPSUM	T-BAR	T-BAR/GYPSUM	T-BAR	T-BAR/GYPSUM	T-BAR

SPLIT AIR CONDITIONING UNIT SCHEDULE														
TAG	MAKE	MODEL	LOCATION	COOLING OUTPUT				MCOOP	MCA	ELECTRICAL (V/PH/Hz)	DIMENSIONS			WEIGHT (KG)
				CAPACITY (kW)	TONS	COOLING STAGES	WIDTH (mm)				DEPTH (mm)	HEIGHT (mm)		
AC-1	HAIER	AB18SC2VHA	BOARDROOM	5.0	1.5	VARIABLE	30	20	208/1/60	570	570	260	18.5	
CU-1	HAIER	1U18EH2VHE	EXTERIOR	5.0	1.5	VARIABLE	30	20	208/1/60	920	385	762	60.5	
FUTURE AC-2	HAIER	AB18SC2VHA	UNDEVELOPED	5.0	1.5	VARIABLE	30	20	208/1/60	570	570	260	18.5	
FUTURE CU-2	HAIER	1U18EH2VHE	EXTERIOR	5.0	1.5	VARIABLE	30	20	208/1/60	920	385	762	60.5	

NOTES:
1. C/W R-410A REFRIGERANT, C/W REMOTE CONTROL
2. C/W PERMANENT METAL FILTER FRAMES.
3. C/W STANDARD 2 YEAR PARTS WARRANTY, 7 YEAR COMPRESSOR WARRANTY
4. MECHANICAL CONTRACTOR TO VERIFY UNIT VOLTAGE PRIOR TO ORDERING EQUIPMENT.
5. COORDINATE GRAVITY DRAINAGE OF CONDENSATE.
6. MOUNT CONDENSER ON EXTERIOR OF BUILDING.
7. C/W HAIER CEILING GRILLE MODEL PB-700KB

HEATING COIL SCHEDULE												
TAG	LOCATION	SERVES	AIR FLOW (L/S)	EAT (°C)	LAT (°C)	AIR PRESSURE DROP (Pa)	HEATING CAPACITY (kW)	FLUID	FLUID FLOW RATE (L/MIN)	EWT (°C)	LWT (°C)	FLUID PRESSURE DROP (kPa)
PHC-1	MECHANICAL ROOM	PRE-HEAT	472	-43	-21	25	13.68	50% PROP. GLYCOL	19	82	71	20
RHC-1	MECHANICAL ROOM	RE-HEAT	472	14	21	17	4.4	50% PROP. GLYCOL	8	82	71	4

NOTES:
1. C/W THERMOSTAT.
2. C/W 2-WAY CONTROL VALVE. SEE CONTROLS SYSTEMS SCHEMATIC NOTES.

BOILER SCHEDULE										
TAG	MAKE	MODEL	LOCATION	INPUT (kW)	OUTPUT (kW)	EFFICIENCY (%)	FUEL	MEDIA	FLOW (L/MIN)	ELECTRICAL (V/Ph/Hz)
B-1	WEIL-MCLAIN	LGB-4	MECHANICAL ROOM	117	95	81%	PROPANE	50% PROP. GLYCOL	95	120/1/60
B-2	WEIL-MCLAIN	LGB-4	MECHANICAL ROOM	117	95	81%	PROPANE	50% PROP. GLYCOL	95	120/1/60

NOTES:
1. PROVIDE 4" HIGH HOUSEKEEPING PAD BELOW BOILER.

SYSTEM INFORMATION:
1. THE HEATING BOILER PLANT CONSISTS OF TWO HEATING BOILERS C/W ONE CIRCULATION PUMP EACH, TWO MAIN SYSTEM PUMPS, AN EXPANSION TANK, AN INDIRECT DOMESTIC WATER HEATER, AND A GLYCOL FILL TANK.
2. THE HEATING SYSTEM SHALL OPERATE CONTINUALLY TO MAINTAIN DOMESTIC HOT WATER SUPPLY TEMPERATURES TO THE BUILDING VIA THE INDIRECT DOMESTIC HOT WATER TANK.
3. THE BOILERS WILL BE PROGRAMMED TO OPERATE CONTINUALLY TO MAINTAIN THE OUTDOOR RESET SCHEDULE (ADJUSTABLE) OF:
OUTSIDE AIR TEMPERATURE = -36°C & 22°C
SYSTEM SUPPLY TEMPERATURE = 82°C & 71°C
4. LOW WATER CUT-OFF AND NO FLOW WILL BE WIRED INTO THE BOILER AND SHALL SHUT DOWN THE BURNER CONTROL. IF EITHER SAFETY CONDITION IS NOT MET, AN ALARM WILL BE GENERATED.
5. THE PRESSURE BY-PASS CONTROL WILL MONITOR THE SYSTEM DIFFERENTIAL PRESSURE.
6. AN OUTDOOR AIR TEMPERATURE SENSOR SHALL BE INSTALLED ON THE BUILDING WEST SHADED EXPOSURE. ENSURE SENSOR IS MOUNTED AWAY FROM DISCHARGE GRILLES OR OVERHANGS. INSTALL A SOLAR SHIELD OVER SENSOR.

HYDRONIC UNIT HEATER SCHEDULE										
TAG	MAKE	MODEL	LOCATION	AIR CAPACITY (L/S)	CAPACITY (kW)	EWT (°C)	LWT (°C)	FLOW (L/MIN)	WEIGHT (KG)	
UH-1	ENGINEERED AIR	H6	MECHANICAL RM	698	23.3	82	71	30.6	67	

NOTES:
1. C/W THERMOSTAT. REFER TO PLANS FOR LOCATIONS.

ENERGY RECOVERY VENTILATOR SCHEDULE																														
TAG	MAKE	MODEL	SUPPLY AIR				EXHAUST AIR				SUMMER				WINTER				ELECTRIC			DIMENSIONS			WEIGHT (kg)					
			MINIMUM AIR CAPACITY (L/S)	MAXIMUM AIR CAPACITY (L/S)	E.S.P. (PA)	HP	MINIMUM AIR CAPACITY (L/S)	MAXIMUM AIR CAPACITY (L/S)	E.S.P. (PA)	HP	OUTDOOR AIR		ROTARY WHEEL SUPPLY AIR		EFFECTIVE RECOVERY RATE		RETURN AIR		OUTDOOR AIR		EFFECTIVE RECOVERY RATE		V/PH/Hz	FLA		MCA	RFS	LENGTH (mm)	WIDTH (mm)	HEIGHT (mm)
											EDB (°C)	RH (%)	LDB (°C)	RH (%)	SENSIBLE (%)	LATENT (%)	EDB (°C)	RH (%)	EDB (°C)	LDB (°C)	SENSIBLE (%)	LATENT (%)								
ERV-1	SWEGON	NA-GOLD-005-FRX	283	472	249	1.54	283	472	249	1.54	25	45	22	46	77.9	71.9	21	25	-21	13	79.6	76.5	220/1/60	11.9	13.27	15	1,600	826	1,262	411

NOTES:
1. FURNISH WITH CONTROLS AND SENSORS FOR AUTOMATED AIRFLOW BALANCING.
2. EACH UNITS SPECIFIC POWER CONSUMPTION SHALL NOT EXCEED 0.77 W/CFM.
3. UNIT MANUFACTURER SHALL SUPPLY ENTIRE UNIT UL 1812 OR UL 1995 CERTIFIED AND BEAR A CERTIFICATION LABEL BY ETL, UL, OR CSA. (FIELD INSPECTION IS NOT ACCEPTABLE)
4. UNITS SHALL BE SERVICE ACCESSIBLE FROM ONE SIDE.
5. UNITS SHALL FIT THROUGH STANDARD DOORWAY (36" WIDE). ALL SECTIONS SHALL CONNECT THROUGH WIRING HARNESSSES.
6. PROVIDE DIRECT DRIVE PLENUM FANS WITH EC MOTORS. INCLUDE AIRFLOW STATIONS.
7. FANS SHALL ALLOW SINGLE COMPONENT IMPELLER AND MOTOR REMOVAL WITH WIRE HARNESS CONNECTIONS.
8. FILTERS SHALL BE MERV 13, AND BE SIDE LOADED AND SEAL AGAINST FIXED FRAME ON ALL FOUR SIDES OF EACH FILTER.
9. ENERGY RECOVERY WHEEL SHALL HAVE STEPPER MOTOR ALLOWING CONTROL TO 1 RPM. UNIT CONTROLLER SHALL MANAGE ROTOR SPEED TO OPTIMIZE ENERGY TRANSFER, PURGE SECTOR AIRFLOW AND AVOID FROSTING.
10. ENTHALPY WHEEL SHALL HAVE ALUMINUM SUBSTRATE WITH 4 ANGSTROM MOLECULAR SIEVE DESICCANT.
11. WHEEL SHALL NOT OPERATE DURING ECONOMIZER MODE, BUT WILL ROTATE AT 10 ROTATIONS PER HOUR TO CLEANSE WHEEL.
12. PROVIDE SINGLE POINT POWER SUPPLY, FACTORY MOUNTED WITH NON-FUSED DISCONNECT IN VARIABLE LOCATIONS BASED ON APPLICATION NEEDS.
13. UNITS SHALL INCLUDE FACTORY INSTALLED CONTROLLER I/OLOGIC AND TESTED CONTROLS FIELD CONFIGURABLE TO ACHIEVE SPECIFIED OPERATING FUNCTIONS. CONTROLS SHALL MAINTAIN THE AIRFLOW SETPOINT REGARDLESS OF AIR DENSITY, FILTER LOADING OR ESP.
14. INCLUDE HAND HELD HUMAN INTERFACE PANEL FOR UNIT CONTROLLER. CONTROLLER SHALL BE ACCESSIBLE FROM WEB BROWSER WITHOUT ADDITIONAL SOFTWARE.
15. CONTROLS SHALL BE BACNET IP NATIVE AND BTL CERTIFIED.
16. UNIT ACCESSORIES SHALL BE AUTOMATICALLY RECOGNIZED BY CONTROLLER, ALLOWING PLUG AND PLAY FUNCTIONALITY FOR AN EFFICIENT START-UP.
17. ERV UNIT COMPLETE WITH TOP MOUNT DUCT CONNECTIONS FOR O/A, E/A, S/A AND R/A.
18. ERV UNIT TO COME WITH AN UN-CASED (SHIPPED LOOSE) HYDRONIC PREHEAT COIL FOR DUCTWORK INSTALL DIRECTLY UPSTREAM OF MERV 13 O/A FILTER WITH CONTROL VALVE AND STRAP ON TEMP SENSOR TO ERV. ERV CONTROLLER SHALL DIRECTLY CONTROL THE CONTROL VALVE. MERV8 WINTER PREFILTER BY OTHERS.
19. ERV UNIT TO COME WITH AN UN-CASED (SHIPPED LOOSE) HYDRONIC POST-HEAT COIL FOR DUCTWORK INSTALL DIRECTLY DOWNSTREAM OF S/A FAN SECTION WITH CONTROL VALVE AND STRAP ON TEMP SENSOR TO ERV. ERV CONTROLLER SHALL DIRECTLY CONTROL THE CONTROL VALVE.
20. ERV UNIT SHALL BE COMPLETE WITH UN-CASED (SHIPPED LOOSE) INSULATED ISOLATION DAMPERS WITH ON/OFF ACTUATORS. ERV CONTROLLER SHALL DIRECTLY CONTROL THE ACTUATORS BASED ON UNIT OPERATION.
21. ERV SHALL BE PROGRAMMED FOR CO2 DEMAND CONTROLLED OPERATION: MIN: 600 CFM AND MAX: 1,000 CFM AIRFLOW. CO2 ROOM SENSOR SHALL BE PROVIDED FOR DEMAND CONTROLLED VENTILATION ERV CONTROL TO ERV CONTROLLER.

HYDRONIC FORCE FLOW HEATER SCHEDULE													
TAG	MAKE	MODEL	ARRANGEMENT	LOCATION	AIR CAPACITY (L/S)	CAPACITY (kW)	EWT (°C)	LWT (°C)	FLOW (L/MIN)	DIMENSIONS			WEIGHT (KG)
										WIDTH (mm)	LENGTH (mm)	DEPTH (mm)	
FF-1	ENGINEERED AIR	CUH-5-19	WALL - SEMI-RECESSED	VESTIBULE	228	10.5	82	71	13.8	965	711	241	50
FF-2	ENGINEERED AIR	CUH-5-24	CEILING - RECESSED	STAFF ENTRANCE	228	10.5	82	71	13.8	965	711	241	50

NOTES:
1. C/W THERMOSTAT. REFER TO PLANS FOR LOCATIONS.

