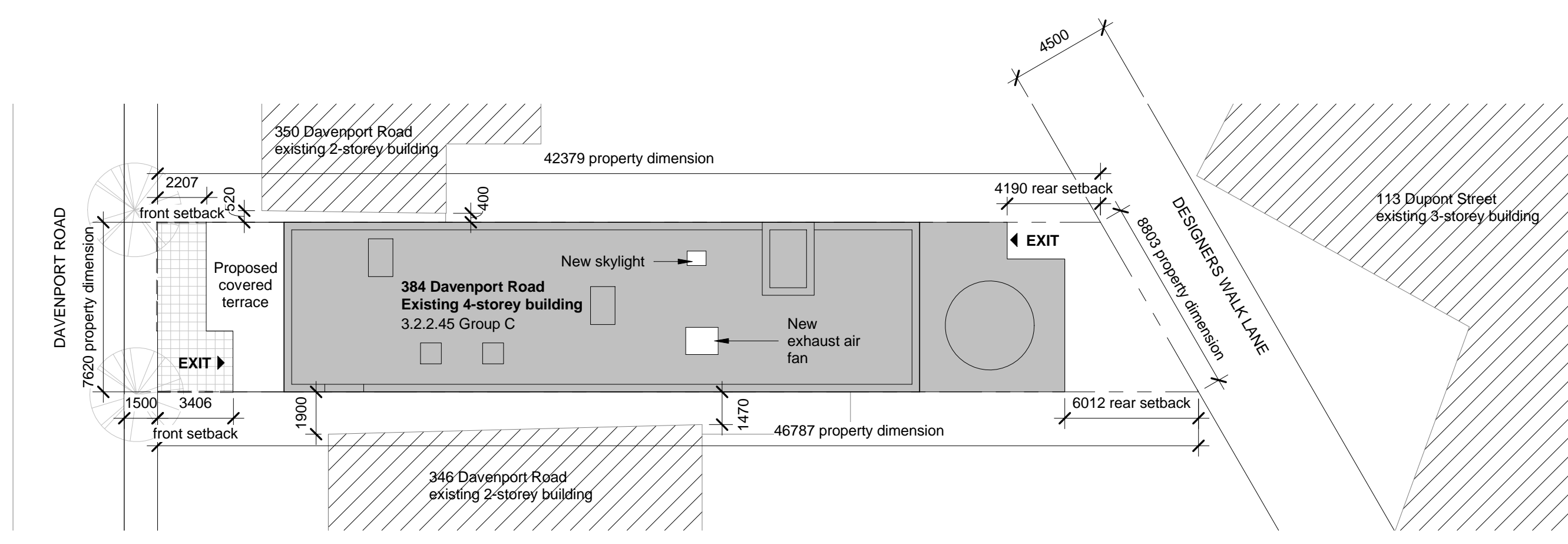


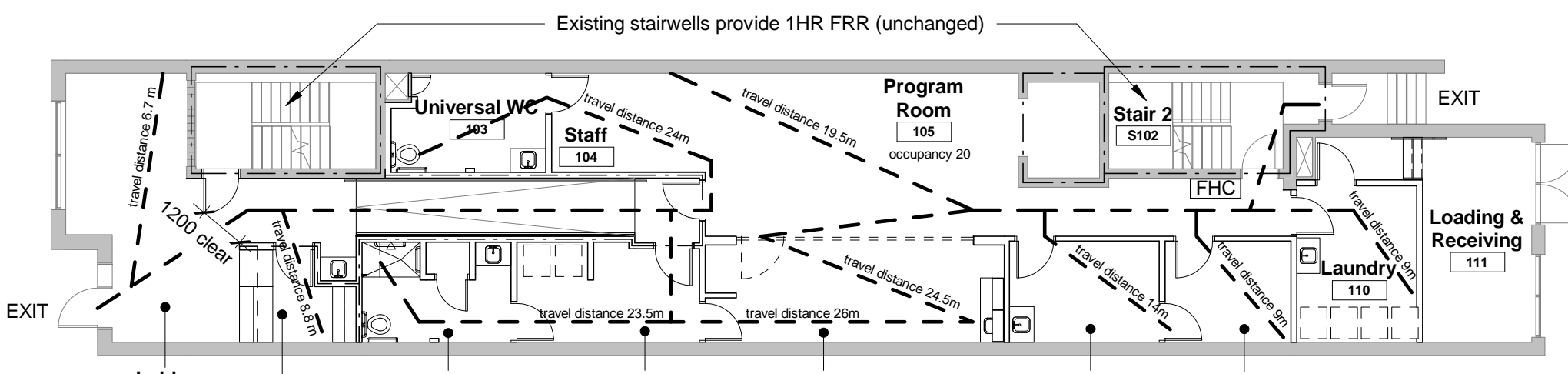
FIRM NAME: WORKSHOP ARCHITECTURE 1157 DAVENPORT ROAD Toronto, ON M6H 2G4 tel. 416.901.8055 fax 416.849.0383		LOCATION: 348 Davenport Road Toronto, ON MSR 1K6	
NAME OF PROJECT: Davenport Shelter		Project Area: 970m2 (renovation)	
ITEM		OBC REFERENCE	
ONTARIO'S 2012 BUILDING CODE DATA MATRIX PARTS 3 & 9		References are to Division B unless noted [A] for Division A or [C] for Division C	
1	PROJECT DESCRIPTION: <input type="checkbox"/> NEW <input checked="" type="checkbox"/> PART 11 <input type="checkbox"/> PART 3 <input type="checkbox"/> PART 9 <input type="checkbox"/> CHANGE OF USE <input checked="" type="checkbox"/> ALTERATION	3.1.2.1(1) 1.1.2. [A]	9.10.2 1.1.2 [A] & 9.10.1.3
2	MAJOR OCCUPANCY(S): Group C (Levels 1-4); Subsidiary Group F3 (Basement Levels)	3.1.2.1(1)	9.10.2
3	BUILDING AREA (M²): EXISTING 279 NEW 0 TOTAL no change	1.4.1.2.[A]	1.4.1.2.[A]
4	GROSS AREA: EXISTING 1605 NEW 0 TOTAL no change	1.4.1.2.[A]	1.4.1.2.[A]
5	NUMBER OF STOREYS ABOVE GRADE: 4 BELOW GRADE: 2	1.4.1.2 [A] & 3.2.1.1.	1.4.1.2 [A] & 9.10.4
6	NUMBER OF STREETS / FIRE FIGHTER ACCESS: 1 (EXISTING UNCHANGED)	3.2.2.10 & 3.2.5	9.10.20
7	BUILDING CLASSIFICATION: 3.2.2.45	3.2.2.20-83	9.10.2.
8	SPRINKLER SYSTEM (PROPOSED): <input checked="" type="checkbox"/> ENTIRE BUILDING <input type="checkbox"/> SELECTED COMPARTMENTS <input type="checkbox"/> BASEMENT <input type="checkbox"/> IN LIEU OF ROOF RATING <input type="checkbox"/> SELECTED FLOOR AREAS <input type="checkbox"/> NOT REQUIRED	3.2.2.20-83 3.2.1.5 3.2.2.17	9.10.8.2.
9	STANDPIPE REQUIRED: <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	3.2.9	N/A
10	FIRE ALARM REQUIRED: <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	3.2.4	9.10.18
11	WATER/SERVICE/SUPPLY IS ADEQUATE: <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	3.2.5.7	N/A
12	HIGH BUILDING: <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	3.2.6	N/A
13	CONSTRUCTION RESTRICTIONS: <input checked="" type="checkbox"/> COMBUSTIBLE PERMITTED <input type="checkbox"/> NON-COMBUSTIBLE REQUIRED <input type="checkbox"/> BOTH	3.2.2.20-83	9.10.6
14	MEZZANINE(S) AREA M²: NA	3.2.1.1.(3)-(8)	9.10.4.1
15	OCCUPANT LOAD BASED ON: <input type="checkbox"/> M.SQ./PERSON <input checked="" type="checkbox"/> DESIGN OF BUILDING OCCUPANCY LOAD 65 PERSONS 56 Clients/Residents (female only) 4 fixtures required/6 provided 9 Staff (assume even distribution by gender) 2 required/2 provided (note: existing WCs in basement level are dedicated for staff use)	3.1.17	9.9.1.3
16	BARRIER-FREE DESIGN: <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO (EXPLAIN)	3.8	9.5.2
17	HAZARDOUS SUBSTANCES: <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	3.3.1.2. & 3.3.1.19	9.10.1.3(4)
18	REQUIRED FIRE RESISTANCE RATING (FRR) HORIZONTAL ASSEMBLIES FRR (HOURS) LISTED DESIGN NO. OR DESCRIPTION (SG-2) FLOORS 1 HR/2HR HOURS ROOF NA HOURS MEZZANINE NA HOURS Existing floors 2-3 provide 45min FRR (unchanged); Basement provides 2HR FRR (unchanged)	3.2.2.20-83 & 3.2.1.4	9.10.8 9.10.9
19	SPATIAL SEPARATION - CONSTRUCTION OF EXTERIOR WALLS: NA	3.2.3	9.10.14
20	OTHER-DESCRIBE: Proposed Basic Renovation necessitates Change of Major Occupancy as outlined in Part 11 Matrix below. New use reduces Hazard Index; Compensating Construction requirements are not necessary. Basement levels are F3 Occupancy, and shall remain unchanged under this proposal. There is an existing 2HR FRR between basement level and main floor Occupancy, which shall remain. Existing floor assemblies at 2nd and 3rd floor provide 45min FRR; this rating shall be maintained. A Zoning Review has been carried out and it has been determined the proposal complies with applicable City Zoning Bylaws, as confirmed by Zoning Certificate 18 180707 ZCC 00 ZR.		

NAME OF PRACTICE: WORKSHOP architecture inc 1157 Davenport Road Toronto, ON M6H 2G4 phone: 416.901.805	PROJECT DESCRIPTION: Addition of new accessible WCs, Universal WCs and an accessible ramp. Changes to occupancy and plumbing count. The enclosure of the existing balcony as an unconditioned amenity space.
NAME OF PROJECT: Davenport Shelter	
LOCATION: 348 Davenport Road, Toronto ON MSR 1K6	

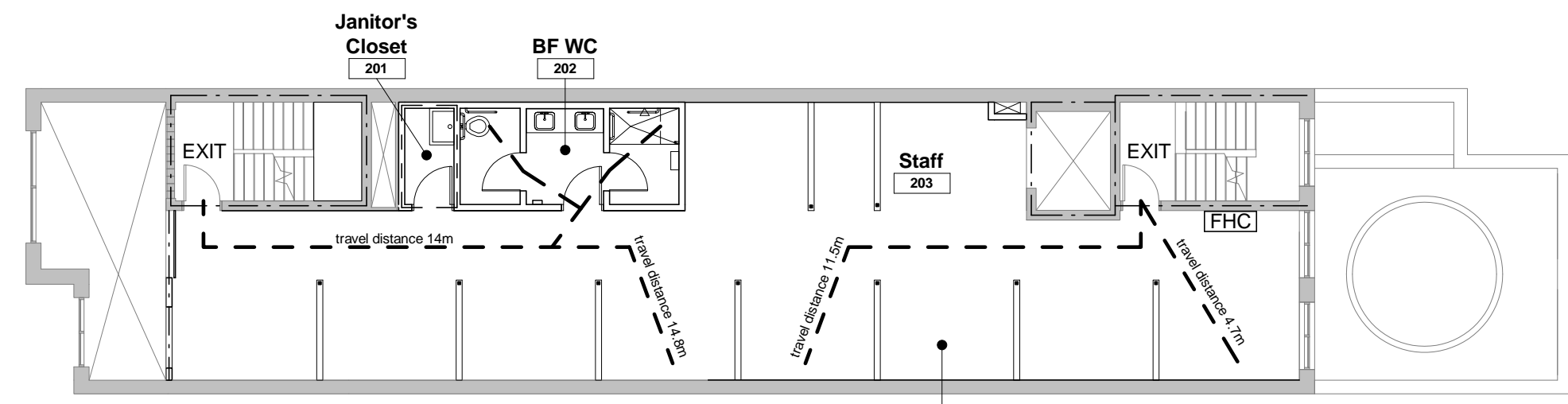
Ontario Building Code Data Matrix - Part 11 - Renovation of Existing Building			OBC Reference
11.1	Existing Building classification:	Describe Existing Use: Existing Building is comprised of multiple major occupancies: F3 at basement, D at levels 1-4. Existing Construction Index: 5 Existing Hazard Index: 5 Hazard Index for Proposed use: 4	11.2.1 T 11.2.1.1A T 11.2.1.1B to N
11.2	Alteration to Existing Building is:	Basic Renovation <input checked="" type="checkbox"/> Extensive Renovation <input type="checkbox"/>	11.3.3.1 11.3.3.2
11.3	Reduction in Performance Level:	Structural: <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes By Increase in occupant load: <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes By change of major occupancy: <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes Plumbing: <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes Sewage-system: <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes	11.4.2 11.4.2.1 11.4.2.2 11.4.2.3 11.4.2.4 11.4.2.5
11.4	Compensating Construction:	Structural: <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes Increase in occupant load: <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes Change of major occupancy: <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes Plumbing: <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes Sewage system: <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes	11.4.3 11.4.3.2 11.4.3.3 11.4.3.4 11.4.3.5 11.4.3.6
11.5	Compliance Alternatives Proposed:	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes	11.5.1



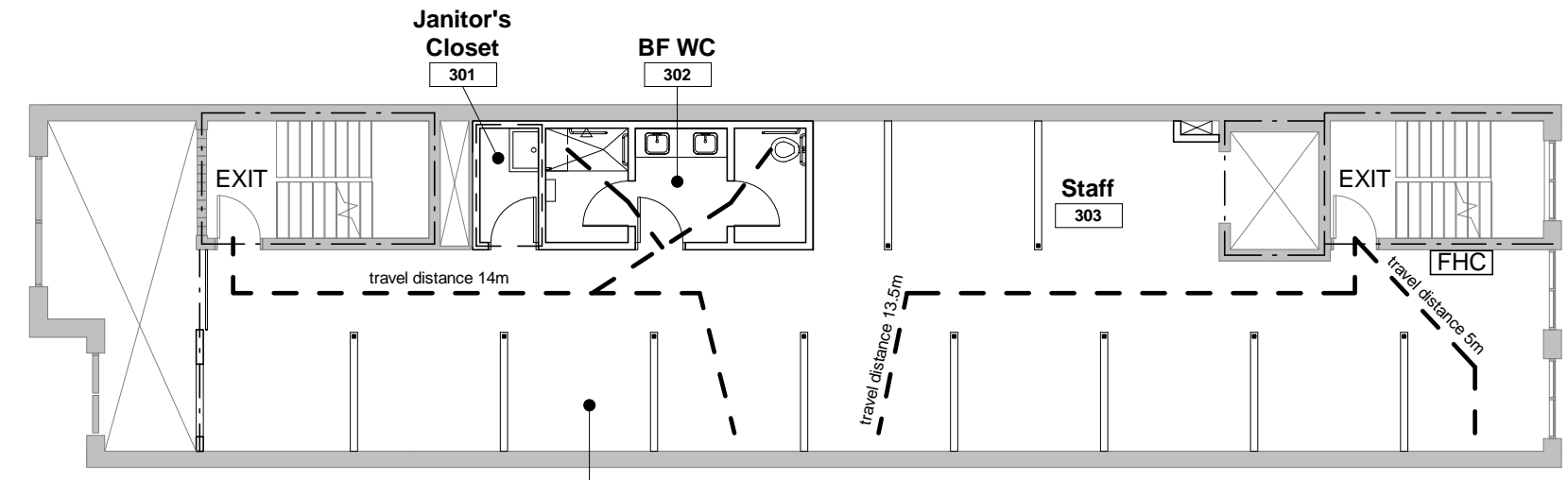
2 Site Plan Proposed
1 : 200



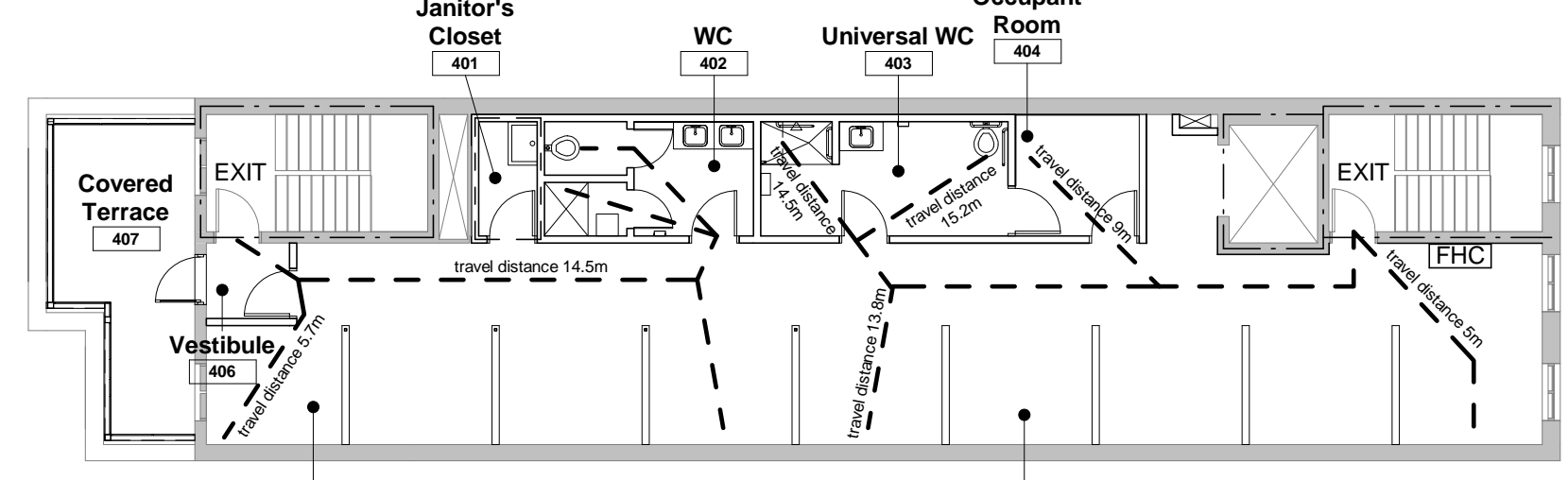
3 Level 1 Life Safety
1 : 150



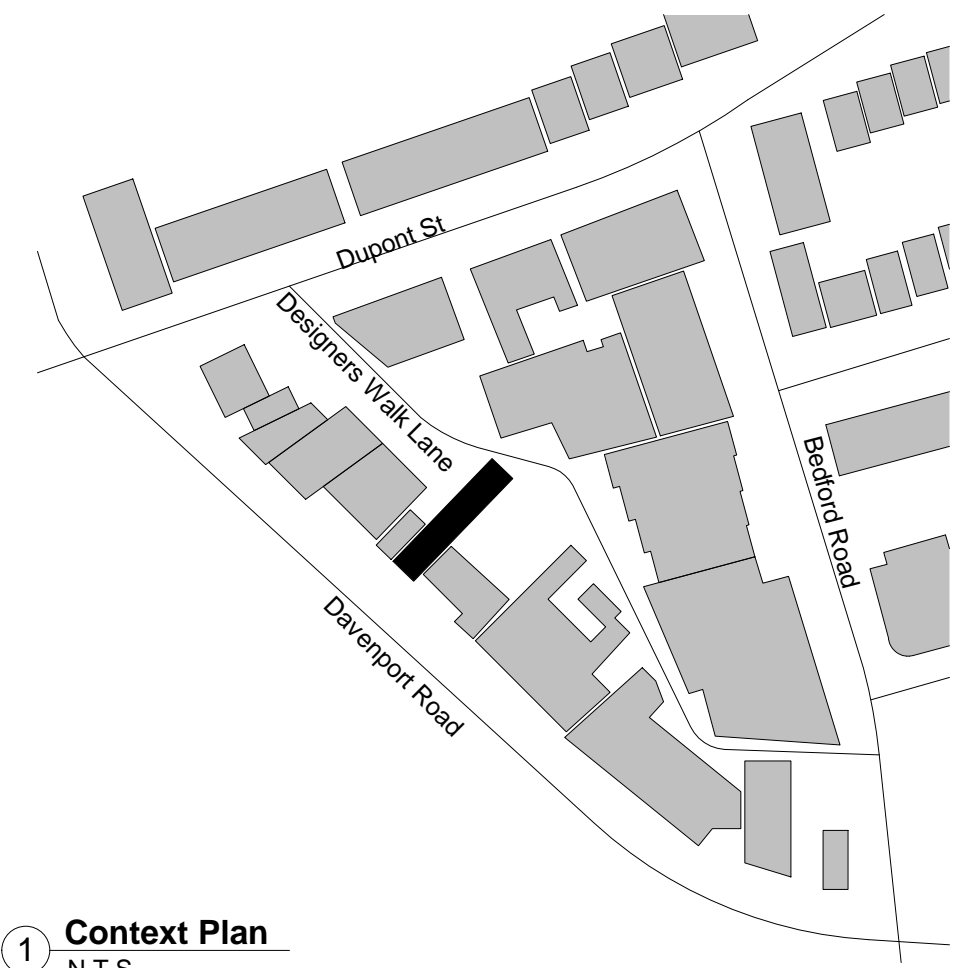
4 Level 2 Life Safety
1 : 150



5 Level 3 Life Safety
1 : 150



6 Level 4 Life Safety
1 : 150



1 Context Plan
N.T.S.

Sheet List	
Sheet Number	Sheet Name
ARCHITECTURAL	
A0.0	OBC Matrix, Life Safety Plan, Site Plan
A1.1	Existing & Demolition Plans
A1.2	Demolition RCP
A1.3	Proposed Plans & Schedules
A1.4	Reflected Ceiling Plans & Schedules
A2.0	Exterior Elevations
A2.1	Proposed Interior Elevations & Details
A2.2	Proposed Interior Elevations & Details
A2.3	Proposed Interior Elevations & Details
A3.0	Details - Covered Terrace
STRUCTURAL	
S0.1	General Notes
S0.2	General Notes
S1.1	Ground Floor Renovation Plan
S1.2	Level 2 Renovation Plan
S1.3	Level 3 Renovation Plan
S1.4	Level 4 Renovation Plan
S1.5	Roof Renovation Plan
S2.1	Sections and Details
MECHANICAL	
M-1	Mechanical Legend, Drawing List and Schedules
M-2	Basement 1 & 2 and Level 1 Plumbing Demolition
M-3	Level 2, 3 & 4 Plumbing Demolition
M-4	Basement 1 & 2 and Level 1 HVAC Demolition
M-5	Level 2, 3 & 4 HVAC Demolition
M-6	Basement 1 & 2 and Level 1 Fire Protection Demolition
M-7	Level 2, 3 & 4 Fire Protection Demolition
M-8	Basement 1 & 2 and Level 1 Plumbing New Layout
M-9	Level 2, 3 & 4 Plumbing New Layout
M-10	Basement 1 & 2 and Level 1 HVAC New Layout
M-11	Level 2, 3 & 4 HVAC New Layout
M-12	Basement 1 & 2 and Level 1 Fire Protection New Layout
M-13	Level 2, 3 & 4 Fire Protection New Layout
M-14	Mechanical Details
M-15	Mechanical Specification
ELECTRICAL	
E-1	Electrical Legend, Drawing List, Details and Schedules
E-2	Basement 1 & 2 and Level 1 Power Demolition
E-3	Level 2, 3 & 4 Power Demolition
E-4	Basement 1 & 2 and Level 1 Lighting Demolition
E-5	Level 2, 3 & 4 Lighting Demolition
E-6	Basement 1 & 2 and Level 1 Power New Layout
E-7	Level 2, 3 & 4 Power New Layout
E-8	Basement 1 & 2 and Level 1 Lighting New Layout
E-9	Level 2, 3 & 4 Lighting New Layout
E-10	Electrical Details
E-11	Panes Schedules
E-12	Electrical Specification
E-13	Fire Alarm System

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2	Draft	28 June '18
3	Issued for Permit/Tender	13 July '18
4	Addendum 1	30 July '18
5	Construction	04 Sept '18

Life Safety Plan Legend	
---	Travel Distance Max Allowable = 45m
[FHC]	Fire Hose Cabinet
---	0HR FRR
---	1HR FRR



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WORKSHOP architecture inc
1157 Davenport Road
Toronto Ontario M6H 2G4
T 416.901.8055 F 416.849.0383
www.workshoparchitecture.ca

Davenport Shelter

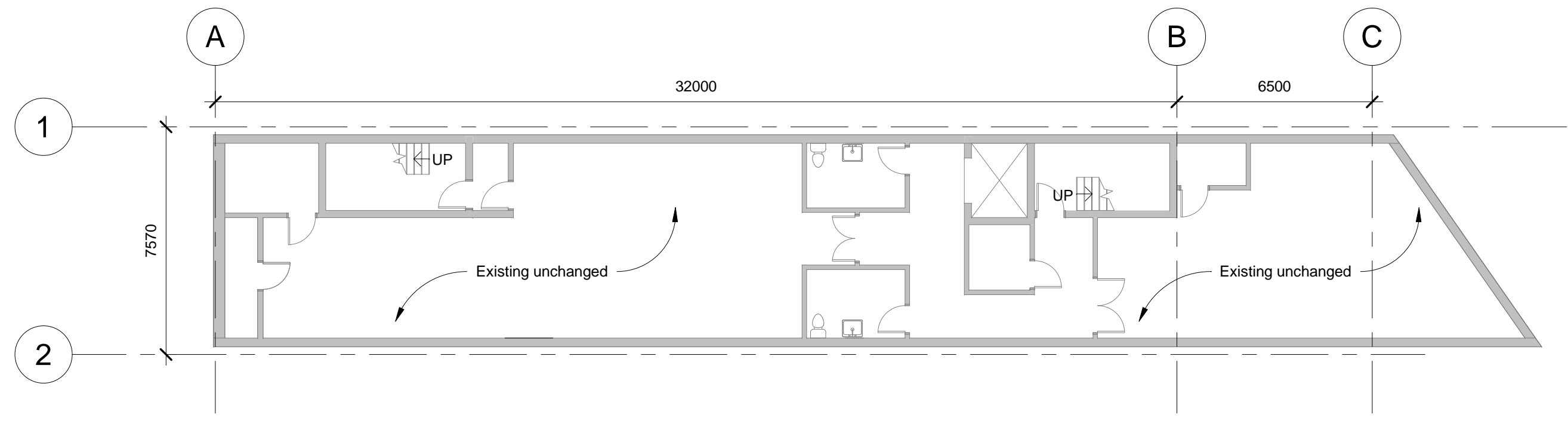
348 Davenport Road
Toronto, ON
MSR 1K6

PROJECT CODE: 18_22	SCALE: As indicated
DATE: September 2018	STATUS: Construction

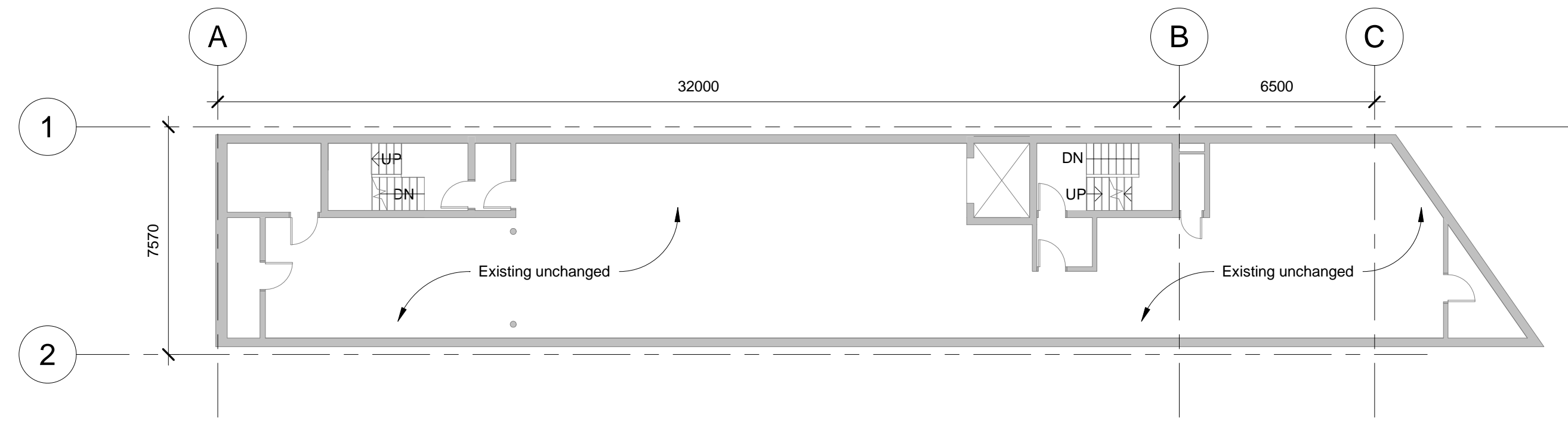
OBC Matrix, Life Safety
Plan, Site Plan



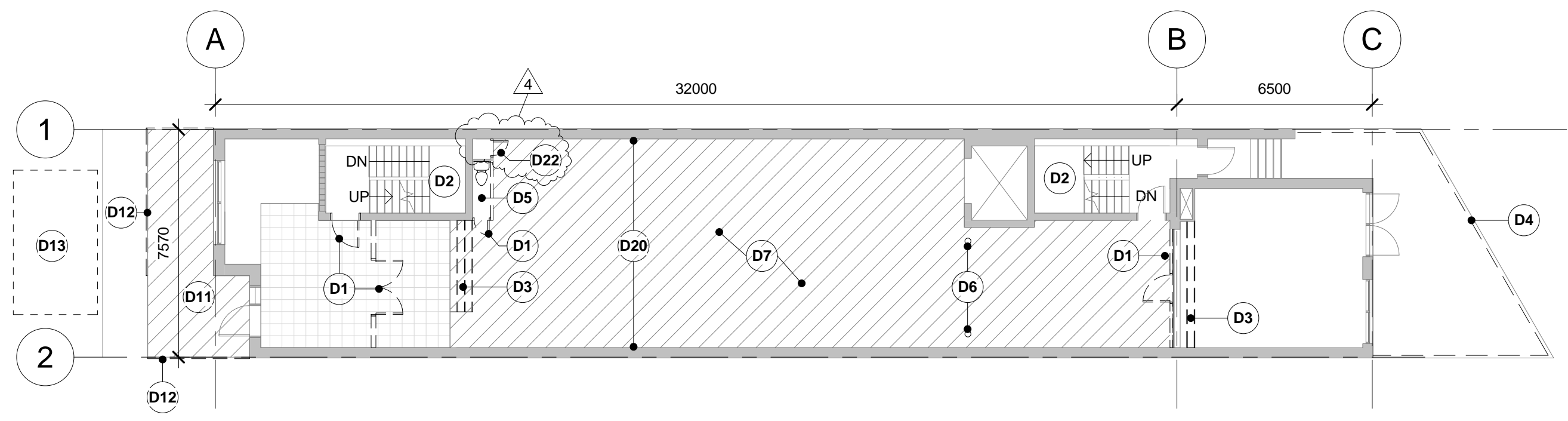
- General Notes**
- All site access during the Work, including material delivery/removal and movement of personnel, shall be carried out via the west (Davenport Road). There is no contractor access via Designer's Walk Lane to the east. Contractor shall be responsible for obtaining Street Occupation Permits as required to complete the Work. Refer also to Specification 01500.
 - Site visit is required by General Contractor to verify site conditions. Contact Architect for clarification if required.
 - Make good all surfaces/areas/finishes damaged during demolition.
 - All dimensions are to face of partition unless noted otherwise. Angles are 90 degrees unless noted otherwise.
 - Contractor to chalk partition layout on floor for Architect's review prior to construction.
 - Contractor to provide adequate blocking for all millwork, signage, grab bars, equipment, etc mounted to walls/ceilings.
 - Patch, repair and make good all existing partitions, bulkheads, and ceilings within area of work. Prepare existing surfaces as required to receive new finishes.
 - The General Contractor shall be responsible for all mechanical, electrical and plumbing work. The General Contractor shall be responsible for all chases, openings (including scanning/x-ray where required) and patching as required by mechanical, electrical, plumbing and IT cabling trades. Review requirements with these trades.
 - The General Contractor shall be responsible for keeping areas clean (e. access to exit corridors, etc). Remove garbage and clean daily and as required. At the completion of the job, the General Contractor shall remove all protective materials and arrange for a professional cleaning service to clean/wipe down all surfaces, including walls, windows/glazing, sills, blinds and fixtures/fitings.
 - General Contractor is to co-ordinate and co-operate with trades retained directly by Owner as applicable (eg. furniture installers, IT sub-trades etc.)
 - The General Contractor shall be responsible for scheduling the trades identified in item 10, where such work affects the progress of the job.
 - The General Contractor shall comply with all applicable Building and Fire Codes.
 - All temporary shoring/support is the responsibility of the Contractor.



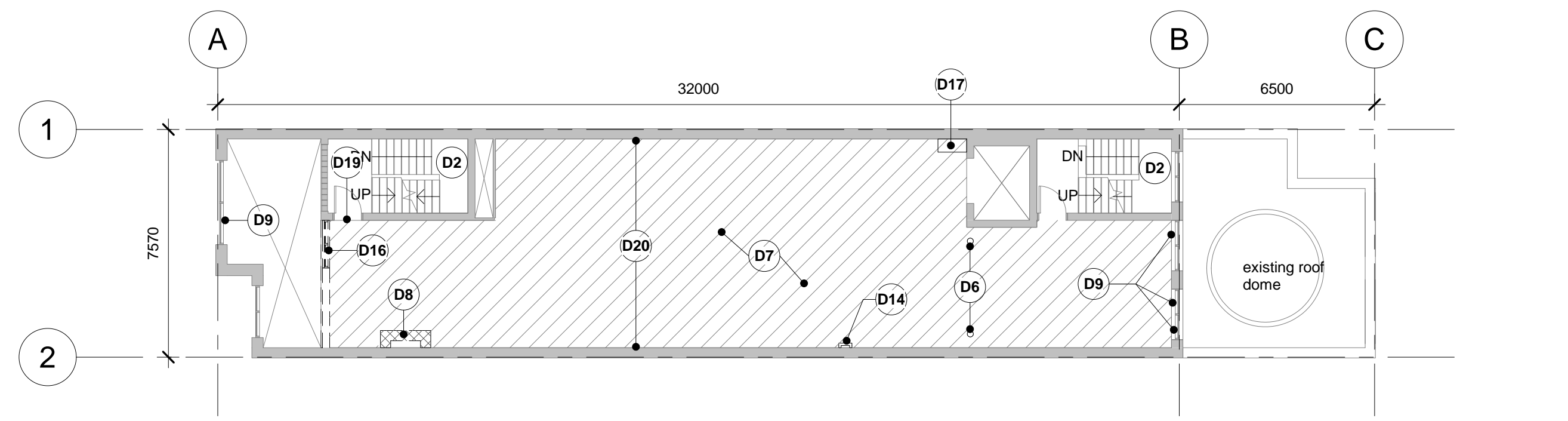
1 **Basement 2 Existing**
1 : 150



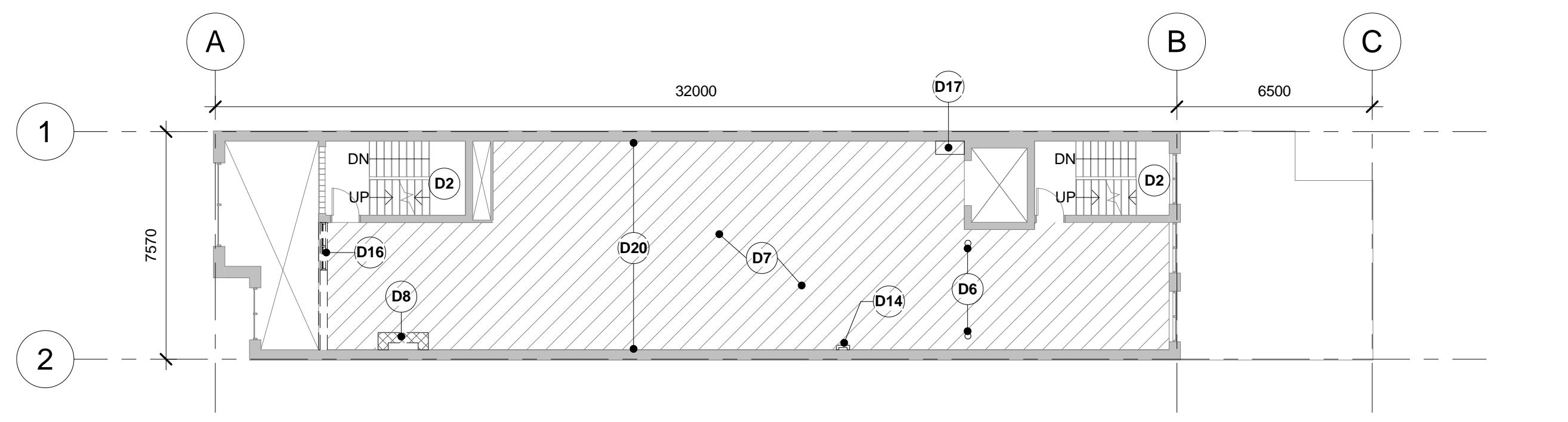
2 **Basement 1 Existing**
1 : 150



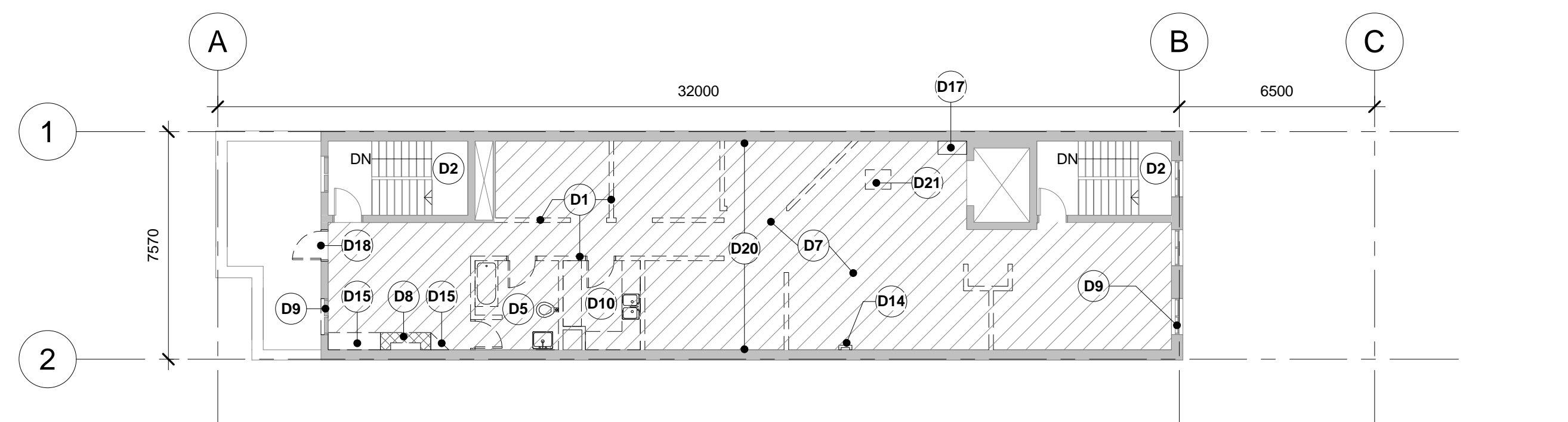
3 **Level 1 Demolition**
1 : 150



4 **Level 2 Demolition**
1 : 150



5 **Level 3 Demolition**
1 : 150



6 **Level 4 Demolition**
1 : 150

Demolition Legend

- Existing CMU partition to be demolished
- Existing wall partition system to be demolished
- Existing element to be demolished
- Approximate extent of flooring to be removed
- Approximate extent of ceiling to be removed
- Existing door leaf and frame to be demolished



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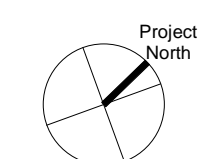
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1157 Davenport Road
Toronto Ontario, M5H 2C4
T 416.901.8055 F 416.849.0383
www.workshoparchitecture.ca

Davenport Shelter

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M5R 1K6

PROJECT CODE:	SCALE:
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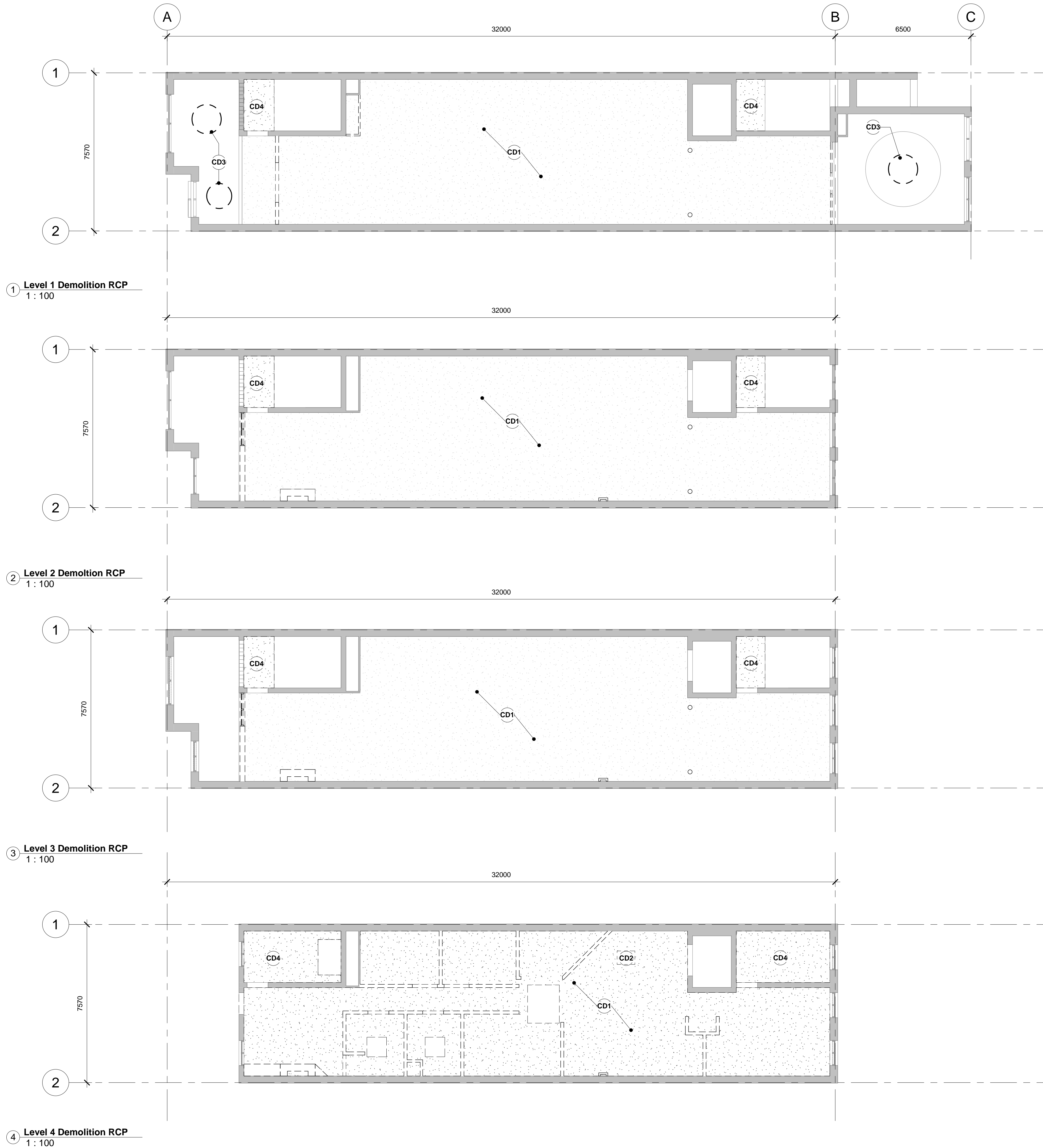
Existing & Demolition Plans



Project number
A11

Note	Description
D1	Demolish partition walls, doors and frames. Make good adjacent surfaces.
D2	Patch and level existing concrete at stair landings and treads to receive new floor finish throughout (typ)
D3	Demolish stairs. Make good adjacent surfaces.
D4	No access to lane.
D5	Demolish all plumbing fixtures, washroom accessories and floor finishes.
D6	Demolish decorative columns.
D7	Remove and dispose of flooring throughout. Prepare floor to receive new floor finish. Prepare concrete slab to receive new floor finish.
D8	Demolish masonry fireplace. Make good adjacent surfaces.
D9	Remove and replace damaged glazed unit in existing window - refer to exterior elevations for location of panels.
D10	Demolish all millwork, plumbing, kitchen appliances and floor finishes.
D11	Remove and dispose of paving. Prepare slab to receive new paving.
D12	Remove and dispose of existing railing.
D13	Street occupation permit if required.
D14	Demolish chase/bump out. Make good adjacent surfaces.
D15	Demolish millwork. Make good adjacent surfaces.
D16	Demolish railing, partition and screen. Make good adjacent surfaces.
D17	New floor opening for shaft. Refer to structural and mechanical.
D18	Demolish exterior door and frame. Make good adjacent surfaces. Prepare floor for new curb/threshold.
D19	Remove and replace glazed lite in existing door.
D20	Remove wood baseboards at perimeter walls throughout. Prepare wall surface to receive new finish.
D21	New roof opening for skylight - see structural.
D22	Demolish existing chase door. Make good adjacent surfaces. Prepare to receive new door.