TANK SCHEDULE										
TAG	MAKE	MODEL	LOCATION	SERVICE	CAPACITY (L)	DIMENSIONS		WEIGHT (kg)		
						DIAMETER (mm)	HEIGHT (mm)			
TK-1	FLEXCON	PH5	MECHANICAL ROOM	WATER HEATER EXPANSION	2.1	203	24	2.3		
TK-2	CALEFACTO	ALT85	MECHANICAL ROOM	HEATING GLYCOL EXPANSION	87	406	940	41		
TK-3	AXIOM	SF100	GLYCOL FILL TANK	MECHANICAL ROOM	208	300ø	1,245	210 (FILLED)		

PUMP SCHEDULE										
TAG	MAKE	MODEL	LOCATION	FUNCTION	FLUID	CAPACITY (L/MIN)	HEAD PRESSURE (m)	MOTOR (hp)	ELECTRICAL (V/Ph/Hz)	NOTES
P-1	WILO STAR	S21 ZFX	MECHANICAL ROOM	DOMESTIC HOT WATER RECIRC.	POTABLE WATER	7.5	3.96	FRAC	115/1/60	1
P-2	GRUNDFOS	UPS 26-99FC	MECHANICAL ROOM	INDIRECT FIRED WATER HEATER	POTABLE WATER	37.9	4.6	0.25	115/1/60	1
P-3	GRUNDFOS	UPS 15-58	MECHANICAL ROOM	IN-FLOOR HEATING MANIFOLD, MF-1	50% PROP. GLYCOL	5.6	1.5	FRAC	115/1/60	2
P-4	GRUNDFOS	UPS 15-58	MECHANICAL ROOM	IN-FLOOR HEATING MANIFOLD, MF-2	50% PROP. GLYCOL	9.2	2.2	FRAC	115/1/60	2
P-5	GRUNDFOS	UPS 15-58	MECHANICAL ROOM	IN-FLOOR HEATING MANIFOLD, MF-3	50% PROP. GLYCOL	2.6	0.5	FRAC	115/1/60	2
P-6	GRUNDFOS	UPS 15-58	MECHANICAL ROOM	IN-FLOOR HEATING MANIFOLD, MF-4	50% PROP. GLYCOL	9.2	1.0	FRAC	115/1/60	2
P-7	AXIOM	-	MECHANICAL ROOM	GLYCOL FILL TANK, TK-3	50% PROP. GLYCOL	-	-	-	115/1/60	3
BP-1	GRUNDFOS	UPS 32-80 F	MECHANICAL ROOM	BOILER, B-1	50% PROP. GLYCOL	95	3.0	0.25	120/1/60	4
BP-2	GRUNDFOS	UPS 32-80 F	MECHANICAL ROOM	BOILER, B-2	50% PROP. GLYCOL	95	3.0	0.25	120/1/60	4
HP-1	GRUNDFOS	MAGNA3 40-180 F N	MECHANICAL ROOM	PRIMARY HEATING	50% PROP. GLYCOL	208	9.1	1	120/1/60	5
HP-2	GRUNDFOS	MAGNA3 40-180 F N	MECHANICAL ROOM	PRIMARY HEATING	50% PROP. GLYCOL	208	9.1	1	120/1/60	5

NOTES:
1. CONTRACTOR TO VERIFY VOLTAGE AND HORSEPOWERS, AND COORDINATE WITH ELECTRICAL CONTRACTOR, PRIOR TO ORDERING EQUIPMENT.
2. P-3 THROUGH P-6 SHALL BE LOCATED WITHIN THE IN-FLOOR HEATING MANIFOLD.
3. GLYCOL FILL TANK C/W P-7. REFER TO TANK SCHEDULE.
4. BOILER PUMPS, BP-1 & BP-2 SHALL OPERATE FROM BOILER CONTROL PANEL.
5. PRIMARY HEATING PUMPS, HP-1 & HP-2 SHALL PROVIDE THE REQUIRED SYSTEM FLOW RATE AND OPERATE ON AN ALTERNATING SCHEDULE.

PLUMBING EQUIPMENT SCHEDULE	
WC-1	WATER CLOSET WC-1 TO BE - FLUSH TANK - PUBLIC - BARRIER-FREE. - MANSFIELD, ALTO 137-3173, WHITE VITREOUS CHINA, FLOOR MOUNTED, 1.28 US GALLONS (4.8L) PER FLUSH, TWO PIECE, FULLY GLAZED TRAPWAY. - C/W EXTRA HEAVY DUTY OPEN FRONT SEAT, WHITE SOLID PLASTIC, SELF SUSTAINING HINGES
L-1	LAVATORY L-1 TO BE - COUNTER MOUNTED - SENSORED FAUCET - BARRIER FREE - MANSFIELD, MAVERICK II, WHITE VITREOUS CHINA, SINGLE HOLE, 500 LEFT TO RIGHT x 430 FRONT TO BACK, 200mm BOWL DEPTH. - DELTA, 990LF-HIGHDEF FAUCET CENTER HOLE, DECK MOUNT FAUCET, 0.5 USGPM (1.9 L/MIN), HARDWIRED - OPEN-GRID DRAIN, C/W OFFSET P-TRAP.
SK-1	SINK SK-1 TO BE - SINGLE BOWL - COUNTER MOUNTED - STAINLESS KITCHEN SINK - KINDRED, QSLA2225-B-1, DROP-IN, 20 GAUGE, INNER DIMENSIONS: 430mm FRONT TO BACK x 585mm LEFT TO RIGHT, 200mm BOWL DEPTH. - DELTA, TRINSIC 9159-DST, SINGLE HANDLE, SINGLE HOLE, PULL-DOWN KITCHEN FAUCET C/W CHROME FINISH. - CONTRACTOR TO PROVIDE FOR DISHWASHER CONNECTIONS.
LT-1	LAUNDRY TUB LT-1 TO BE ONE PIECE MOLDED RESIN TUB. - MUSTEE, 14CP, - 585W x 635D x 330H LIP. - C/W FAUCET, FLEXIBLE SUPPLY LINES, P-TRAP, DRAIN STOPPER, AND STEEL SUPPORT LEGS. - PROVIDE ROUGH IN, DRAIN TIE IN, SHUT OFF VALVE, FITTINGS AND CONNECTION.
SH-1	SHOWER SH-1 TO BE - MAAX SCARLET 812mm x 812mm x 1900mm, WHITE, SLIDING CORNER SQUARE SHOWER KIT WITH WHITE BASE, DOOR IN CHROME AND CLEAR GLASS. - DELTA MONITOR T13220-ODN; CLASSIC SHOWER TRIM, BRUSHED NICKEL FINISH, PRESSURE BALANCED SINGLE LEVER, 1.5 GPM (5.6 L/MIN), AND MULTI-CHOICE UNIVERSAL ROUGH-IN.
HB-1	HOSE BIBB HB-1 TO BE - EXTERIOR - CONCEALED. - WATTS, HY-725, NON-FREEZE HYDRANT C/W KEYS VALVE, KEYS LOCKING COVER, AND INTEGRAL VACUUM BREAKER.
FE-1	FIRE EXTINGUISHER FE-1 TO BE - 5LB - ABC EXTINGUISHER - SEMI-RECESSED CABINET. - NATIONAL FIRE EQUIPMENT, 102RS. - COORDINATE EXACT MOUNTING ON SITE WITH GENERAL CONTRACTOR.
FE-2	FIRE EXTINGUISHER FE-2 TO BE - 5LB - ABC EXTINGUISHER - WALL HOOK. - COORDINATE EXACT MOUNTING ON SITE WITH GENERAL CONTRACTOR.
FD-1	FLOOR DRAIN FD-1 TO BE 100mmø OUTLET FLOOR DRAIN WITH ROUND STRAINER. - WATTS, FD-100-A, NICKEL BRONZE ROUND STRAINER C/W TRAP SEAL PRIMER OR TRAP PROTECTION DEVICE ACCEPTABLE TO LOCAL AUTHORITY HAVING JURISDICTION.
CO	CLEANOUT CO TO BE FLOOR CLEANOUT WITH HEAVY DUTY NICKEL BRONZE ROUND TOP. - WATTS, CO-100-C-R, EPOXY-COATED CAST IRON BODY WITH ANCHOR FLANGE, ABS PLUG, NEOPRENE CONE GASKET, AND REVERSIBLE MEMBRANE CLAMP.



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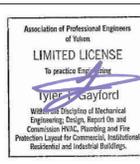


CONSULTANTS



Job Number: 22037, Project Contact: Kyle Greshneck

PERMIT TO PRACTICE & SEAL
PERMIT TO PRACTICE
CONCEPT ENGINEERING INC.
Signature: _____
Date: APRIL 20, 2023
PERMIT NUMBER: PP752
The Association of Professional Engineers of Yukon



REVISION	DESCRIPTION	BY	DD/MM/YYYY
00	50% REVIEW	TL	2022-12-09
01	95% REVIEW	TL	2023-02-03
02	100% REVIEW	TL	2023-03-03
03	CONSTRUCTION	TTG	2023-04-20

DRAWN BY: TL CHECKED BY: TTG

PROJECT TITLE
YUKON TEACHERS' ASSOCIATION HEAD OFFICE
LOT 38, BLOCK 316 - 151 BLACK ST.

DRAWING TITLE
MECHANICAL SCHEDULES
M500
DATE: 2023-04-19
REVISION: 02
PROJECT NO: 22037

DWG No

MECHANICAL SPECIFICATION

A. GENERAL

1. INTENT

1.1. THE INTENT OF THE SPECIFICATION AND DRAWINGS IS TO PROVIDE A COMPLETE AND FULLY OPERATING MECHANICAL LAYOUT IN COMPLETE ACCORDANCE WITH THE MOST CURRENT EDITION OF THE NATIONAL BUILDING CODE—ALBERTA EDITION AND REFERENCED STANDARDS. MAKE PROVISIONS FOR ALL LABOUR, MATERIAL AND EQUIPMENT NECESSARY TO COMPLETE THE MECHANICAL WORK.

1.2. DRAWINGS AND SPECIFICATIONS ARE COMPLEMENTARY TO EACH OTHER AND WHAT IS CALLED FOR BY ONE IS TO BE BINDING AS IF CALLED FOR BY BOTH. SHOULD ANY DISCREPANCY APPEAR BETWEEN DRAWINGS AND SPECIFICATIONS WHICH LEAVES DOUBT AS TO THE TRUE INTENT AND MEANING, OBTAIN A RULING FROM THE ENGINEER BEFORE SUBMITTING TENDER.

1.3. MECHANICAL DRAWINGS INDICATE GENERAL LOCATION AND ROUTE TO BE FOLLOWED BY MECHANICAL SYSTEMS AND DO NOT SHOW ALL STRUCTURAL AND ELECTRICAL DETAILS. MECHANICAL SYSTEMS TO PROVIDE A COMPLETE OPERATING SYSTEM. INSTALL TO CONSERVE HEADROOM, USE FURRING SPACE, ETC....

1.4. DO NOT INSTALL ANY PIPING, DUCTWORK OR OTHER MECHANICAL COMPONENTS THAT INTERFERES WITH OTHER TRADES, AFFECTS HEADROOM, OR EXPOSED CEILING SPACE. WITHOUT PRIOR CONSULTATION AND APPROVAL BY THE ENGINEER.

1.5. CONFORM TO MANUFACTURER'S INSTRUCTIONS, DETAILS AND PROCEDURES FOR EQUIPMENT INSTALLATIONS.

1.6. INSTALL EQUIPMENT IN LOCATIONS AND ROUTES SHOWN, CLOSE TO BUILDING STRUCTURE WITH MINIMUM INTERFERENCE WITH OTHER SERVICES OR FREE SPACE. REMOVE AND REPLACE IMPROPERLY INSTALLED EQUIPMENT.

2. LIABILITY

2.1. ASSUME RESPONSIBILITY FOR LAYOUT WORK AND FOR DAMAGE CAUSED TO THE LANDLORD BY IMPROPER EXECUTION OF WORK.

2.2. PROTECT FINISHED AND UNFINISHED WORK FROM DAMAGE.

2.3. TAKE RESPONSIBILITY FOR CONDITION OF MATERIALS AND EQUIPMENT SUPPLIED AND PROTECT UNTIL WORK IS COMPLETED AND ACCEPTED.

2.4. VERIFY ALL BUILDING AND SITE DIMENSIONS AND MILLWORK COMPONENTS PRIOR TO ANY FABRICATION AND INSTALLATION OF EQUIPMENT OR MATERIALS. NO INCREASE IN CONTRACT COST WILL BE CONSIDERED FOR FAILURE TO VERIFY THESE DIMENSIONS ON SITE.

3. CERTIFICATES

3.1. GIVE NOTICES, OBTAIN PERMITS AND PAY FEES SO WORK SPECIFIED MAY BE CARRIED OUT. FURNISH CERTIFICATES, IF REQUESTED, AS EVIDENCE THAT WORK CONFIRMS WITH LAWS AND REGULATIONS OF AUTHORITIES HAVING JURISDICTION.

4. CUTTING AND PATCHING

4.1. COORDINATE WITH THE GENERAL CONTRACTOR THE LOCATIONS OF ALL HOLES FOR MECHANICAL EQUIPMENT BEFORE WALLS, FLOORS AND ROOF ARE MODIFIED OR BUILT AND PROVIDE SLEEVES REQUIRED FOR THE MECHANICAL INSTALLATIONS.

4.2. COORDINATE WITH THE GENERAL CONTRACTOR RESPONSIBILITY FOR CUTTING AND PATCHING OF BUILDING STRUCTURE REQUIRED FOR MECHANICAL WORK. REVIEW BUILDING STRUCTURAL SYSTEM PRIOR TO COMMENCEMENT OF CORING AND OBTAIN APPROVAL FROM STRUCTURAL CONSULTANT IF REQUIRED FOR SPECIAL CONDITIONS (I.E. POST TENSION STRUCTURAL SLABS).