4



Ceiling Demolition Notes	
Note	Description
CD1	Demolish existing ceiling as required to accommodate new tie-ins. Demolish crown molding and light fixtures throughout. Patch and repair walls/ceilings as required. Refer to mechanical for additional demolition requirements.
CD2	New roof opening for skylight.
CD3	Remove and dispose of chandeliers. Patch and repair existing ceiling as required.
CD4	Remove and reinstate ceiling at stair landings (typ). Work to include stairs to B1 & B2.

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2	Draft	28 June '18
3	Issued for Permit/Tender	13 July '18
4	Addendum 1	30 July '18
5	Construction	04 Sept '18

Demolition Legend

- Existing CMU partition to be demolished
- Existing wall partition system to be demolished
- Existing element to be demolished
- Approximate extent of flooring to be removed
- Approximate extent of ceiling to be removed
- Existing door leaf and frame to be demolished



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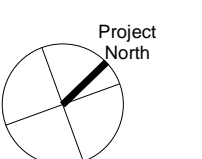
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1157 Davenport Road
Toronto Ontario M5H 2C4
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PROJECT CODE:	SCALE:
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September 2018	Construction

Demolition RCP



Project number
A12

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General Notes	
Note	Description
1	New flooring throughout. See room finish schedule.
2	Grey tone indicates new floor slab at elevation 11820.
3	New 1:12 accessible ramp.
4	New movable partition.
5	Storage with closer panel for movable partition panels.
6	New wooden stair and platform. See structural.
7	New partial height partitions between beds at 1219 A.F.F. (typ). Steel post at end of partition - see detail.
8	New 300 x 800 shaft.
9	New full height partitions to u/s ceiling.
10	New plumbing fixtures and washroom accessories.
11	New fire rated partition and glazed screen. Refer to elevations.
12	New stone pavers.
13	New glass guard. See details.
14	New water bottle filler.
15	New curb threshold at door. Refer to detail.
16	New glazed unit in existing window - refer to exterior elevations for location of panels.
18	Remove cap flashing around terrace perimeter and take care not to damage. Fully grout concrete blocks and reinstate cap flashing.
19	Line indicates change in floor finish colour (typ).
20	New wall mounted guardrail in front of glazed screen - see detail.
21	Recessed fire extinguisher.

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Legend

Existing partition to remain

New partition as scheduled

Symbols Legend

PW Partition Tag - refer to partition schedule

SX Glazed Screen tag - refer to schedule

DX New Door tag - refer to schedule

MW1 Millwork Tag

GWB Ceiling Material Height above Finished Floor

(E) Existing

N.I.C. Not in Contract

Bed (N.I.C.)

Storage Locker

Washer & Dryer (N.I.C.)

FRP at 1219 A.F.F.

Materials Legend

ALUM Aluminum

EPO Epoxy

EXIST Existing

EXP Exposed

FRG Fire Rated Glass

FRP Fiberglass Reinforced Panel

GWB Gypsum Wallboard (Painted)

LGL Laminated Glass

MIR Mirror

PT Paint Finish

PV Paving Stones

QTZ Quartz

RB Rubber Base

RES Resilient Flooring

SP Solid Phenolic Toilet Partition

SS Stainless Steel

SMB Steel Marker Board

TGL Tempered Glass



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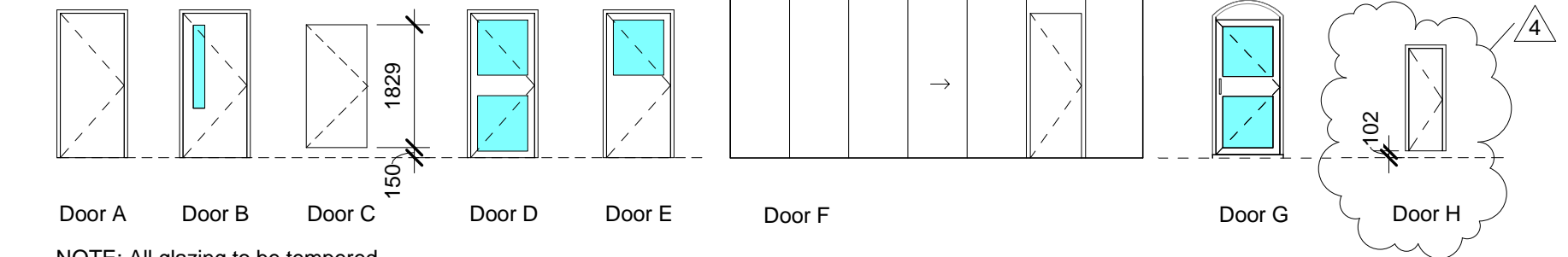
PROJECT CODE: 18_22
SCALE: As indicated

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STATUS: Construction

Proposed Plans & Schedules

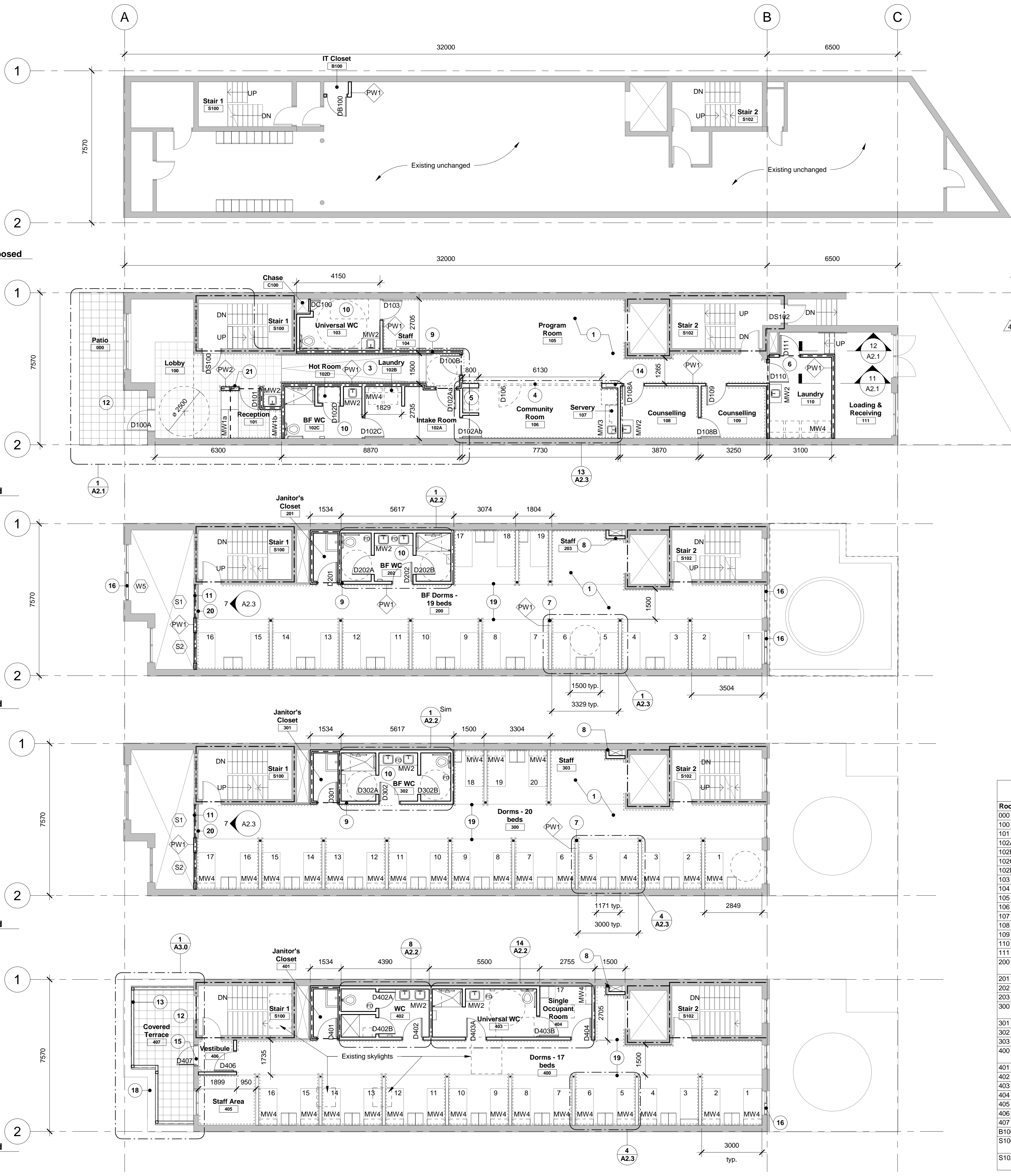
Project North
drawing number
A13

Door Schedule												
Door No.	Room	Type	Mark	Height	Width	Door	Finish	Fram	Frame	Comments	Card Reader	FRR
D100A	Lobby	-		2400	1016	HM	PT	HM	PT	New hardware at existing door. Power door operator. Door release switch from reception.	Yes (future)	
D100B	Lobby	B		2150	950	HM	PT	HM	PT	Power door operator. Door release switch from reception.		45min
D101	Reception	B		2150	950	HM	PT	HM	PT	Power door operator.	Yes (future)	45min
D102A	Intake Room	B		2150	950	HM	PT	HM	PT			
D102Ab	Intake Room	B		2150	950	HM	PT	HM	PT			
D102C	BF WC	A		2150	950	HM	PT	HM	PT	Power door operator.		
D102D	Hot Room	A		2150	800	HM	PT	HM	PT			
D103	Universal WC	A		2150	950	HM	PT	HM	PT	Power door operator.		
D106	Community Room	F		2438	6130	-	SMB	-	-	Operable partition (7 panels) with pass through door.		
D108A	Counselling	B		2150	950	HM	PT	HM	PT			
D108B	Counselling	A		2150	950	HM	PT	HM	PT			
D109	Counselling	B		2150	950	HM	PT	HM	PT			
D110	Laundry	B		2150	950	HM	PT	HM	PT			
D111	Loading and Receiving	A		2150	950	HM	PT	HM	PT			
D201	Janitor's Closet	A		2150	950	HM	PT	HM	PT			
D202	BF WC	A		2150	950	HM	PT	HM	PT			
D202A	BF WC	C		1829	950	TP				Toilet Partition Door (Division 10)		
D202B	BF WC	C		1829	950	TP				Toilet Partition Door (Division 10)		
D301	Janitor's Closet	A		2150	950	HM	PT	HM	PT			
D302	BF WC	A		2150	950	HM	PT	HM	PT			
D302A	BF WC	C		1829	950	TP				Toilet Partition Door (Division 10)		
D302B	BF WC	C		1829	950	TP				Toilet Partition Door (Division 10)		
D401	Janitor's Closet	A		2150	950	HM	PT	HM	PT			
D402	WC	A		2150	950	HM	PT	HM	PT			
D402A	WC	C		1829	813	TP				Toilet Partition Door (Division 10)		
D402B	WC	C		1829	813	TP				Toilet Partition Door (Division 10)		
D403A	Universal WC	A		2150	950	HM	PT	HM	PT	Power door operator.		
D403B	Universal WC	A		2150	950	HM	PT	HM	PT	Power door operator.		
D404	Isolation Room	B		2150	950	HM	PT	HM	PT			
D406	Vestibule	D		2150	950	HM	PT	HM	PT			
D407	Covered Terrace	D		2007	950	ALUM	GL	ALUM	ALUM	New door to fit existing frame dimensions.		
DB100	IT Closet	A		2150	950	HM	PT	HM	PT			
DC100	Chase	H		1524	500	HM	PT	HM	PT	New chase door to fit existing opening.		
DS100	Stair 1	E		2150	900	HM	PT	HM	PT	Use existing hardware on new door.	Yes	45min
DS102	Stair 2	-		2150	900	HM	PT	HM	PT	New hardware at existing door.	Yes (future)	



NOTE: All glazing to be tempered
NOTE: All HM frames to be 2" profile

Room Finish Schedule						
Room No.	Room Name	Wall Finish	Floor Finish	Base Finish	Ceiling Finish	Comments
000	Patio	-	PV	-	-	
100	Lobby	FRP/GWB	EXIST	FRP	-	FRP to 1219 A.F.F. Refer to dotted line on plan.
101	Reception	FRP/GWB	EXIST	FRP	-	FRP to 1219 A.F.F. Refer to dotted line on plan.
102A	Intake Room	FRP	EPO	EPO	GWB	
102B	Laundry	FRP	EPO	EPO	GWB	
102C	BF WC	FRP	EPO	EPO	GWB/FRP	FRP ceiling in shower room.
102D	Hot Room	GWB	EPO	EPO	GWB	
103	Universal WC	FRP	EPO	EPO	GWB	
104	Staff	FRP/GWB	RES	FRP	GWB	FRP to 1219 A.F.F. Refer to dotted line on plan.
105	Program Room	FRP/GWB	RES	FRP	GWB	FRP to 1219 A.F.F. Refer to dotted line on plan.
106	Community Room	FRP/GWB	RES	FRP	GWB	FRP to 1219 A.F.F. Refer to dotted line on plan.
107	Servery	SS	RES	-	GWB	
108	Counselling	FRP/GWB	RES	FRP	GWB	FRP to 1219 A.F.F. Refer to dotted line on plan.
109	Counselling	FRP/GWB	RES	FRP	GWB	FRP to 1219 A.F.F. Refer to dotted line on plan.
110	Laundry	GWB	RES	RES	ACT	
111	Loading & Receiving	EXIST	EXIST	EXIST	EXIST	
200	BF Dorms - 19 beds	FRP/GWB	RES	FRP	GWB/ACT	FRP to 1219 A.F.F. Refer to dotted line on plan. Roller shades to be provided at all new screens and existing windows.
201	Janitor's Closet	FRP/SS	EPO	EPO	EXP	SS at mop sink.
202	BF WC	FRP	EPO	EPO	GWB/FRP	FRP ceiling in shower room.
203	Staff	FRP/GWB	RES	RES	GWB	FRP to 1219 A.F.F. Refer to dotted line on plan.
300	Dorms - 20 beds	FRP/GWB	RES	FRP	GWB/ACT	FRP to 1219 A.F.F. Refer to dotted line on plan. Roller shades to be provided at all new screens and existing windows.
301	Janitor's Closet	FRP/SS	EPO	EPO	EXP	SS at mop sink.
401	Janitor's Closet	FRP/SS	EPO	EPO	EXP	SS at mop sink.
402	WC	FRP	EPO	EPO	GWB	
403	Universal WC	FRP	EPO	EPO	GWB/FRP	FRP ceiling in shower room.
404	Single Occupant Room	FRP/GWB	RES	FRP	GWB	FRP to 1219 A.F.F. Refer to dotted line on plan.
405	Staff Area	FRP/GWB	RES	FRP	GWB	FRP to 1219 A.F.F. Refer to dotted line on plan.
406	Vestibule	FRP/GWB	RES	FRP	GWB	FRP to 1219 A.F.F. Refer to dotted line on plan.
407	Covered Terrace	TGL	-	-	EXP	
B100	IT Closet	EXIST	EXIST	EXIST	EXIST	
S100	Stair 1	EXIST	RES/RB	RB	EXIST	New rubber treads and nosing throughout. New resilient flooring at stair landings.
S102	Stair 2	EXIST	RES/RB	RB	EXIST	New rubber treads and nosing throughout. New resilient flooring at stair landings.



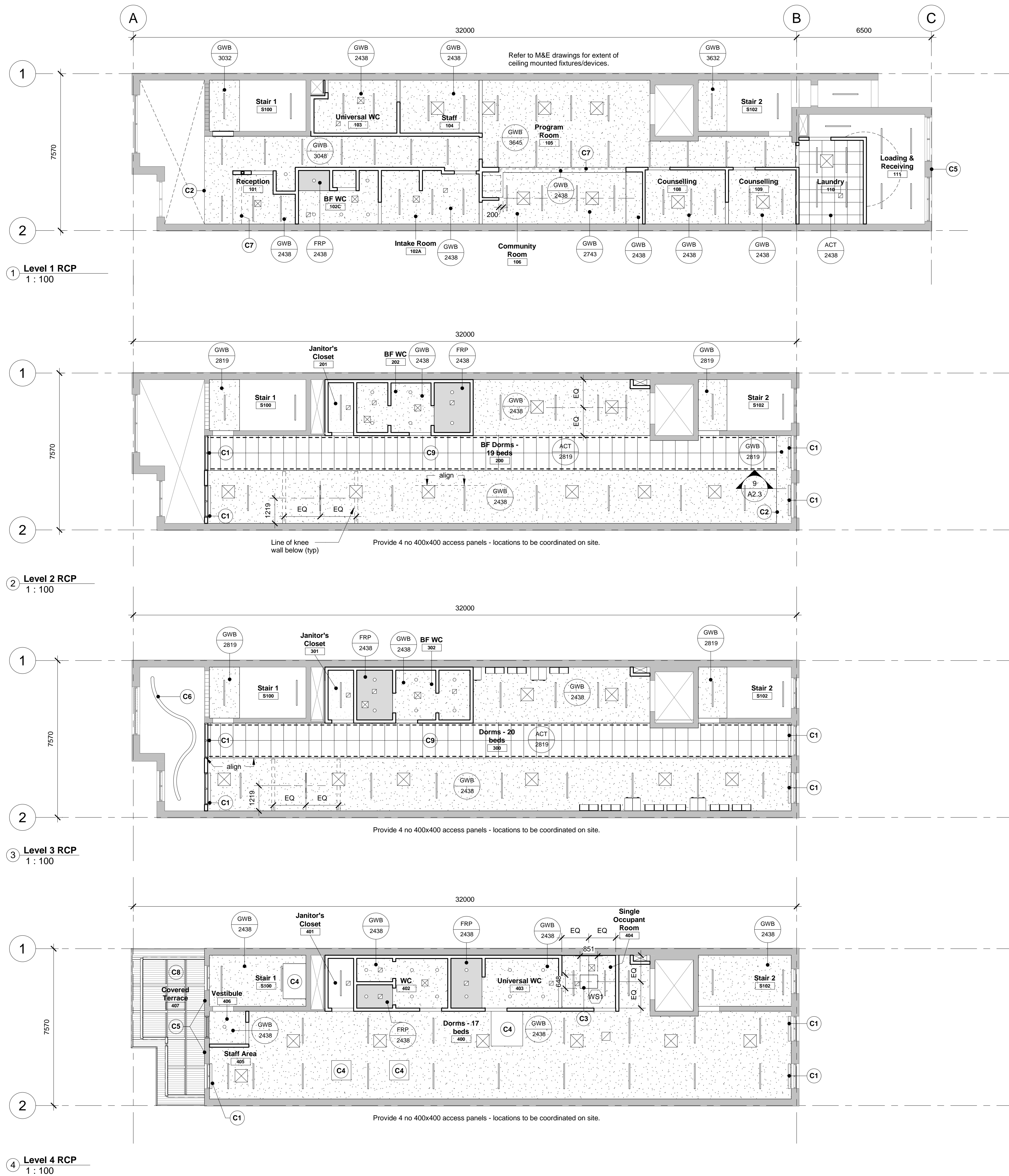
5 Basement 1 Proposed
1 : 100

1 Level 1 Proposed
1 : 100

2 Level 2 Proposed
1 : 100

3 Level 3 Proposed
1 : 100

4 Level 4 Proposed
1 : 100



Ceiling Notes	
Note	Description
C1	New rollershades at window/screen (typ)
C2	New GWB downstand.
C3	New skylight. See structural.
C4	Existing skylight.
C5	New exterior wall mounted light - see electrical.
C6	Suspended feature light - see electrical.
C7	Support beam for door - see structural.
C8	Paint underside of roof deck
C9	Provide 19mm GWB finish at u/s roof joists above ACT ceiling for continuity of fire separation

ASSEMBLY SCHEDULE

- CEMENT BOARD SUBSTRATE TO BE PROVIDED THROUGHOUT ALL WASHROOM/SHOWER AREAS AND AT ALL LOCATIONS SCHEDULED TO RECEIVE FULL HEIGHT FRP FINISH - REFER TO SPECIFICATION 09250
- PROVIDE CONTINUOUS PLYWOOD BLOCKING BEHIND ALL MILLWORK CABINETS, SUSPENDED ITEMS, TELEVISIONS ETC.
- REFER TO DRAWINGS/DETAILS FOR TERMINATION HEIGHT OF PARTITIONS. ASSUME TERMINATION AT U/S DECK UNLESS NOTED OTHERWISE.
- PROVIDE FIRE RESISTANCE RATINGS AS INDICATED ON DRAWINGS

INTERIOR PARTITIONS

- PW1** 1 LAYER 16mm TYPE X GYPSUM WALLBOARD
92mm STEEL STUDS
1 LAYER 16mm TYPE X GYPSUM WALLBOARD
FINISHES AS SCHEDULED
CAPABLE OF ACHIEVING 1HR FRR WHERE INDICATED PER ULC W453
- PW2** 1 LAYER 16mm TYPE X GYPSUM WALLBOARD
150mm STEEL STUDS
1 LAYER 16mm TYPE X GYPSUM WALLBOARD
FINISHES AS SCHEDULED

FLOOR ASSEMBLY

- F1** FLOOR FINISH AS SCHEDULED
2 LAYERS 19mm T&G PLYWOOD SUBFLOOR
WOOD FRAMING (SEE STRUCTURAL)
- F2** UNIT PAVERS ON PEDESTALS
PROTECTION BOARD
EXISTING ROOF MEMBRANE/STRUCTURE

ROOF ASSEMBLY

- R1** METAL DECKING ON SLOPED STRUCTURE (SEE STRUCTURAL)

Rev	Description	Date
2	Draft	28 June '18
3	Issued for Permit/Tender	13 July '18
5	Construction	04 Sept '18

Legend

- Existing partition to remain
- New partition as scheduled

Symbols Legend

- PWX** Partition Tag - refer to partition schedule
- SX** Glazed Screen tag - refer to schedule
- DXXX** New Door tag - refer to schedule
- MW1** Millwork Tag
- GWB 1000** Ceiling Material Height above Finished Floor
- (E)** Existing
- N.I.C.** Not in Contract
- Bed (N.I.C.)
- Storage Locker
- Washer & Dryer (N.I.C.)
- FRP at 1219 A.F.F.

Ceiling Legend

- Potlight - see electrical
- LED cove light - see electrical
- LED lighting fixture - see electrical
- Return/exhaust grille
- Supply air diffuser



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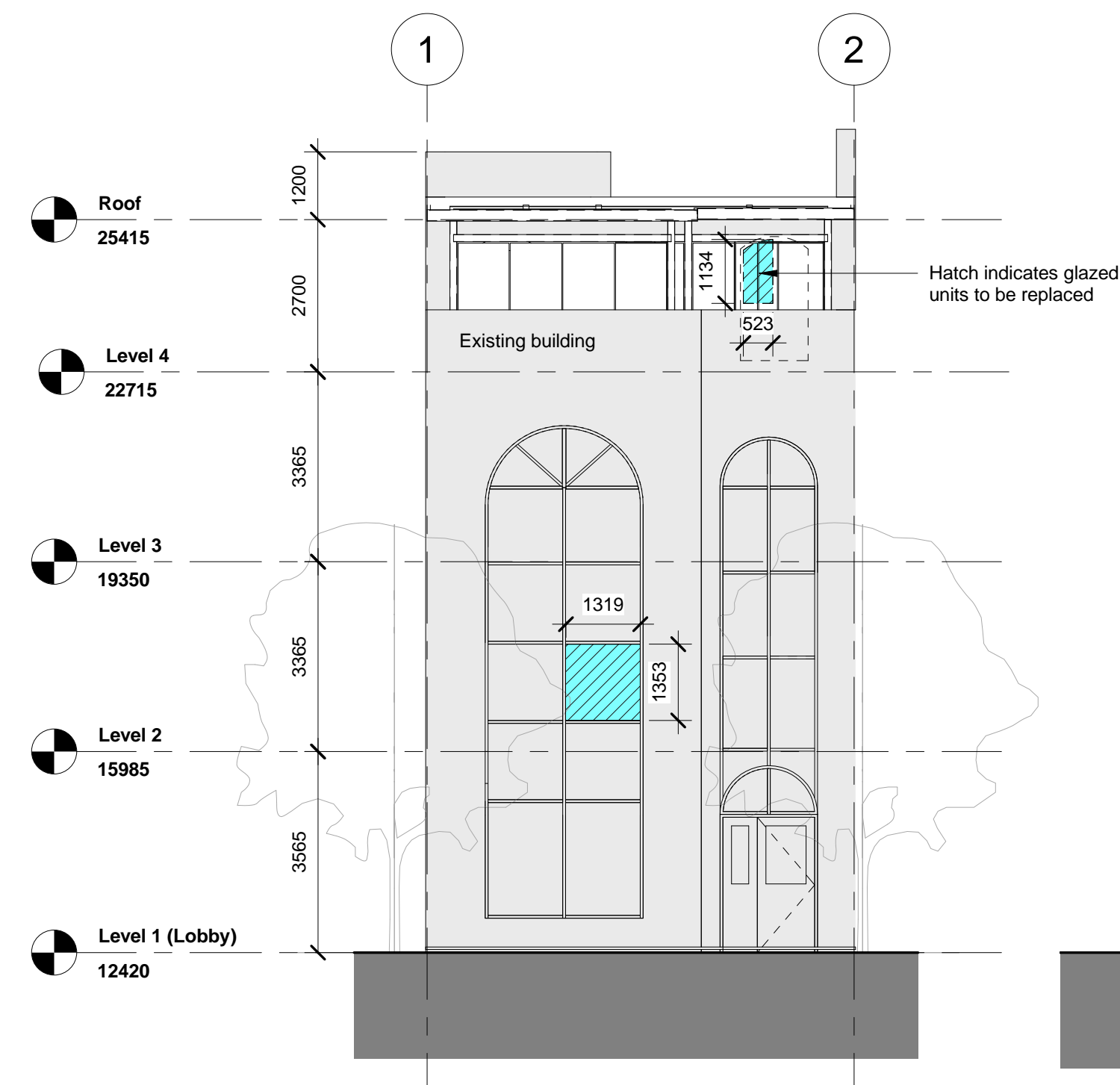
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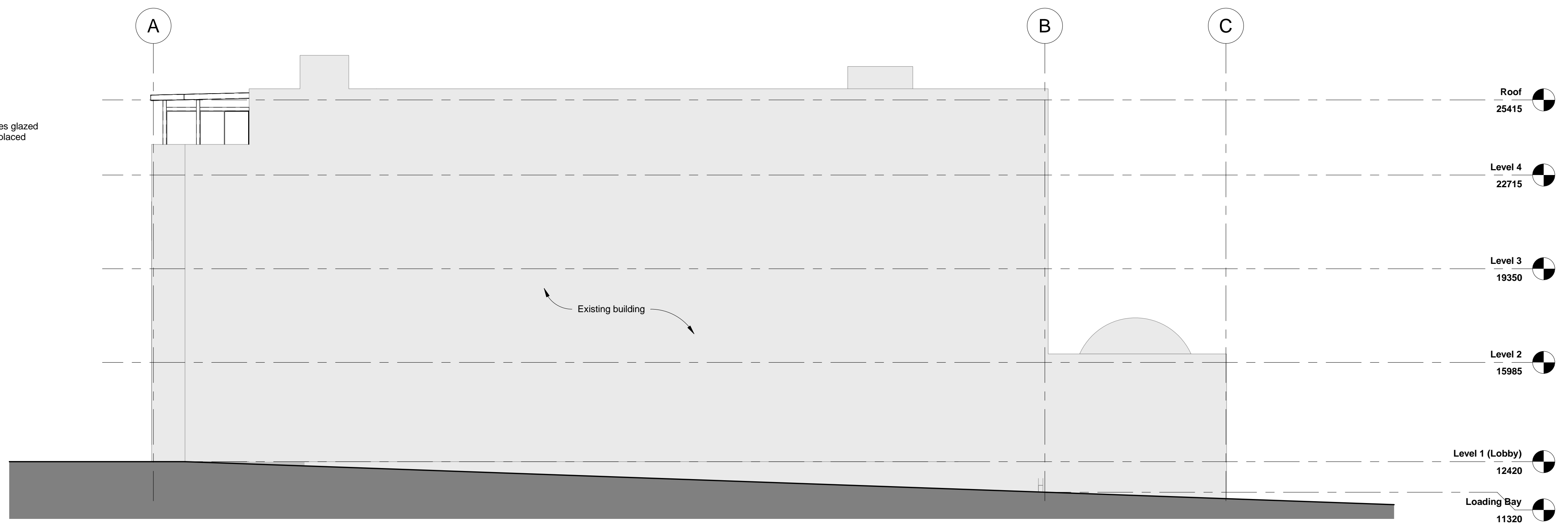
Reflected Ceiling Plans & Schedules



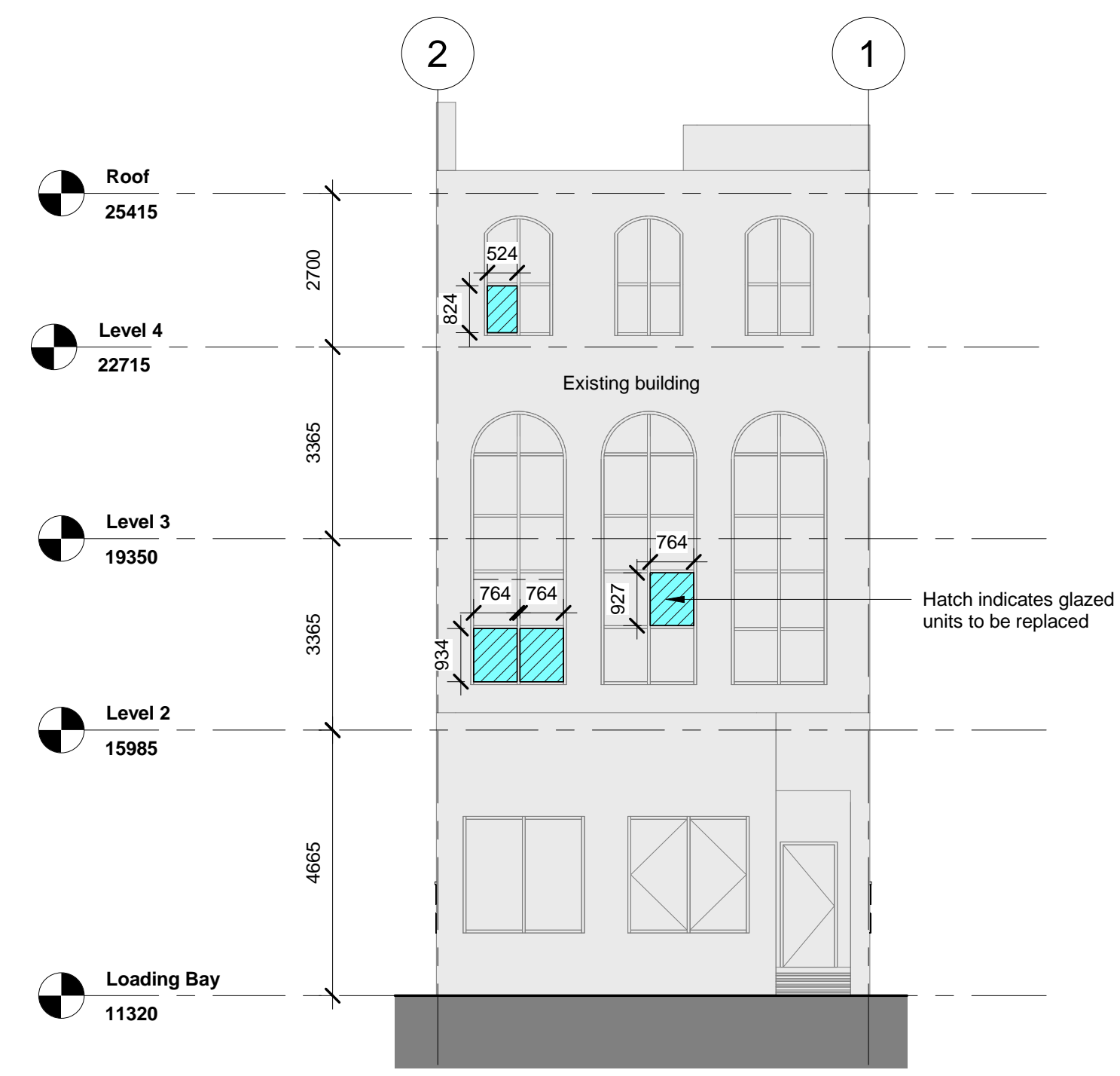
Rev	Description	Date
1	ZCC Submission	15 June '18
2	Draft	28 June '18
3	Issued for Permit/Tender	13 July '18
5	Construction	04 Sept '18



1 West Elevation
1 : 100



2 South Elevation
1 : 100



3 East Elevation
1 : 100

Sealed Insulated Glass Units to CAN/CGSB-12.8:
Clear Tempered Glass (TGL) outdoor lite, minimum 4mm thickness.
Low-E coating to #2 surface (Solarban 67 clear by PPG Industries Inc, SunGuard SN68 clear by Guardian or VE1-2M by Viracore)
Hermetically sealed, dehydrated air space, 100% Argon filled, 25mm overall thickness
Clear TGL inboard lite, minimum 4mm thickness

Glass Unit Performance Requirements:
Visible Light Transmittance (VLT): .66 minimum
U-Value: 0.38 (IP) maximum
Solar Heat Gain Coefficient (SHG): .40 maximum

Floor/Ceiling Assembly Legend

- 0HR FRR
- . - 45MIN FRR
- - - 1HR FRR
- - - - 2HR FRR



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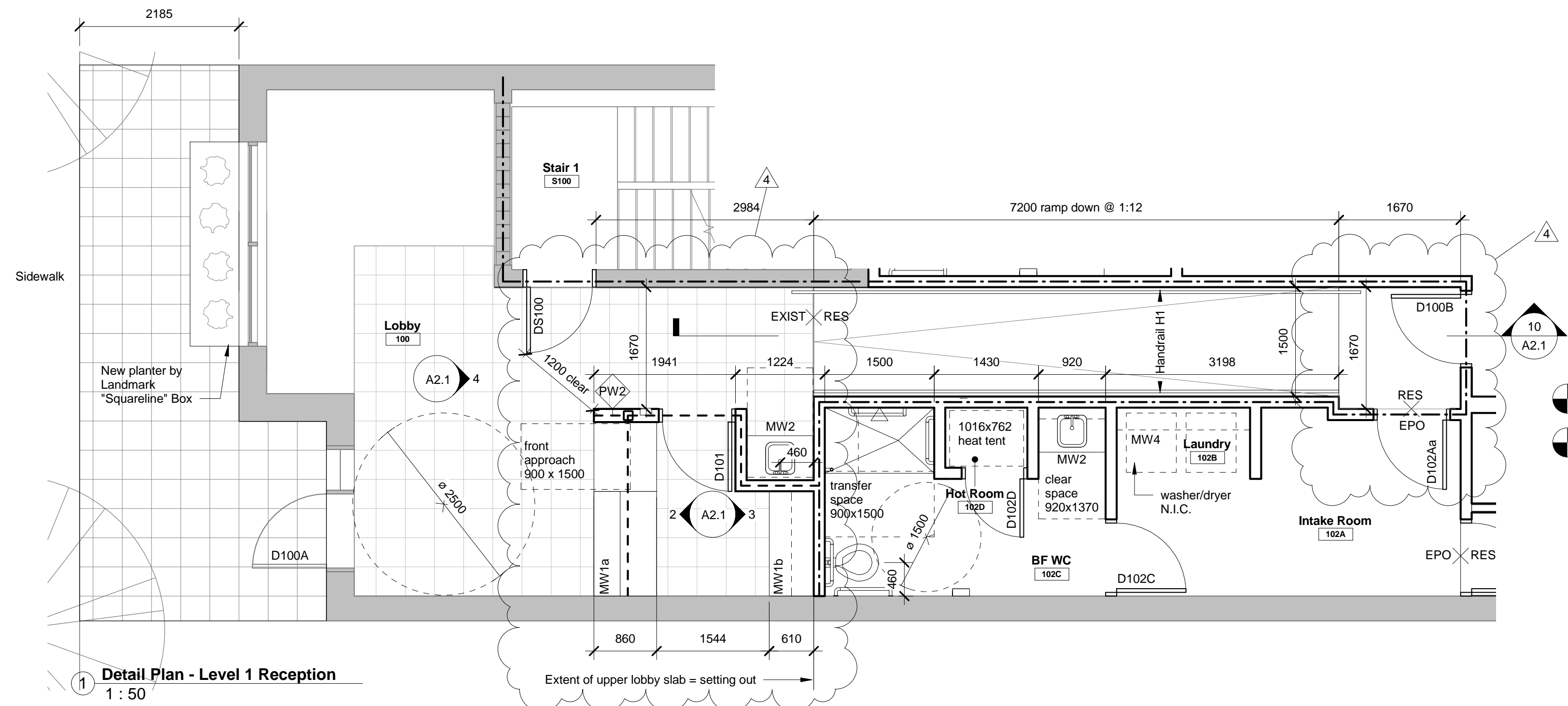
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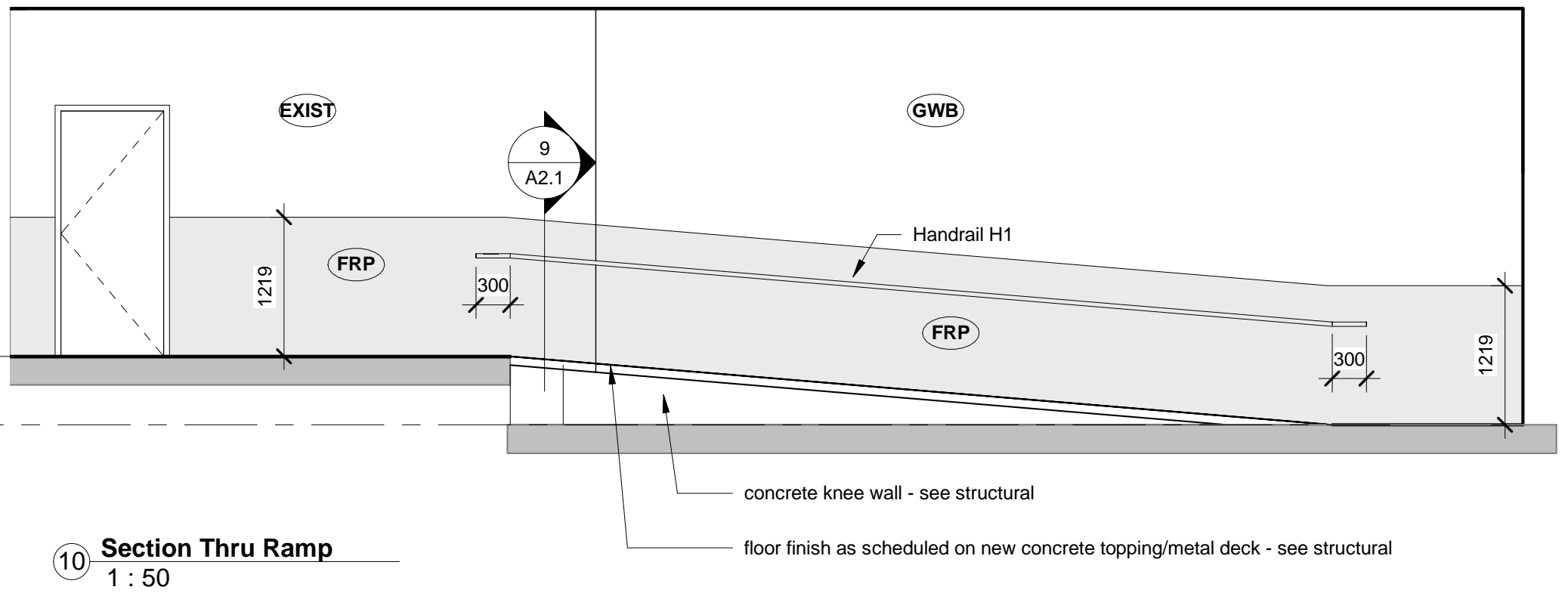
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18_22	As indicated
DATE:	STATUS:
September 2018	Construction

Exterior Elevations



1 Detail Plan - Level 1 Reception
1 : 50



10 Section Thru Ramp
1 : 50

Rev	Description	Date
2	Draft	28 June '18
3	Issued for Permit/Tender	13 July '18
4	Addendum 1	30 July '18
5	Construction	04 Sept '18

Materials Legend

ALUM	Aluminum
EPO	Epoxy
EXIST	Existing
EXP	Exposed
FRG	Fire Rated Glass
FRP	Fiberglass Reinforced Panel
GWB	Gypsum Wallboard (Painted)
LGL	Laminated Glass
MIR	Mirror
PT	Paint Finish
PV	Paving Stones
QTZ	Quartz
RB	Rubber Base
RES	Resilient Flooring
SP	Solid Phenolic Toilet Partition
SS	Stainless Steel
SMB	Steel Marker Board
TGL	Tempered Glass

Millwork Hardware Legend

Adjustable Shelf Pins/Ferrules: Richelieu No 2291/2292-180 nickel finish at 2" centres or approved equivalent

Bumpers: 2 each per door; Richelieu No 2291/2292-180 nickel finish at 2" centres or approved equivalent

Cabinet Locks: Corbin 02067 x 7/8 or approved equivalent

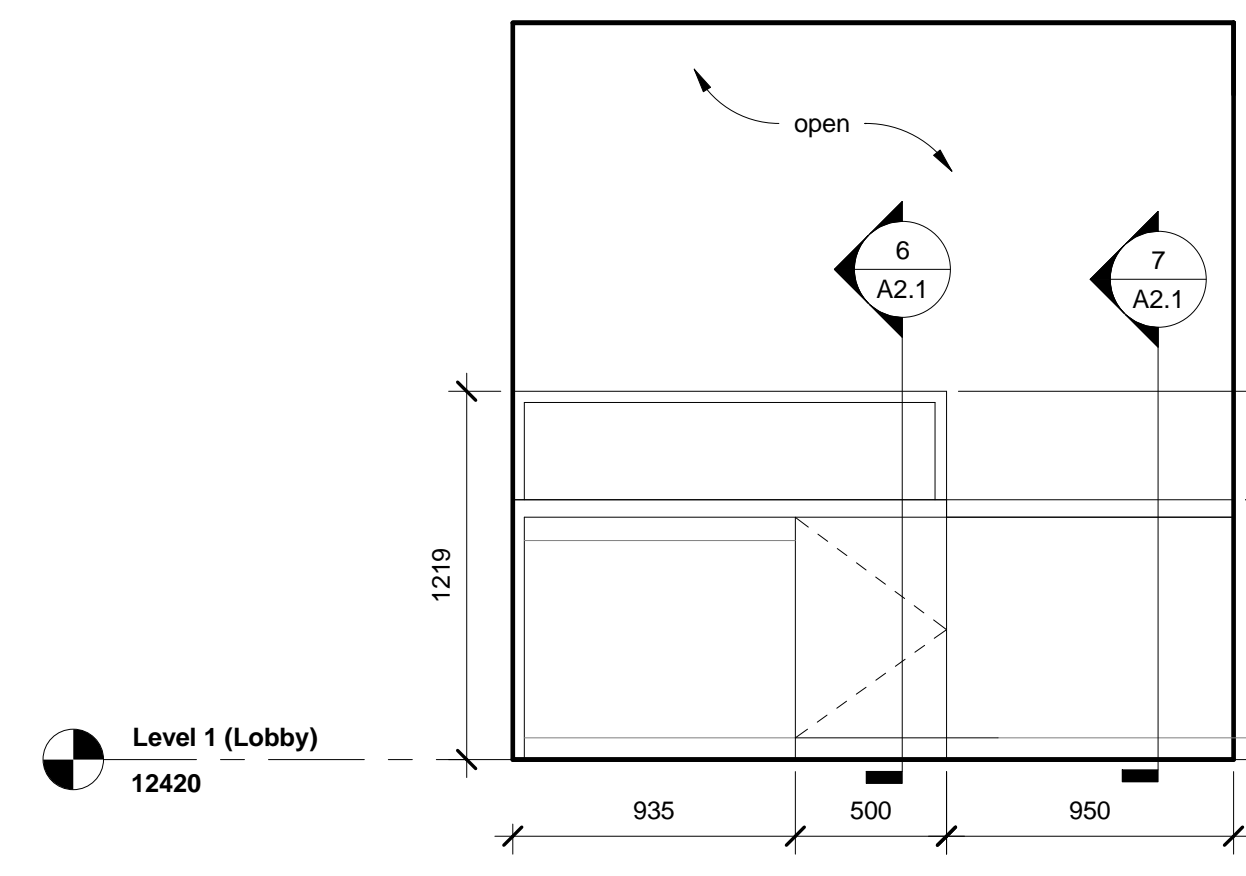
Cabinet/Drawer Pulls: Richelieu Catalogue No BP2213175 or approved equivalent

Concealed Hinges: Blum 110 degrees or approved equivalent

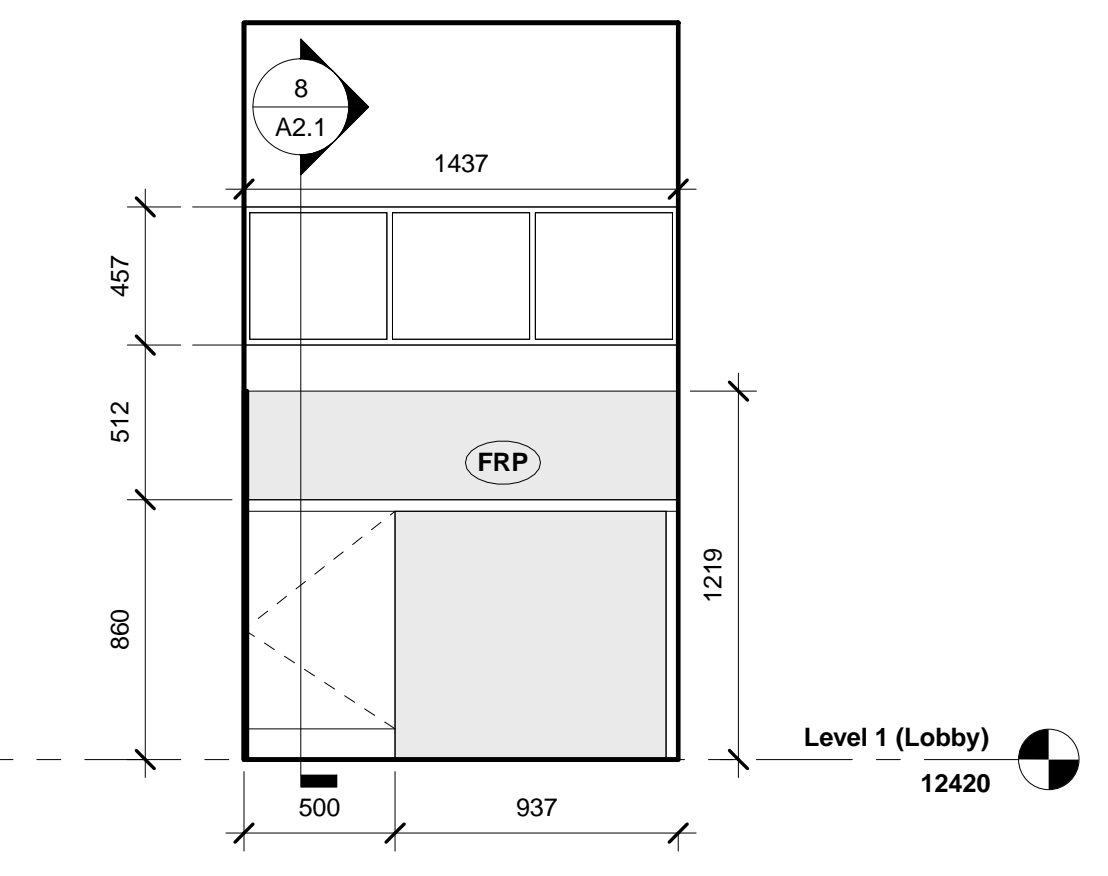
Drawer guides: Blum WEBKIT1058762 or approved equivalent

Drawer Locks: Corbin 02066 x 7/8 or approved equivalent

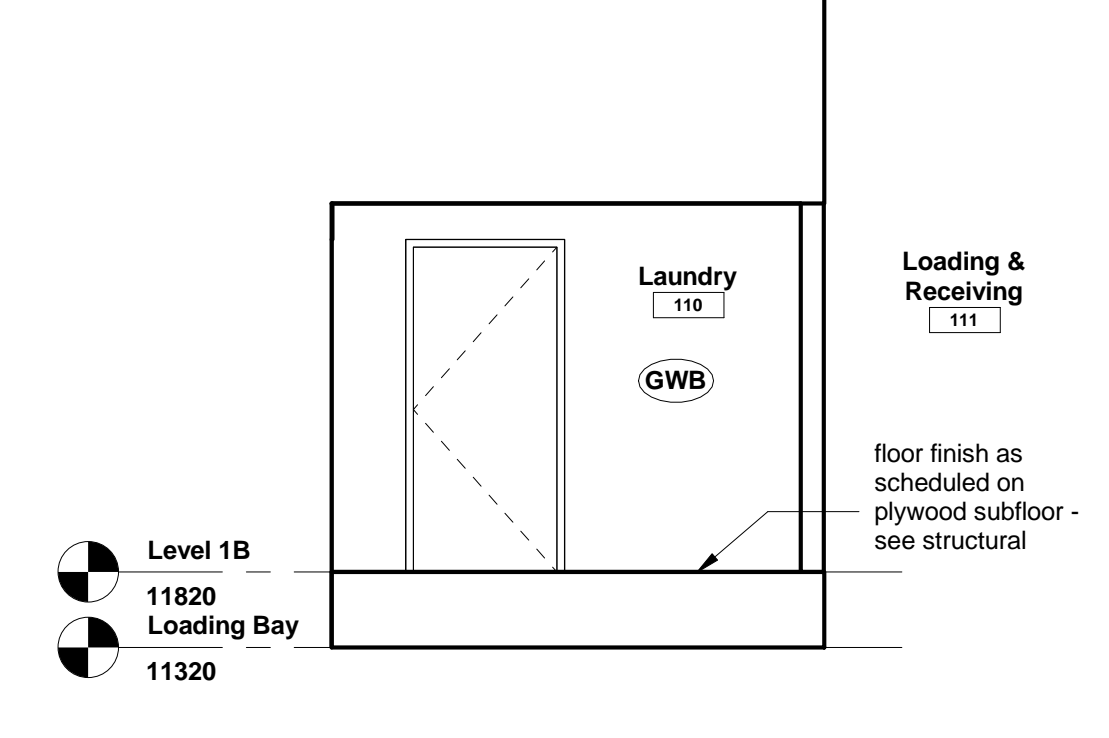
Grommets: Richelieu Catalogue No 60952140 or approved equivalent
6 in total - location TBD



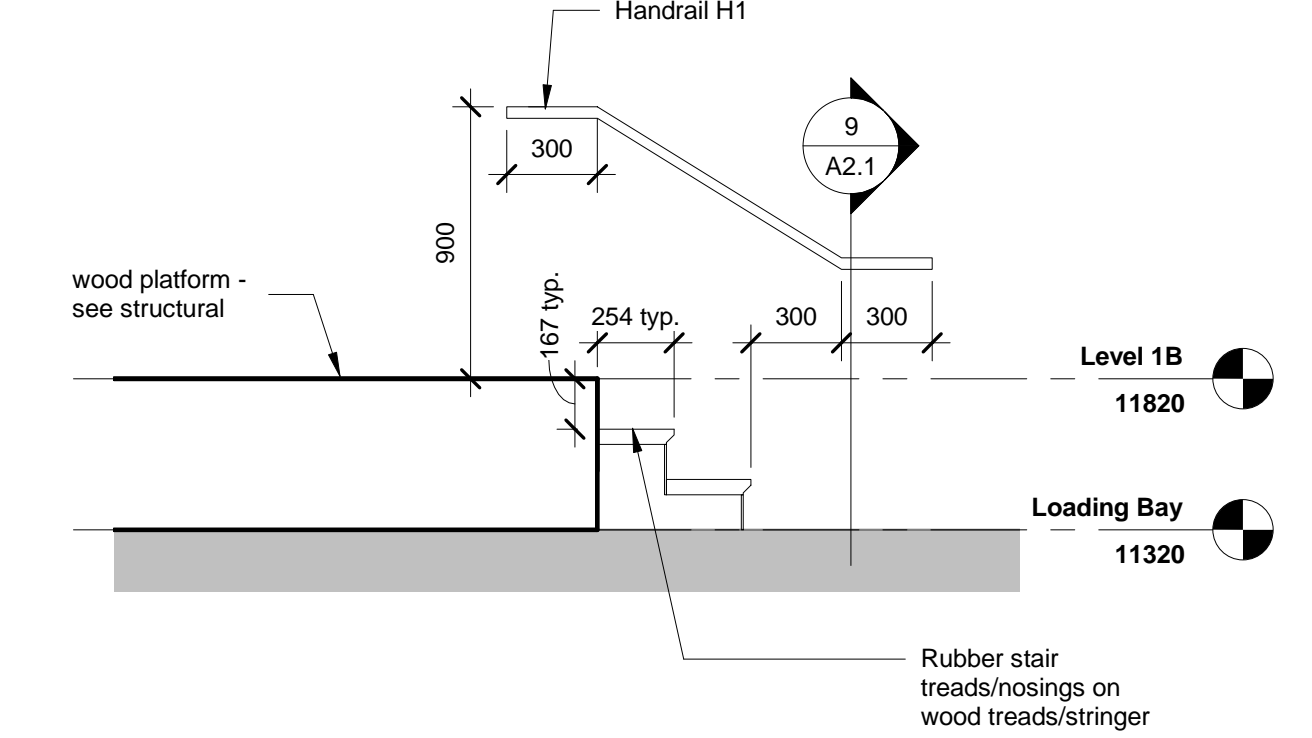
2 West Elevation - MW1a
1 : 25



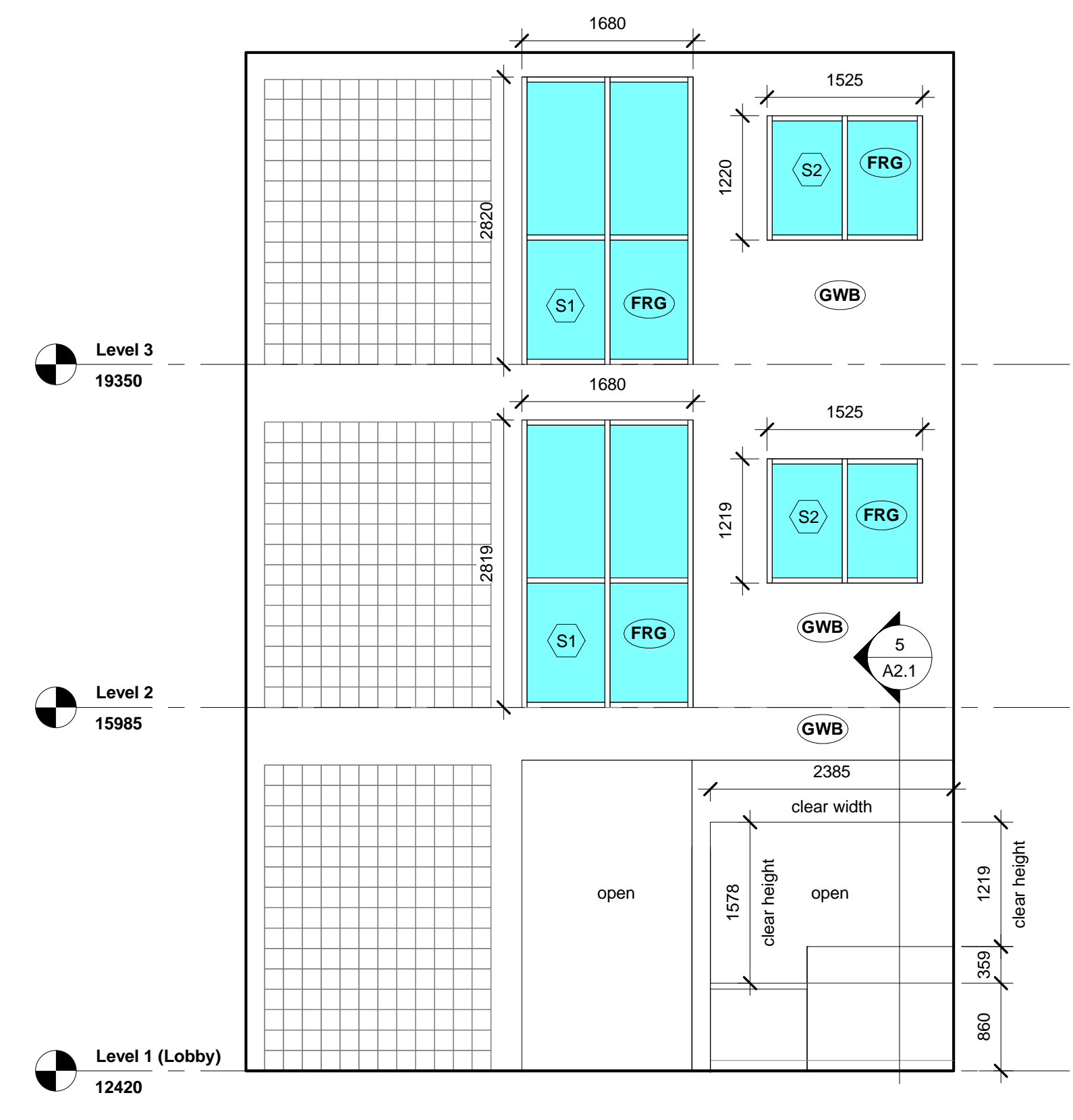
3 East Elevation - MW1b
1 : 25



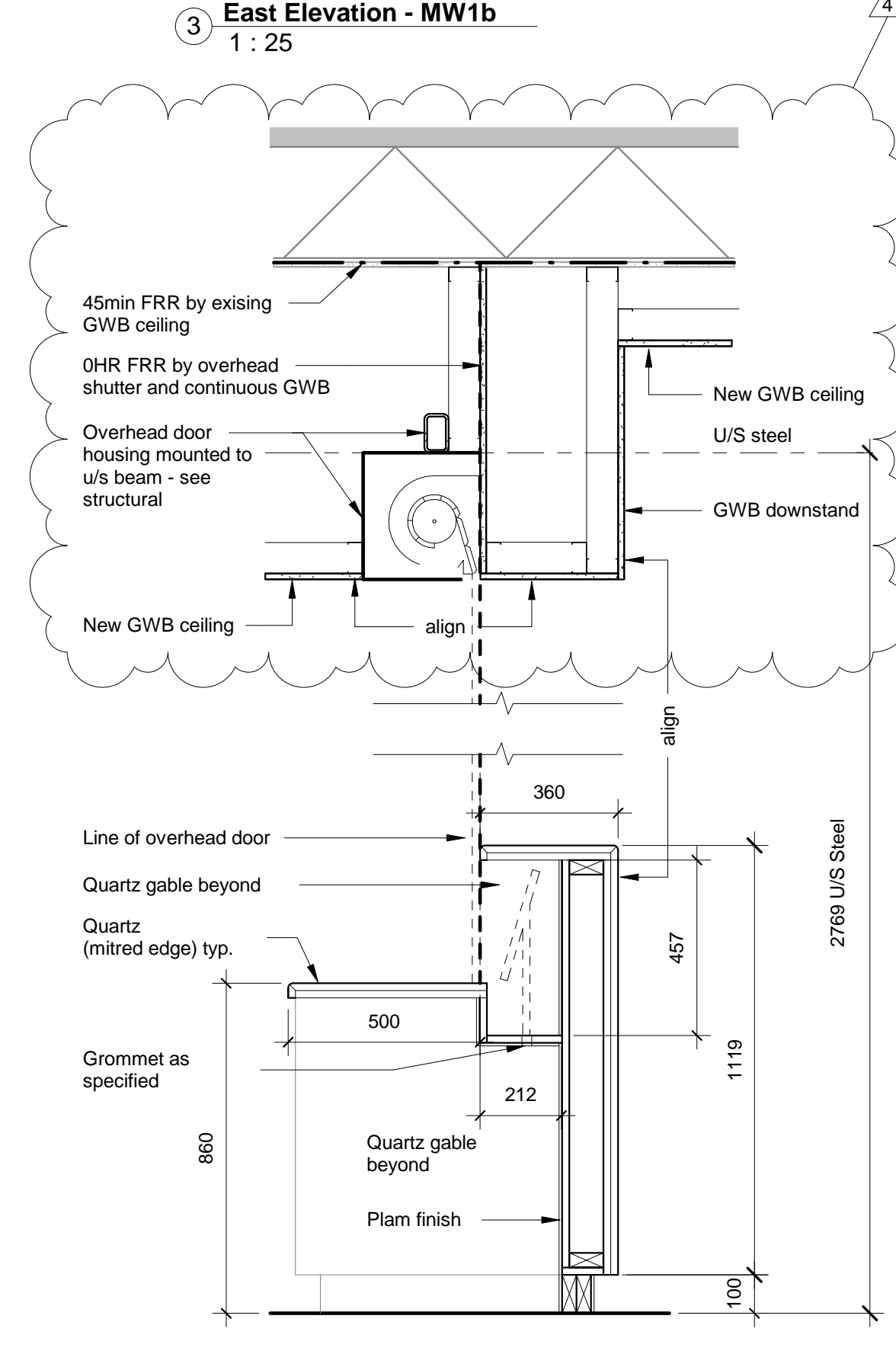
11 Section Thru Laundry Platform
1 : 50



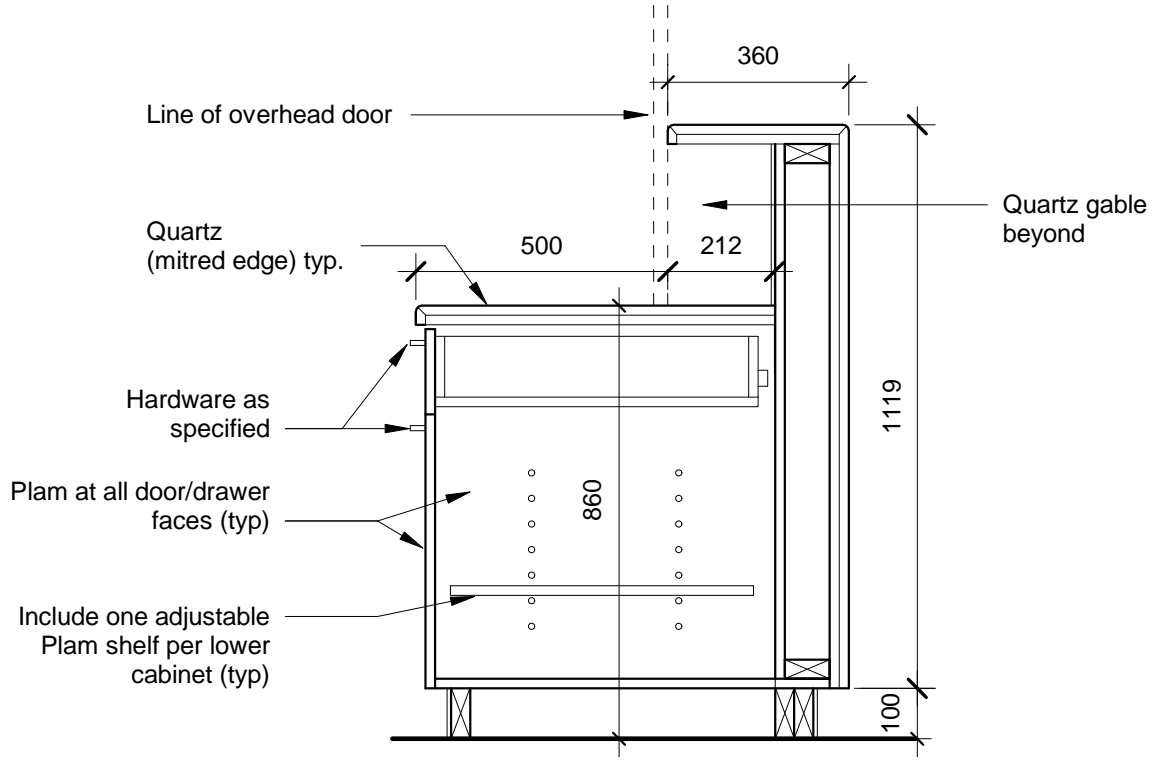
12 Section Thru Loading Stair
1 : 25



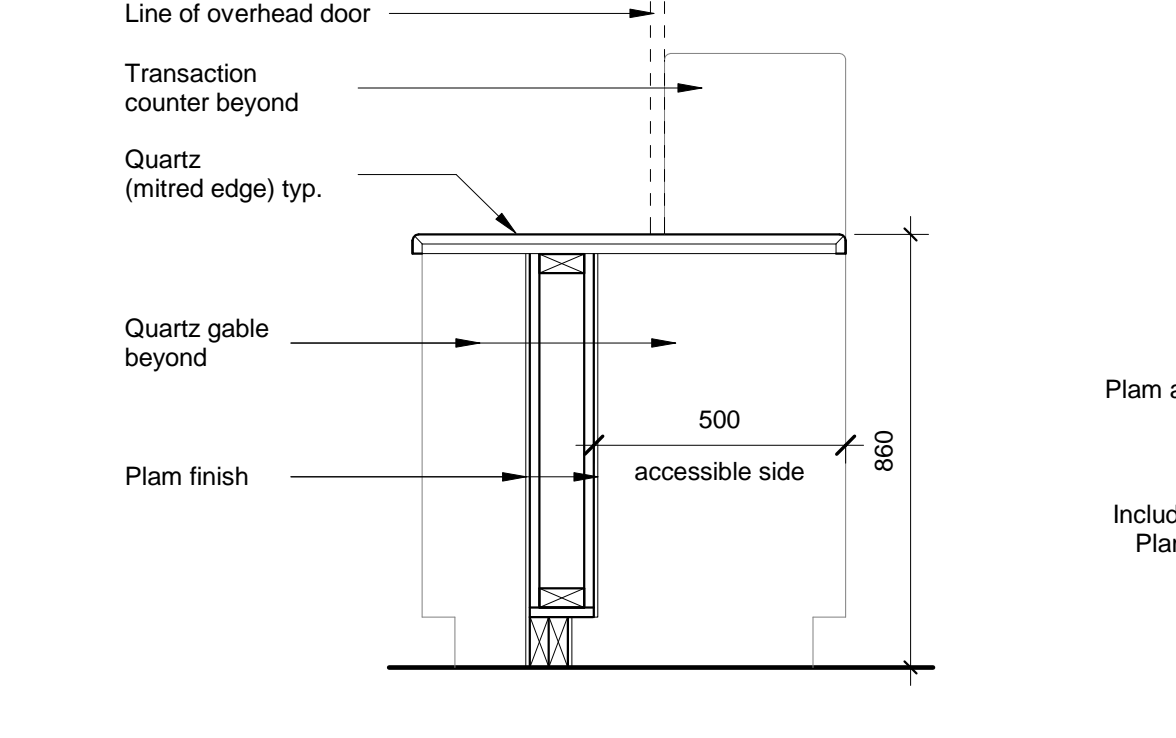
4 East Elevation - Lobby
1 : 50



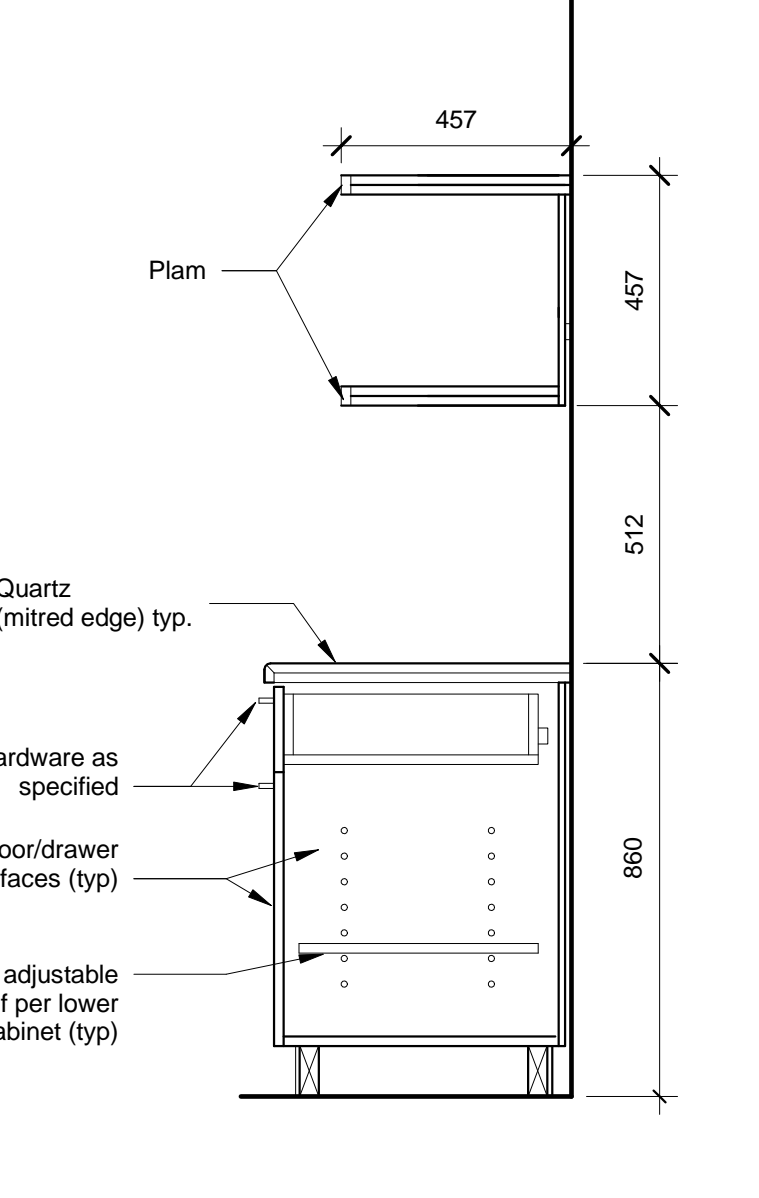
5 Detail Section - MW1a Transaction Counter
1 : 15



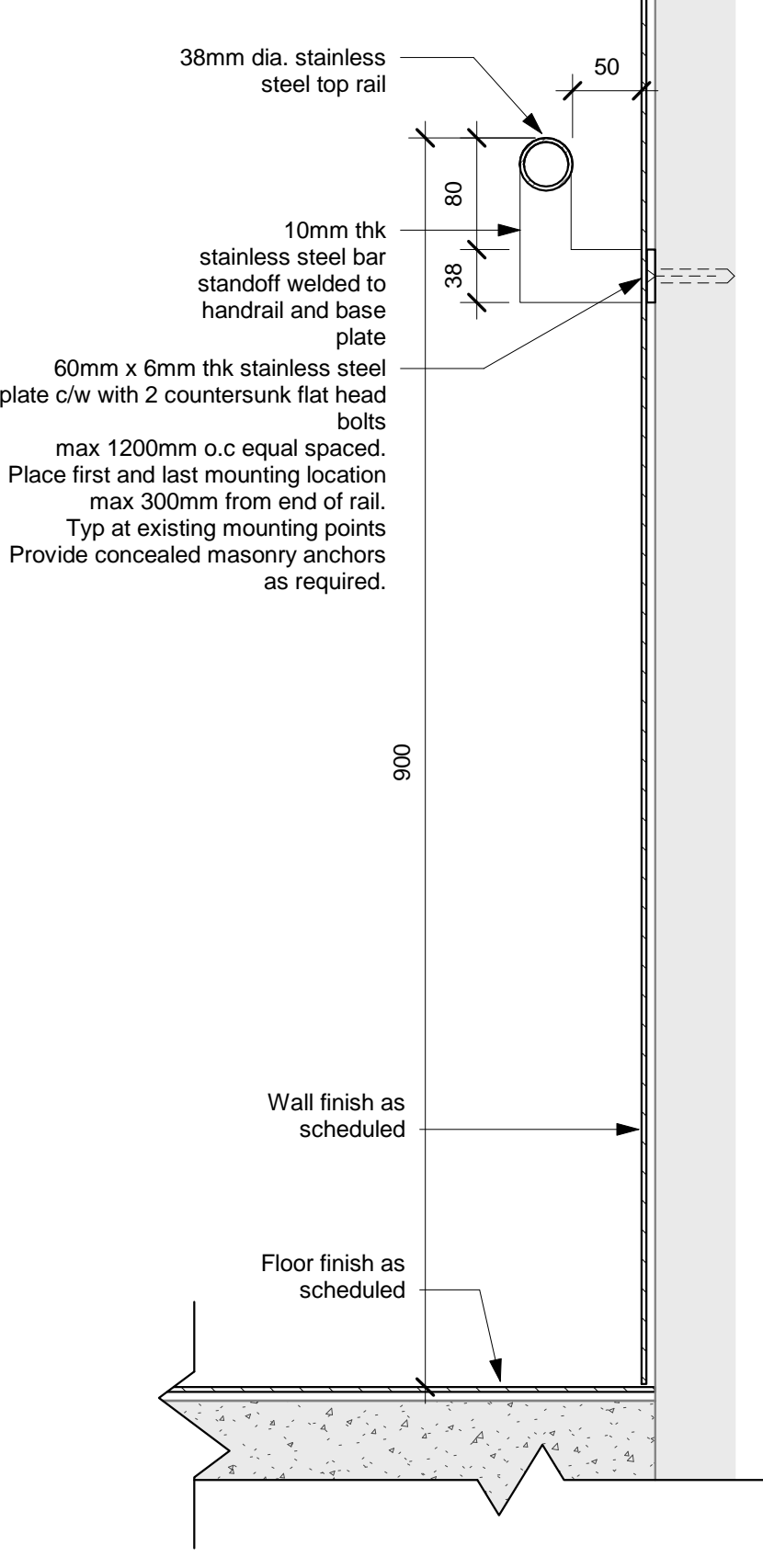
6 Detail Section - MW1a Storage
1 : 15



7 Detail Section - MW1a Accessible Counter
1 : 15



8 Detail Section - MW1b Storage
1 : 15



9 Detail - Handrail H1
1 : 5



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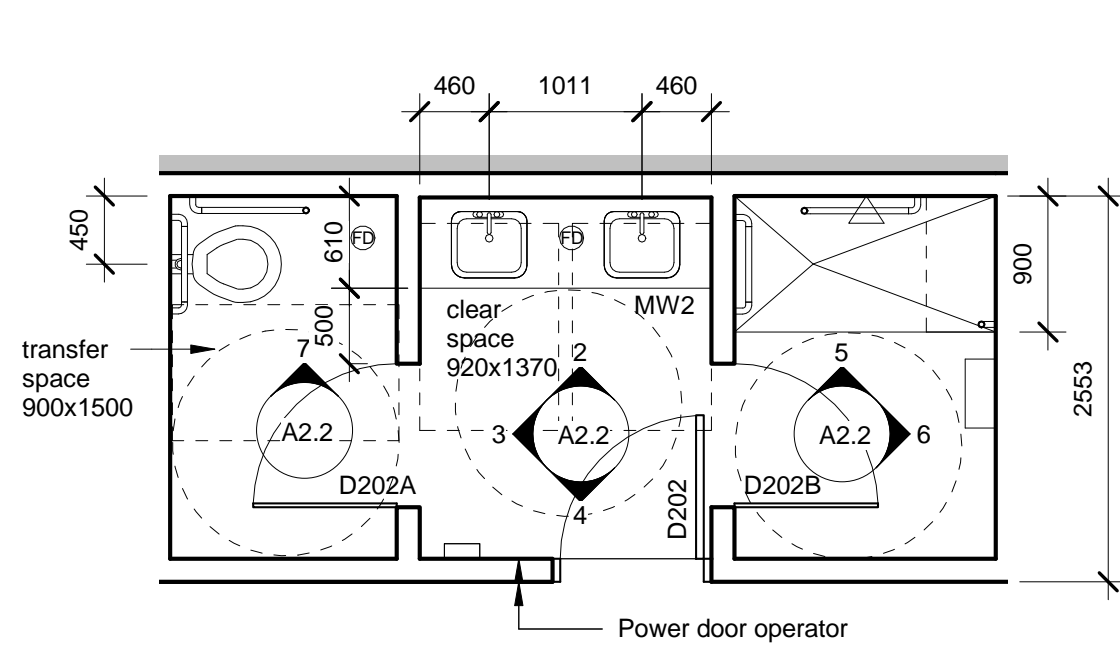
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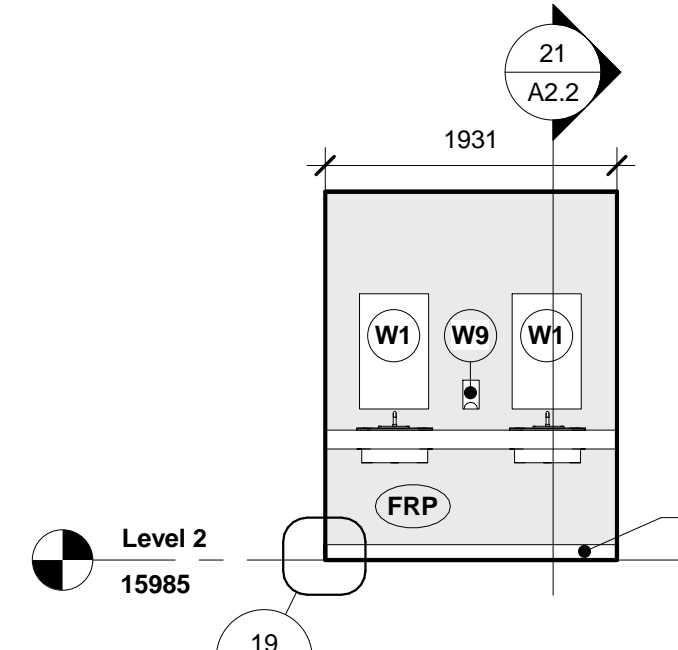
Proposed Interior Elevations & Details