4.3. X-RAY FOR LOCATION OF IN-FLOOR REBAR AND CONDUIT, WHERE REQUIRED BY LANDLORD. X-RAY TO BE DONE AFTER NORMAL WORKING HOURS. TAKE NECESSARY PRECAUTIONS TO PROTECT COMPUTER EQUIPMENT WHEN X-RAYING FLOORS.

4.4. PROVIDE FIRE STOPPING WHERE REQUIRED THROUGH FIRE RATED WALLS OR FLOORS. FIRE STOPPING SYSTEMS TO BE ULC OR CUL LISTED SYSTEMS RATED FOR THE APPLICATION AND INSTALLED AS PER MANUFACTURER'S LISTED INSTALLATION REQUIREMENTS.

4.5. EXCAVATING INSIDE THE BUILDING AND FIRST 12" (300mm) OF BACKFILL SHALL BE DONE BY THE MECHANICAL CONTRACTOR. REMAINING BACKFILL IS BY THE GENERAL CONTRACTOR. COORDINATE SAW CUTTING WITH GENERAL CONTRACTOR.

4.6. MISCELLANEOUS METALS RELATED TO MECHANICAL EQUIPMENT AND WORK ARE TO BE SUPPLIED AND INSTALLED BY MECHANICAL SUCH AS HANGERS, BRACKETS, AND INSERTS.

4.7. HINGED ACCESS COVERS ARE TO BE SUPPLIED BY MECHANICAL AND INSTALLED BY GENERAL CONTRACTOR. TO BE PROVIDED FOR ALL CONCEALED VALVES, CLEANOUTS, TRAPS, AIR VENTS, BALANCING AND FIRE DAMPERS, ETC....

5. TESTING

5.1. TEST EQUIPMENT AND MATERIALS WHERE SPECIFIED OR REQUIRED BY AUTHORITIES HAVING JURISDICTION TO DEMONSTRATE PROPER AND SAFE OPERATION. PROVIDE NOTICE TO ENGINEER BEFORE TESTS.

5.2. TEST PROCEDURES SHALL BE IN ACCORDANCE WITH APPLICABLE PORTIONS OF ASME, ASHRAE, SMACNA, NFPA, ABSA, CSA AND OTHER RECOGNIZED TEST CODES AS FAR AS FIELD CONDITIONS PERMIT.

6. GUARANTEE

6.1. PROVIDE THE OWNER WITH A WRITTEN GUARANTEE WARRANTING APPARATUS FURNISHED TO REMAIN IN SERVICEABLE CONDITION FOR A PERIOD OF ONE (1) YEAR FROM DATE OF FINAL ACCEPTANCE BY THE OWNER.

7. STANDARD OF MATERIALS AND WORKMANSHIP

7.1. MATERIALS SHALL BE NEW AND OF UNIFORM PATTERN THROUGHOUT AND SHALL MEET INDUSTRY STANDARDS OR AS SPECIFICALLY IDENTIFIED IN THIS SPECIFICATION. THIS IS FOR THE PURPOSE OF ESTABLISHING A STANDARD OF QUALITY OF MATERIALS AND WORKMANSHIP AND NOT TO LIMIT SELECTION.

7.2. WORKMANSHIP SHALL FOLLOW THE BEST TRADITION AND TRADESMANSHIP. EMPLOY ONLY TRADESMEN PROPERLY LICENSED FOR WORK REQUIRING TRADESMEN WITH SPECIAL SKILL.

7.3. MAKE AND QUALITY OF MATERIALS AND WORKMANSHIP ARE SUBJECT TO APPROVAL BY THE ENGINEER AND THE OWNER. REMOVE CONDEMNED MATERIALS AND INSTALL SUITABLE MATERIALS IN THEIR PLACE.

7.4. PROVIDE FOR SUPPORTS AND HANGERS TO HANG AND SECURE PIPING, DUCTING AND EQUIPMENT TO ALLOW FOR EXPANSION, MAINTAIN GRADE BY ADJUSTMENT, AND APPEAR NEAT. INSTALL SUPPORTS OF STRENGTH AND RIGIDITY TO SUIT LOADING WITHOUT UNDULY STRESSING THE STRUCTURE OR MECHANICAL COMPONENTS SERVED. USE COPPER FOR COPPER PIPING AND STEEL FOR FERROUS PIPING. PERFORATED BOLD IRON STRAP HANGERS ARE NOT ACCEPTABLE. USE PIPING ARRANGEMENTS AND EXPANSION LOOPS/OFFSETS WHERE REQUIRED TO PROTECT PIPING FROM EXPANSION AND CONTRACTION.

7.5. CONTRACTOR TO ENSURE STRUCTURAL CAPACITY OF THE MECHANICAL COMPONENTS, INCLUDING ANCHORAGE AND SEISMIC RESTRAINTS WHERE REQUIRED BY JURISDICTION.

8. SHOP DRAWINGS, ALTERNATIVE MATERIALS AND EQUIPMENT

8.1. CONTRACT DOCUMENTS ARE BASED ON MATERIALS AND EQUIPMENT SPECIFIED. APPROVAL BY ENGINEER OF EQUIPMENT SUBMITTED BY THE MECHANICAL TRADE AS EQUAL TO THAT SPECIFIED DOES NOT RELIEVE THE MECHANICAL TRADE OF ANY RESPONSIBILITY.

8.2. THE MECHANICAL TRADE IS RESPONSIBLE FOR DETERMINING THAT EVERY ITEM INCLUDED IN THE TENDER COMPLIES IN ALL RESPECTS WITH THE SPECIFICATIONS AND DRAWINGS. AFTER AWARD OF TENDER, ANY ITEM OF EQUIPMENT FOUND BY THE ENGINEER NOT TO COMPLY WITH THE SPECIFICATIONS AND DRAWINGS ARE TO BE REPLACED AT NO ADDITIONAL COST WITH AN ITEM OR UNIT OF ENGINEER'S CHOICE.

8.3. REVISIONS REQUIRED TO ADAPT ALTERNATIVES SHALL BE INCLUDED IN SUCH PROPOSALS. NO INCREASE IN THE CONTRACT PRICE WILL BE CONSIDERED TO ACCOMMODATE THE USE OF EQUIPMENT OTHER THAN THAT SPECIFIED.

8.4. SUBMIT SHOP DRAWINGS TO ENGINEER IN PDF FORMAT ON ALL EQUIPMENT SPECIFIED IN SPECIFICATIONS OR DRAWINGS FOR ENGINEER'S REVIEW. DO NOT ORDER EQUIPMENT OR MATERIALS UNTIL ENGINEER HAS REVIEWED SHOP DRAWINGS.

9. OWNER'S STOCK

9.1. SOME ITEMS OF MECHANICAL EQUIPMENT MAY BE AVAILABLE FROM THE OWNER'S STOCK, PRIOR TO SUBMITTING THE TENDER PRICE, REVIEW WITH THE OWNER WHICH ITEMS ARE AVAILABLE FOR USE ON THIS PROJECT.

10. RECORD DRAWINGS

10.1. KEEP ON SITE AN EXTRA SET OF WHITE PRINTS AND SPECIFICATIONS, RECORDING CHANGES AND DEVIATIONS DAILY. UPON COMPLETION OF THE PROJECT AND BEFORE FINAL PAYMENT, THESE DRAWINGS ARE TO BE SCANNED AND TURNED OVER TO CONCEPT ENGINEERING INC. IN PDF FORMAT AND BE CLEARLY MARKED AS "AS-BUILT" OR "RECORD" DRAWINGS IF REQUESTED BY THE OWNER. CONTRACTOR TO CONTACT CONCEPT ENGINEERING INC. FOR A FEE TO PRODUCE THE ELECTRONICALLY GENERATED AS-BUILT DRAWINGS FOR THE OWNER.

11. DIVISION 16 - ELECTRICAL

11.1. SUBMIT MOTOR LIST TO THE ELECTRICAL SUB-TRADE WHICH OUTLINES ALL ELECTRICAL CONNECTIONS THAT ARE REQUIRED TO SERVICE MECHANICAL EQUIPMENT, INCLUDING VOLTAGE, PHASE AND MOTOR HORSEPOWER.

11.2. REVIEW ALL EQUIPMENT REQUIRING ELECTRICAL HOOK-UP WITH ELECTRICAL SUB-TRADE PRIOR TO ORDERING EQUIPMENT. ENSURE PROPER ELECTRICAL CHARACTERISTICS ARE DETERMINED FOR ALL AFFECTED AND RELATED WORK.

11.3. COORDINATE INSTALLATION OF CEILING ELEMENTS WITH THE GENERAL CONTRACTOR AND ELECTRICAL SUB-TRADE.

12. INSPECTIONS (SUBSTANTIAL COMPLETION)

12.1. PRIOR TO THE ENCLOSURE OF CEILINGS AND WALLS, NOTIFY THE ENGINEER AND ARRANGE FOR A SITE REVIEW.

12.2. ADVISE ENGINEER FIVE (5) DAYS PRIOR TO THE DATE FINAL SITE REVIEW IS DESIRED. ALL SYSTEMS TO BE FULLY OPERATIONAL AND ANY DEFICIENCIES SHOULD BE NOTED TO THE ENGINEER.

12.3. ALL DEFICIENCIES SHALL BE COMPLETED WITHIN TWO (2) WEEKS AFTER FINAL SITE REVIEW AND LETTER SUBMITTED TO ENGINEER WITHIN THAT TIME ADVISING THAT THE WORK IS COMPLETE. FAILURE TO COMPLETE WORK WILL RESULT IN WORK BEING DONE BY THE OWNER AND THE COSTS DEDUCTED FROM FINAL PAYMENT.

12.4. ADDITIONAL SITE REVIEW COSTS SHALL BE BOURNE BY THE CONTRACTOR AT A RATE OF \$500 PER VISIT PLUS DISBURSEMENTS.

13. MAINTENANCE MANUALS

13.1. PROVIDE THREE (3) COPIES OF ALL SHOP DRAWINGS AND MAINTENANCE DATA IN 3-RING BINDERS AND IN PDF.

B. HEATING AND VENTILATION

1. GENERAL

1.1. DUCTWORK SHALL BE GALVANIZED STEEL, LOCK FORMING QUALITY. FABRICATE IN ACCORDANCE WITH SMACNA DUCT MANUALS AND ASHRAE HANDBOOKS. DUCTWORK SHALL MEET THE REQUIREMENTS OF NFPA 90A AND 91 AND CONFORM TO APPLICABLE CODES. SEALANTS AND GASKETING TO BE WATER RESISTANT, FIRE RESISTANT AND COMPATIBLE WITH MATING MATERIALS. SEAL ALL DUCT JOINTS TO MEET SMACNA STANDARDS.

1.2. NO DUCT TAPE SHALL BE ALLOWED FOR SEALING DUCTS.

1.3. PRIOR TO FABRICATION OF DUCTWORK, CHECK ALL CEILING SPACES AND HEIGHTS AND CONFLICTS WITH OTHER TRADES AND CONFIRM DUCT ROUTING CAN BE INSTALLED AS SHOWN ON THE DRAWINGS. NOTIFY THE ENGINEER IF ANY CONFLICTS WILL PREVENT THE INSTALLATION TO PROCEED AS SHOWN ON THE DRAWINGS.

1.4. COORDINATE LOCATIONS OF GRILLES AND DIFFUSERS WITH LIGHTING AND OTHER TRADES.

1.5. DUCT SIZES ARE DEFINED ON THE DRAWINGS AS INSIDE CLEAR DIMENSIONS. WHERE DUCTS ARE DEFINED TO BE INSTALLED WITH ACOUSTIC LINING OR INTERNAL INSULATION, MAINTAIN INSIDE CLEAR DIMENSIONS CONSISTENT WITH THE DUCT SIZING DESIGNATED ON THE DRAWINGS.

1.6. WHERE APPLICABLE PROVIDE ADEQUATELY SIZED ACCESS PANELS TO MANUAL DAMPERS, EQUIPMENT, FIRE DAMPERS, VALVES, RADIATION VALVES AND WATER METERS. PROVIDE COLOURED IDENTIFICATION TABS ON SUSPENDED CEILING TILES TO LOCATE ACCESS TO MECHANICAL COMPONENTS.

1.7. PROVIDE RETURN AIR OPENINGS AND/OR INSULATED SOUND TRAPS WHERE INDICATED.

1.8. PROVIDE ACOUSTIC SEAL AROUND DUCTS AND SOUND TRAPS AT PENETRATIONS THROUGH SOUND Baffles.

1.9. FIRE DAMPERS SHALL BE ULC LISTED AND CONSTRUCTED IN ACCORDANCE WITH ULC STANDARD S112 "FIRE DAMPERS". FUSIBLE LINKS SHALL BE CONSTRUCTED TO ULC STANDARD S505. INSTALL AS PER MANUFACTURER'S LISTED INSTALLATION INSTRUCTIONS. PROVIDE BALANCING DAMPERS WHERE INDICATED ON DRAWINGS AND AT POINTS ON LOW PRESSURE SUPPLY, RETURN AND EXHAUST DUCTS WHERE BRANCHES ARE TAKEN FROM LARGER DUCTS.