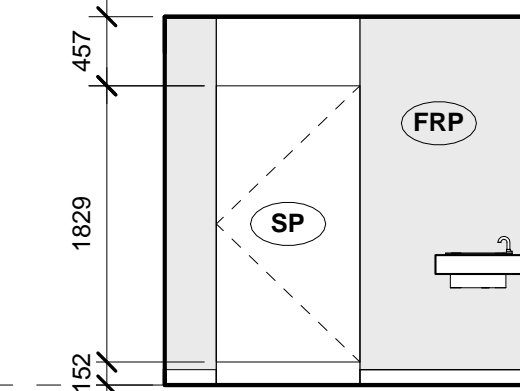
Rev	Description	Date
2	Draft	28 June '18
3	Issued for Permit/Tender	13 July '18
5	Construction	04 Sept '18



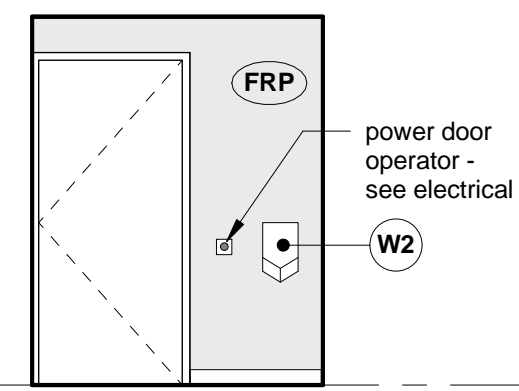
1 Detail Plan - Level 2 BF WC
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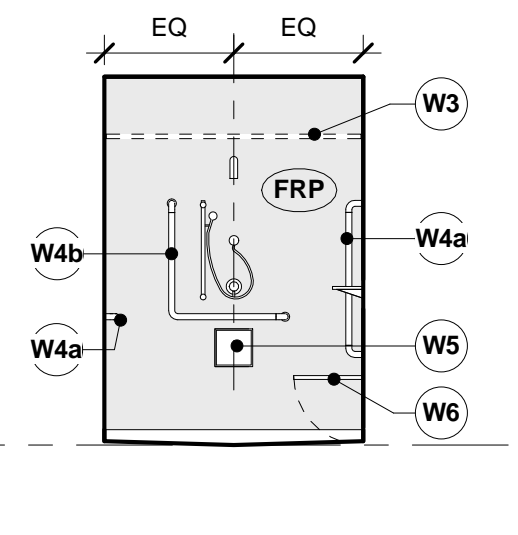
2 North Elevation - BF WC
1 : 50



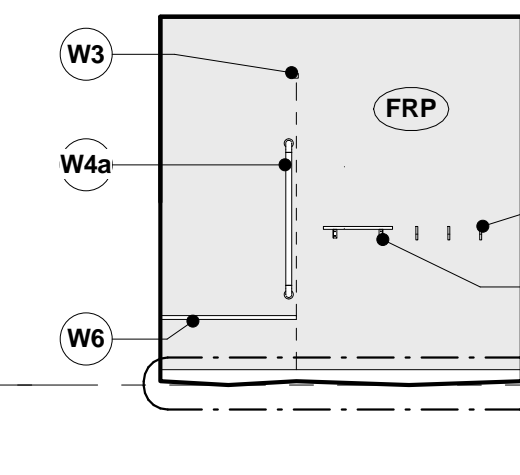
3 West Elevation - BF WC
1 : 50



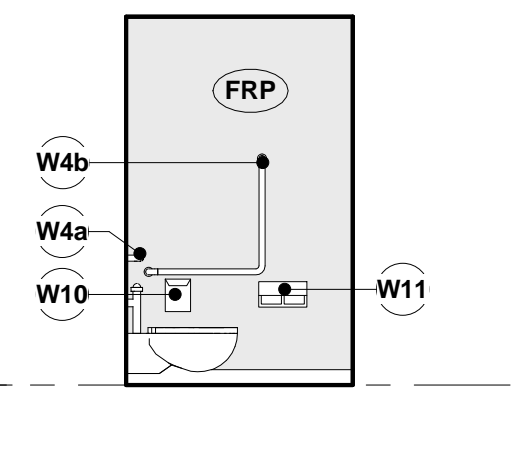
4 South Elevation - BF WC
1 : 50



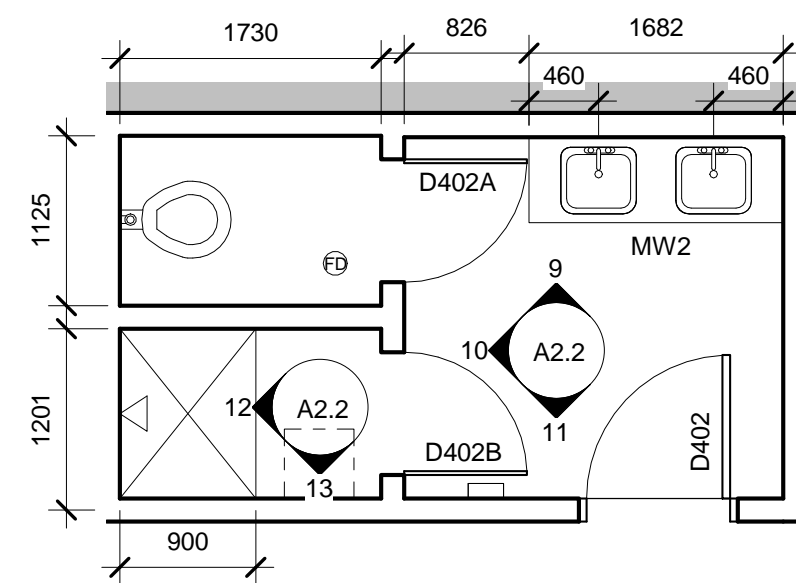
5 North Elevation - BF Shower
1 : 50



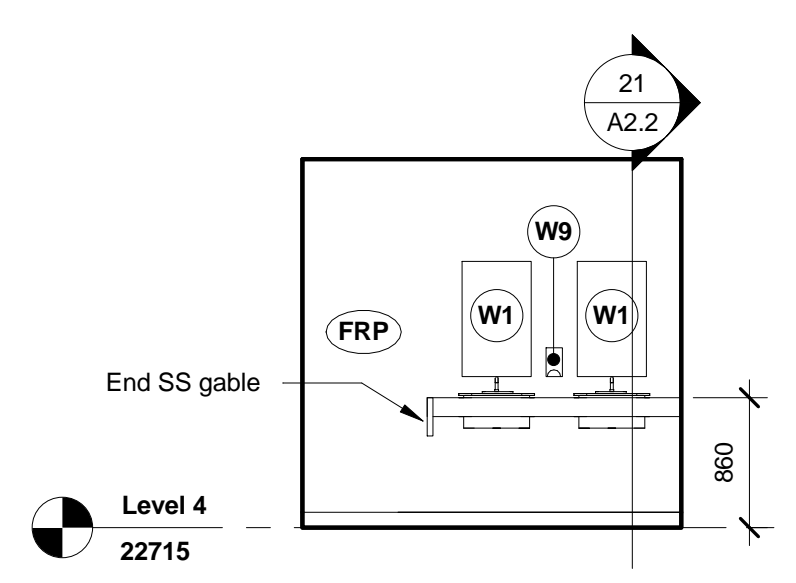
6 East Elevation - BF Shower
1 : 50



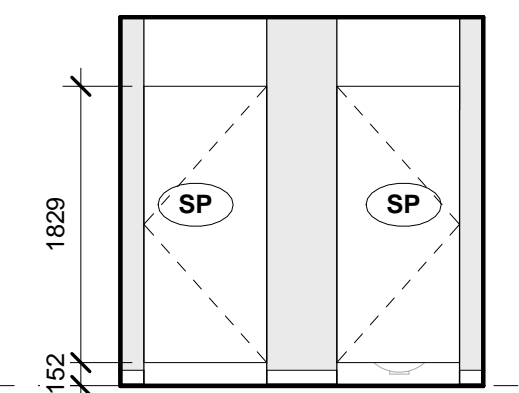
7 North Elevation - BF toilet
1 : 50



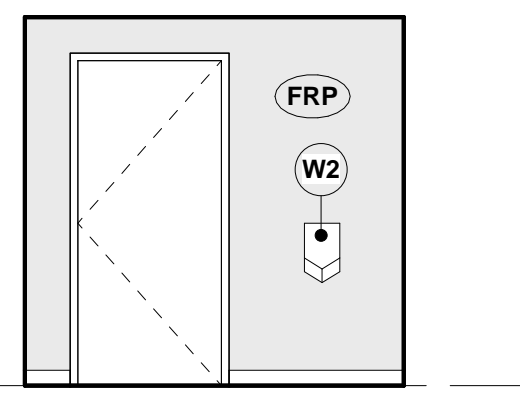
8 Detail Plan - Level 4 WC
1 : 50



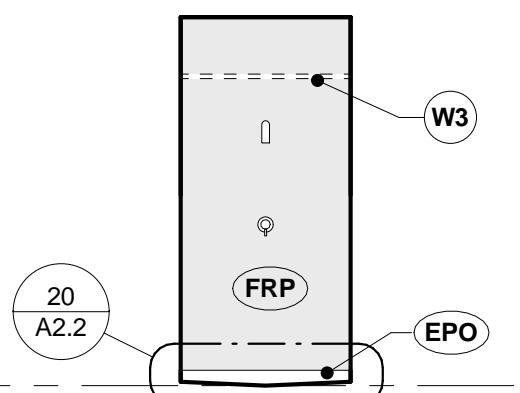
9 North Elevation - Level 4 WC
1 : 50



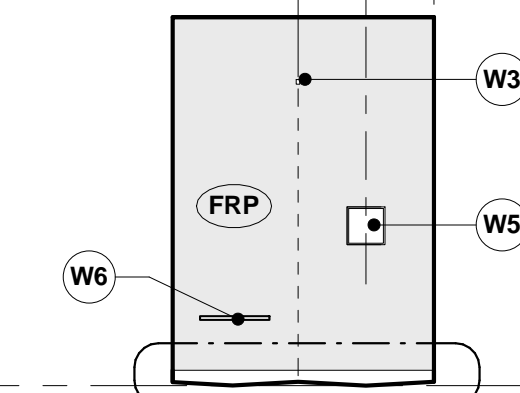
10 West Elevation - Level 4 WC
1 : 50



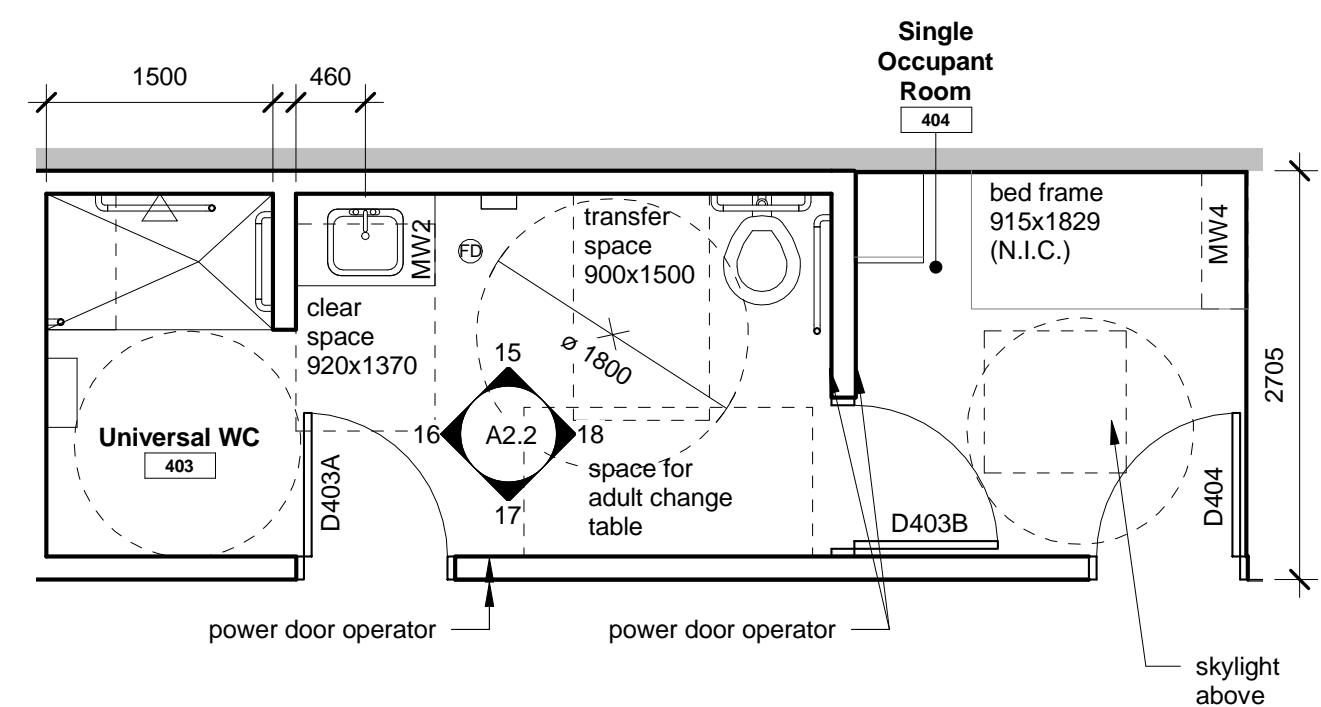
11 South Elevation - Level 4 WC
1 : 50



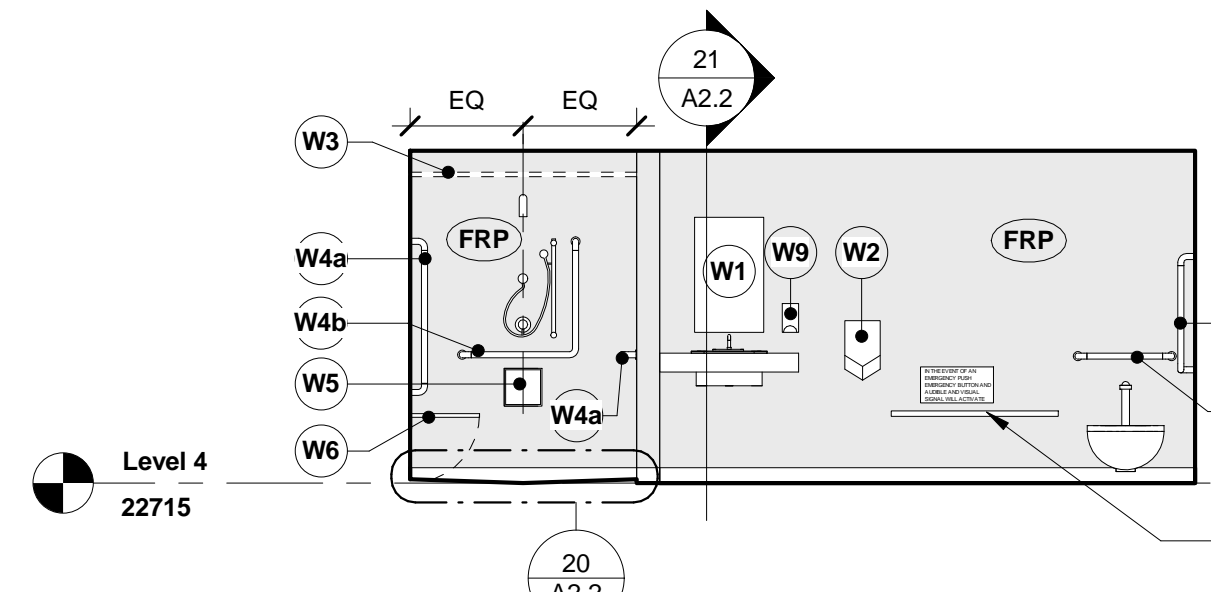
12 West Elevation - Shower
1 : 50



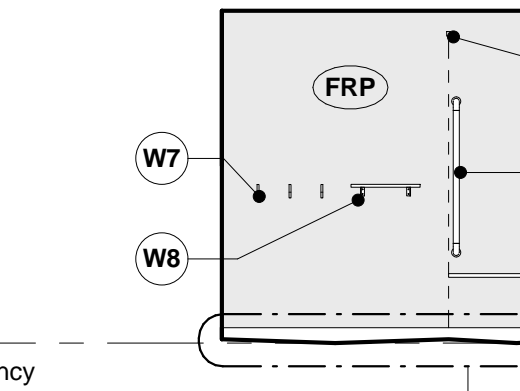
13 South Elevation - Shower
1 : 50



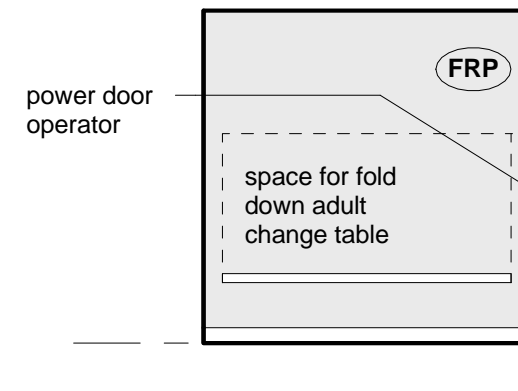
14 Detail Plan - Single Occupant Room & Universal WC
1 : 50



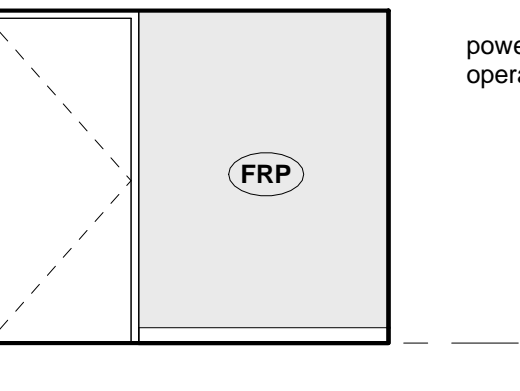
15 North Elevation - Universal WC
1 : 50



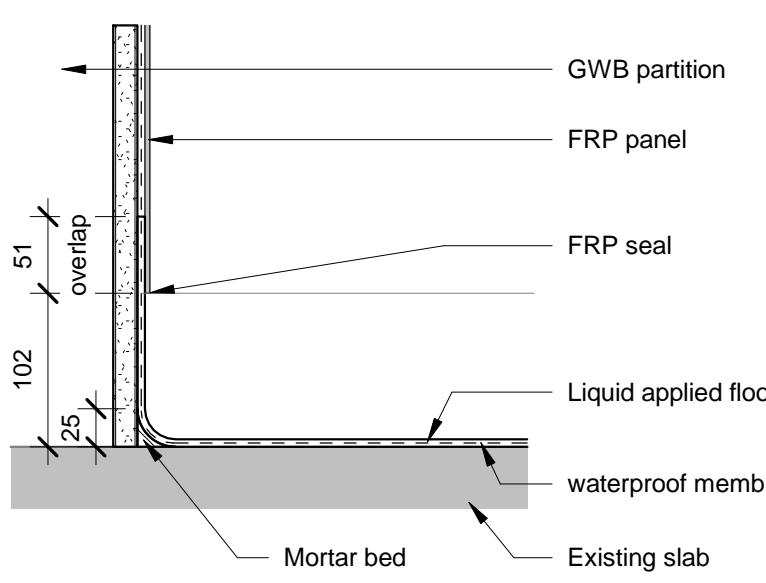
16 West Elevation - Universal WC
1 : 50



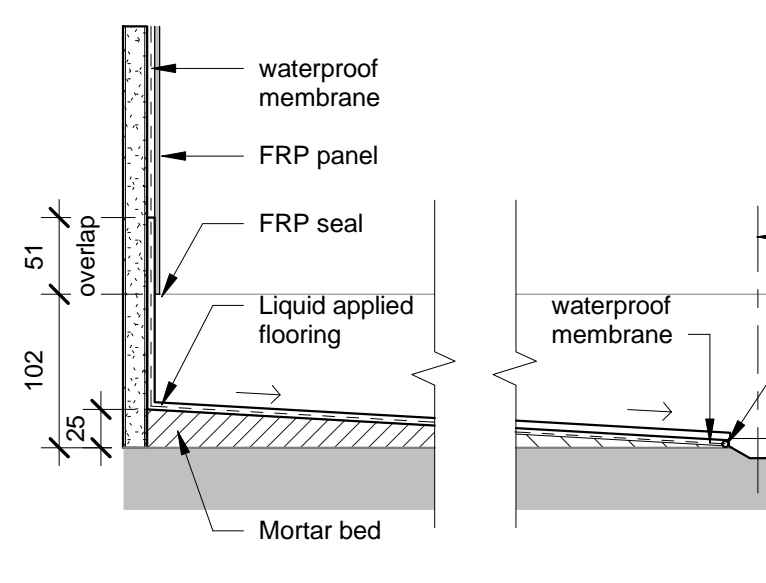
17 South Elevation - Universal WC
1 : 50



18 East Elevation - Universal WC
1 : 50

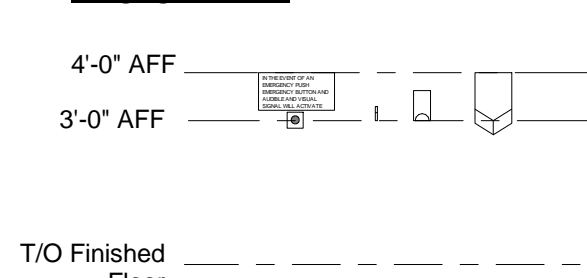


19 Detail - Cove Base
1 : 5



20 Detail - Shower floor
1 : 5

Hanging Schedule



hand dryer
grab bars and wc accessories beside toilets
grab bars behind toilets
mirrors in universal washrooms
sinks in universal washrooms
accessible strip emergency call

toilet paper dispenser

soap dispenser

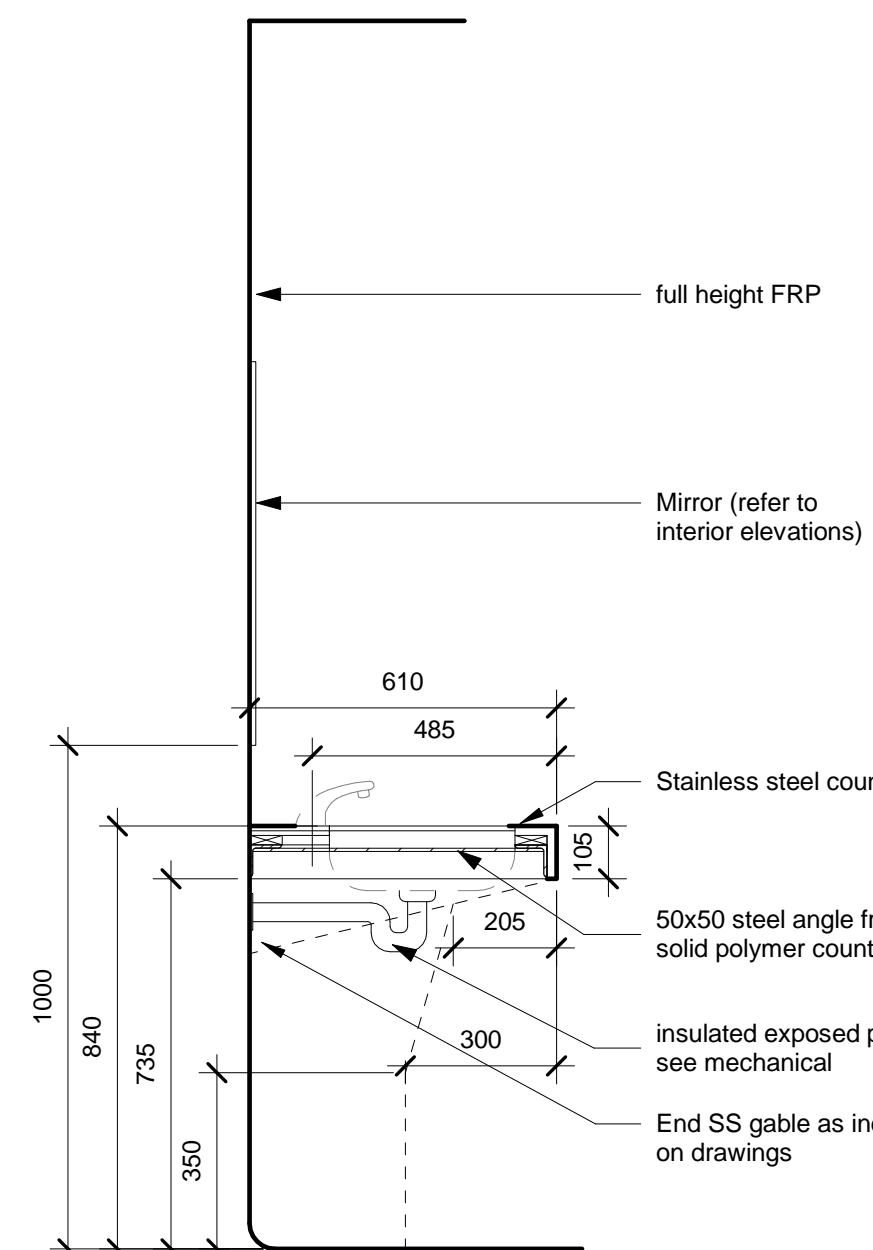
grab bars

coat hook

push button

Notes:
1. All controls (power door operator, elevator call buttons, fire alarms, switches, emergency call button and fire extinguishers, coat hooks etc.) to be between 3' and 4' AFF.
2. Locations of all accessories and controls to be marked on site prior to installation for final sign off.

Washroom Accessories	
Note	Description
W1	457 x 762 mirror
W2	Hand dryer
W3	Shower curtain & rod
W4a	Grab bar
W4b	L' shaped grab bar
W5	250 x 250 recessed soap holder
W6	Fold down shower seat
W7	Coat hooks
W8	Shelf
W9	Soap dispenser - Owner supplied contractor installed
W10	Napkin disposal - Owner supplied contractor installed
W11	Toilet paper dispenser - Owner supplied contractor installed



21 Detail Section - MW2 Sink Counter
1 : 15

Materials Legend

ALUM	Aluminum
EPO	Epoxy
EXIST	Existing
EXP	Exposed
FRG	Fire Rated Glass
FRP	Fiberglass Reinforced Panel
GWB	Gypsum Wallboard (Painted)
LGL	Laminated Glass
MIR	Mirror
PT	Paint Finish
PV	Paving Stones
QTZ	Quartz
RB	Rubber Base
RES	Resilient Flooring
SP	Solid Phenolic Toilet Partition
SS	Stainless Steel
SMB	Steel Marker Board
TGL	Tempered Glass



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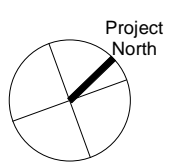
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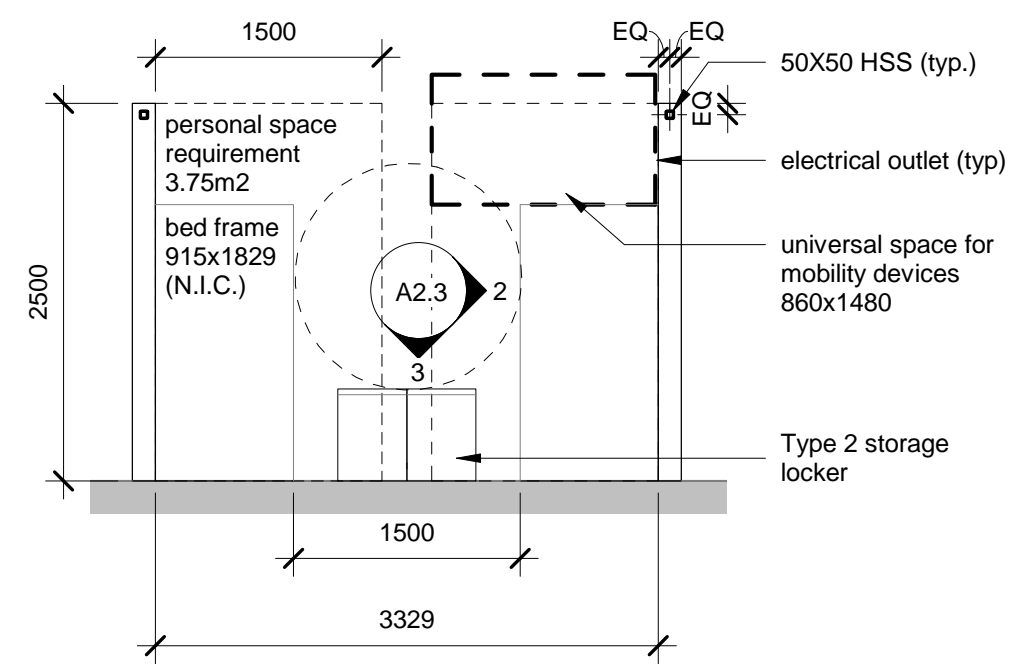
Proposed Interior Elevations & Details



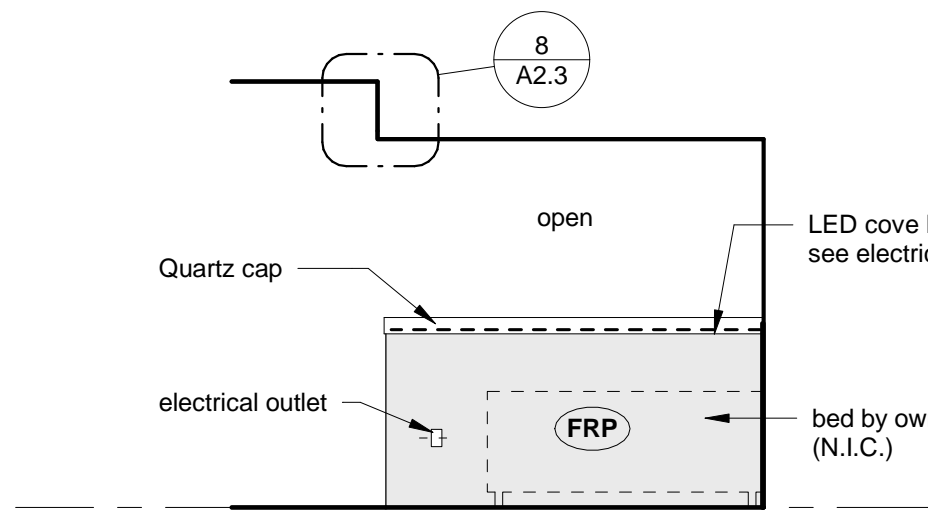
Project North

drawing number

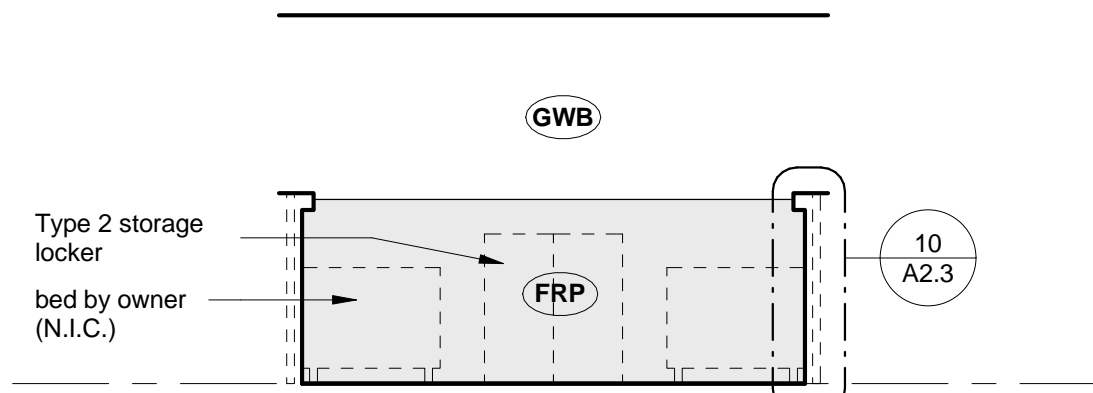
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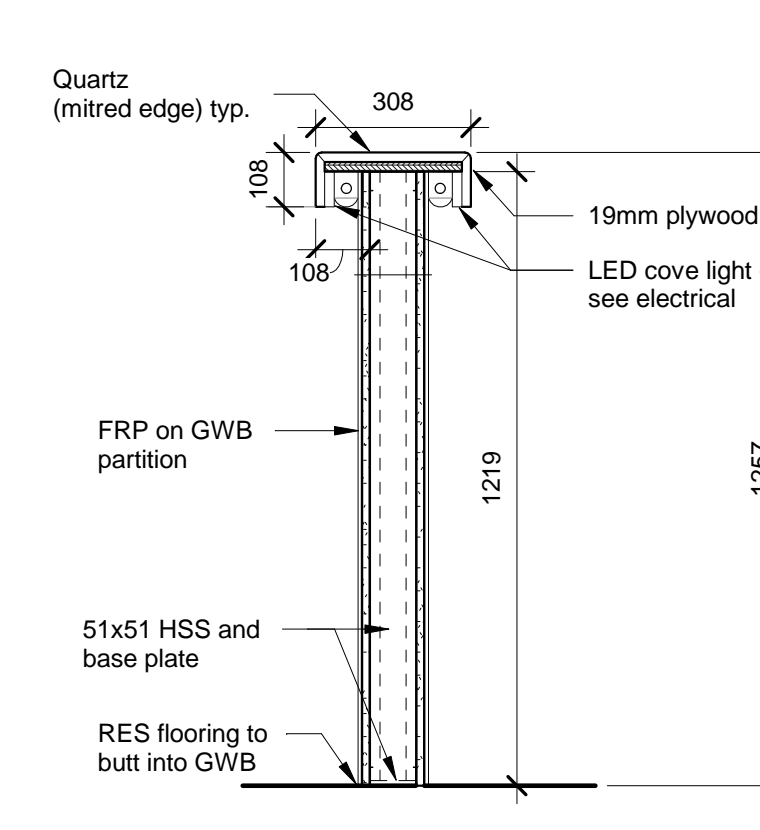
1 Detail Plan - BF Dorm
1 : 50



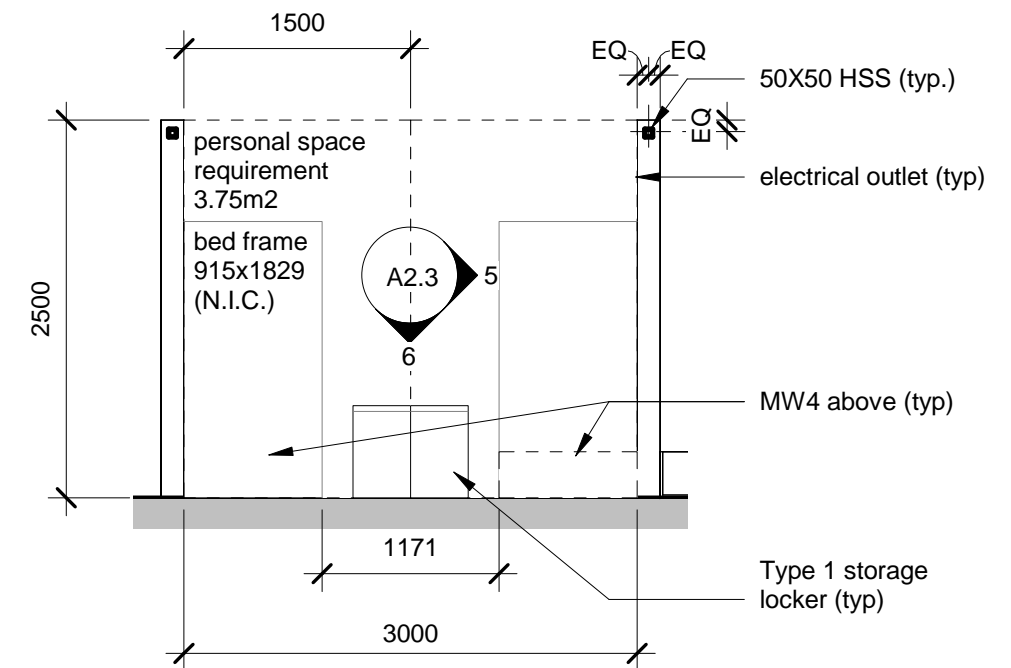
2 East/West Elevation - BF Dorm
1 : 50



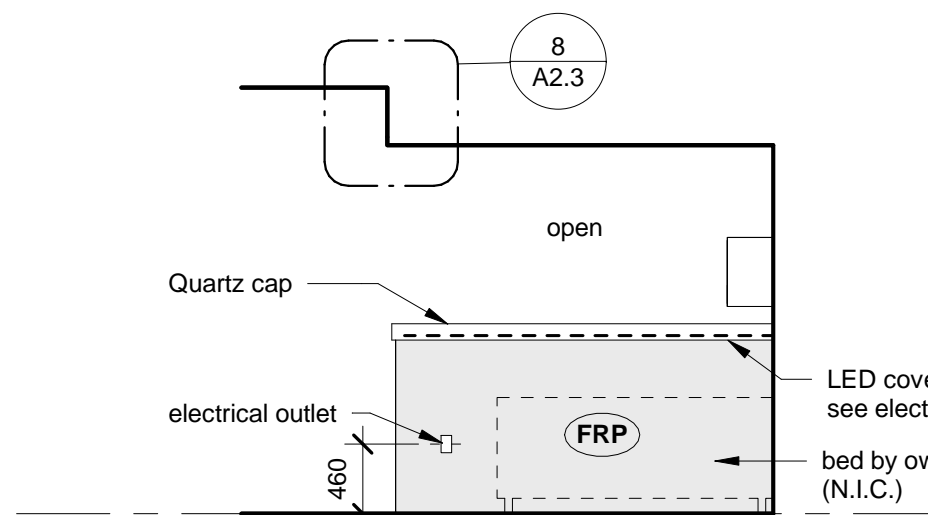
3 North/South Elevation - BF Dorm
1 : 50