1.10. WHERE DUCTWORK IS VISIBLE THROUGH SUPPLY, RETURN OR EXHAUST GRILLES, PAINT INSIDE OF DUCT WITH MATTE BLACK TO PREVENT LIGHT REFLECTIONS.

1.11. WHERE SPACE PERMITS, ROUND DUCTWORK MAY BE USED WHERE DRAWINGS HAVE DEFINED RECTANGULAR DUCTS THAT ARE NOT ACOUSTIC LINED.

1.12. SIZE ROUND DUCTS FROM ASHRAE TABLE OF EQUIVALENT RECTANGULAR ROUND DUCTS. NO VARIATION OF DUCT CONFIGURATION OR SIZES PERMITTED EXCEPT BY PERMISSION FROM ENGINEER.

1.13. ROUND DUCTWORK TO BE SPIRAL LOCK SEAM TYPE ONLY.

1.14. FABRICATE OF GALVANIZED STEEL OR PRIME COATED BLACK STEEL WEIGHTED TO CLOSE AND LOCK IN CLOSED POSITION WHEN RELEASED BY FUSIBLE LINK.

1.15. FIRE DAMPERS IN LOW PRESSURE DUCTWORK MAY BE CURTAIN TYPE (TYPE B).

1.16. FABRICATE COMBINATION FIRE AND BALANCING DAMPERS WITH LINKAGE READILY ADJUSTABLE IN OPEN POSITION.

1.17. CURTAIN TYPE FIRE DAMPERS (TYPE B) SHALL HAVE BLADES RETAINED IN A RECESS AND OUT OF THE AIR STREAM SO FREE AREA OF CONNECTING DUCTWORK IS NOT REDUCED. FUSIBLE LINKS SHALL BE SET FOR 160°F.

2. LOW VELOCITY DUCTWORK

2.1. THE MINIMUM SHEET METAL THICKNESS FOR LOW PRESSURE DUCTS INCLUDING FITTINGS, ACCESS DOORS AND OTHER ACCESSORIES SHALL BE AS FOLLOWS:

RECTANGULAR DUCTWORK	GUAGE
UP TO 12" (305mm) WIDE	0.55mm
13" (330mm) TO 30" (760mm) WIDE	0.70mm

ROUND DUCTWORK	GUAGE
UP TO 12" (305mm)	0.55mm
14" (350mm) TO 22" (560mm)	0.70mm

2.2. FIBROUS GLASS DUCT IS NOT ACCEPTABLE.

2.3. CONNECT DIFFUSERS OR TROFFER BOOT TO LOW PRESSURE DUCTS WITH 36" (900mm) MAXIMUM LENGTH OF FLEXIBLE DUCT. HOLD IN PLACE WITH CAULKING COMPOUND AND STRAP OR CLAMP. DO NOT USE FLEXIBLE DUCT TO CHANGE DIRECTIONS.

2.4. WHERE LOW PRESSURE DUCTS ARE CONNECTED TO FAN EQUIPMENT, OR ANY OTHER APPARATUS, A SCREWED OR BOLTED FLEXIBLE GASKETED JOINT SHALL BE PROVIDED BETWEEN THE DUCTWORK AND THE EQUIPMENT.

2.5. SEAL ALL DUCT JOINTS TO PROVIDE AN AIRTIGHT SYSTEM IN COMPLIANCE WITH ANSI/SMACNA 006, "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE," AND IN ACCORDANCE WITH TABLE 5.2.2.3 OF THE NATIONAL ENERGY CODE FOR BUILDINGS 2011.

3. DUCT INSULATION

3.1. EXPOSED RECTANGULAR DUCTS: 1" (25mm) RIGID FIBROUS GLASS INSULATION, "K" VALUE AT 75°F (24°C) MAXIMUM 0.038 W/MC WITH FACTORY APPLIED REINFORCED ALUMINUM FOIL VAPOUR BARRIER.

3.2. ROUND DUCTS AND CONCEALED RECTANGULAR DUCTS: 1" (25mm) FLEXIBLE FIBROUS GLASS INSULATION, "K" VALUE AT 76°F (24°C) MAXIMUM 0.038 W/MC WITH FACTORY APPLIED REINFORCED ALUMINUM VAPOUR BARRIER.

3.3. ACOUSTIC LINING: 1" (25mm) FIBROUS INSULATION WITH "K" VALUE AT 76°F (24°C) MAXIMUM 0.035 W/MC

3.4. ABSOLUTE ROUGHNESS OF EXPOSED SURFACE NOT TO EXCEED 0.033 COATED TO PREVENT FIBRE EROSION AT AIR VELOCITIES UP TO 20.0M/S, 24KG/M3 FOR PLENUMS.

3.5. ENSURE SURFACE AND INSULATION IS CLEAN AND DRY PRIOR TO INSULATION.

3.6. ENSURE INSULATION IS CONTINUOUS THROUGH INSIDE PARTITIONS.

3.7. FINISH AND SEAL INSULATION NEATLY AT HANGERS, SUPPORTS, ACCESS DOORS, FIRE DAMPERS, AND OTHER PROTRUSIONS.

3.8. MATERIALS SHALL MEET FIRE AND SMOKE HAZARD RATINGS AS DEFINED IN ALBERTA HEATING VENTILATION AND AIR CONDITIONING CODE. (2" (50mm) ACOUSTICALLY LINED DUCT IS ACCEPTABLE IN LIEU OF CLADDING AND EXTERNAL 2" (50mm) INSULATION)

DUCTS TO BE INSULATED	INSULATION THICKNESS
EXHAUST DUCTS WITHIN 10'-0" (3.0m) OF EXTERIOR OPENINGS	1" (25mm)
SUPPLY DUCTS	1" (25mm)
INTERNAL ACOUSTIC LINING	1" (25mm)
OUTSIDE AIR DUCTS	1" (25mm)

4. BALANCING

4.1. ADJUST AND BALANCE DIFFUSERS, EXHAUST FANS TO PROVIDE AIR FLOW RATES WITHIN 10%± OF THOSE SPECIFIED.

4.2. BALANCE WATER TERMINALS TO PROVIDE FLOW RATES WITHIN 10%± OF THOSE SPECIFIED.

4.3. ADJUST AND BALANCE MAJOR EQUIPMENT COMPONENTS TO PROVIDE FLOW RATES WITHIN 10%± OF THOSE SPECIFIED.

4.4. BALANCING FIRM SHALL REPORT ANY DEFECTS OR DEFICIENCIES THAT AFFECT OBTAINING SPECIFIED FLOW RATES PRIOR TO ISSUING FINAL REPORTS TO ENGINEER.

4.5. PREPARE REPORT IN ACCORDANCE WITH PROCEDURES, FORMAT AND INFORMATION REQUIRED WITHIN THE CURRENT EDITION OF ASHRAE GUIDELINE AND SUBMIT TWO (2) COPIES TO ENGINEER FOR REVIEW. PROVIDE INFORMATION ON EXISTING EQUIPMENT IF REQUIRED.

4.6. MECHANICAL CONTRACTOR, SHEET METAL AND CONTROL SUB-TRADES SHALL COOPERATE WITH BALANCING FIRM WHEN BALANCING IN PROGRESS.

4.7. WHEN SPACE IS OCCUPIED PRIOR TO BALANCING, CONTINUE EXECUTION OF SUCH WORK OUTSIDE OF OCCUPIED HOURS. COORDINATE WITH OCCUPANT.

4.8. IF REPORT IS REJECTED DUE TO IMPROPER BALANCING PROCEDURES, SYSTEM SHALL BE RE-BALANCED AT NO EXTRA COST.

4.9. SET AIR PATTERNS ON ADJUSTABLE DIFFUSERS TO PREVENT DRAFTS AND PROVIDE EQUAL DISTRIBUTION.

4.10. ADJUST FAN SPEEDS TO DELIVER THE AIR VOLUME SPECIFIED BY ADJUSTING OR CHANGING THE PULLEY.

4.11. ADJUST AIR VOLUMES TO GRILLES/DIFFUSERS BY ADJUSTING THE AIR BALANCING DAMPERS ON THE DUCT SYSTEM.

4.12. ALL BALANCING WORK TO BE CARRIED OUT BY AN APPROVED BALANCING CONTRACTOR.

4.13. BALANCED POSITIONS TO BE MARKED WITH A PERMANENT MARKER OR STICKER AND INITIALED AND DATED BY BALANCER.

C. CONTROLS

1. THERMOSTATS

1.1. PROVIDE NEW THERMOSTATS WHERE INDICATED. ENSURE OPERATING CHARACTERISTICS ARE COMPATIBLE WITH CONTROL COMPONENTS (I.E. DIRECT/REVERSE ACTING). ALL THERMOSTATS TO BE WALL OR COLUMN MOUNTED AT NORMAL MOUNTING HEIGHT UNLESS SPECIFICALLY NOTED OTHERWISE.

1.2. ALL CONTROL WORK TO BE CARRIED OUT BY AN APPROVED CONTROLS CONTRACTOR.

2. CONTROL VALVES AND DAMPER OPERATORS

2.1. CONTROL VALVES AND DAMPERS SHALL BE EQUAL TO BASE BUILDING STANDARD TYPE UNLESS NOTED OTHERWISE.

D. PLUMBING

1. VALVES

1.1. PROVIDE VALVES COMPATIBLE WITH BASE BUILDING STANDARD. FOR SHUT-OFF SERVICE, USE BALL VALVES UNLESS NOTED OTHERWISE.

1.2. FOR GAS SERVICE, USE PLUG COCK TYPE VALVES.

2. PIPING

2.1. PROVIDE ALL NECESSARY PIPING, MATERIAL AND LABOUR FOR THE SYSTEM AS INDICATED AND TO CONFORM TO THE NATIONAL PLUMBING CODE OF CANADA.

2.2. GAS PIPING TO CONFORM TO CANADIAN GAS CODE CAN/CGA B149.1-10. CONFIRM EXISTING GAS PRESSURE AVAILABLE PRIOR TO INSTALLATION.

2.3. DRAINAGE AND VENT PIPING SHALL BE TYPE "M" OR TYPE "DWV" HARD COPPER, CAST IRON WITH MECHANICAL JOINTS OR FIRE AND SMOKE RATED PVC.

2.4. WHEN USING COPPER PIPING: DOMESTIC COLD WATER TO BE COPPER "L" TO ASTM 388M 85 FOR NORMAL PIPE DIAMETERS UP TO AND INCLUDING 6".

2.5. PREVENT DIRT, DEBRIS, AND OTHER FOREIGN MATERIALS FROM ENTERING PIPING SYSTEM DURING CONSTRUCTION.

2.6. ALL COLD PIPING TO BE INSULATED WITH FACTORY APPLIED VAPOUR BARRIER JACKET, MOULDED TO CONFORM TO PIPING, "K" VALUE AT 24 DEGREES CELSIUS MAXIMUM 0.035 W/M DEGREES CELSIUS.

2.7. ALL NEW HOT PIPING TO BE INSULATED WITH FINE FIBROUS GLASS INSULATION WITH FACTORY APPLIED GENERAL PURPOSE JACKET, MOULDED TO CONFORM TO PIPING, "K" VALUE AT 24 DEGREES CELSIUS MAXIMUM 0.035 W/M DEGREES CELSIUS.

2.8. IDENTIFY PIPING AS PER BASE BUILDING STANDARDS.

2.9. PROVIDE VALVE TAGGING USING AN EXTENSION OF THE BASE BUILDING NUMBERING SYSTEM FOR NEW VALVES INSTALLED. INCLUDE COPY OF VALVE TAG LIST IN OPERATING AND MAINTENANCE DATA.

PIPING TO BE INSULATED	PIPE SIZES	INSULATION THICKNESS (mm)
DOMESTIC COLD WATER	ALL SIZES	1/2" (12mm)
DOMESTIC HOT WATER	ALL SIZES	1/2" (12mm)
DOMESTIC HOT WATER RECIRC.	ALL SIZES	1/2" (12mm)
VENTS WITHIN 6'(2.0m) OF ROOF OUTLET	ALL SIZES	1/2" (12mm)
STORM SEWER PIPING WITHIN 6'(2.0m) OF ROOF INLET	ALL SIZES	1/2" (12mm)
(HORIZONTAL PIPING THROUGHOUT)	ALL SIZES	1/2" (12mm)
(ABOVE GRADE THROUGHOUT)	ALL SIZES	1/2" (12mm)
HOT WATER HEATING (DO NOT INSULATE WITHIN RADIATION CABINET)	1/2"-3/4" (12-20mm)	1/2" (12mm)
REFRIGERATION PIPING	≥1" (≥25mm)	1" (25mm)
SUCTION AND LIQUID LINES	ALL SIZES	3/4" (20mm) ARMAFLEX

2.10. HOT WATER HEATING, CHILLED WATER AND CONDENSER WATER PIPING MATERIAL AND FITTINGS SHALL BE EQUAL TO BASE BUILDING SPECIFICATIONS UNLESS NOTED OTHERWISE. ENSURE CHEMICAL TREATMENT FOR NEW SYSTEM MATCHES EXISTING TREATMENT. ALL NEW PIPING TO BE CLEANED USING A BASE BUILDING COMPATIBLE METHOD PRIOR TO CONNECTION TO EXISTING SYSTEMS.

2.11. INSTALL ARRESTOR ON WATER LINES CONNECTED TO SOLENOID VALVES (DISHWASHERS, WASHING MACHINES, ICE MAKERS, FLUSH VALVES ON TOILETS AND URINALS), FLUSH VALVES (URINALS AND TOILETS) AND FAUCETS OVER 20PM RATING. INSTALL IN AN ACCESSIBLE LOCATION. UTILIZE PRE MANUFACTURED TYPE IN CONFORMANCE TO ASSE1010.

2.12. WHERE UTILIZING PLASTIC PIPING CONTRACTOR IS TO ENSURE PRODUCT IS LISTED AND CSA APPROVED FOR THE INSTALL LOCATION AND PIPING APPLICATION. ENSURE SMOKE AND FLAME SPREAD RATINGS AS WELL AS PIPE SUPPORT AND FIRE PENETRATION PROVISIONS ARE ACCOMMODATED AS REQUIRED. DRAINAGE PIPING UNDER SLAB IS TO UTILIZE GLUED/SOLVENT WELDED FITTINGS (GASKETED JOINTS ON BELOW SLAB DRAINAGE NOT PERMITTED UNLESS SPECIFICALLY APPROVED BY ENGINEER).

3. REFRIGERANT PIPING

3.1. REFRIGERATION CONTRACTOR SHALL SIZE PIPING FOR MINIMUM PRESSURE DROPS IN ACCORDANCE WITH THE LATEST ASHRAE STANDARDS. ALL TUBING RUNS TO BE DESIGNED AND INSTALLED USING SHORTEST RUNS POSSIBLE WITH NO CROSSOVERS. PIPING SHALL BE ACR COPPER MANUFACTURED BY MUELLER. DO NOT USE CAST TYPE FITTINGS. ALL ELBOWS AND RETURN BENDS SHALL BE 90 DEGREE - DO NOT USE 45 DEGREE ELBOWS. SHUTOFF/ISOLATION VALVES TO BE REFRIGERATION GRADE ANGLE, GLOBE AND BALL TYPE WITH SEAT TYPE CONNECTIONS EQUAL TO MUELLER STREAMLINE. MAKE JOINTS WITH BRAZED COPPER TO COPPER COUPLINGS. SLOPE HORIZONTAL LINES MINIMUM OF 1:200 IN THE DIRECTION OF FLOW. PROVIDE OIL TRAPS AT THE BASE OF ALL SUCTION AND DISCHARGE RISERS. EXTREME CARE SHALL BE TAKEN TO KEEP THE ENTIRE SYSTEM CLEAN AND DRY DURING INSTALLATION. ANY FOREIGN MATERIALS MUST BE REMOVED WITH A CLEAN DRY SWAB.

3.2. REFRIGERATION PIPING INSULATION:

3.2.1. SUCTION LINES SHALL BE INSULATED WITH 1" (25mm) WALL ARMAFLEX. CONDENSATE RETURN LINES SHALL BE INSULATED WITH 3/4" (20mm) WALL ARMAFLEX. HOT GAS LINES SHALL BE INSULATED WITH WALL ARMAFLEX. ALL INSULATION JOINTS TO BE GLUED. PAINT PIPING INSULATION EXPOSED TO OUTDOORS WITH TWO COATS OF PAINT.

3.3. TESTING, CHARGING AND START-UP:

3.3.1. AT COMPLETION OF INSTALLATION, PRESSURE SYSTEM WITH NITROGEN AND CHECK FOR LEAKS. REPAIR AND RETEST. LEAK TEST THE ENTIRE SYSTEM TO CURRENT ENVIRONMENT CANADA AND HRAI STANDARDS.

3.3.2. BEFORE ANY MOTOR UNITS IS OPERATED, THE LUBRICATION SHALL BE CHECKED AND RECTIFIED IF IMPROPER.

3.3.3. RECHECK COMPRESSOR CRANKCASE OIL LEVEL AFTER 24 HOURS OF OPERATION. START-UP SYSTEM. CHARGE AND CHECK OUT OPERATION. ASSURE THE REFRIGERANT CHARGE IS ADEQUATE FOR WINTER OPERATION OF SYSTEM.

3.4. WARRANTY-GUARANTEE:

3.4.1. THE CONTRACTOR SHALL WARRANTY ALL EQUIPMENT, MATERIALS AND WORKMANSHIP FOR A ONE (1) YEAR PERIOD. COMPRESSORS SHALL CARRY AN EXTENDED FOUR YEAR REPLACEMENT WARRANTY.

4. RETURN AIR PLENUMS

4.1. CONTRACTOR IS TO ENSURE PIPING AND OTHER COMPONENTS LIKE THE DOMESTIC WATER HEATER SUPPORT PLATFORMS AND EQUIPMENT ACCESS PLATFORMS WITHIN RETURN AIR PLENUMS ARE SMOKE AND FLAME SPREAD RATED FOR THE APPLICATION (NON COMBUSTIBLE).

5. PLUMBING FIXTURES

5.1. REFER TO THE MECHANICAL DRAWINGS FOR THE PLUMBING FIXTURE SCHEDULE.

5.2. ALL FIXTURES TO BE SUPPLIED COMPLETE WITH SCREWDRIVER STOPS ON SUPPLIES. PROVIDE CHROME PLATED P-TRAPS, ESCUTOCHONS AND WATER SUPPLIES. PLASTIC IS NOT ACCEPTABLE.

5.3. PROVIDE SHOP DRAWINGS FOR REVIEW.

E. FIRE PROTECTION

1. FIRE EXTINGUISHER

1.1. PROVIDE FIRE EXTINGUISHER OF TYPE AND SIZE NOTED ON THE DRAWINGS. INSTALL FIRE EXTINGUISHERS IN SEMI-RECESSED CABINET WITH HINGED GLASS DOOR (PRIME COATED UNLESS NOTED OTHERWISE ON DRAWINGS).

1.2. INSTALL CABINET WITH HANDLE AT 3'-0" TO 5'-0" (1.0m TO 1.5m) ABOVE FINISHED FLOOR.

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ARCAN

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Yukon Association of Education Professionals

Association des professionnels de l'éducation du Yukon

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Job Number: 22037, Project Contact: Kyle Greshneck

PERMIT TO PRACTICE & SEAL

PERMIT TO PRACTICE
CONCEPT ENGINEERING INC.

Signature: _____

Date: APRIL 20, 2023

PERMIT NUMBER: PP752

The Association of Professional Engineers of Yukon

Association of Professional Engineers of Yukon

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REVISION	DESCRIPTION	BY	DD/MM/YYYY
00	50% REVIEW	TL	2022-12-09
01	95% REVIEW	TL	2023-02-03
02	100% REVIEW	TL	2023-03-03
03	CONSTRUCTION	TTG	2023-04-20

DRAWN BY: TL CHECKED BY: TTG

PROJECT TITLE

YUKON TEACHERS' ASSOCIATION HEAD OFFICE

LOT 38, BLOCK 316 - 151 BLACK ST.

DWG No

MECHANICAL SPECIFICATION

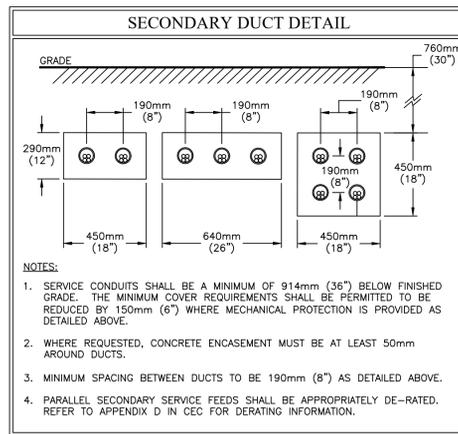
M501

REVISION PROJECT No

DATE: 2023-04-19 02 22037

SYMBOL SCHEDULE	
SYMBOL	DESCRIPTION
POWER	
	15A/20A DUPLEX RECEPTACLE
	15A/20A GFCI RECEPTACLE
	QUAD RECEPTACLE
	SPECIALTY RECEPTACLE (R=RANGE, D=DRYER)
	BARRIERED COMBINATION POWER/DATA FLOOR MOUNTED OUTLET
	CEILING MOUNTED JUNCTION BOX
	WALL MOUNTED JUNCTION BOX
	SURFACE MOUNTED BRANCH CIRCUIT PANEL
	DISTRIBUTION PANEL (DESIGNATION TBD)
	MOTOR
	DISCONNECT
LIGHTING	
	RECESSED LUMINAIRE 300x1200 (1'x4')
	SUSPENDED LINEAR LUMINAIRE
	STRIP LUMINAIRE (REFER TO FIXTURE SCHEDULE FOR LENGTHS)
	WALL BRACKET LUMINAIRE
	SURFACE/SUSPENDED LUMINAIRE
	RECESSED LUMINAIRE
	WALL MOUNT LUMINAIRE
	LIGHT POLE
	SINGLE GANG LIGHT SWITCH (3-3WAY, 4-4WAY)
	DIMMER SWITCH
	WALL/CEILING DUAL TECHNOLOGY OCCUPANCY/VACANCY SENSOR
	WALL/CEILING MOUNTED EXIT SIGN (NRCAN C860)
	SELF CONTAINED AND HARDWIRED EMERGENCY LIGHTING PACK
	COMBINATIONAL EXIT/EMERGENCY LIGHTING PACK
COMMUNICATION	
	COMBINATION VOICE/DATA TELECOMMUNICATIONS OUTLET
SECURITY	
	CARD READER (REFER TO DETAIL 2/E201)
KEYED NOTES	
	TELECOMMUNICATIONS TAG (REFER TO SCHEDULE)
	KEYED NOTE
	LUMINAIRE TAG
	MECHANICAL TAG
NOTES:	
1. 'WP' DENOTES WEATHERPROOF WHILE IN USE	
2. 'N/L' DENOTES NIGHT LIGHTING	

GENERAL SITE NOTES
1. CONDUITS: RIGID PVC OR DB11 (SUITABLE FOR DIRECT BURIAL). MINIMUM 1m BELOW FINISHED GRADE. RIGID PVC MUST BE UTILIZED FOR ENTRANCE INTO TRANSFORMER VAULT.
2. MAINTAIN 2m HORIZONTAL CLEARANCE FROM GAS LINE AND 3m HORIZONTAL CLEARANCE FROM WATER/STORM/SANITARY LINES FROM PRIMARY DUCTS AND EDGE OF PADMOUNT TRANSFORMERS.
3. COORDINATE EXACT SERVICE LOCATIONS WITH MECHANICAL SERVICES AND EASEMENTS TO MAINTAIN PROPER CLEARANCES.
4. TELEPHONE SERVICE DUCTS TO BE ORANGE IN COLOR AS PER SERVICE PROVIDER REQUIREMENTS.
5. ALL SERVICE ENTRY POINTS SHALL BE CONFIRMED WITH UTILITIES PRIOR TO WORK PROCEEDING.
6. INSTALLATION SHALL BE TO UTILITY COMPANY REQUIREMENTS.
7. PROVIDE 4"x4" PRESSURE TREATED WOOD POSTS TO MARK ALL CONDUIT STUBS. RECORD DRAWINGS MUST INDICATE DIMENSIONS OF ALL STUBS.
8. CONDUCTORS FOR 120V CIRCUITS SHALL BE SIZED AS REQUIRED TO ACCOMMODATE VOLTAGE DROPS PER C.E.C. REQUIREMENTS.