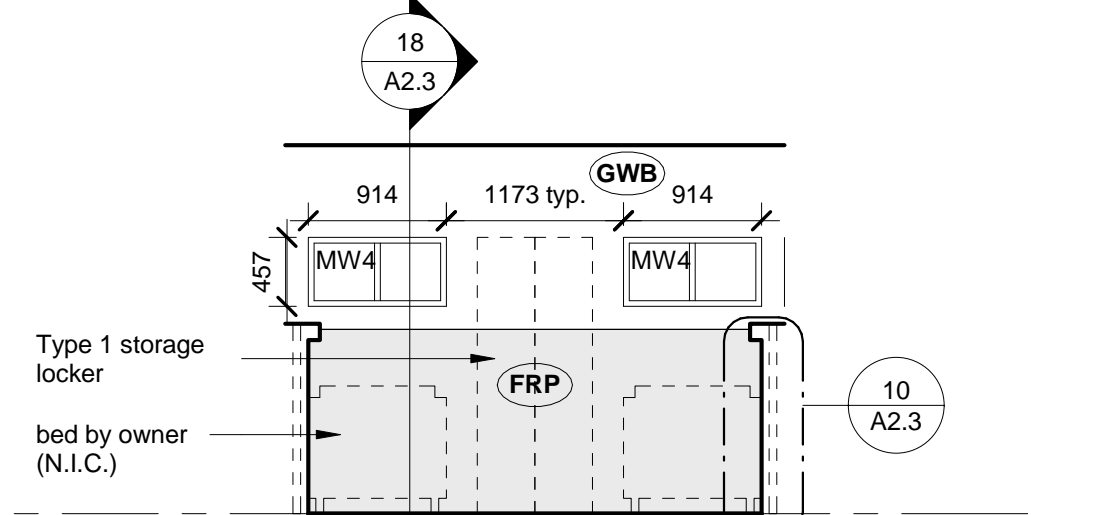
10 Detail Section - Dorm Partition Wall (typ)
1 : 15



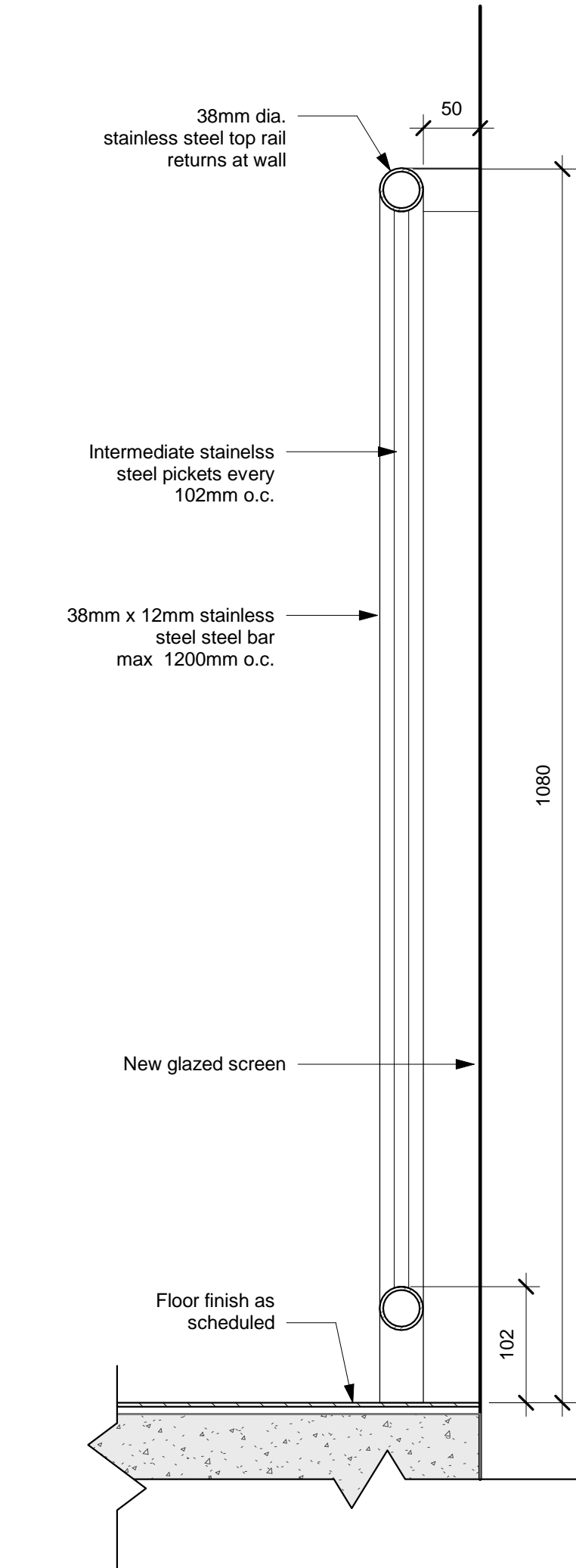
4 Detail Plan - Typical Dorm
1 : 50



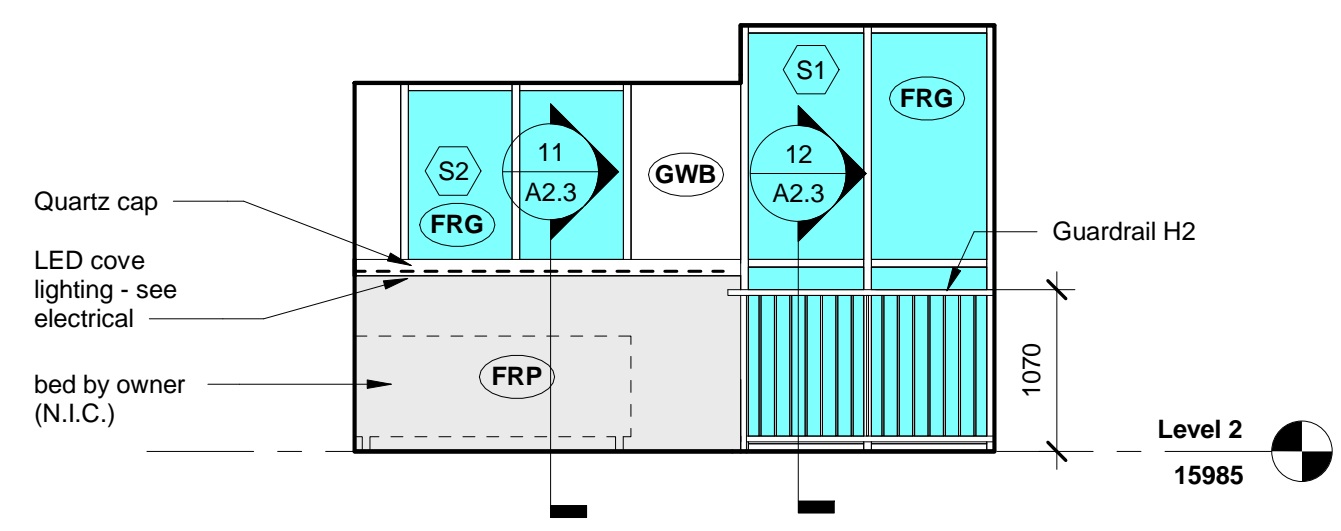
5 East/West Elevation - Typical Dorm
1 : 50



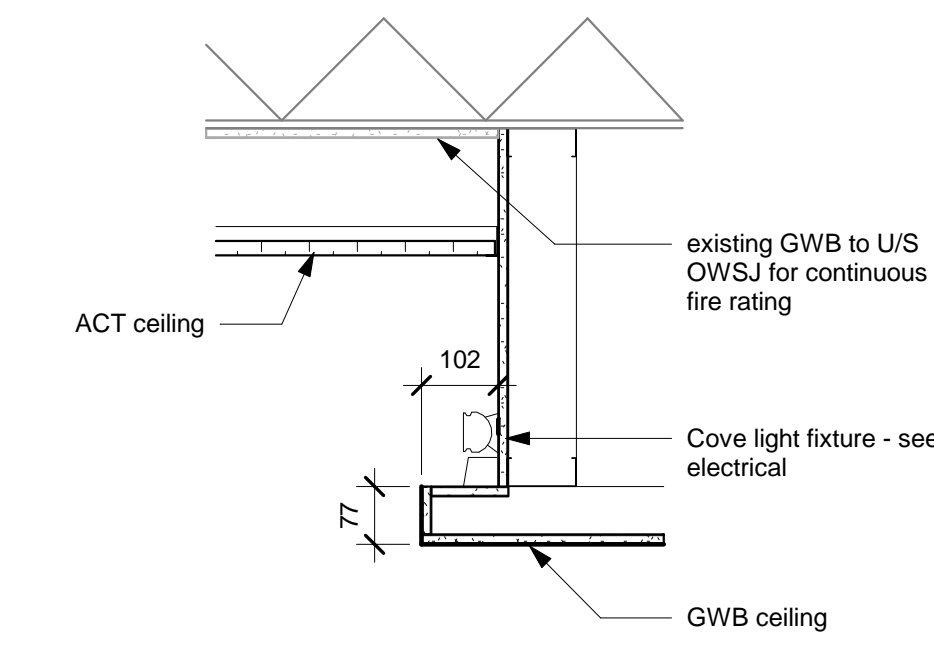
6 North/South Elevation - Typical Dorm
1 : 50



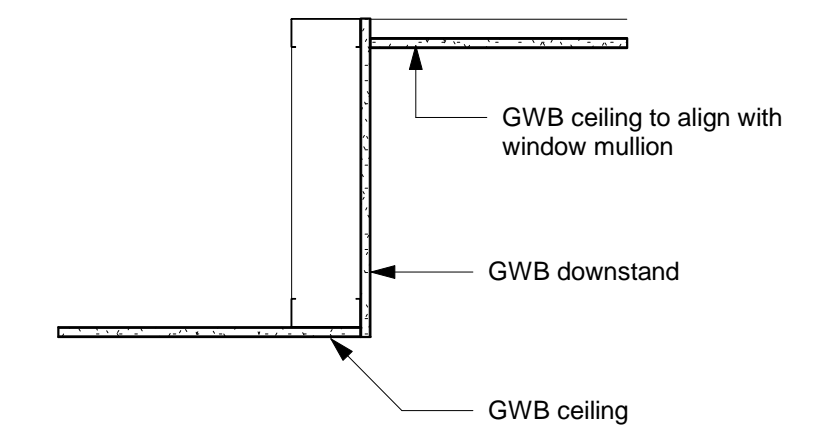
12 Detail - Guardrail H2
1 : 5



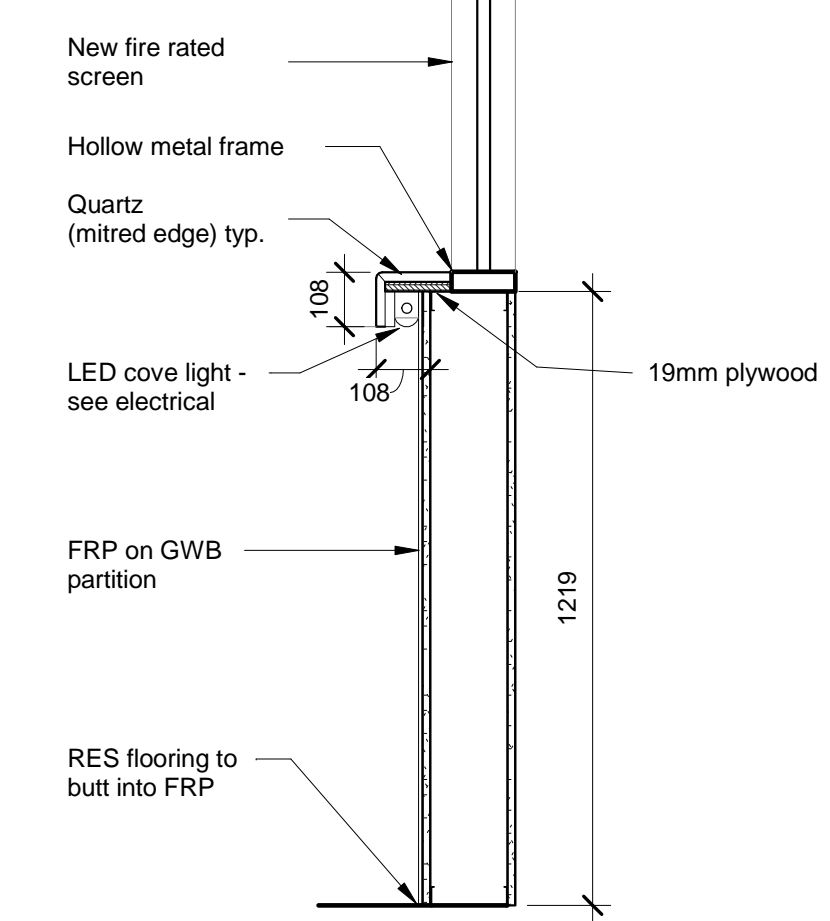
7 West Elevation - Dorms Level 2 & Level 3
1 : 50



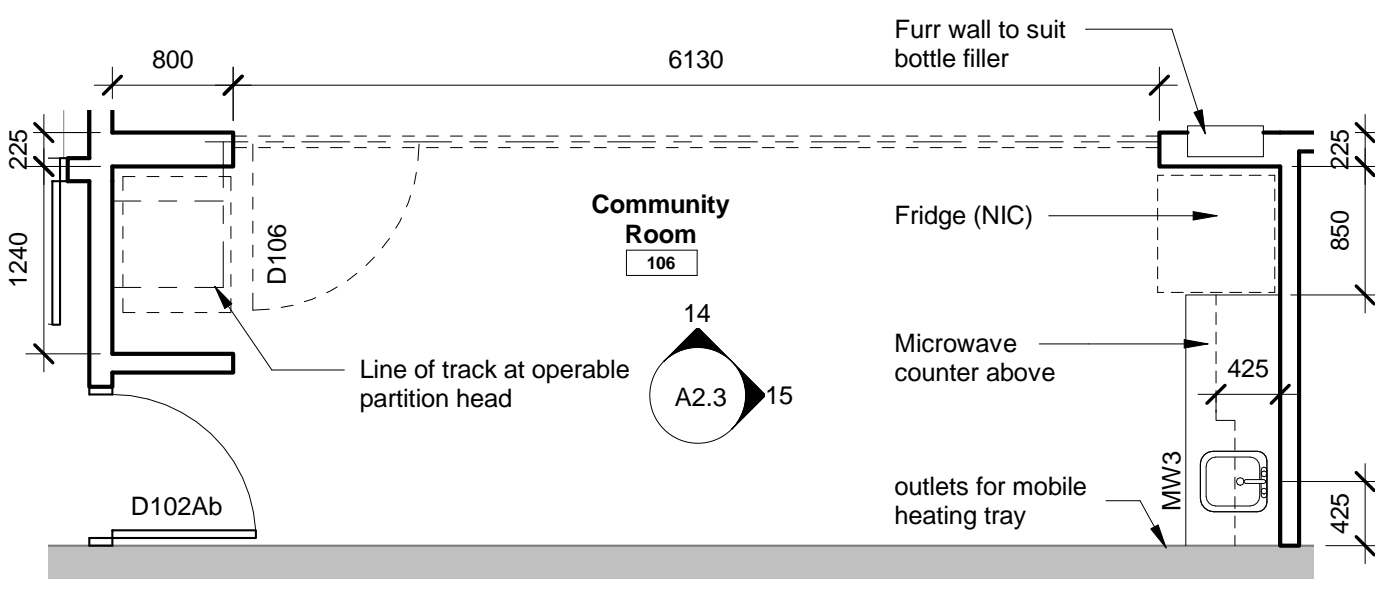
8 Detail Section - Dorm Ceiling Cove
1 : 10



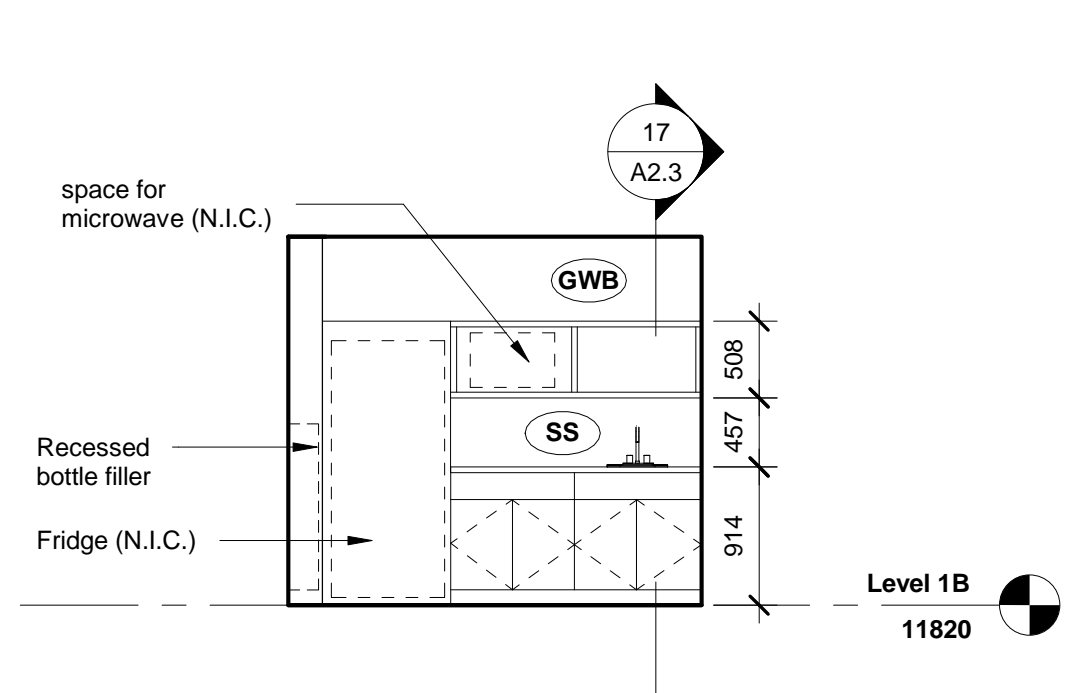
9 Detail Section - Dorm Ceiling at Level 2 East Window
1 : 10



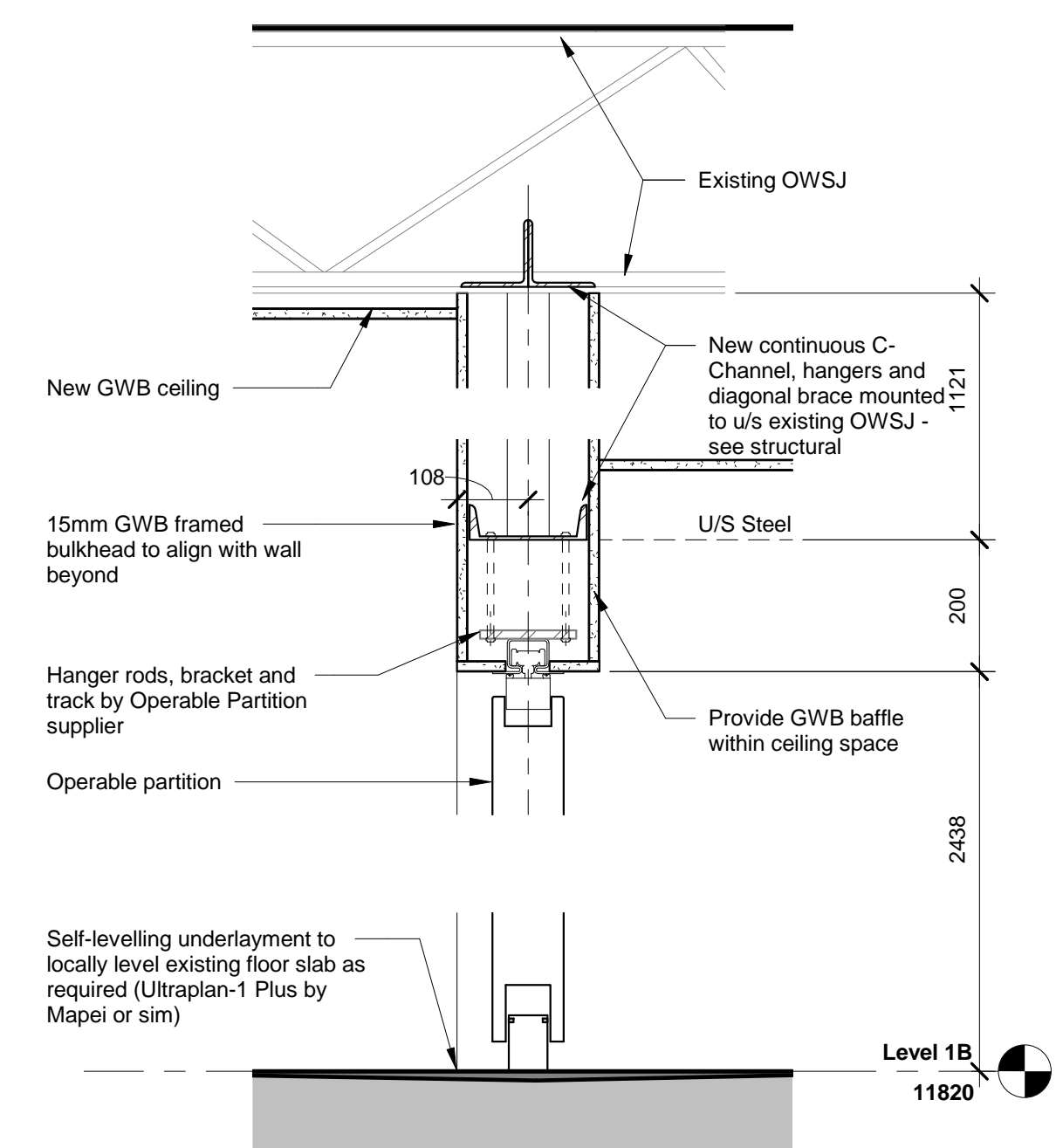
11 Detail Section - Dorm Cap at sill
1 : 15



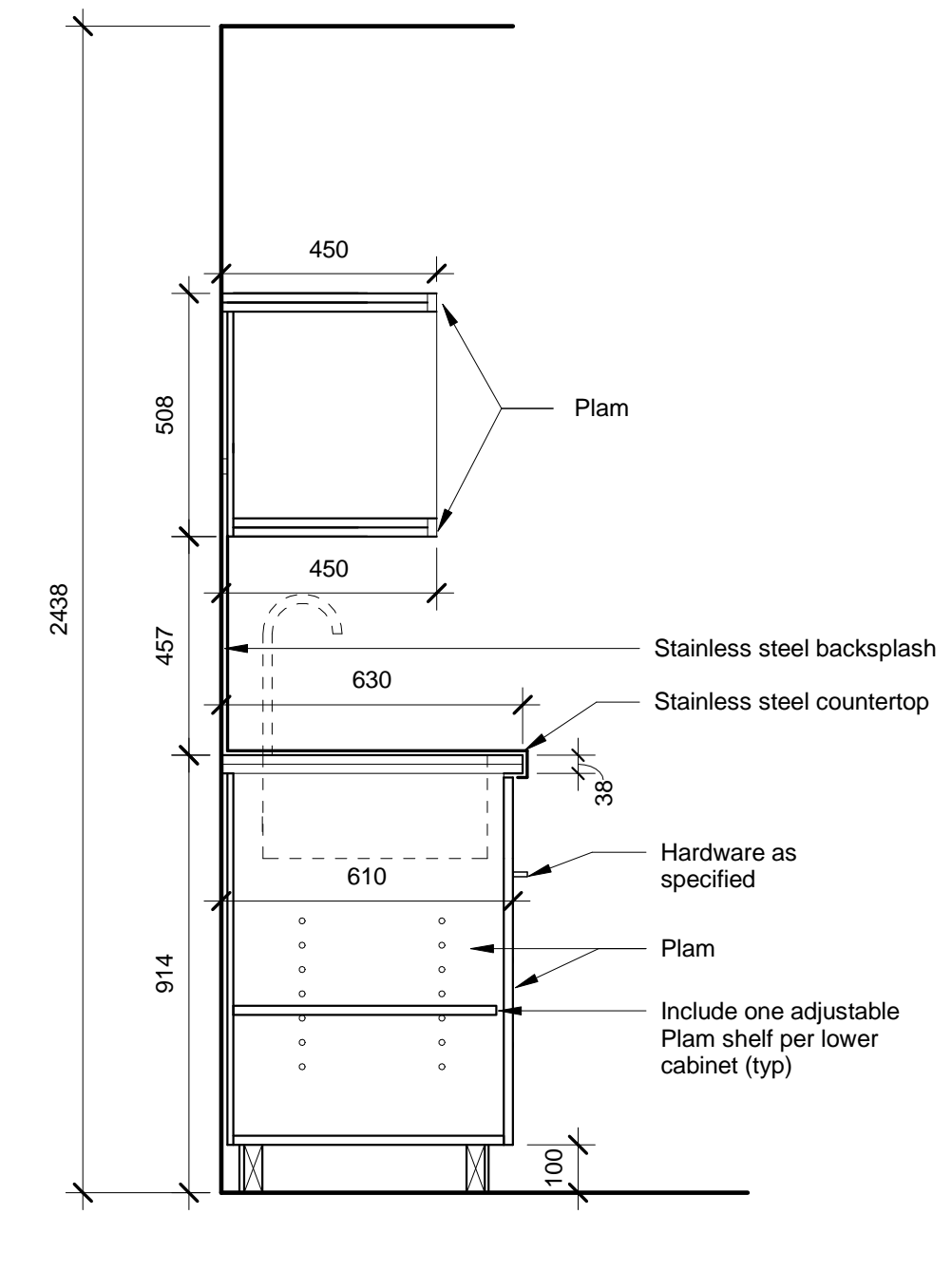
13 Detail Plan - Community Room
1 : 50



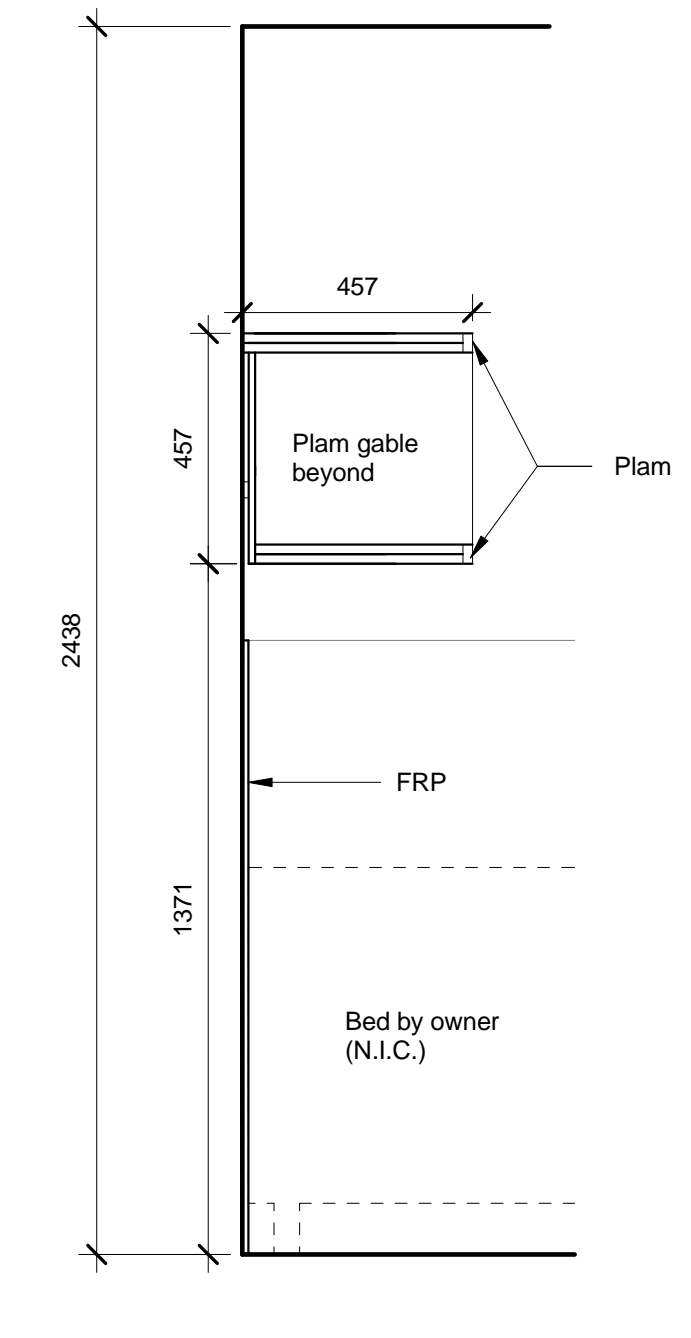
15 Front Elevation - MW3 Servery
1 : 50



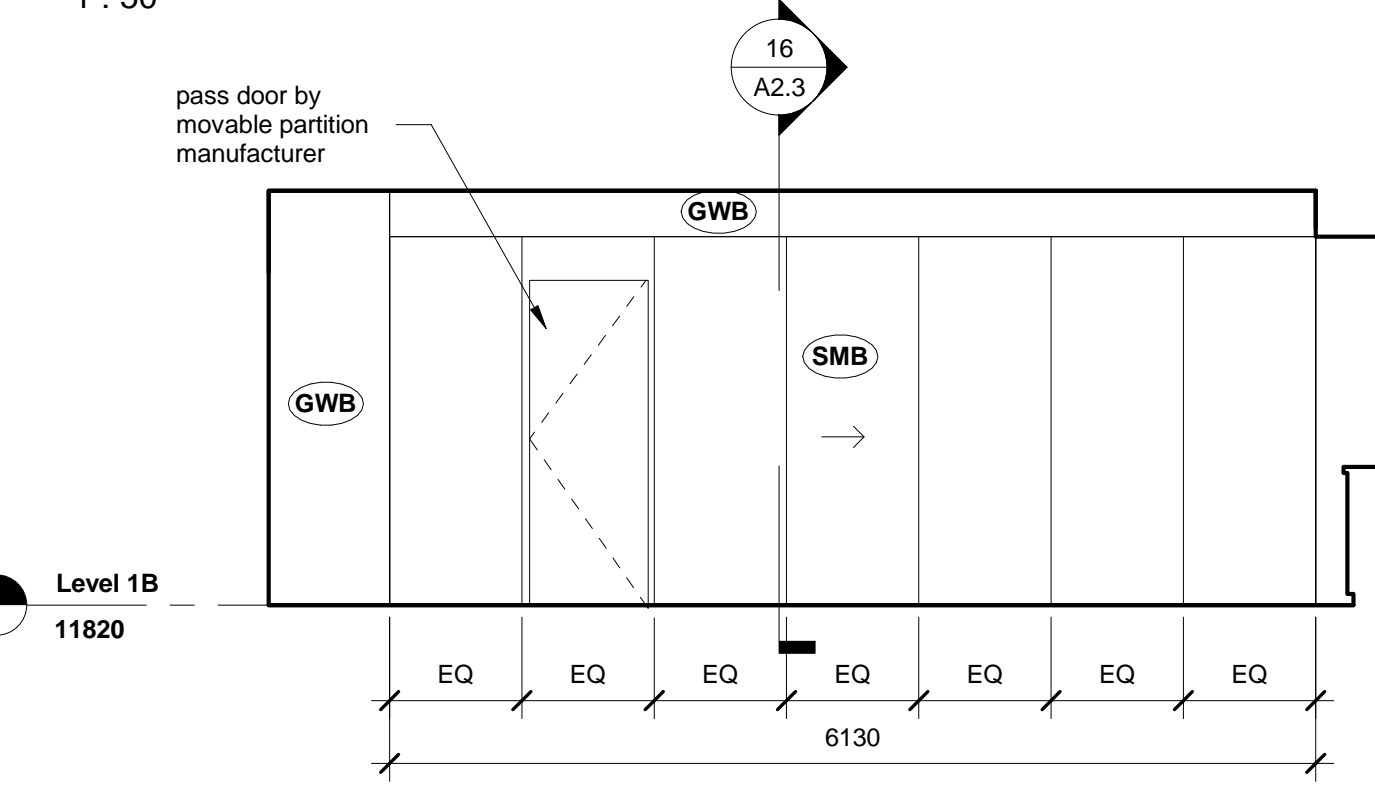
16 Detail Section - Operable Partition Track
1 : 10



17 Detail Section - MW3 Servery Counter
1 : 15



18 Detail Section - MW4 Open Shelf
1 : 15



14 North Elevation - Movable Partition
1 : 50

Rev	Description	Date
3	Issued for Permit/Tender	13 July '18
4	Addendum 1	30 July '18
5	Construction	04 Sept '18

Materials Legend

ALUM	Aluminum
EPO	Epoxy
EXIST	Existing
EXP	Exposed
FRG	Fire Rated Glass
FRP	Fiberglass Reinforced Panel
GWB	Gypsum Wallboard (Painted)
LGL	Laminated Glass
MIR	Mirror
PT	Paint Finish
PV	Paving Stones
QTZ	Quartz
RB	Rubber Base
RES	Resilient Flooring
SP	Solid Phenolic Toilet Partition
SS	Stainless Steel
SMB	Steel Marker Board
TGL	Tempered Glass

Millwork Hardware Legend

- Adjustable Shelf Pins/Ferrules: Richelieu No 2291/2292-180 nickel finish at 2" centres or approved equivalent
- Bumpers: 2 each per door: Richelieu No 2291/2292-180 nickel finish at 2" centres or approved equivalent
- Cabinet Locks: Corbin 02067 x 7/8 or approved equivalent
- Cabinet/Drawer Pulls: Richelieu Catalogue No BP2213175 or approved equivalent
- Concealed Hinges: Blum 110 degrees or approved equivalent
- Drawer guides: Blum WEBKIT1058762 or approved equivalent
- Drawer Locks: Corbin 02066 x 7/8 or approved equivalent
- Grommets: Richelieu Catalogue No 60952140 or approved equivalent
- 6 in total - location TBD



WORKSHOP architecture

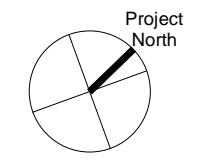
WORKSHOP architecture inc
1157 Davenport Road
Toronto Ontario M5H 2G4
T 416.901.8055 F 416.849.0383
www.workshoparchitecture.ca

Davenport Shelter

348 Davenport Road
Toronto, ON
M5R 1K6

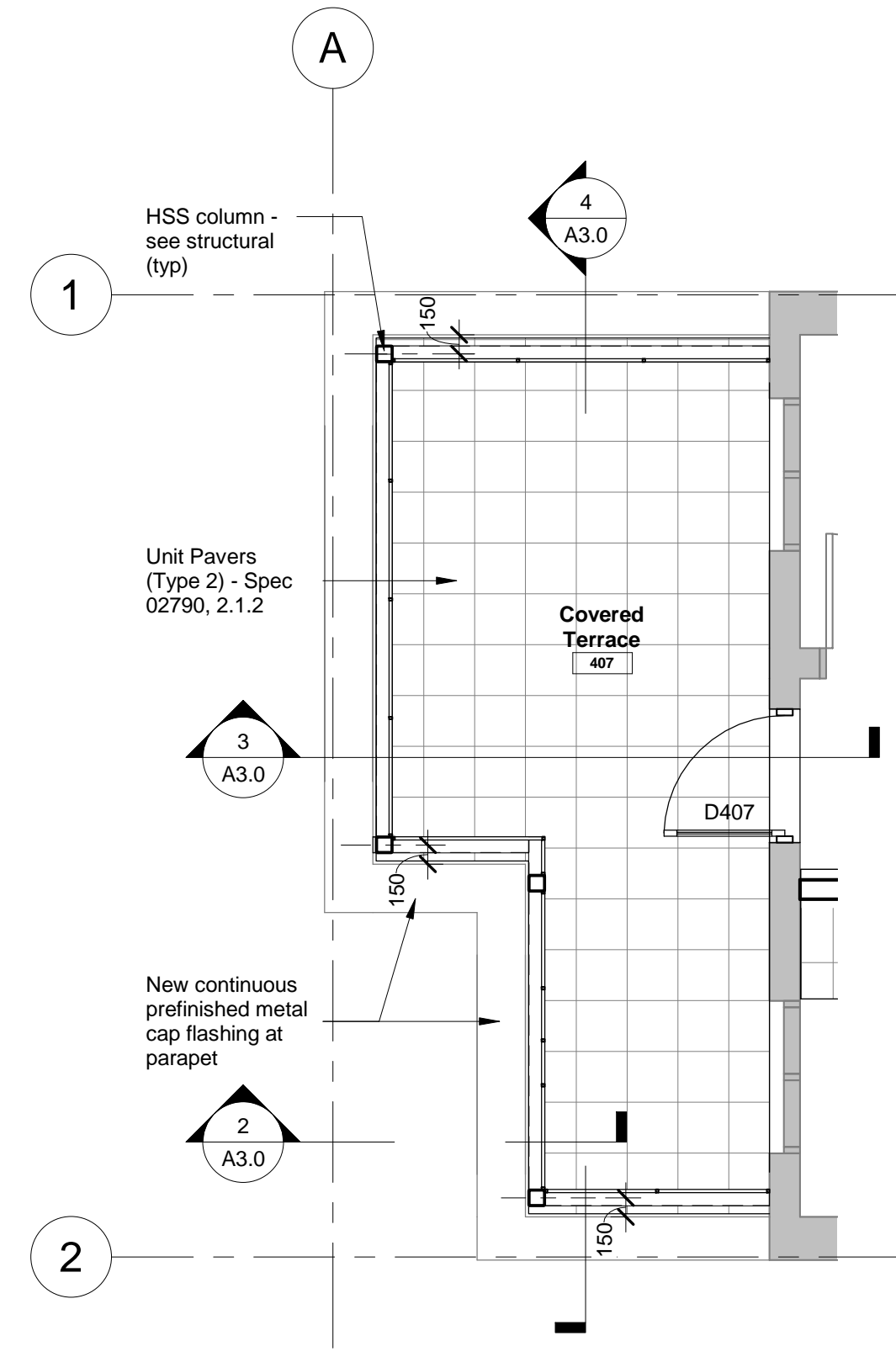
PROJECT CODE:	SCALE:
18_22	As indicated
DATE:	STATUS:
September 2018	Construction