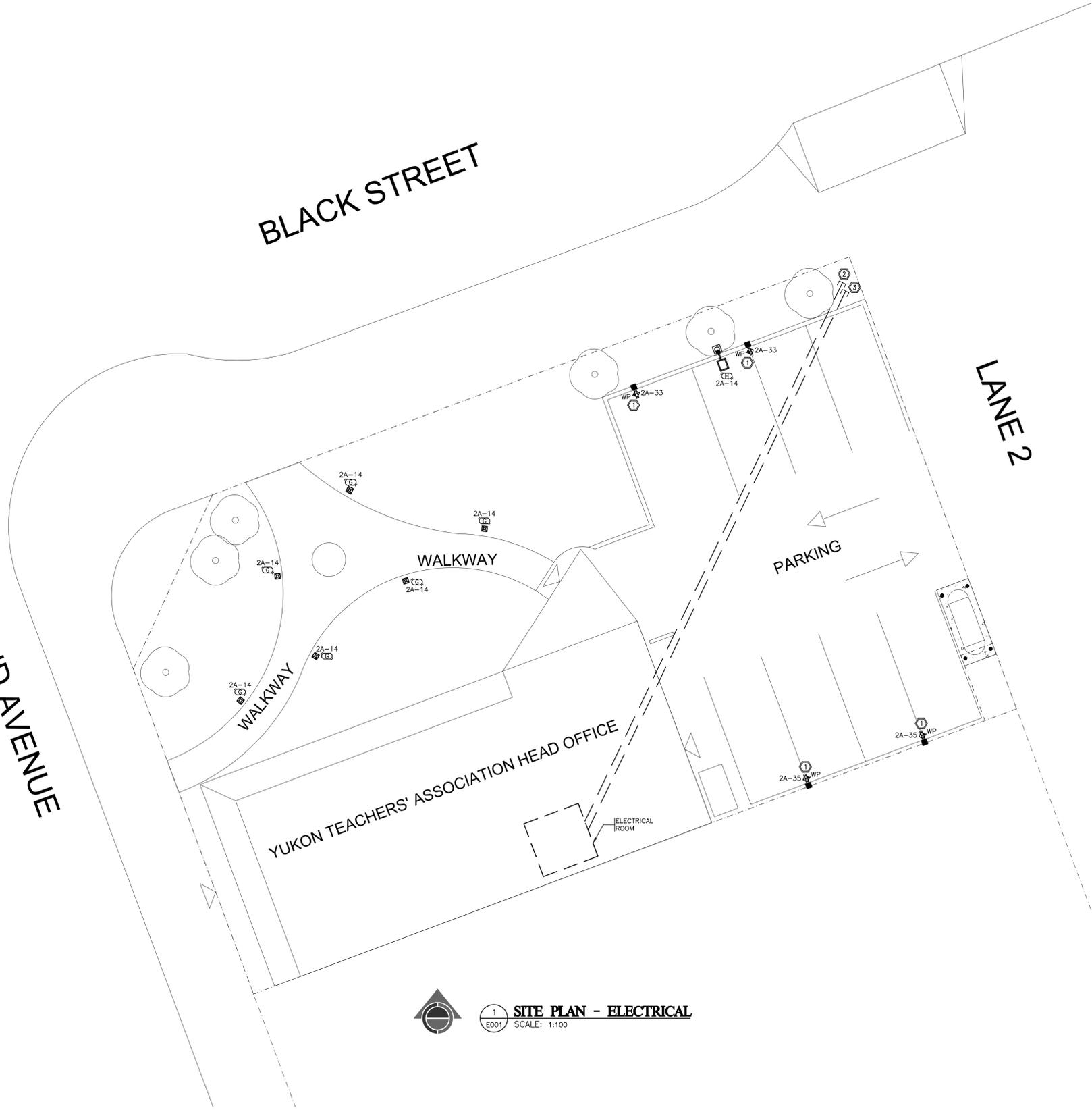


KEY NOTES
① ELECTRICAL CONTRACTOR SHALL PROVIDE RELAY OR CONTACTOR BASED CONTROL SYSTEM SUCH THAT RAIL MOUNTED CAR RECEPTACLES CAN BE CONTROLLED BASED ON TEMPERATURE AND TIME IN A 50/50 GROUPED MANNER. TEMPERATURE AND TIME SETTINGS TO BE COORDINATED WITH END-USER PRIOR TO OCCUPANCY.
② PROVIDE 1-103mm SECONDARY DUCTS c/w #3/0 XL (200A 3ø 4W SERVICE) FROM MAIN DISTRIBUTION PROPERTY LINE. COORDINATE EXACT REQUIREMENTS WITH SERVICE PROVIDER PRIOR TO ROUGH-IN.
③ PROVIDE 2-103mm TELECOMMUNICATION DUCTS c/w PULL STRING FROM UTILITY SERVICE ENTRANCE LOCATION TO MAIN TELECOMMUNICATIONS BACKBOARD FOR TELEPHONE/CATV SERVICES. COORDINATE EXACT SERVICE ENTRANCE LOCATIONS WITH SERVICE PROVIDER(S) PRIOR TO ROUGH-IN.

2ND AVENUE

BLACK STREET

LANE 2



1 SITE PLAN - ELECTRICAL
E001 SCALE: 1:100

88 ENTERPRISE DR
YELLOWKNIFE, NT X1A 0G2
PH: (867) 873 2520
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ARCAN

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PERMIT TO PRACTICE & SEAL

PERMIT TO PRACTICE
CONCEPT ENGINEERING INC.

Signature:

Date: APRIL 21, 2023

PERMIT NUMBER: PP752

The Association of Professional Engineers of Yukon

PROFESSIONAL
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TERRITORY
ENGINEER

APRIL 21, 2023

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02	IFC	JMG	2023-04-21

DRAWN BY: CDB CHECKED BY: JMG

PROJECT TITLE

YUKON TEACHERS' ASSOCIATION HEAD OFFICE

LOT 38, BLOCK 316 - 151 BLACK ST.

DRAWING TITLE

ELECTRICAL SITE PLAN

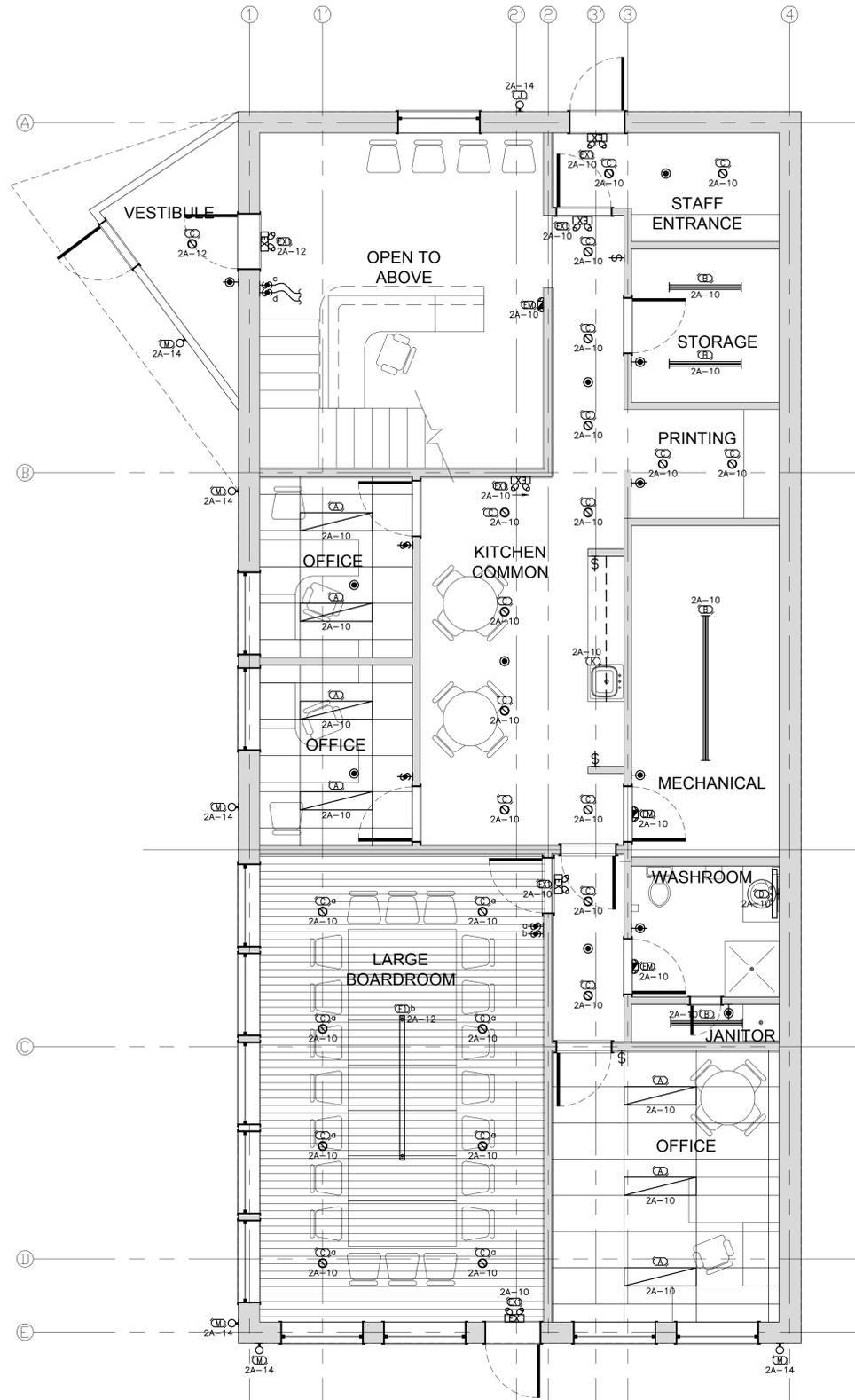
DWG No: **E001**

DATE: 2023-04-21

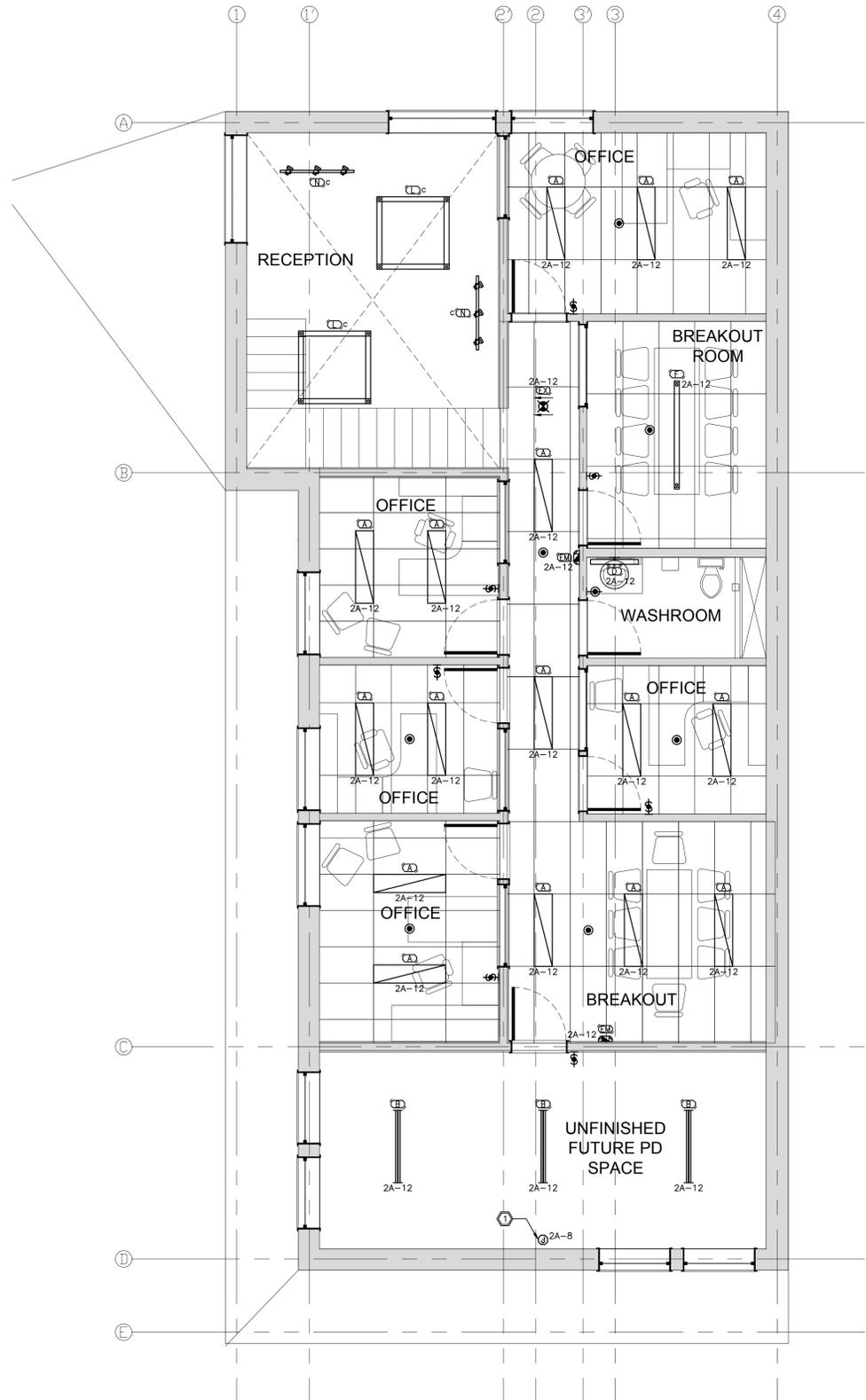
REVISION: 03 PROJECT No: 22037

KEY NOTES

1 ELECTRICAL CONTRACTOR TO PROVIDE HARDWIRED CONNECTION FOR EXTERIOR SIGNAGE TO BE CONTROLLED VIA TIMECLOCK. SIGNAGE AND FINAL CONNECTION TO BE BY OTHERS.