Proposed Interior Elevations & Details

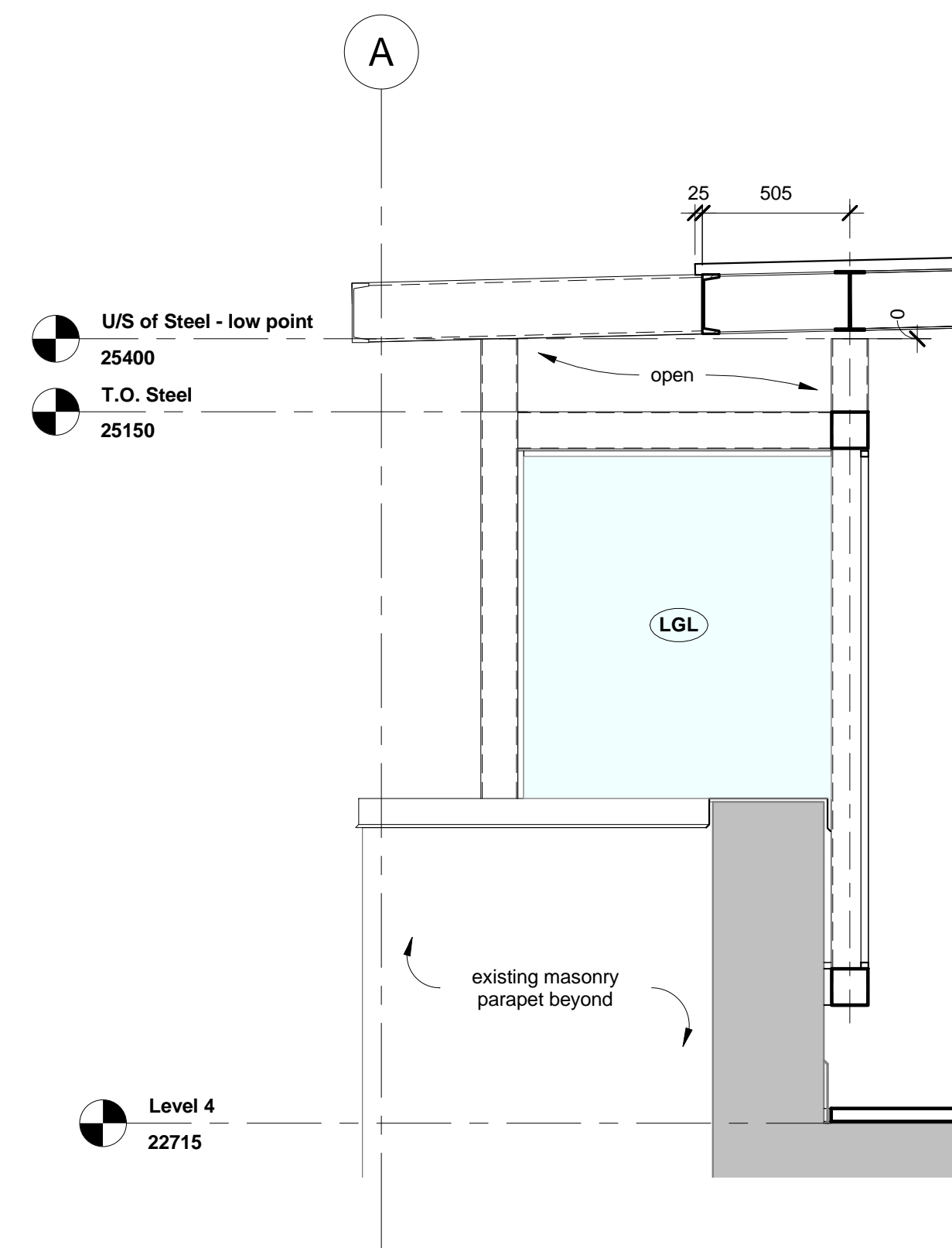


Project North
drawing number
A23

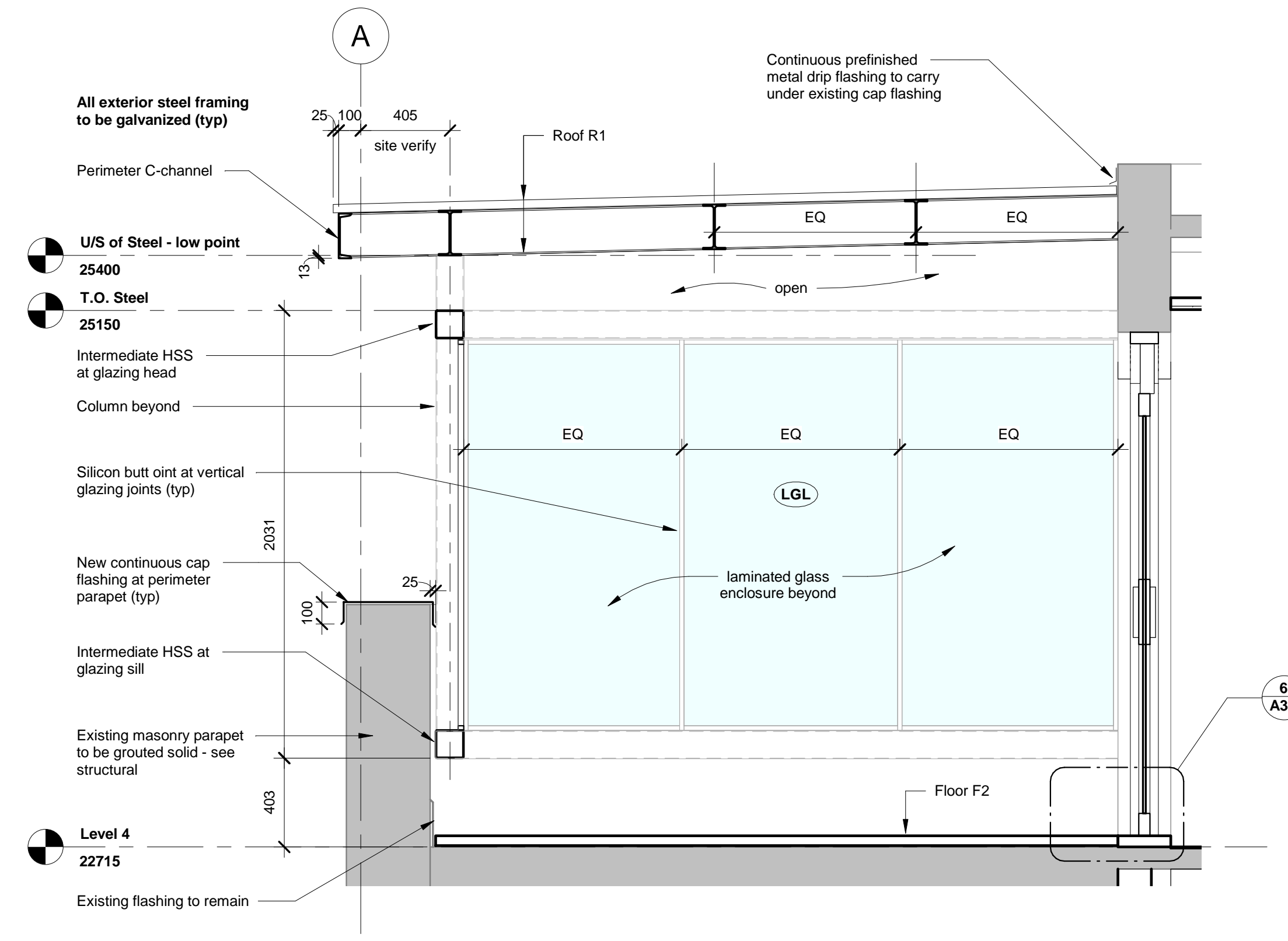
Rev	Description	Date
2	Draft	28 June '18
3	Issued for Permit/Tender	13 July '18
5	Construction	04 Sept '18



1 Detail Plan - Enclosed Terrace
1 : 50



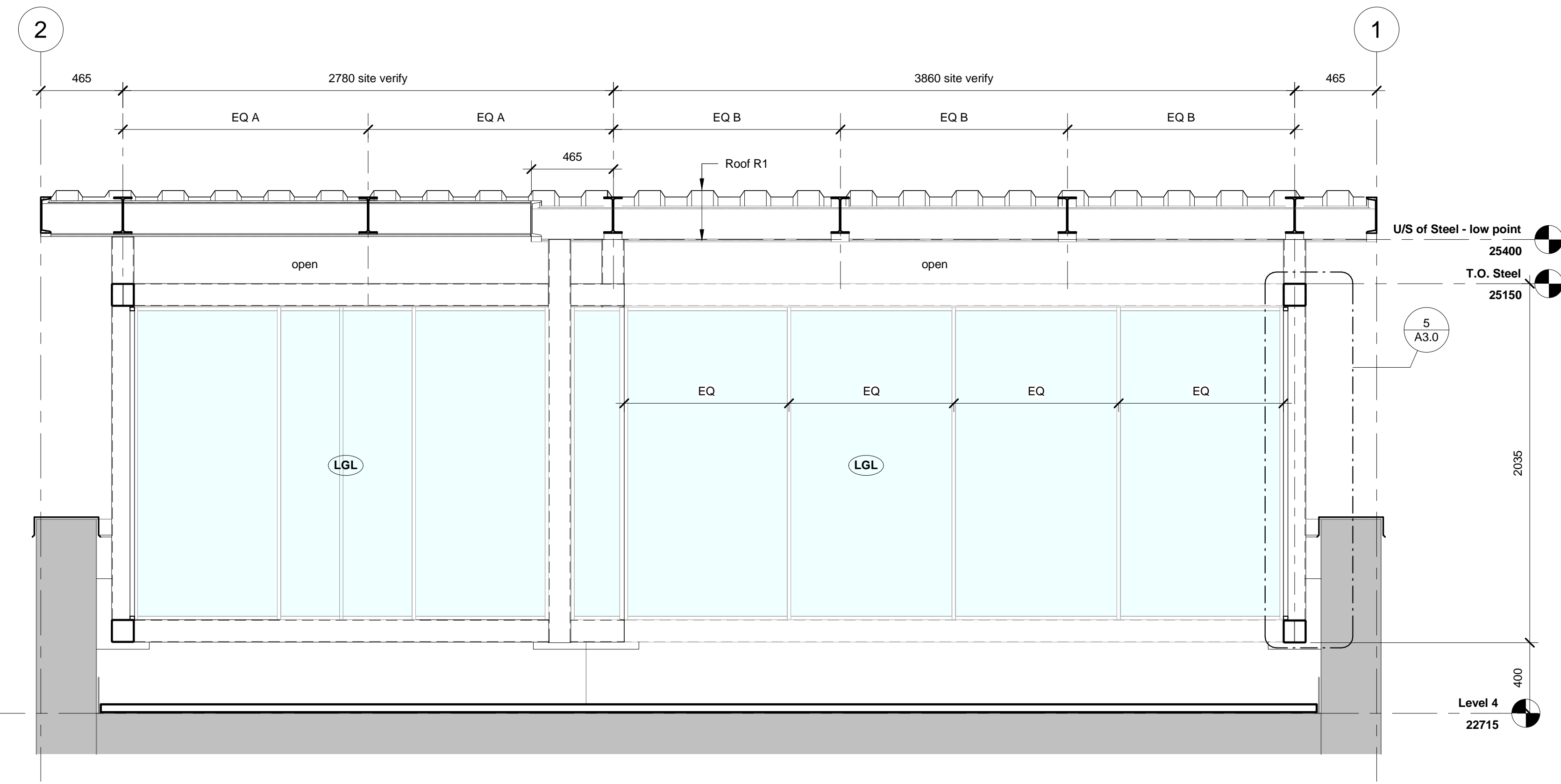
2 Section at Terrace - Looking North
1 : 20



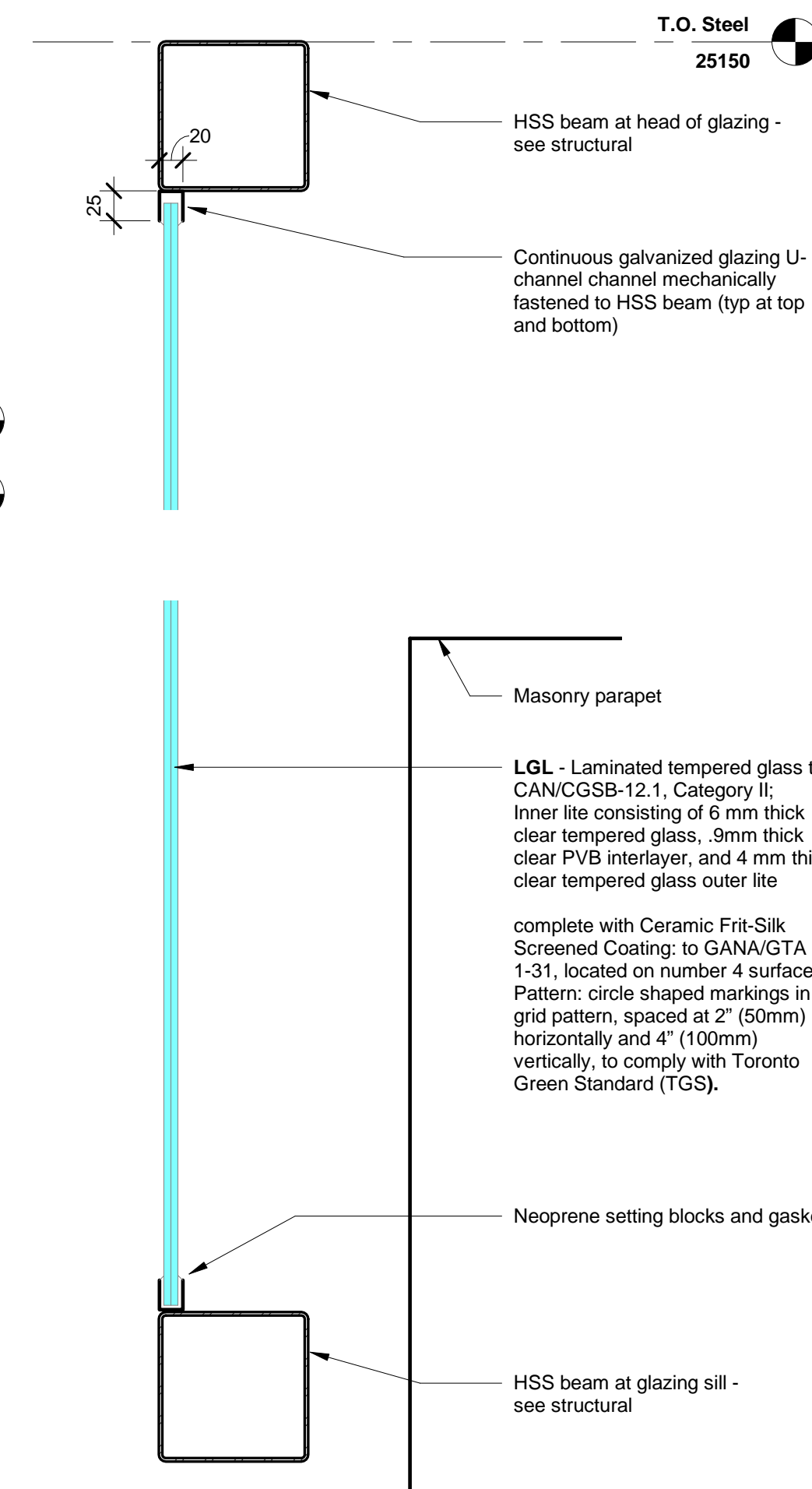
3 Section at Terrace - Looking North 2
1 : 20

Materials Legend

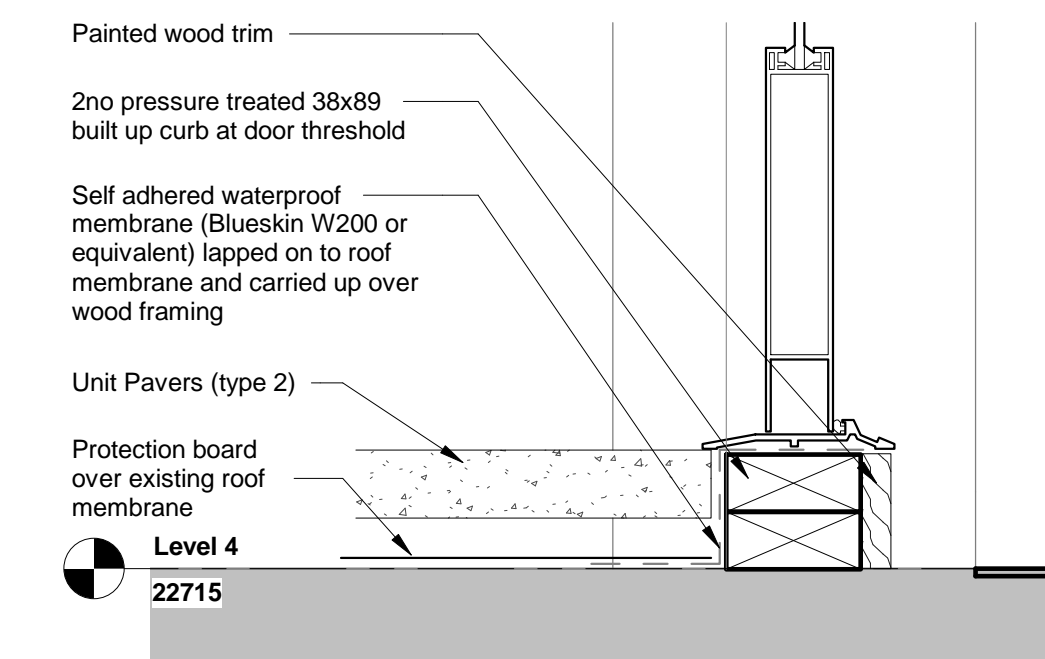
ALUM	Aluminum
EPO	Epoxy
EXIST	Existing
EXP	Exposed
FRG	Fire Rated Glass
FRP	Fiberglass Reinforced Panel
GWB	Gypsum Wallboard (Painted)
LGL	Laminated Glass
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PV	Paving Stones
QTZ	Quartz
RB	Rubber Base
RES	Resilient Flooring
SP	Solid Phenolic Toilet Partition
SS	Stainless Steel
SMB	Steel Marker Board
TGL	Tempered Glass



4 Section Looking West - Covered Terrace
1 : 20



5 Section Looking West - Covered Terrace - Callout 1
1 : 5



6 Section Thru Curb/Threshold
1 : 5



WORKSHOP
architecture

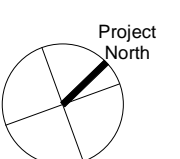
WORKSHOP architecture inc
1157 Davenport Road
Toronto Ontario M5H 2C4
T 416.901.8055 F 416.849.0383
www.workshoparchitecture.ca

Davenport Shelter

348 Davenport Road
Toronto, ON
M5R 1K6

PROJECT CODE:	SCALE:
18_22	As indicated
DATE:	STATUS:
September 2018	Construction

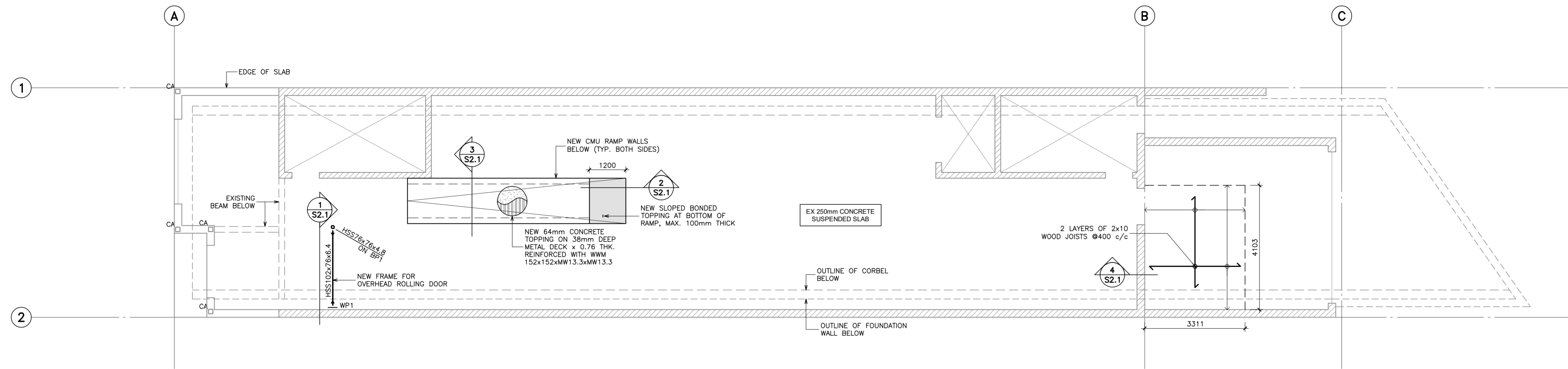
Details - Covered Terrace



Project
North
drawing number
A3.0



KEY PLAN



BASE PLATE SCHEDULE				
TYPE	SIZE	ANCHORAGE	DETAILS	COMMENTS
BP1	150x150x13	4-13mm ϕ HILTI HAS RODS, EPOXIED WITH HILTI HY200, MIN. 106mm EMBED.		-
BP2	150x89x13	2-13mm ϕ HILTI HAS RODS THROUGH BOLTED		-

WALL PLATE SCHEDULE				
TYPE	SIZE	ANCHORAGE	DETAILS	COMMENTS
WP1	300x300x13	4-13mm ϕ HILTI KWIK HUS, HDG, 106mm EMBED.		- ANCHORS MIN. 100mm FROM ALL WALL EDGES - GROUT MASONRY SOLID PER DETAIL 14/S2.1 - SIMILAR FOR HSS SECTION
WP2	400x400x13	6-13mm ϕ HILTI KWIK HUS, HDG, 106mm EMBED.		- ANCHORS MIN. 100mm FROM ALL WALL EDGES - GROUT MASONRY SOLID PER DETAIL 14/S2.1

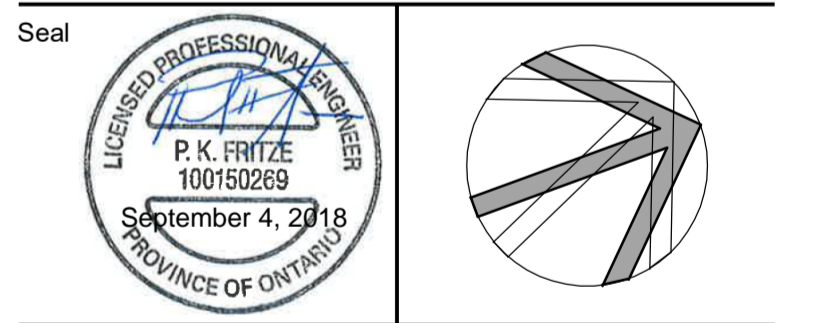
LEGEND:

	LOAD BEARING MASONRY WALL
	NON-LOAD BEARING MASONRY WALL
	FOUNDATION WALL BELOW
	BEAM BELOW
	NEW 2x10 WOOD JOIST AND DIRECTION
	NEW SLOPED BONDED CONCRETE TOPPING
	NEW SLAB ON DECK AND DIRECTION
	EXISTING THROUGH SLAB OPENING
	NEW THROUGH SLAB OPENING
	NEW MASONRY PARAPET WALL
	EXISTING STRUCTURAL STEEL FRAMING
	EXISTING 300 DP. OWSJ
	EXISTING 300 DP. OWSJ TO BE REINFORCED
	NEW STRUCTURAL STEEL FRAMING
	NEW STRUCTURAL STEEL COLUMN
	EXISTING COLUMN TO REMAIN
	NEW WALL PLATE (REFER TO SCHEDULE ON S1.1)
	FULL MOMENT CONNECTION

- RENOVATION NOTES:**
- REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS, SLOPES, ELEVATIONS, AND FINISH REQUIREMENTS.
 - COORDINATE THE REQUIREMENTS OF THE STRUCTURAL WORK WITH THE ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS.
 - THE CONTRACTOR SHALL DESIGN, INSTALL AND MAINTAIN ALL TEMPORARY WORKS AND SHORING AS REQUIRED TO CARRY OUT THE WORK. SUBMIT SHOP DRAWINGS SEALED BY THE CONTRACTOR'S SPECIALTY ENGINEER FOR REVIEW PRIOR TO INSTALLATION.
 - SUBMIT STRUCTURAL STEEL SHOP DRAWINGS PRIOR TO FABRICATION IN ACCORDANCE WITH SECTION 05100, SEALED BY THE CONTRACTOR'S SPECIALTY ENGINEER.
 - SUBMIT STRUCTURAL STEEL DECK SHOP DRAWINGS PRIOR TO FABRICATION IN ACCORDANCE WITH SECTION 05300, SEALED BY THE CONTRACTOR'S SPECIALTY ENGINEER.
 - ALL NEW STRUCTURAL STEEL DECK WITH NEW CONCRETE TOPPING SHALL BE CANAM P-3615 COMPOSITE, 38mm DEEP, 0.76mm THICK, VENTED.
 - ALL NEW STRUCTURAL STEEL DECK WITHOUT CONCRETE TOPPING SHALL BE CANAM P-3615, 38mm DEEP, 0.91mm THICK.
 - REFER TO SCHEDULE ON S1.1 FOR BASE AND WALL PLATE DETAILS.
 - INSTALL ALL REINFORCING PRIOR TO INSTALLATION OF NEW OPENINGS, STRUCTURES OR FINISHES.
 - SCAN OR X-RAY STRUCTURAL CONCRETE ELEMENTS TO LOCATE ALL EMBEDDED ITEMS (I.E. REBAR, CONDUIT, ETC.) PRIOR TO DRILLING. NOTIFY RJC 24 HOURS IN ADVANCE TO REVIEW PROPOSED CORING LOCATIONS. DO NOT SEVER EMBEDDED ITEMS TO REMAIN WITHOUT WRITTEN PERMISSION FROM RJC.
 - CORE ALL THROUGH-SLAB OPENINGS WITH 200mm CORES. DO NOT USE PERCUSSIVE DEMOLITION METHODS UNLESS APPROVED IN WRITING BY RJC.
 - DO NOT CUT OR MODIFY EXISTING STRUCTURAL MEMBERS WITHOUT AUTHORIZATION FROM RJC.
 - INSTALL LINTELS ABOVE NON-LOAD BEARING WALL OPENINGS SHOWN ON ARCHITECTURAL DRAWINGS, PER THE GENERAL STRUCTURAL NOTES.
 - INSTALL STRUCTURAL STEEL REINFORCING AROUND ALL NEW OPENINGS IN ROOF DECK PER THE GENERAL STRUCTURAL NOTES.
 - THE CONTRACTOR SHALL MAKE PROVISIONS TO REMOVE AND REINSTATE ALL ARCHITECTURAL FINISHES AND BRICK VENEER REQUIRED TO CARRY OUT THE STRUCTURAL WORK. COORDINATE WITH ARCHITECTURAL DRAWINGS.
 - CONTRACTOR SHALL CUT WOOD FRAMING TO SIZE TO MEET FINISHES FLOOR ELEVATIONS.
 - TOE FASTEN NEW WOOD JOISTS TO GROUND FLOOR SLAB WITH 83mm LONG HILTI KWIK CON II CONCRETE SCREWS ϕ 400 c/c, EACH JOIST.
 - TOE FASTEN UPPER LAYER OF JOISTS AT EACH INTERSECTION WITH 83mm LONG #10 SCREW.
 - ALL STRUCTURAL STEEL EXPOSED TO EXTERIOR SHALL BE HOT DIPPED GALVANIZED WITH ALL WELDS SHOP WELDED. SITE CONNECTIONS SHALL BE BOLTED, MIN. 2-19mm A325 BOLTS, HDG.

No.	Revision	Date	By
4.	ISSUED FOR CONSTRUCTION	Sept. 4/18	P.F.
3.	ISSUED FOR ADDENDUM NO.1	July. 30/18	P.F.
2.	ISSUED FOR PERMIT	July 13/18	P.F.
1.	ISSUED FOR TENDER	July 13/18	P.F.

- Drawing Notes**
- All drawings, plans, models, designs, specifications and other documents prepared by Read Jones Christoffersen Ltd. ("RJC") and used in connection with this project are instruments of service for the work shown in them (the "Work") and as such are and remain the property of RJC whether the Work is executed or not, and RJC reserves the copyright in them and in the Work executed from them, and they shall not be used for any other work or project.
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Project Name
348 Davenport Road
Toronto, Ontario

DAVENPORT SHELTER RENOVATION

Sheet Title

GROUND FLOOR RENOVATION PLAN

Drawn By **M.L.** Scale **1:75**

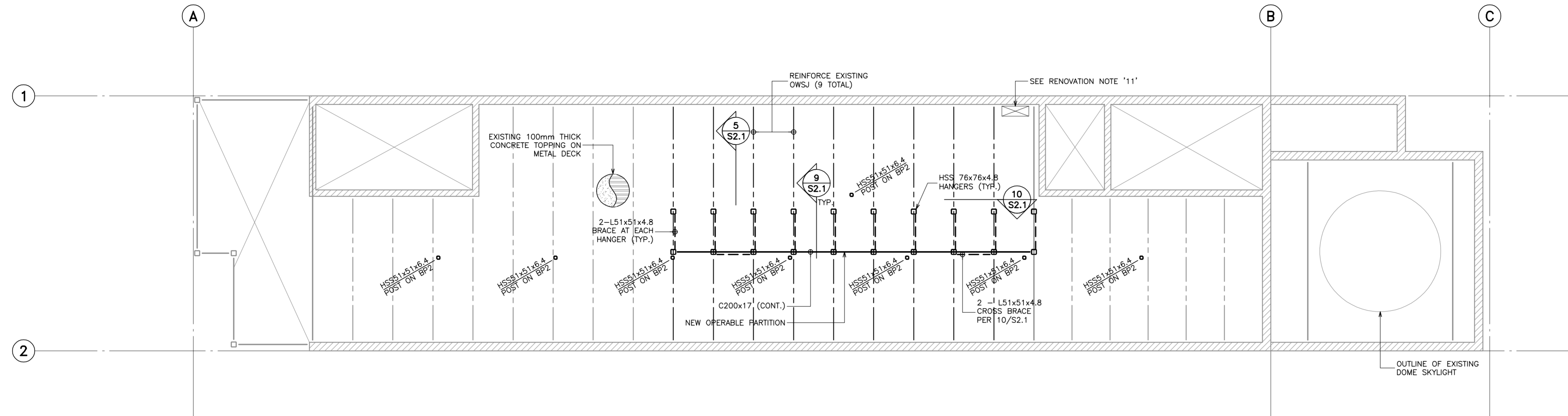
Designed By **P.F.** Date **July, 2018**

RJC Project Number **TOR.121290.0001**

Sheet Number **S1.1** Revision



KEY PLAN



RENOVATION NOTES:
1. REFER TO RENOVATION NOTES ON DRAWING S1.1.

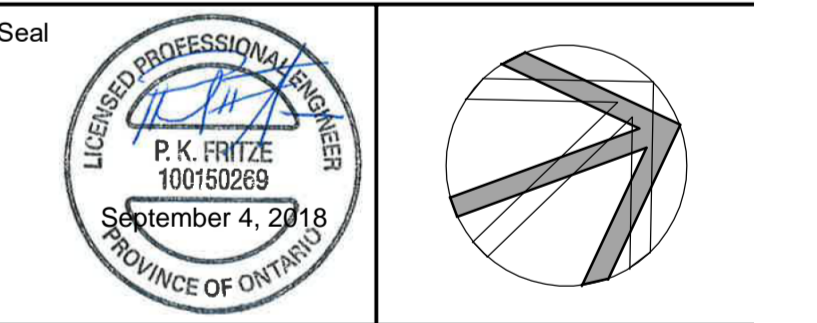
LEGEND:

	LOAD BEARING MASONRY WALL
	NON-LOAD BEARING MASONRY WALL
	FOUNDATION WALL BELOW
	BEAM BELOW
	NEW 2x10 WOOD JOIST AND DIRECTION
	NEW SLOPED BONDED CONCRETE TOPPING
	NEW SLAB ON DECK AND DIRECTION
	EXISTING THROUGH SLAB OPENING
	NEW THROUGH SLAB OPENING
	NEW MASONRY PARAPET WALL
	EXISTING STRUCTURAL STEEL FRAMING
	EXISTING 300 DP. OWSJ
	EXISTING 300 DP. OWSJ TO BE REINFORCED
	NEW STRUCTURAL STEEL FRAMING
	NEW STRUCTURAL STEEL COLUMN
	EXISTING COLUMN TO REMAIN
	NEW WALL PLATE (REFER TO SCHEDULE ON S1.1)
	FULL MOMENT CONNECTION

No.	Revision	Date	By
4.	ISSUED FOR CONSTRUCTION	Sept. 4/18	P.F.
3.	ISSUED FOR ADDENDUM NO.1	July. 30/18	P.F.
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Project Name
348 Davenport Road
Toronto, Ontario

DAVENPORT SHELTER RENOVATION

Sheet Title

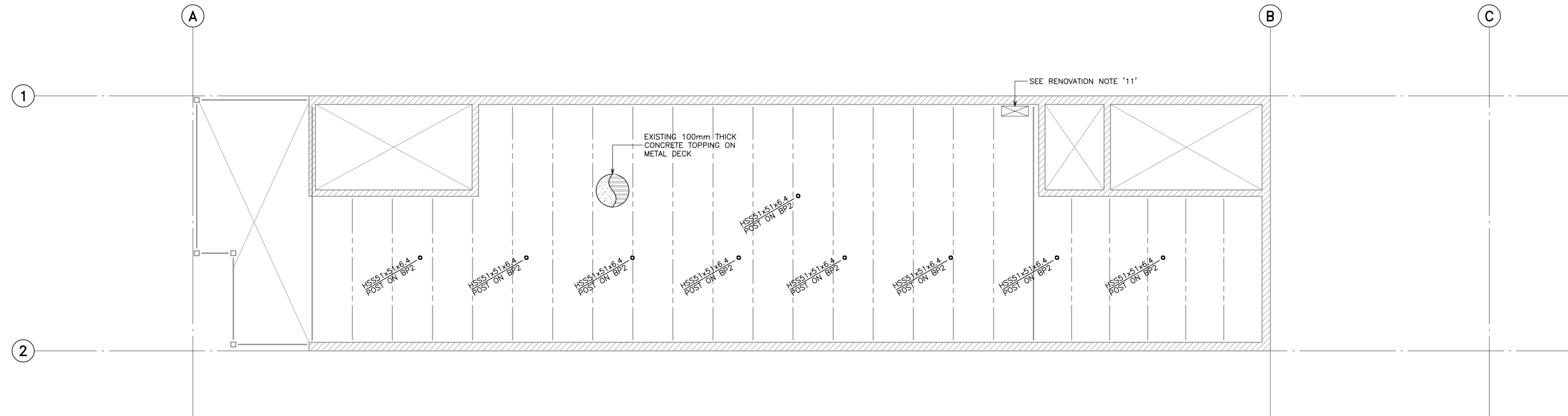
LEVEL 2 RENOVATION PLAN

Drawn By **M.L.** Scale **1:75**
Designed By **P.F.** Date **July, 2018**
RJC Project Number **TOR.121290.0001**

Sheet Number **S1.2** Revision



KEY PLAN



RENOVATION NOTES:
1. REFER TO RENOVATION NOTES ON DRAWING S1.1.

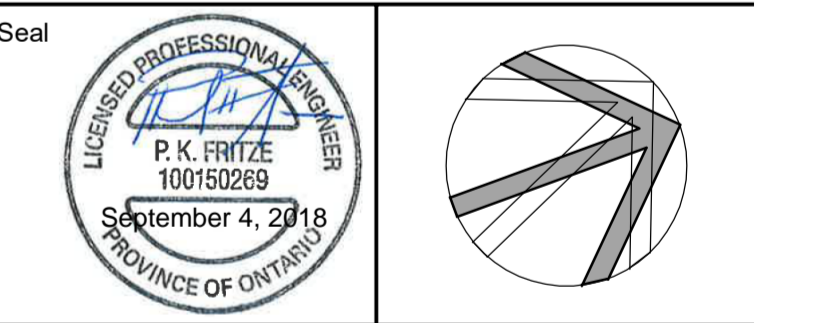
LEGEND:

	LOAD BEARING MASONRY WALL
	NON-LOAD BEARING MASONRY WALL
	FOUNDATION WALL BELOW
	BEAM BELOW
	NEW 2x10 WOOD JOIST AND DIRECTION
	NEW SLOPED BONDED CONCRETE TOPPING
	NEW SLAB ON DECK AND DIRECTION
	EXISTING THROUGH SLAB OPENING
	NEW THROUGH SLAB OPENING
	NEW MASONRY PARAPET WALL
	EXISTING STRUCTURAL STEEL FRAMING
	EXISTING 300 DP. OWSJ
	EXISTING 300 DP. OWSJ TO BE REINFORCED
	NEW STRUCTURAL STEEL FRAMING
	NEW STRUCTURAL STEEL COLUMN
	EXISTING COLUMN TO REMAIN
	NEW WALL PLATE (REFER TO SCHEDULE ON S1.1)
	FULL MOMENT CONNECTION

No.	Revision	Date	By
4.	ISSUED FOR CONSTRUCTION	Sept. 4/18	P.F.
3.	ISSUED FOR ADDENDUM NO.1	July. 30/18	P.F.
2.	ISSUED FOR PERMIT	July 13/18	P.F.
1.	ISSUED FOR TENDER	July 13/18	P.F.