1 MAIN FLOOR PLAN - LIGHTING
SCALE: 1:50



2 SECOND FLOOR PLAN - LIGHTING
SCALE: 1:50



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CONCEPT ENGINEERING INC.
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YUKON TEACHERS' ASSOCIATION
HEAD OFFICE
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DRAWING TITLE

LIGHTING PLANS

DWG No

E101

DATE

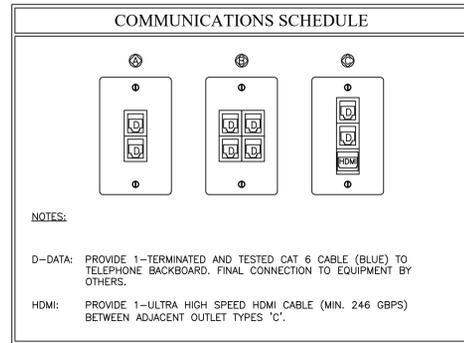
2023-04-21

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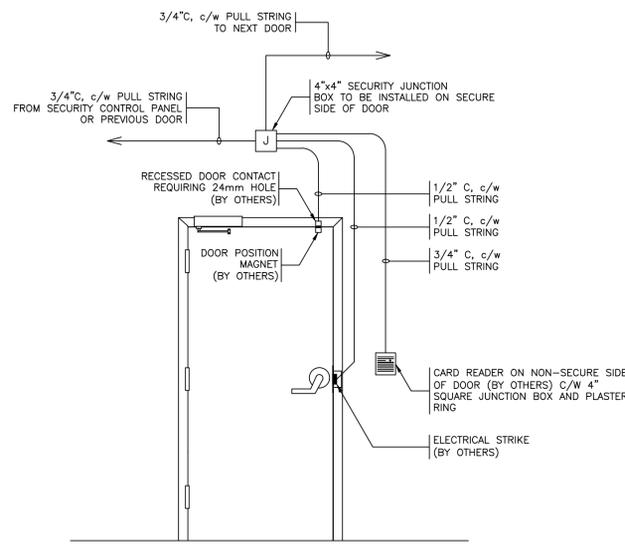
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PROJECT No

22037

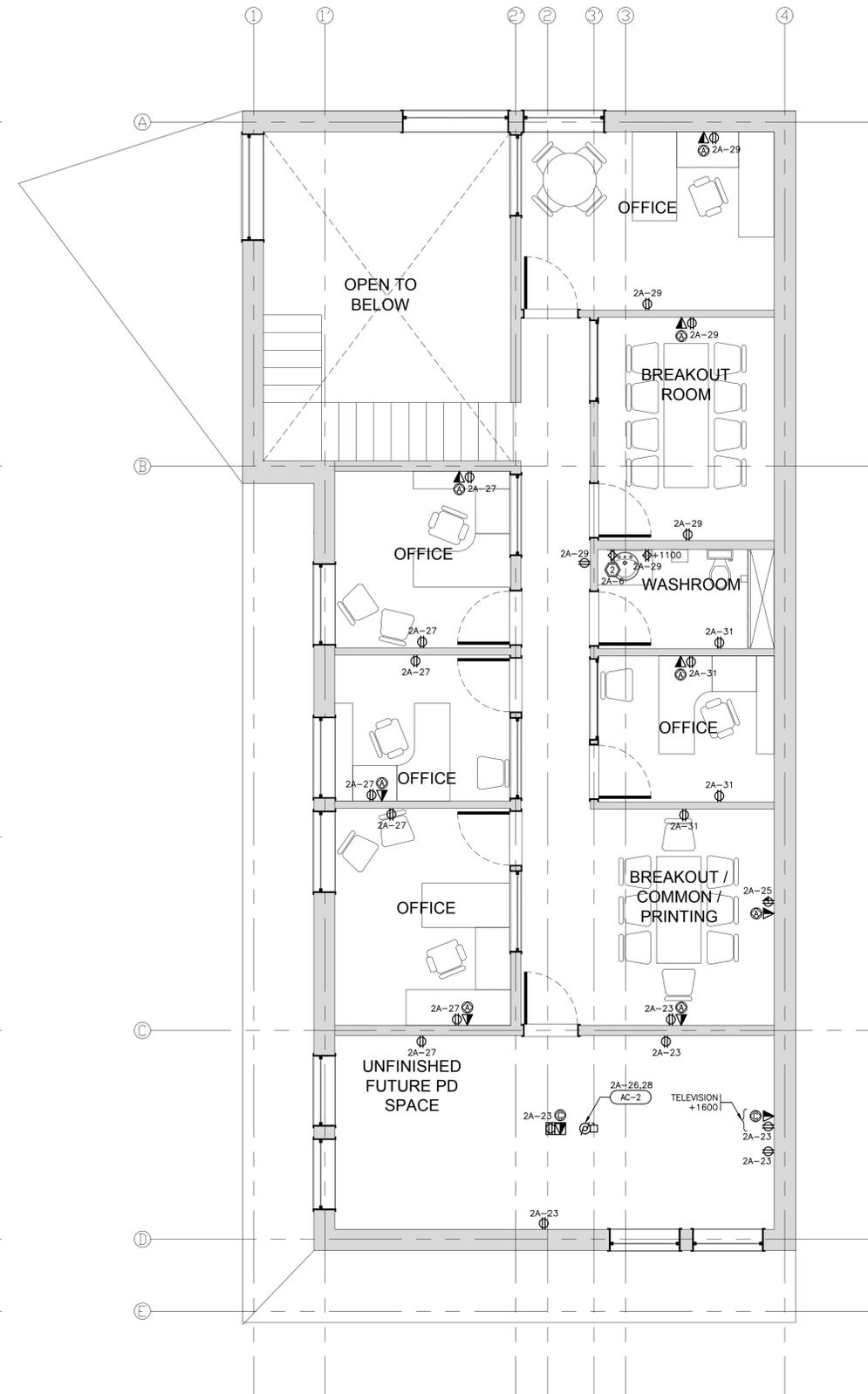
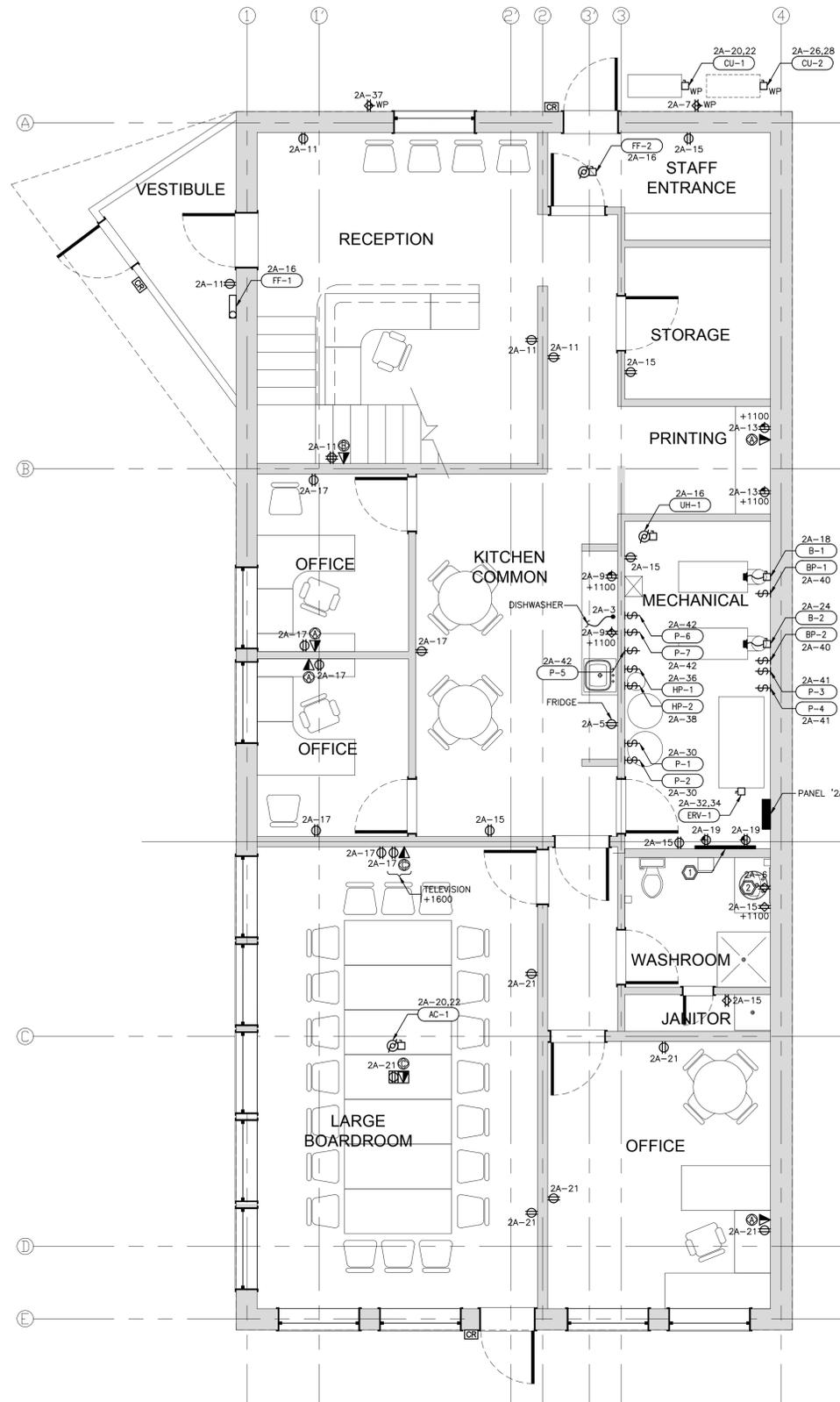


- ### KEY NOTES
- PROVIDE 8"x4"x3/4" G1S PAINTED PLYWOOD BACKBOARD FOR MOUNTING OF TELECOMMUNICATIONS EQUIPMENT. PROVIDE MULTI-TAP GROUNDING STRIP AND #8 GND.
 - ELECTRICAL CONTRACTOR TO PROVIDE AND INSTALL 15A GFCI RATER RECEPTACLE UNDER SINK FOR CONNECTION OF AUTOMATIC FLUSH/SENSORED FAUCET TRANSFORMER. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH MECHANICAL CONTRACTOR PRIOR TO ROUGH-IN.



- NOTES:**
- ELECTRICAL CONTRACTOR TO SUPPLY AND INSTALL CONDUIT COMPLETE WITH PULL STRING TO SECURITY DEVICES. ALL WIRING AND DEVICES BY OTHERS.
 - PROVIDE FOAM BLOCKING AS NECESSARY FOR CONCRETE FILLED DOOR FRAMES.
 - ALLOW FOR EASY ACCESS TO DOOR JUNCTION BOXES AND POWER SUPPLIES FOR INSTALLATION AND FUTURE SERVICE.
 - THIS DRAWING IS TO BE USED FOR INFORMATION AND/OR PRICING ONLY AND IS NOT INTENDED FOR CONSTRUCTION.

2 SINGLE DOOR SECURITY DETAIL
E1 NTS



REVISION	DESCRIPTION	BY	DD/MM/YY
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LUMINAIRE SCHEDULE									
TYPE	MANUFACTURER	CATALOGUE NUMBER	DESCRIPTION	LAMPS	COLOR TEMP	VOLTS	MOUNTING	NOTES	
A	METALUX	14CGT4040C	1' X 4' RECESSED LUMINAIRE	39.4W LED	3500K	120V	RECESSED		
B	METALUX	8SLSTP8040DD-UNV	8' STRIP LUMINAIRE	76W LED	3500K	120V	SURFACE		
B1	METALUX	4SLSTP4040DD-120V	4' STRIP LUMINAIRE	40W LED	3500K	120V	SURFACE		
C	MAXLITE	RCF613CSW-V2	RECESSED DOWNLIGHT	13W LED	3500K	120V	RECESSED		
D	SPI LIGHTING	SW121693FTL10W UNV 3500K DFM01 REC BAL	VANITY LUMINAIRE	10W LED	3500K	120V	SURFACE	4	
F	FLUXWERX	FD1 A A C 35 S 6 G F2 M 3	6' SUSPENDED LINEAR LUMINAIRE	43.5W LED	3500K	120V	SUSPENDED		
F1	FLUXWERX	FD1 A A C 35 S 8 F2 M 3	8' SUSPENDED LINEAR LUMINAIRE	58W LED	3500K	120V	SUSPENDED		
G	LUMIERE	1900-GA-30 12LED3025 UNV BK 7048-PK	LANDSCAPE BOLLARD	12W LED	3000K	120V	POLE	3	
H	LUMARK	PRV PA2 A 730 U T4W SA BK CW SSA 5" M 18 W D	PARKING POLE LUMINAIRE	113W LED	3000K	120V	POLE	3	
J	LUMARK	PRV-P PA1 A 730 U T3 SM BK	EXTERIOR WALL PACK	31W LED	3000K	120V	SURFACE	3	
K	SGI LIGHTING	FLEXP-BASIC-WHT SW 85 C/W TRACK LP 2410 CST WHT FF	UNCER CABINET LIGHTING	1.6W LED/FT	3500K	120V	SURFACE	2	
L	SPI LIGHTING	AIP12159 L71W 120 3500K H02 BCE DF_DM1	SUSPENDED FEATURE PENDENT	71W LED	3500K	120V	SUSPENDED		
M	LUMIERE	9003 W2 RW LED9090 M M BK L2 UNV RSM	EXTERIOR FAÇADE LUMINAIRE	20W LED	3000K	120V	SURFACE	3	
N	HALO	L651 P P L992 C/W 4X L 809 16 WS 935 p	TRACK LIGHTING	14.3W LED/HEAD	3500K	120V	SUSPENDED		
EM	AIMLITE	EBIM-2	HARDWIRED, SELF CONTAINED EMERGENCY LIGHT			120V	WALL		
EX	AIMLITE	RPNP	SELF POWERED PICTOGRAM EXT LIGHT			120V	UNIVERSAL	1	
EX1	AIMLITE	CPRNP-2SM	COMBINATION PICTOGRAM EXT/EMERGENCY LIGHT			120V	UNIVERSAL	1	

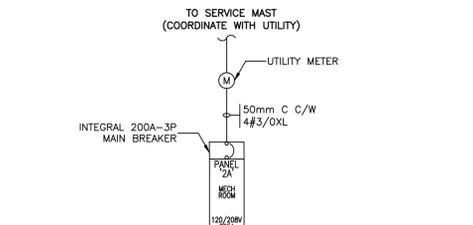
NOTES:
1. REFER TO DRAWINGS FOR DIRECTIONAL ARROW DESIGNATION AND MOUNTING TYPE
2. REFER TO DRAWINGS FOR REQUIRED LENGTHS. ELECTRICAL CONTRACTOR RESPONSIBLE FOR SUPPLYING AND INSTALLING ALL COMPONENTS REQUIRED FOR INSTALL (DRIVERS, MOUNTING CHANNELS, ETC.)
3. FIXTURE TO BE CONTROLLED VIA ASTRONOMICAL TIMELOCK SUPPLIED AND INSTALLED BY ELECTRICAL CONTRACTOR.
4. COORDINATE EXACT MOUNTING HEIGHT ON SITE WITH GENERAL AND MILLWORK CONTRACTORS.
* ALL LIGHTING TO BE CSA APPROVED
** ALTERNATES MUST BE APPROVED BY CONCEPT ENGINEERING AND MUST BE EQUAL TO OR BETTER THAN SPECIFIED PRODUCT.