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Project Name
348 Davenport Road
Toronto, Ontario

DAVENPORT SHELTER RENOVATION

Sheet Title

LEVEL 3 RENOVATION PLAN

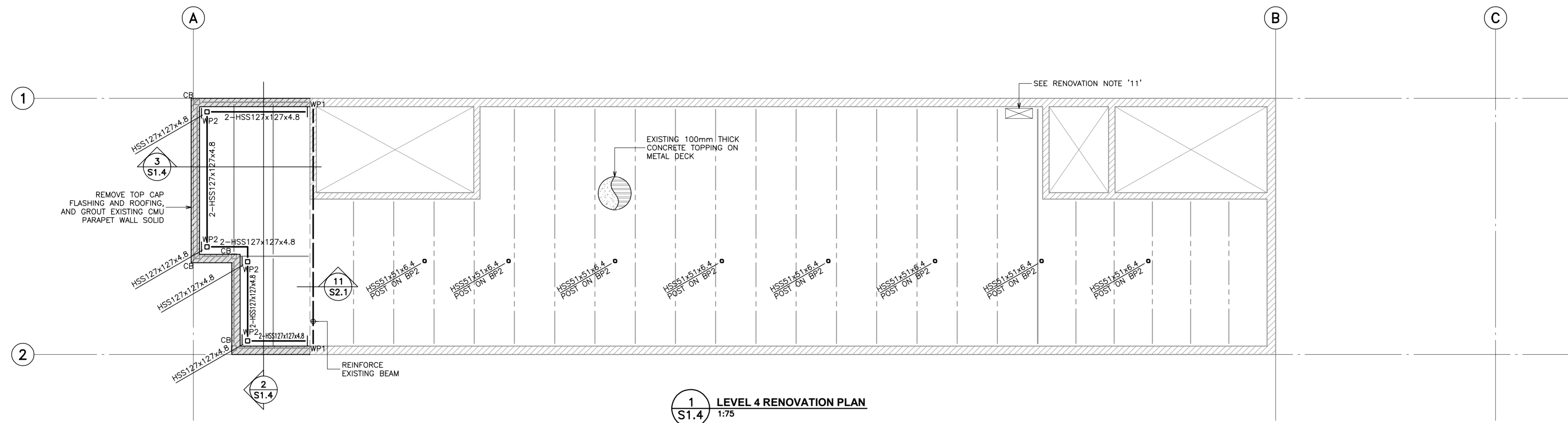
Drawn By M.L. Scale 1:75
Designed By P.F. Date July, 2018
RJC Project Number TOR.121290.0001

Sheet Number Revision

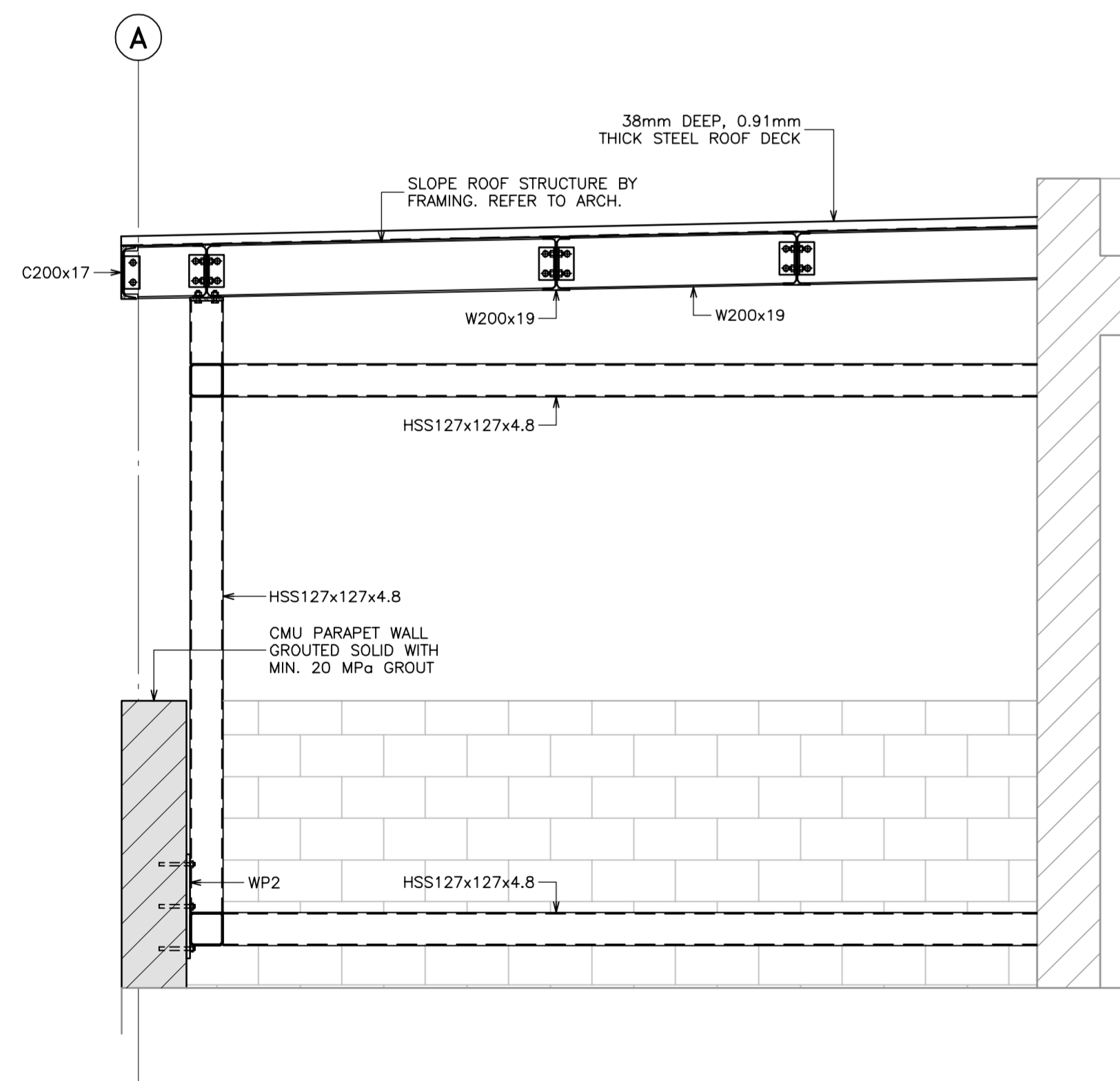
S1.3



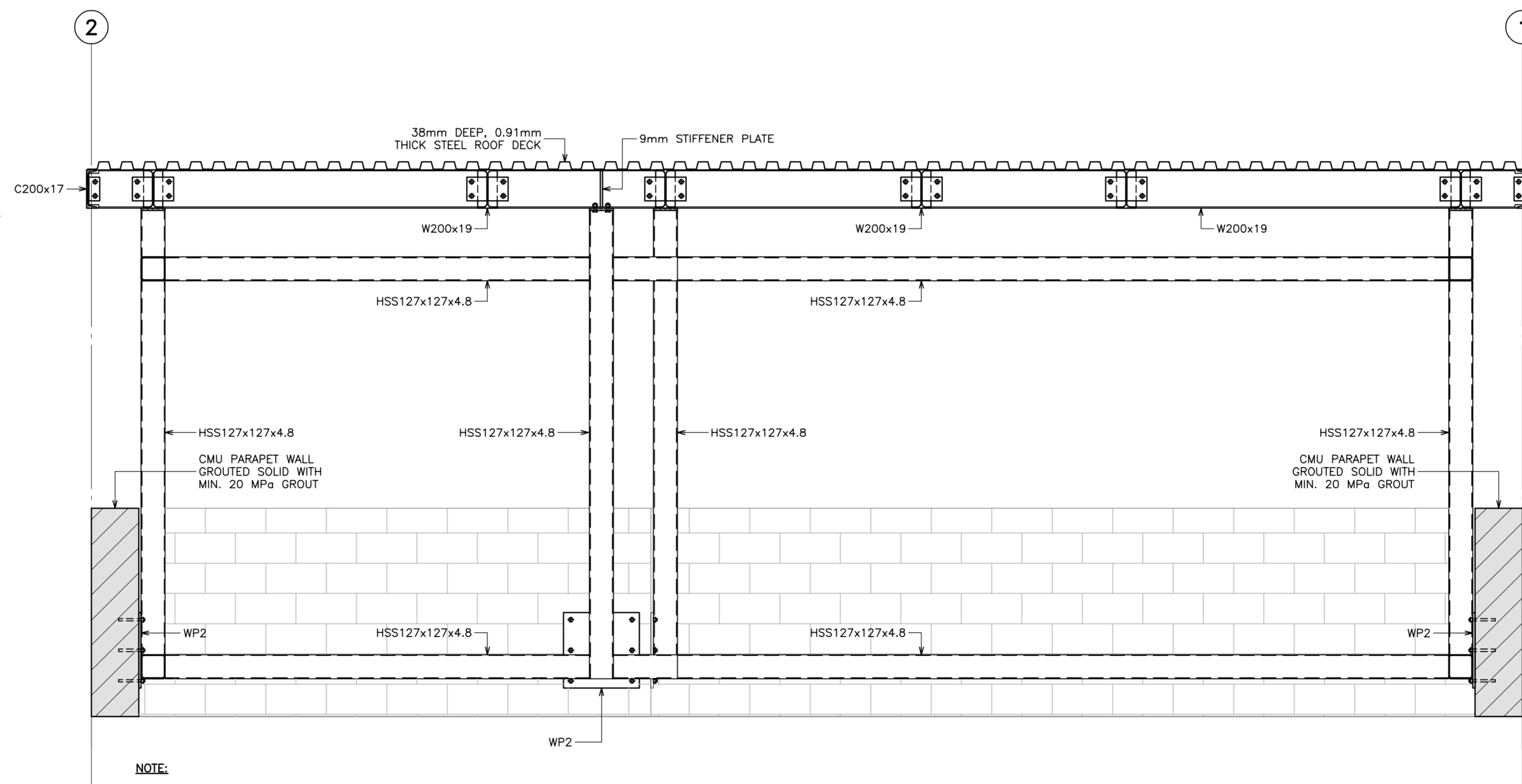
KEY PLAN



1
S1.4
LEVEL 4 RENOVATION PLAN
1:75



3
S1.4
ENCLOSED TERRACE - SECTION LOOKING NORTH
1:20



NOTE:
ALL CANOPY STEEL FRAMING, DECKING,
AND CONNECTIONS TO BE HOT DIPPED
GALVANIZED.

2
S1.4
ENCLOSED TERRACE - SECTION LOOKING WEST
1:20

RENOVATION NOTES:
1. REFER TO RENOVATION NOTES ON DRAWING S1.1.

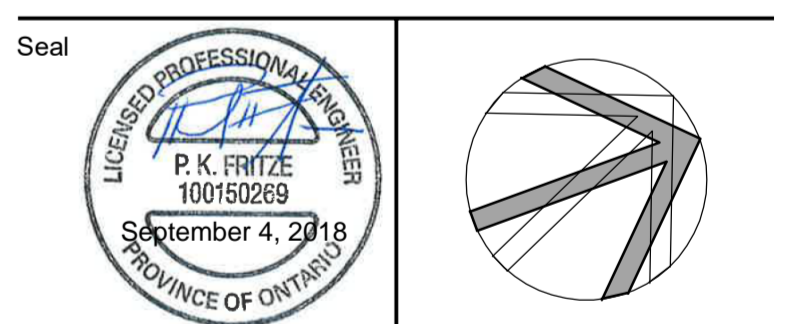
LEGEND:

	LOAD BEARING MASONRY WALL
	NON-LOAD BEARING MASONRY WALL
	FOUNDATION WALL BELOW
	BEAM BELOW
	NEW 2x10 WOOD JOIST AND DIRECTION
	NEW SLOPED BONDED CONCRETE TOPPING
	NEW SLAB ON DECK AND DIRECTION
	EXISTING THROUGH SLAB OPENING
	NEW THROUGH SLAB OPENING
	NEW MASONRY PARAPET WALL
	EXISTING STRUCTURAL STEEL FRAMING
	EXISTING 300 DP. OWSJ
	EXISTING 300 DP. OWSJ TO BE REINFORCED
	NEW STRUCTURAL STEEL FRAMING
	NEW STRUCTURAL STEEL COLUMN
	EXISTING COLUMN TO REMAIN
	NEW WALL PLATE (REFER TO SCHEDULE ON S1.1)
	FULL MOMENT CONNECTION

No.	Revision	Date	By
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Project Name
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Toronto, Ontario

DAVENPORT SHELTER RENOVATION

Sheet Title

LEVEL 4 RENOVATION PLAN

Drawn By M.L. Scale 1:75
Designed By P.F. Date July, 2018

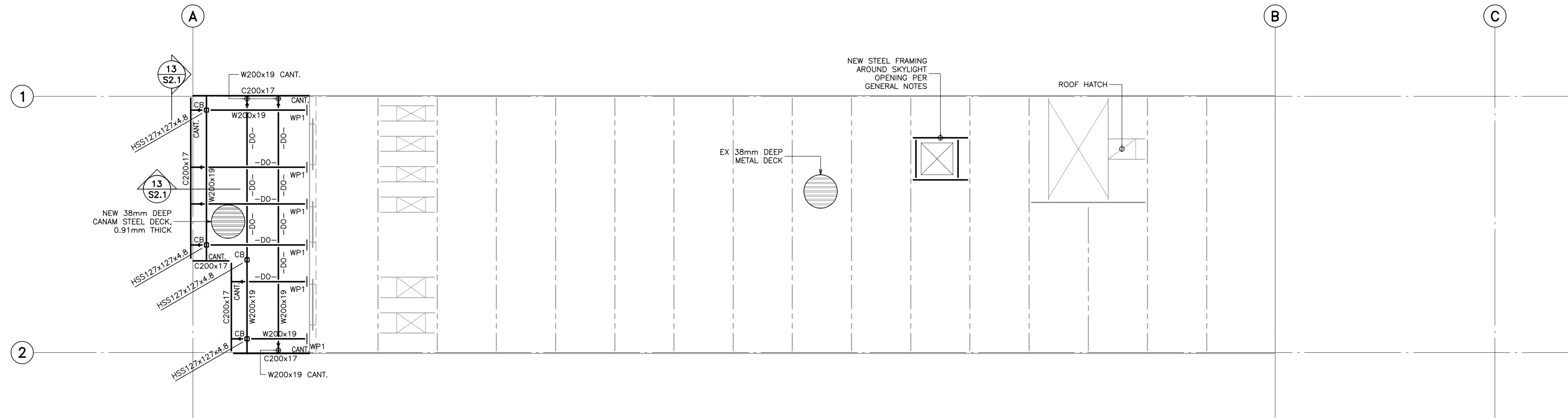
RJC Project Number **TOR.121290.0001**

Sheet Number Revision

S1.4



KEY PLAN



RENOVATION NOTES:
1. REFER TO RENOVATION NOTES ON DRAWING S1.1.

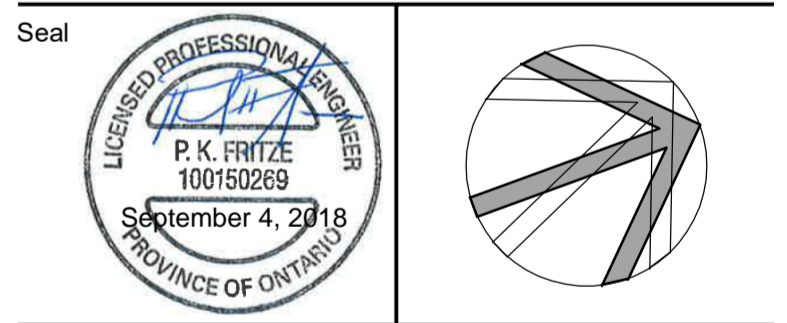
LEGEND:

	LOAD BEARING MASONRY WALL
	NON-LOAD BEARING MASONRY WALL
	FOUNDATION WALL BELOW
	BEAM BELOW
	NEW 2x10 WOOD JOIST AND DIRECTION
	NEW SLOPED BONDED CONCRETE TOPPING
	NEW SLAB ON DECK AND DIRECTION
	EXISTING THROUGH SLAB OPENING
	NEW THROUGH SLAB OPENING
	NEW MASONRY PARAPET WALL
	EXISTING STRUCTURAL STEEL FRAMING
	EXISTING 300 DP. OWSJ TO BE REINFORCED
	NEW STRUCTURAL STEEL FRAMING
	NEW STRUCTURAL STEEL COLUMN
	EXISTING COLUMN TO REMAIN
	NEW WALL PLATE (REFER TO SCHEDULE ON S1.1)
	FULL MOMENT CONNECTION

No.	Revision	Date	By
4.	ISSUED FOR CONSTRUCTION	Sept. 4/18	P.F.
3.	ISSUED FOR ADDENDUM NO.1	July. 30/18	P.F.
2.	ISSUED FOR PERMIT	July 13/18	P.F.
1.	ISSUED FOR TENDER	July 13/18	P.F.

Drawing Notes

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Project Name
348 Davenport Road
Toronto, Ontario

DAVENPORT SHELTER RENOVATION

Sheet Title

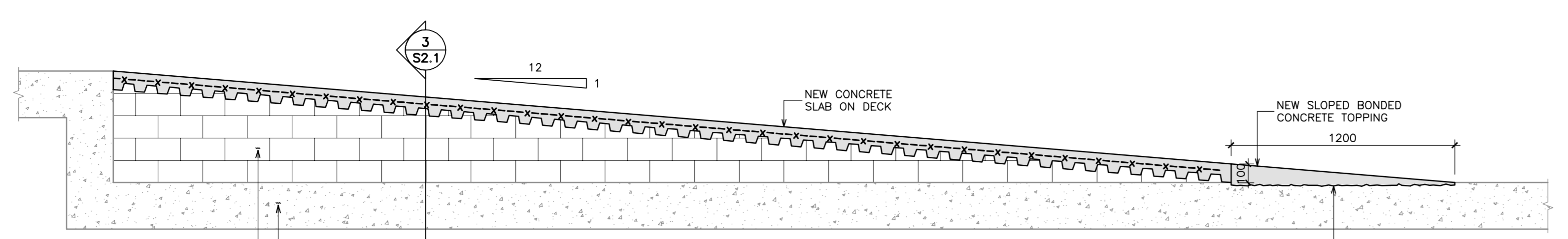
ROOF RENOVATION PLAN

Drawn By **M.L.** Scale **1:75**
Designed By **P.F.** Date **July, 2018**
RJC Project Number **TOR.121290.0001**

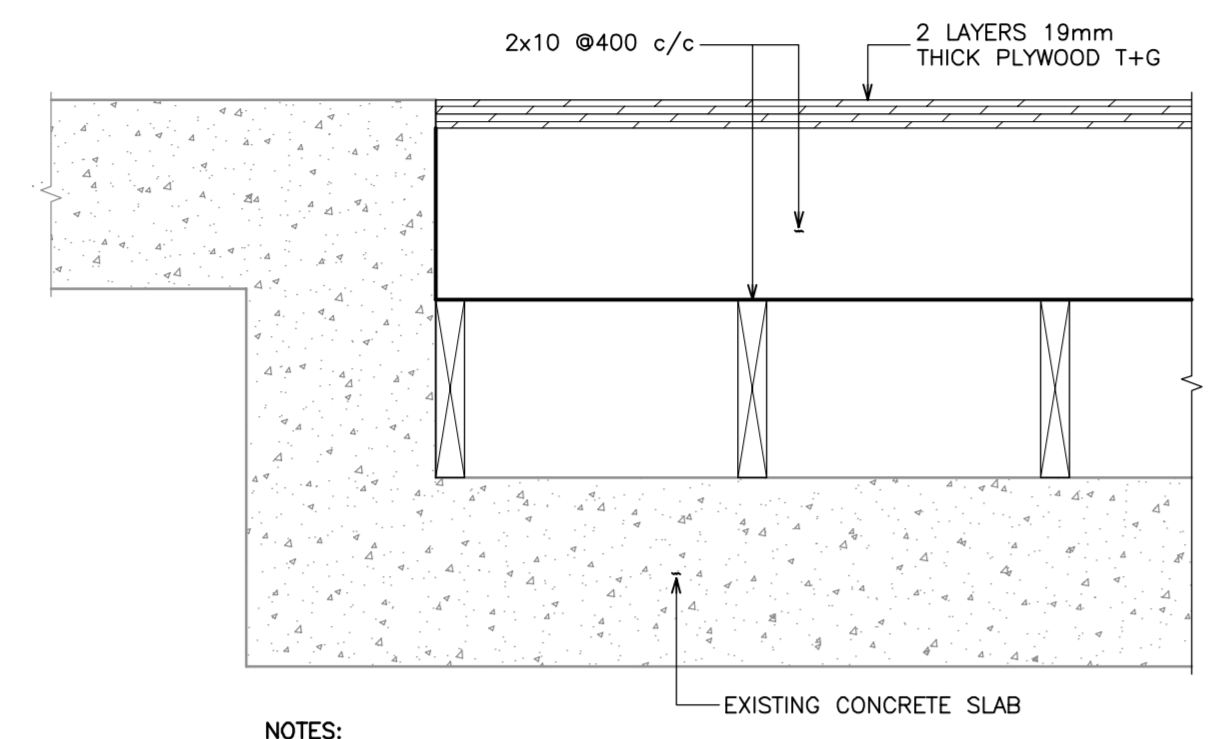
Sheet Number **S1.5** Revision



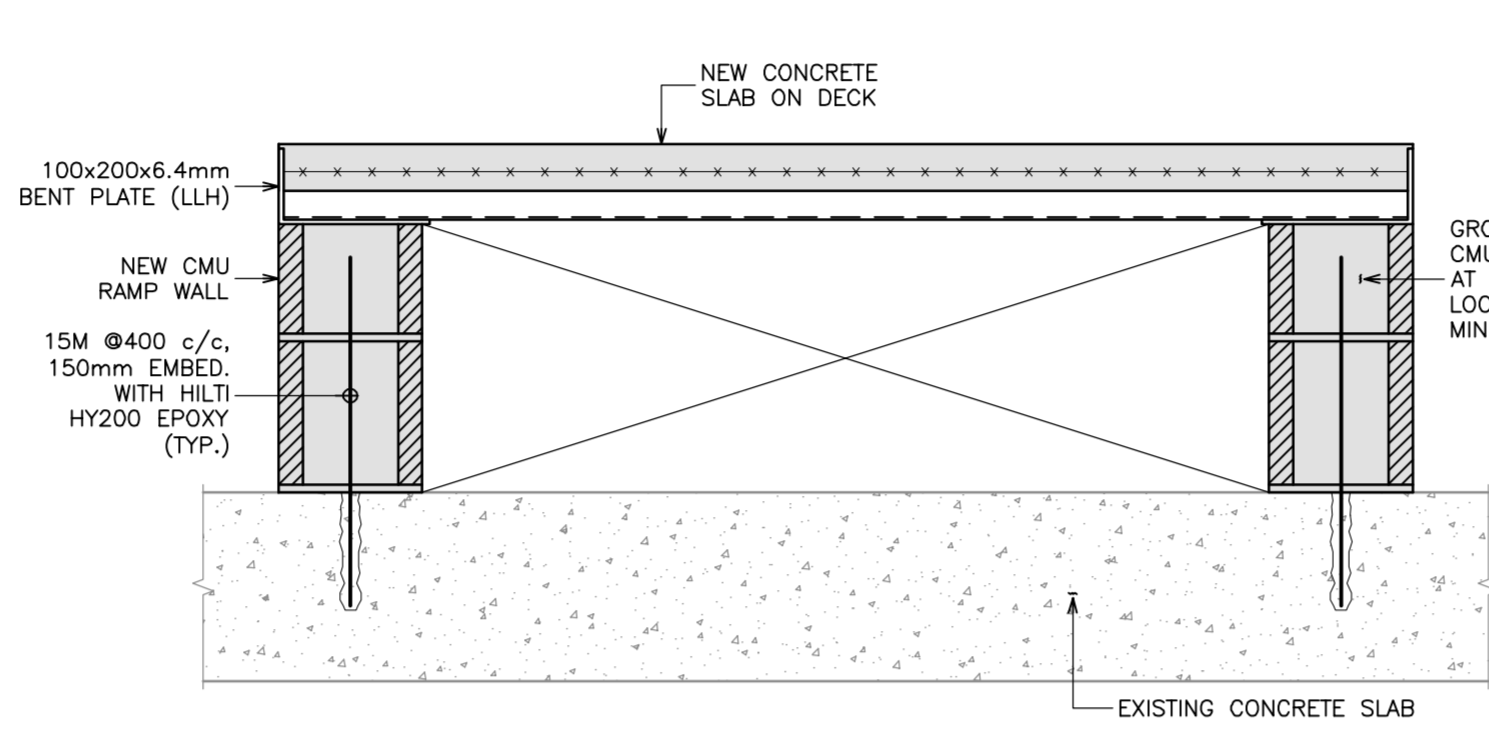
KEY PLAN



3
S2.1
Barrier Free Ramp - Longitudinal Section
N.T.S.



2
S2.1
Barrier Free Ramp - Cross Section
N.T.S.



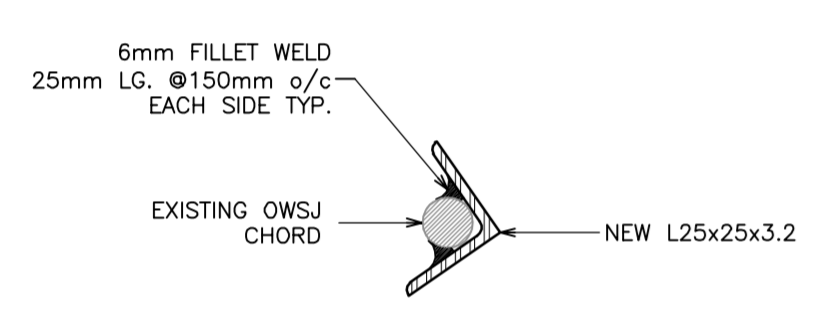
1
S2.1
Overhead Roll-up Door Framing
N.T.S.

NOTES:

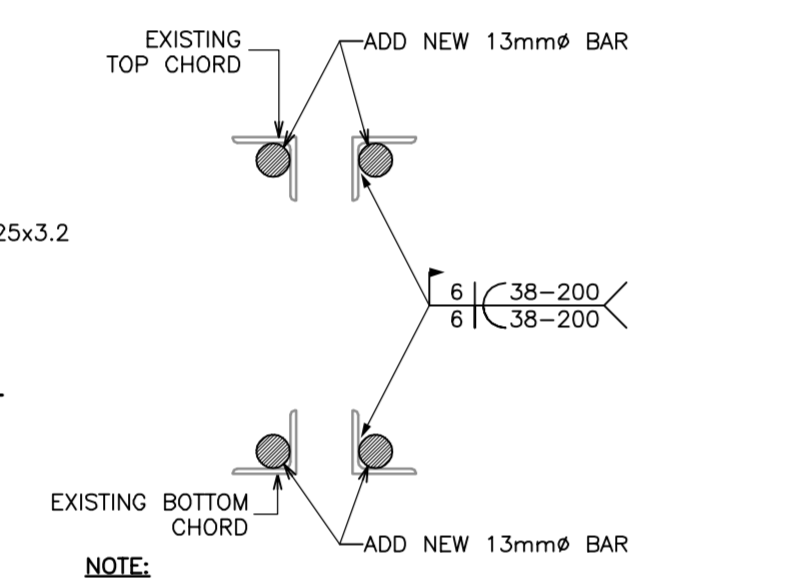
- CONTRACTOR SHALL CUT WOOD FRAMING TO SIZE TO MEET FINISHED FLOOR ELEVATIONS.
- TOE FASTEN NEW WOOD JOISTS TO GROUND FLOOR SLAB WITH 83mm LONG HILTI KWIK CON II CONCRETE SCREWS @400 c/c, EACH JOIST.
- TOE FASTEN UPPER LAYER OF JOISTS AT EACH INTERSECTION WITH 83mm LONG #10 SCREW.

3
S2.1
TYPICAL OWSJ REINFORCING FOR FOLDING PARTITION MOUNTING DETAIL
N.T.S.

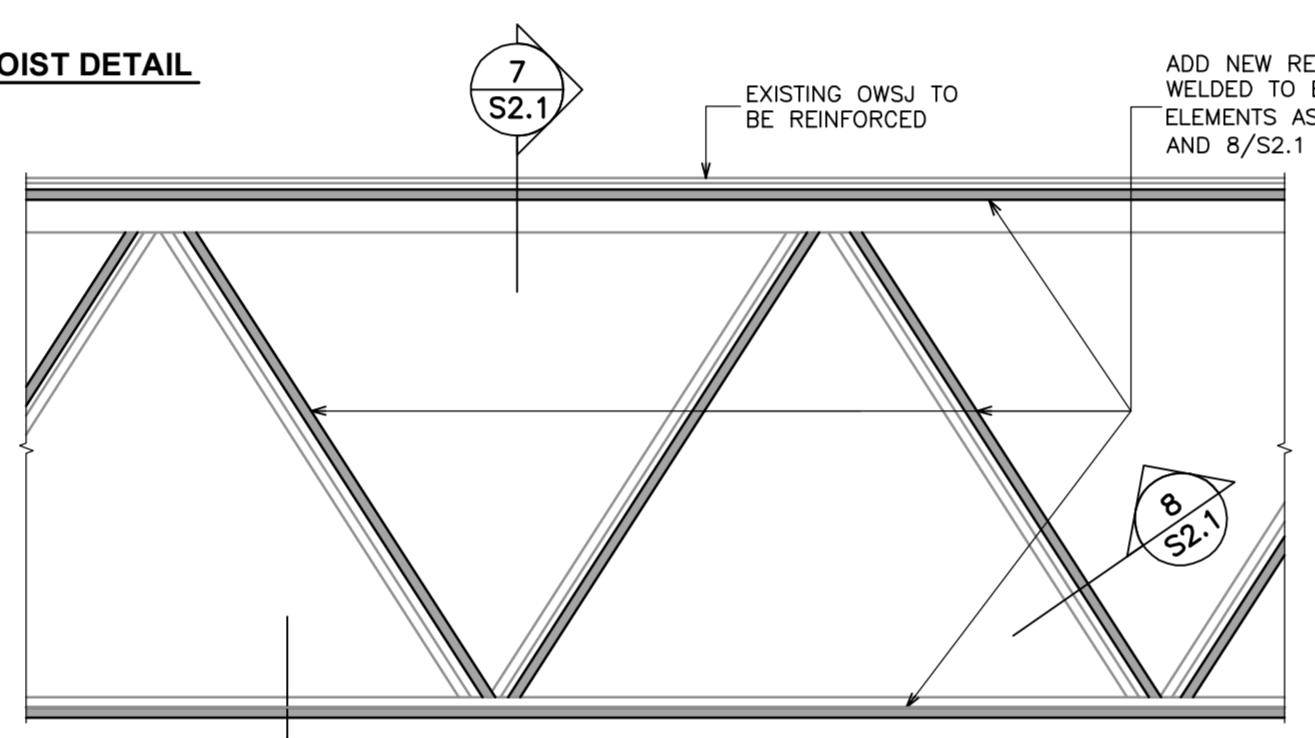
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S2.1
TYPICAL NEW WOOD JOIST DETAIL
N.T.S.



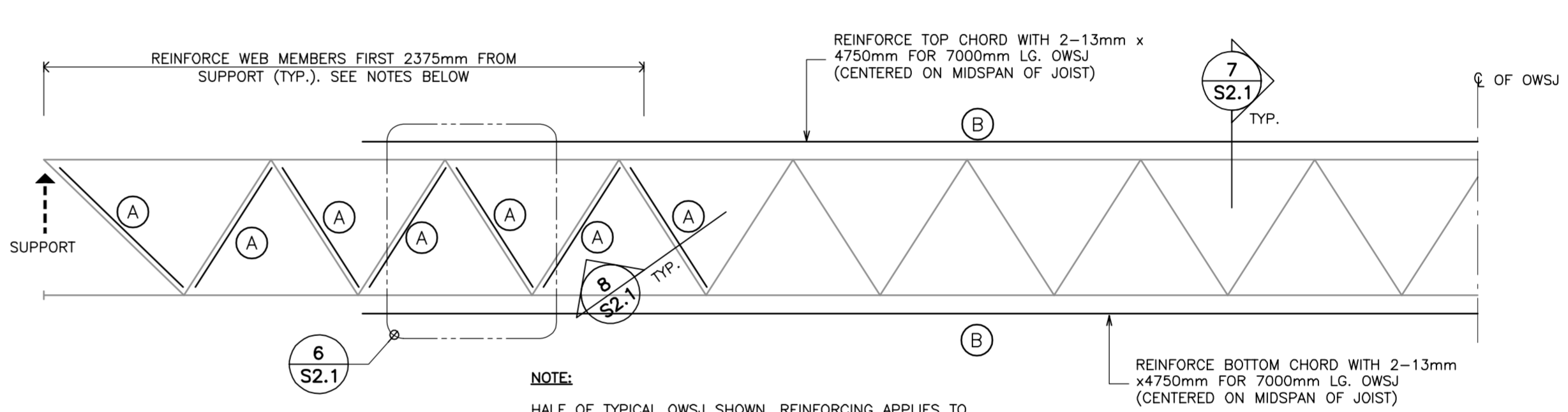
8
S2.1
Web Reinforcing Detail
N.T.S.



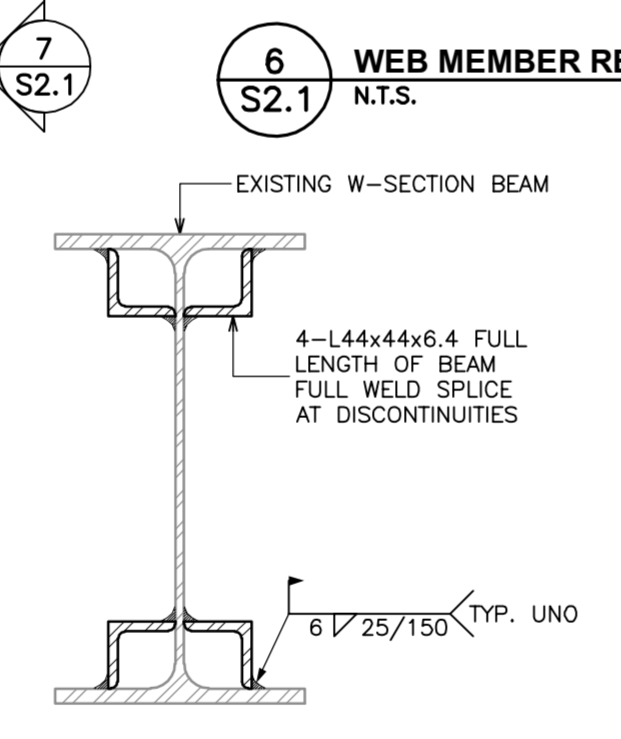
7
S2.1
Typical Top and Bottom Joist Chord Reinforcing
N.T.S.



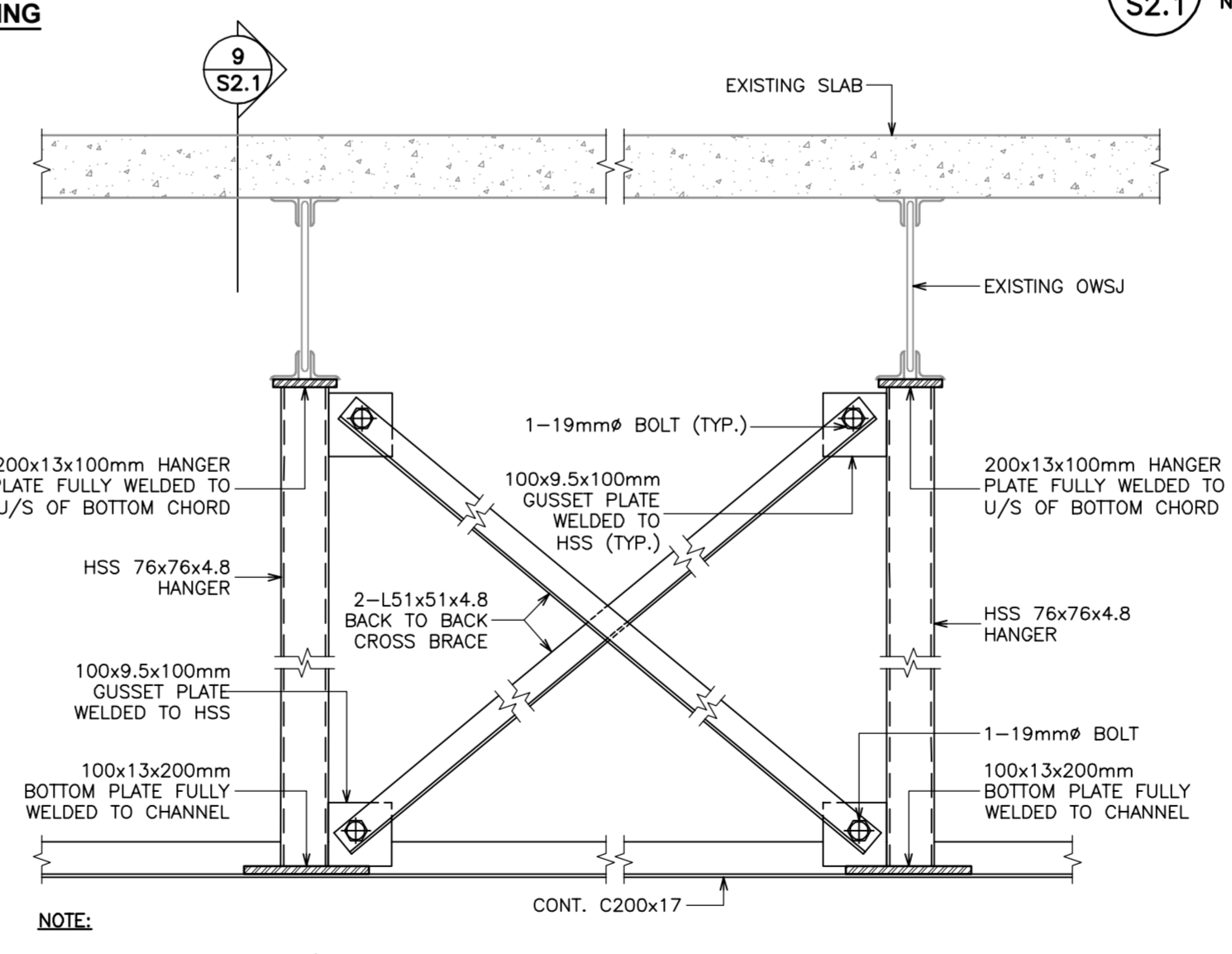
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S2.1
Web Member Reinforcing
N.T.S.



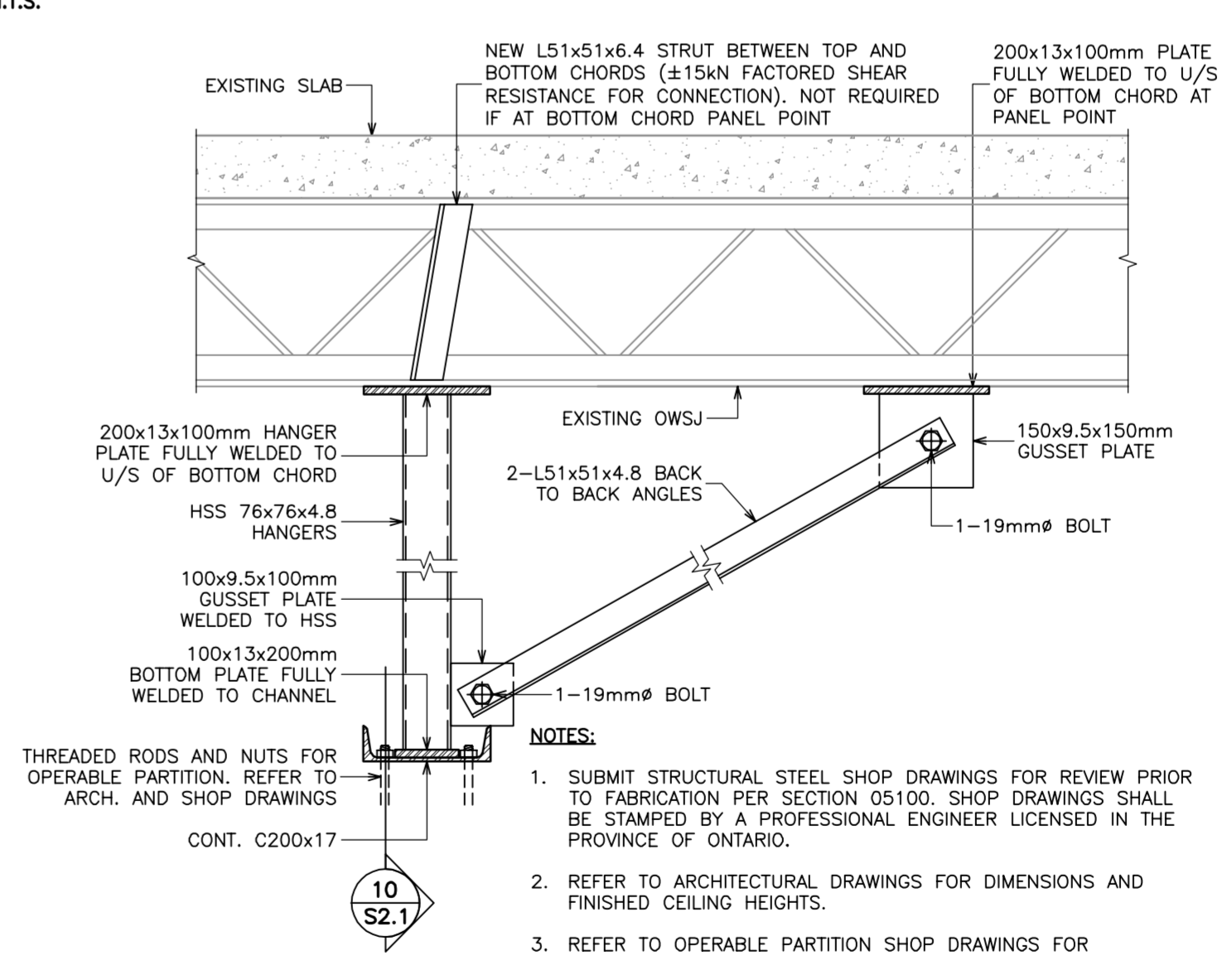
5
S2.1
Typical Joist Reinforcing Elevation
N.T.S.