- ### SPECIFICATION
- ELECTRICAL CONTRACTOR SHALL VISIT THE SITE PRIOR TO FINAL SUBMISSION OF TENDER PRICE TO BECOME FAMILIARIZED WITH ALL EXISTING SITE CONDITIONS; THERE SHALL BE NO RECOURSE IF THE FORMER IS NOT COMPLIED WITH.
 - THE ELECTRICAL CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS AND FEES FOR THE EXECUTION OF THIS WORK.
 - ALL WORK MUST COMPLY WITH THE LATEST EDITION OF THE CANADIAN ELECTRICAL CODE AND LOCAL INSPECTION AUTHORITIES.
 - SUPPLY AND INSTALL BREAKERS AS REQUIRED. BREAKERS SHALL BE BOLT IN PLACE, MOLDED CASE, AUTOMATIC AIR CIRCUIT BREAKERS WITH THERMAL AND MAGNETIC TRIPS WITH INTERRUPTING CAPACITY OF 10,000 AMPS. PROVIDE PANEL DIRECTORY (COMPUTER PRINTED, IN PLASTIC COVER).
 - ELECTRICAL CONTRACTOR SHALL PROVIDE CONNECTION OF ALL MECHANICAL EQUIPMENT AND CONTROLS. REFER TO MECHANICAL DRAWINGS AND SPECIFICATIONS FOR EXACT LOCATIONS AND REQUIREMENTS.
 - PROVIDE DISCONNECTS FOR ALL MECHANICAL EQUIPMENT CONNECTIONS AND MOTOR STARTERS FOR ALL MOTORS ABOVE 1/3HP.
 - ALL WIRE SHALL BE IN CONDUIT, #12 AWG R90 XL COPPER MINIMUM. MINIMUM #10 AWG ON ALL RUNS GREATER THAN 100'. BX CABLE PERMITTED FOR DROPS TO LIGHT FIXTURES ONLY.
 - ALL EQUIPMENT TO BE LABELED WITH NAMEPLATES. ALL OUTLETS TO BE LABELED WITH CIRCUIT DESIGNATION.
 - WARRANTY AND GUARANTEE ELECTRICAL INSTALLATION AND EQUIPMENT FOR ONE (1) YEAR COMMENCING FROM DATE OF FINAL INSPECTION BY THE OWNER'S REPRESENTATIVE.
 - SUBMIT ONE SET OF RECORD DRAWINGS UPON COMPLETION OF PROJECT. INCLUDE COSTS FOR ENGINEER TO UPDATE DRAWINGS ELECTRONICALLY.
 - ALL DEVICES SHALL BE SPECIFICATION GRADE WHITE, COMPLETE WITH WHITE COVER PLATES. PROVIDE BLANK COVER PLATES ON ALL OUTLET BOXES.
 - WALL OUTLET BOXES TO BE SECURED BY A MINIMUM OF TWO (2) STUDS.
 - CONFIRM OUTLET MOUNTING HEIGHTS, LOCATIONS, ORIENTATION AND COLOUR WITH INTERIOR DESIGNER PRIOR TO ROUGH-IN. ALL DEVICES ABOVE COUNTER SHALL BE ABOVE BACKSPASH.
 - ALL ELECTRICAL DEFICIENCIES NOTED ON THE FINAL INSPECTION REPORT SHALL BE COMPLETED WITH SUBMISSION OF LOCAL INSPECTION DEPARTMENT FINAL INSPECTION CERTIFICATE AND RECORD DRAWINGS TO CONCEPT ENGINEERING WITHIN 14 DAYS OF THE DATE OF THE FINAL INSPECTION SUBSTANTIAL COMPLETION REPORT.
 - CONDUIT SHALL NOT BE SUPPORTED FROM TBAR OR TBAR HANGERS.
 - CONTACT CONCEPT ENGINEERING FOR ROUGH-IN INSPECTION PRIOR TO APPLICATION OF DRYWALL AND INSTALLATION OF CEILING TILE.
 - LABEL CIRCUIT NUMBERS CONTAINED IN EACH CEILING OUTLET/JUNCTION BOX WITH PERMANENT FELT MARKER.
 - CONDUIT STUBS TO CEILING SPACE SHALL BE COMPLETE WITH BUSHINGS.
 - VOICE/DATA OUTLETS SHALL BE TWO GANG C/W SINGLE GANG PLASTER RING.
 - UTILIZE APPROPRIATE TELECOMMUNICATIONS CABLE RATING FOR DESIGNED INTENT: CMR RATE CABLEING TO BE USED FOR RISERS AND CMP RATED CABLEING TO BE USED ABOVE CEILING SPACE RETURN AIR PLENUM, OR AS APPROVED BY LOCAL JURISDICTION.
 - ALL CORING SHALL BE XRAYED, CONFIRM WITH LANDLORD.
 - FOR SECONDARY SERVICE FEEDERS, DE-RATING IS BASED ON 90°C RATED CABLEING AND DISTRIBUTION GEAR. IF DISTRIBUTION GEAR IS RATED FOR LESS THAN 90°C THEN ADDITIONAL DE-RATING OF SECONDARY CONDUCTORS IS REQUIRED (CEC 4-006)
 - ELECTRICAL CONTRACTOR RESPONSIBLE FOR FINAL COORDINATION OF ELECTRICAL INSTALLATION WITH GENERAL CONTRACTOR AND OWNER PRIOR TO INSTALLATION.

MECHANICAL SCHEDULE													
MOTOR TAG	DESCRIPTION	LOCATION	MOTOR DATA						BREAKER SIZE	FEEDER SIZE	CONDUIT SIZE (mm)	CONTROL	NOTES
			HP	VOLTS	PH	FLA	MCA	KW					
ENERGY RECOVERY VENTILATOR													
ERV-1	ENERGY RECOVERY VENTILATOR	MECHANICAL	208	1	12.0	13.3		20A 2P	2	#12	16	CONTROL PANEL	
CONDENSING UNITS													
CU-1	CONDENSING UNIT	EXTERIOR	208	1	20.0	20.0		30A 2P	2	#10	21	INTERLOCK	2
CU-2	CONDENSING UNIT	EXTERIOR	208	1	20.0	20.0		30A 2P	2	#10	21	INTERLOCK	1,2
A/C UNITS													
AC-1	AIR CONDITIONER	LARGE BOARDROOM	208	1	2.0	2.0		15A 2P	2	#12	16	T-STAT	
AC-2	AIR CONDITIONER	FUTURE PD SPACE	208	1	2.0	2.0		15A 2P	2	#12	16	T-STAT	1
BOILER UNITS													
B-1	BOILER	MECHANICAL	120	1	12.5	1.5	20A 1P	2	#12	16			
B-2	BOILER	MECHANICAL	120	1	12.5	1.5	20A 1P	2	#12	16			
PUMPS													
P-1	PUMP	MECHANICAL	FRAC	120	1	0.5		15A 1P	2	#12	16		3
P-2	PUMP	MECHANICAL	FRAC	120	1	5.8		15A 1P	2	#12	16		3
P-3	PUMP	MECHANICAL	FRAC	120	1	0.5		15A 1P	2	#12	16		3
P-4	PUMP	MECHANICAL	FRAC	120	1	0.5		15A 1P	2	#12	16		3
P-5	PUMP	MECHANICAL	FRAC	120	1	0.5		15A 1P	2	#12	16		3
P-6	PUMP	MECHANICAL	FRAC	120	1	0.5		15A 1P	2	#12	16		3
P-7	PUMP	MECHANICAL	FRAC	120	1	0.5		15A 1P	2	#12	16		3
BP-1	BOILER PUMP	MECHANICAL	FRAC	120	1	5.8		15A 1P	2	#12	16		3
BP-2	BOILER PUMP	MECHANICAL	FRAC	120	1	5.8		15A 1P	2	#12	16		3
HP-1	HEATING PUMP	MECHANICAL	FRAC	120	1	16.0		40A 1P	2	#12	16		3
HP-2	HEATING PUMP	MECHANICAL	FRAC	120	1	16.0		40A 1P	2	#12	16		3
HEATERS													
UH-1	UNIT HEATER	MECHANICAL	FRAC	120	1	0.5		15A 1P	2	#12	16	T-STAT	
FF-1	ELECTRIC FORCE FLOW	VESTIBULE	FRAC	120	1	0.5		15A 1P	2	#12	16	T-STAT	
FF-2	ELECTRIC FORCE FLOW	STAFF ENTRANCE	FRAC	120	1	0.5		15A 1P	2	#12	16	T-STAT	

NOTES:
1. ELECTRICAL CONTRACTOR TO ROUGH-IN MECHANICAL EQUIPMENT NOTED FOR FUTURE INSTALL
2. TO BE INTERLOCKED WITH RESPECTIVE AIR CONDITIONER
3. COORDINATE EXACT LOCATION OF EQUIPMENT WITH MECHANICAL CONTRACTOR PRIOR TO ROUGH-IN
* CONFIRM VOLTAGE, PHASE AND AMPS OF ALL MECHANICAL EQUIPMENT PRIOR TO ROUGH-IN

PANEL 2A									
VOLTAGE: 120 / 208					LOCATION: MECHANICAL ROOM				
PHASE: 3					FRAME RATING: 225A				
MOUNTING: SURFACE					AIC RATING: 10,000 AIC				
LOAD DESCRIPTION	LOAD (KW)	BRK	CCT No.	PHASE CONNECTED	CCT No.	BRK	LOAD (KW)	LOAD DESCRIPTION	
DISHWASHER	15A	3	X	4					
FRIDGE	15A	5	X	6	15A			FAUCET XFORMER	
MAINTENANCE RECEPTACLE	20A	7	X	8	15A			EXTERIOR SIGNAGE	
KITCHEN RECEPTACLES	20A	9	X	10	20A			MAIN FLOOR LIGHTING	
RECEPTION RECEPTACLES	15A	11	X	12	20A			SECOND FLOOR LIGHTING	
PRINTING RECEPTACLES	20A	13	X	14	20A			SITE LIGHTING	
GENERAL RECEPTACLES	15A	15	X	16	15A			FF-1, FF-2, UH-1	
OFFICE RECEPTACLES	15A	17	X	18	20A			B-1	
TELECOMM. RECEPTACLES	20A	19	X	20	30A			CU-1, AC-1	
BOARDROOM RECEPTACLES	15A	21	X	22	20A			B-2	
BOARDROOM RECEPTACLES	15A	23	X	24	20A			CU-1, AC-1	
PRINTER	20A	25	X	26	30A				
OFFICE RECEPTACLES	15A	27	X	28	15A			P-1, P-2	
OFFICE RECEPTACLES	15A	29	X	30	15A				
OFFICE RECEPTACLES	15A	31	X	32	20A			ERV-1	
CAR PEDESTALS	20A	33	X	34					
CAR PEDESTALS	20A	35	X	36	40A			HP-1	
EXTERIOR RECEPTACLES	20A	37	X	38	40A			HP-2	
		39	X	40	15A			BP-1, BP-2	
P-3, P-4		41	X	42	15A			P-5, P-6, P-7	
		43	X	44					
		45	X	46					
		47	X	48					
		49	X	50					
		51	X	52					
		53	X	54					
		55	X	56					
		57	X	58					
		59	X	60					



1 E500 ELECTRICAL SINGLE LINE DIAGRAM SCALE: N.T.S.



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LOT 38, BLOCK 316 - 151 BLACK ST.

DRAWING TITLE	DWG No
ELECTRICAL SCHEDULES & SPECIFICATION	E301
DATE: 2023-04-21	REVISION: 03 PROJECT No: 22037