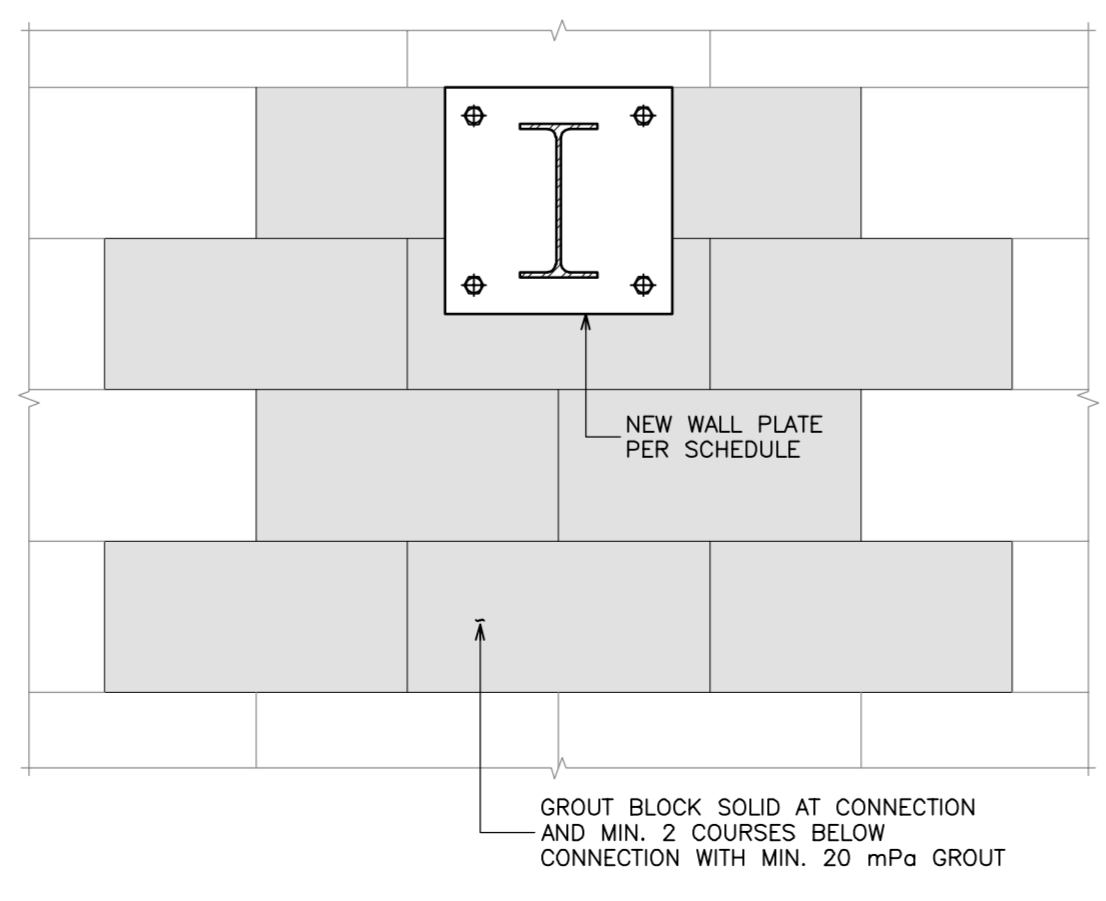
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S2.1
Typical Beam Reinforcing Detail
N.T.S.



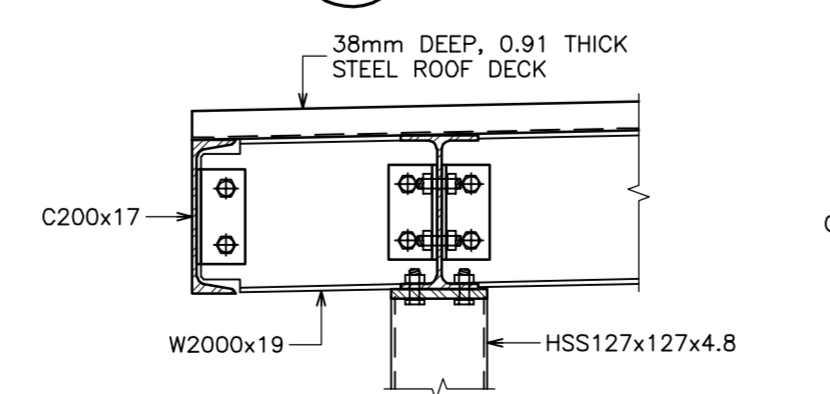
10
S2.1
Operable Partition Wall Beam Hanger Cross-Bracing Detail
N.T.S.



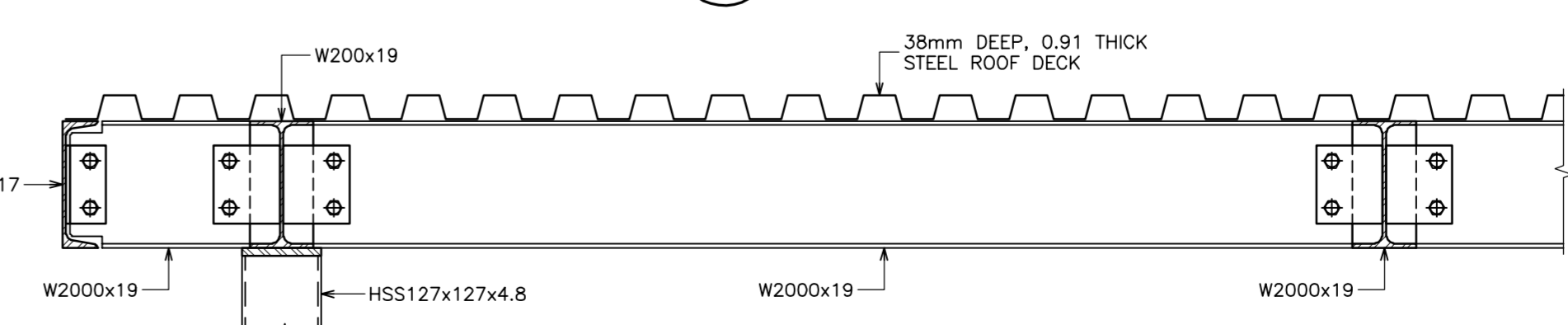
9
S2.1
Typical Lateral Brace for Operable Partition Wall Beam Support
N.T.S.



14
S2.1
Typical CMU Wall Grouting at New Beam Connection
N.T.S.



13
S2.1
Typical Enclosed Terrace Detail
N.T.S.



12
S2.1
Typical Enclosed Terrace Detail
N.T.S.

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Toronto, Ontario

DAVENPORT SHELTER RENOVATION

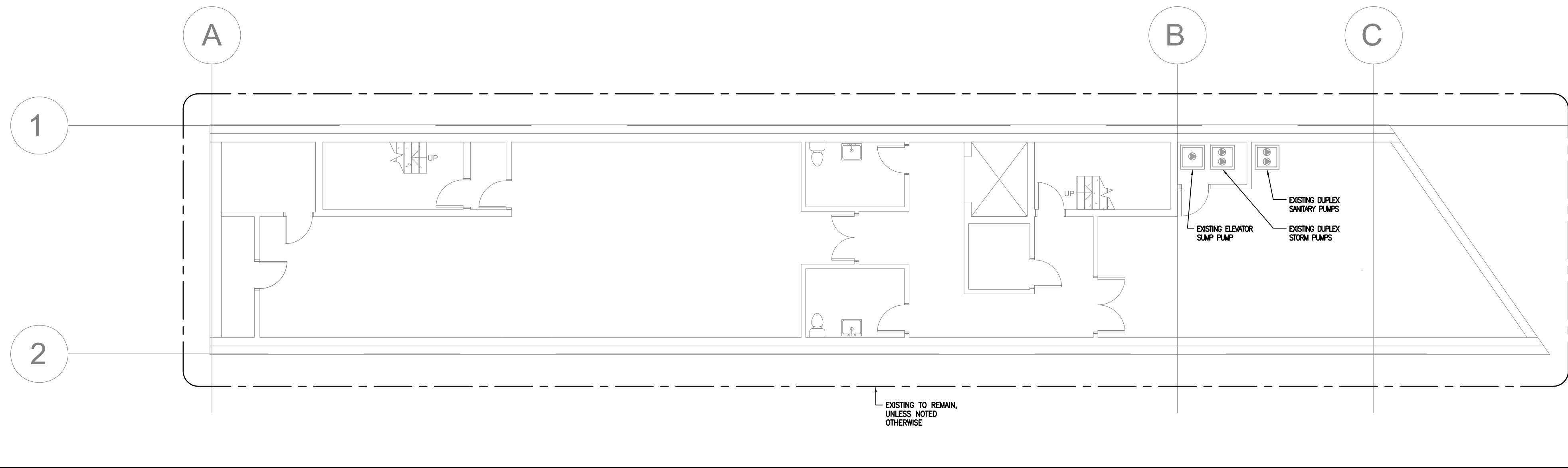
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SECTIONS AND DETAILS

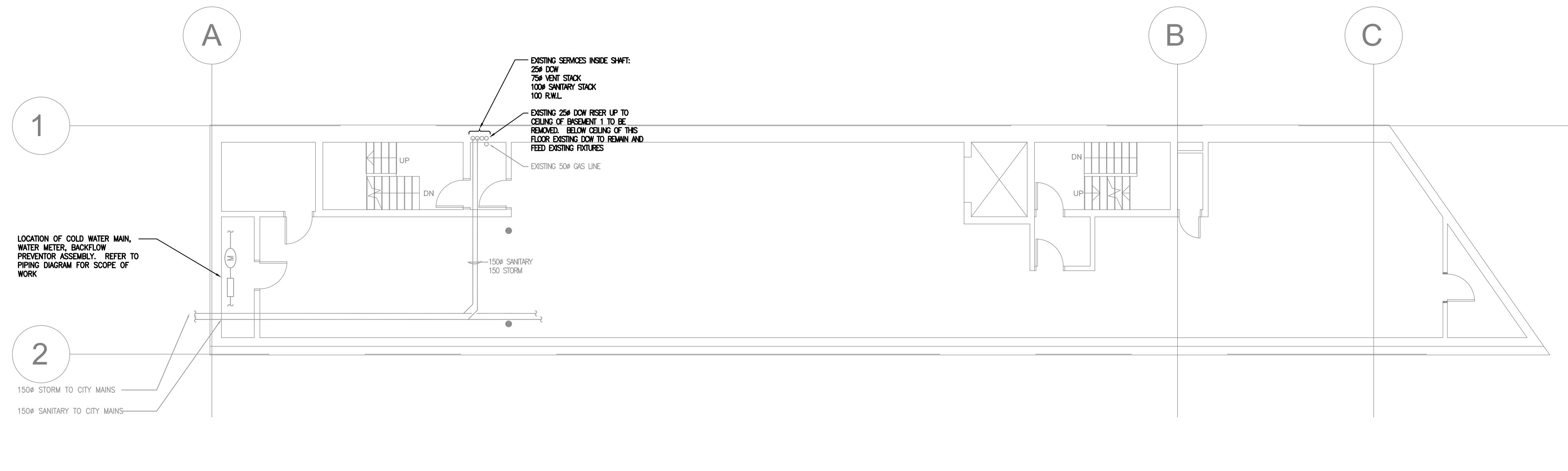
Drawn By M.L. Scale AS NOTED
Designed By P.F. Date July, 2018
RJC Project Number TOR.121290.0001

Sheet Number S2.1
Revision

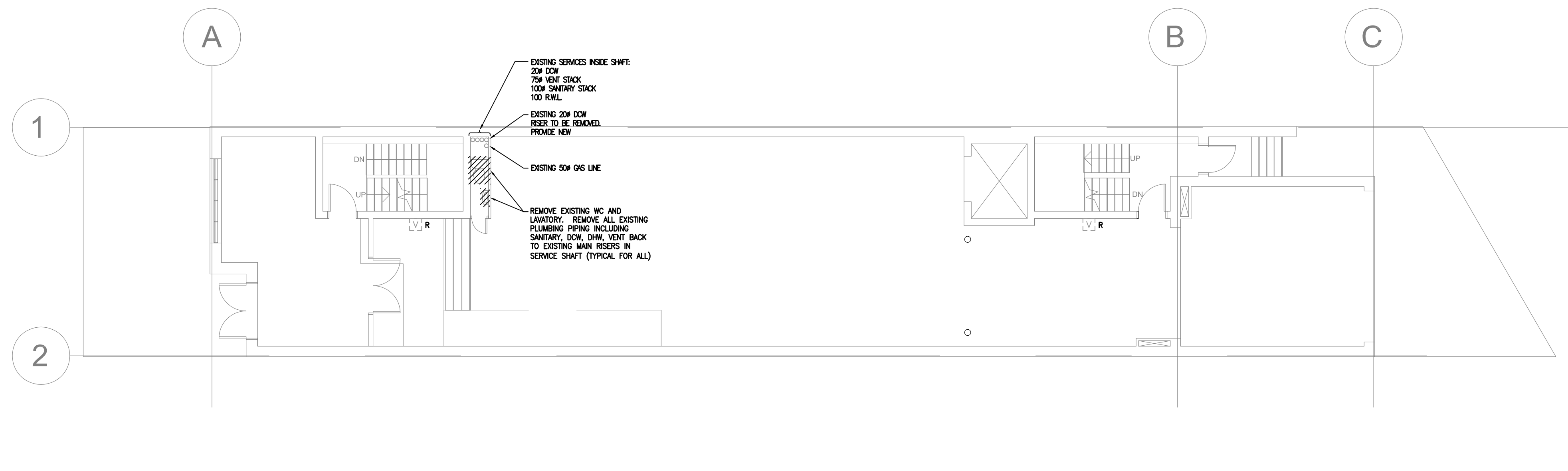
Rev	Description	Date
1	Final Review	16 July '18
2	Issued for Permit & Tender	16 July '18
3	Issued for Construction	04 Sept '18



1 BASEMENT 2 – PLUMBING DEMOLITION
M-2 SCALE: 1:100



2 BASEMENT 1 – PLUMBING DEMOLITION
M-2 SCALE: 1:100



3 LEVEL 1 – PLUMBING DEMOLITION
M-2 SCALE: 1:100

SHARMA & PARTNERS INC.
Mechanical and Electrical Engineers
35 Carlaw Drive,
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M5A 2P8
Tel: (416) 291-8822



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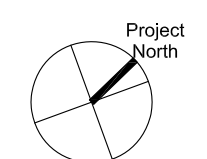
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Davenport Shelter

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M5R 1K6

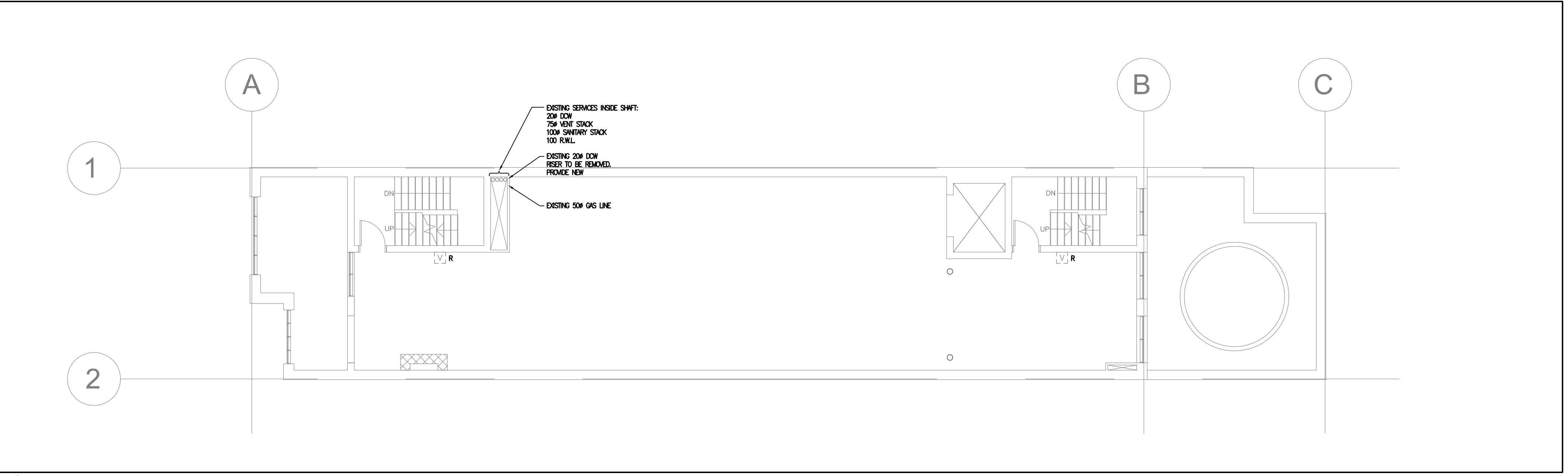
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18_22	As indicated
DATE:	STATUS:
04 Sept 2018	Issued for Construction

Basement 1 & 2 and Level 1
Plumbing Demolition

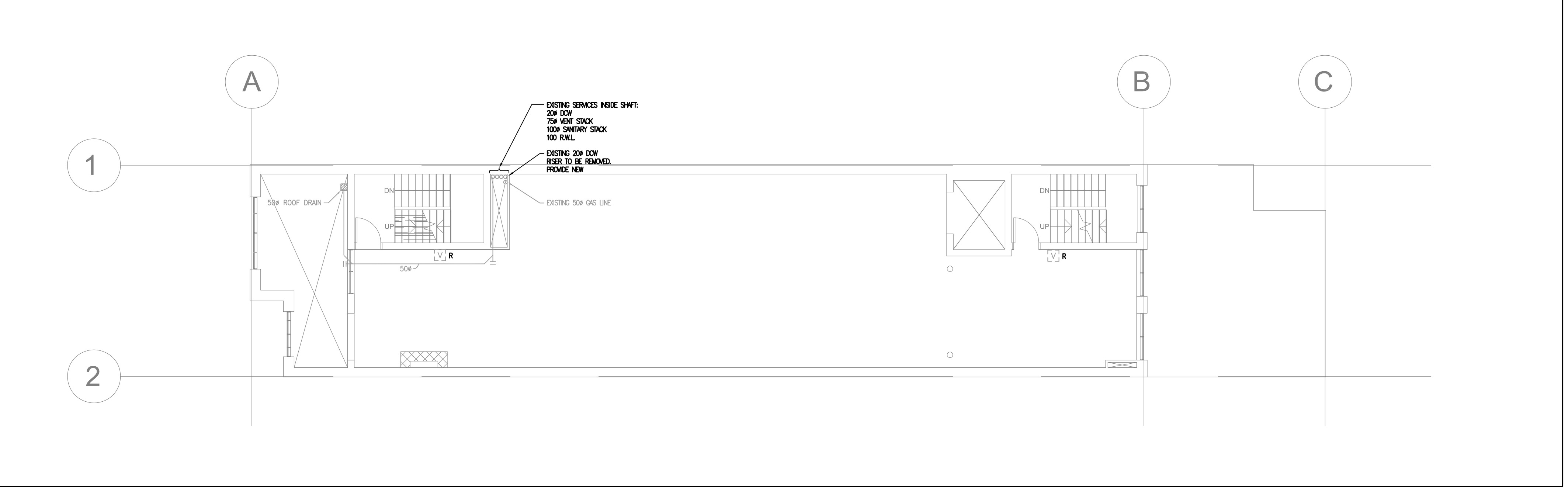


Project
North
drawing number
M-2

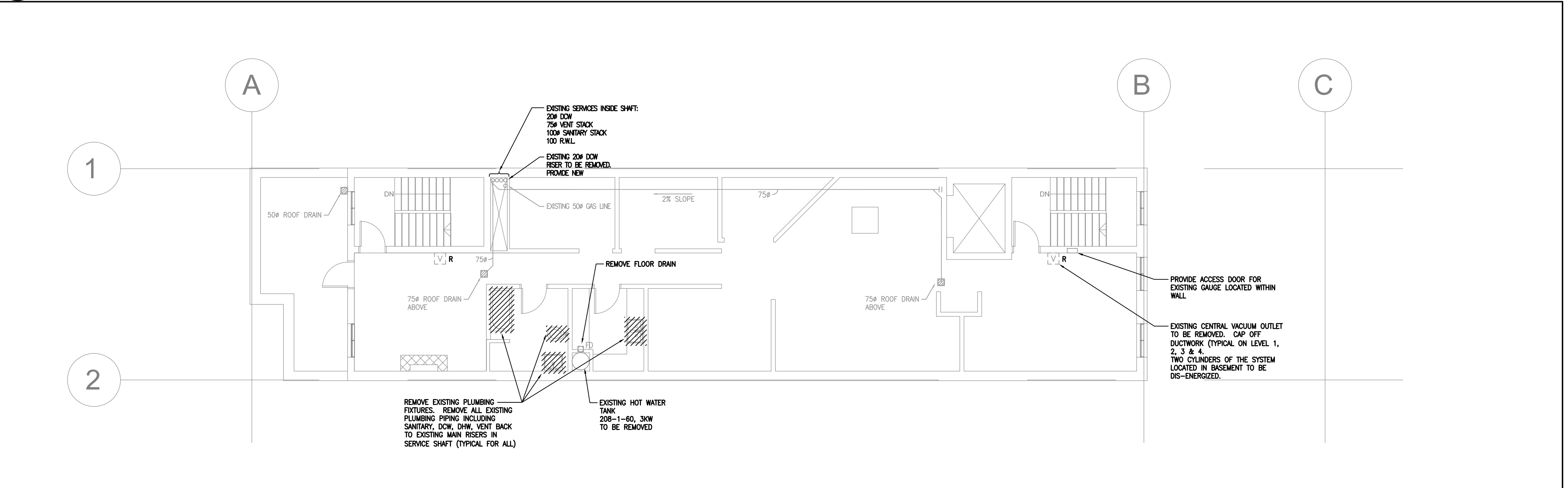
Rev	Description	Date
1	Final Review	16 July '18
2	Issued for Permit & Tender	16 July '18
3	Issued for Construction	04 Sept '18



1 LEVEL 2 – PLUMBING DEMOLITION
M-3 SCALE: 1:100



2 LEVEL 3 – PLUMBING DEMOLITION
M-3 SCALE: 1:100



3 LEVEL 4 – PLUMBING DEMOLITION
M-3 SCALE: 1:100

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35 Carlaw Drive,
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Toronto, Ontario
M5A 2P8
Tel: (416) 291-8822



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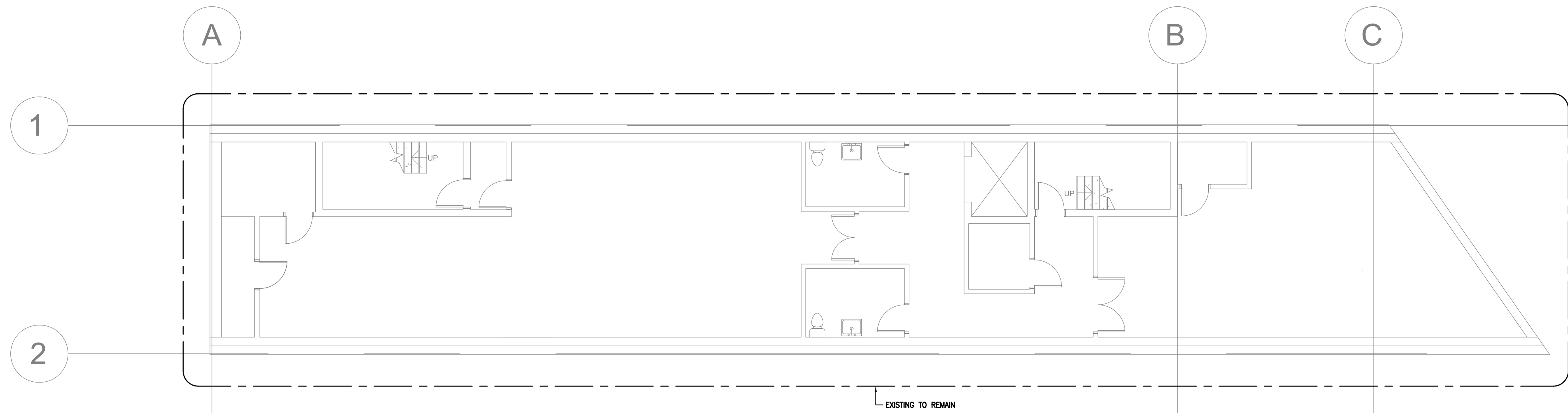
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PROJECT CODE: 18_22
SCALE: As indicated

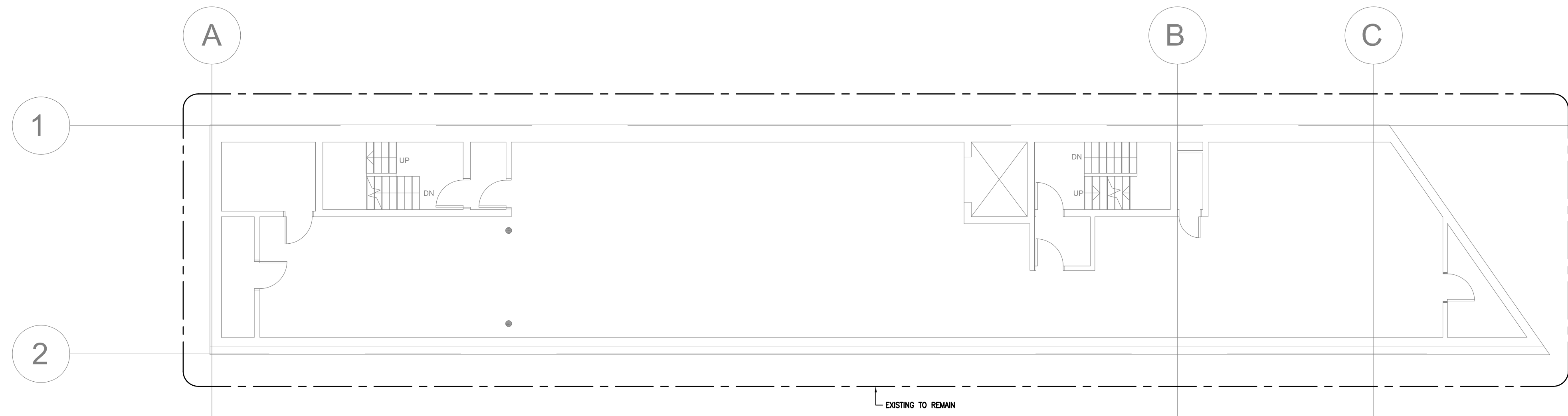
DATE: 04 Sept 2018
STATUS: Issued for Construction

Level 2, 3 & 4
Plumbing Demolition

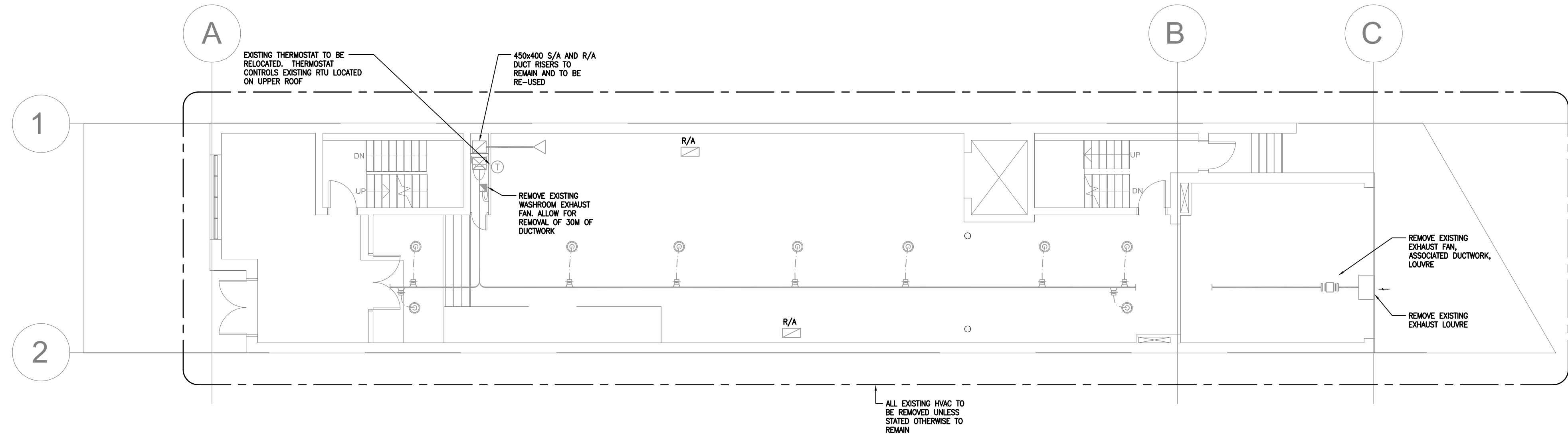
Rev	Description	Date
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1 BASEMENT 2 – HVAC DEMOLITION
M-4 SCALE: 1:100



2 BASEMENT 1 – HVAC DEMOLITION
M-4 SCALE: 1:100



3 LEVEL 1 – HVAC DEMOLITION
M-4 SCALE: 1:100

DEMOLITION NOTES:

- REMOVE ALL EXISTING DUCTWORK, FITTINGS, DIFFUSERS AND GRILLES UP TO MAINS BELOW ROOF FROM RTU.
- EXISTING DUCTWORK LAYOUT IS SHOWN FOR REFERENCE ONLY. VERIFY ON SITE AS REQUIRED.
- IN ADDITION TO SHOWN, ALLOW IN CONTRACT FOR REPLACEMENT OF 5 EXISTING FIRE DAMPERS WITH NEW ONES. (400x300 DUCT SIZE)

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35 Carlaw Drive,
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Toronto, Ontario
M5A 2P8
Tel: (416) 291-8822

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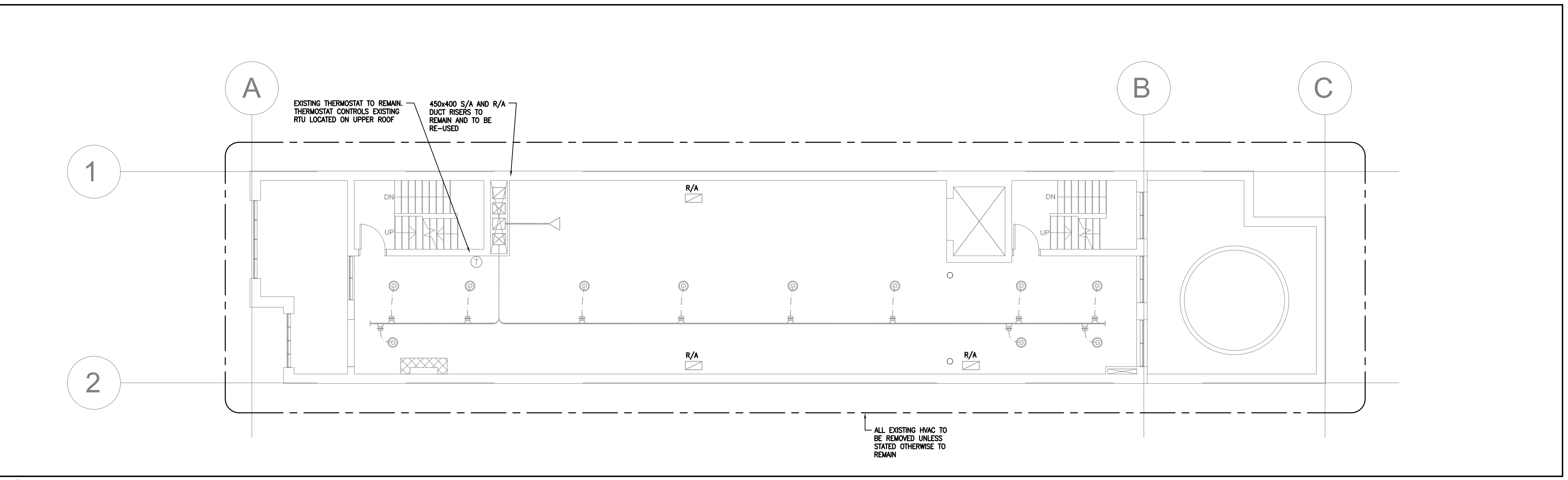
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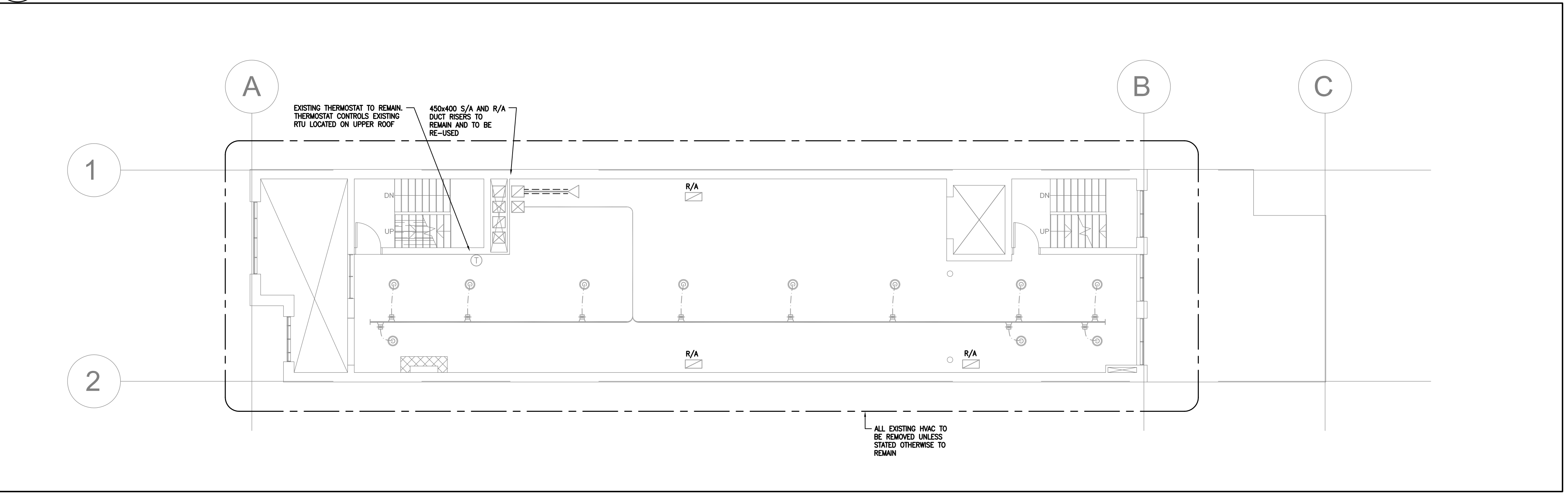
PROJECT CODE: 18_22 SCALE: As indicated
DATE: 04 Sept 2018 STATUS: Issued for Construction

Basement 1 & 2 and Level 1
HVAC Demolition

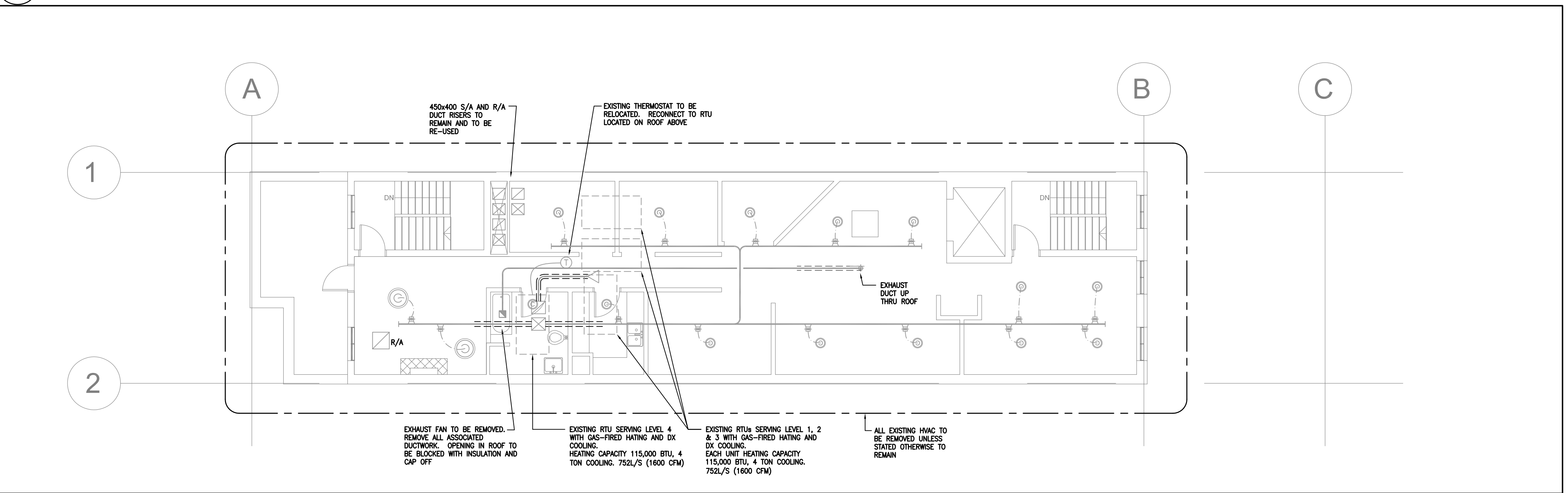
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1 LEVEL 2 – HVAC DEMOLITION
M-5 SCALE: 1:100



2 LEVEL 3 – HVAC DEMOLITION
M-5 SCALE: 1:100



3 LEVEL 4 – HVAC DEMOLITION
M-5 SCALE: 1:100

DEMOLITION NOTES:

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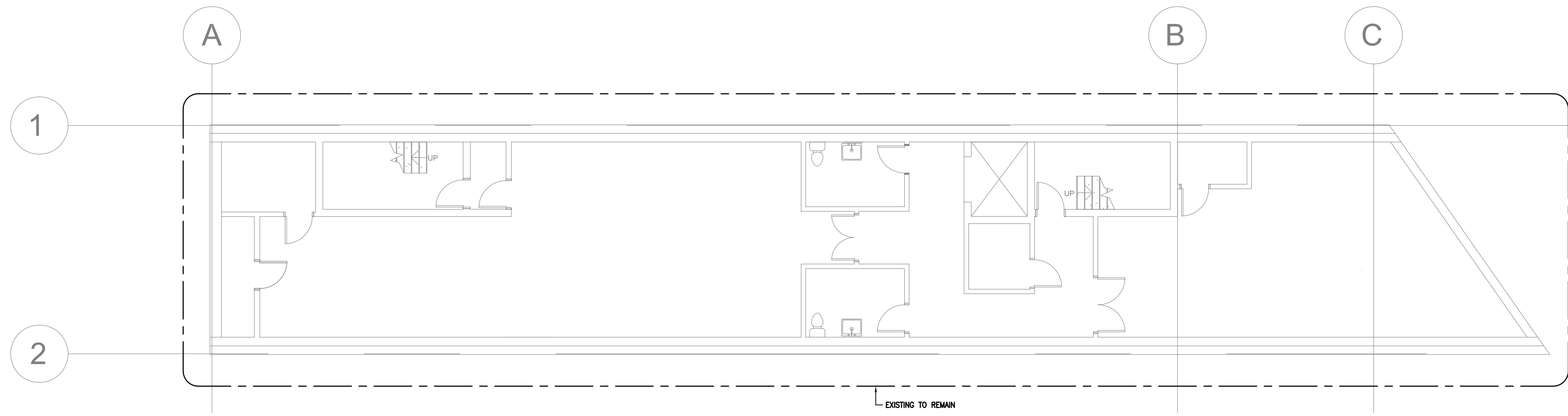
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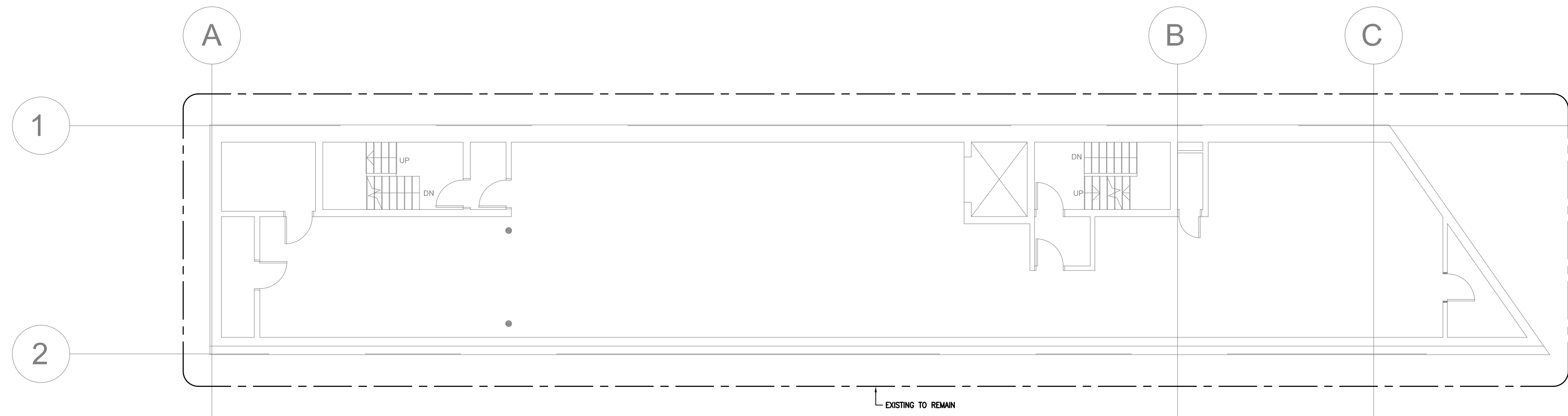
PROJECT CODE: 18_22
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Level 2, 3 & 4
HVAC Demolition

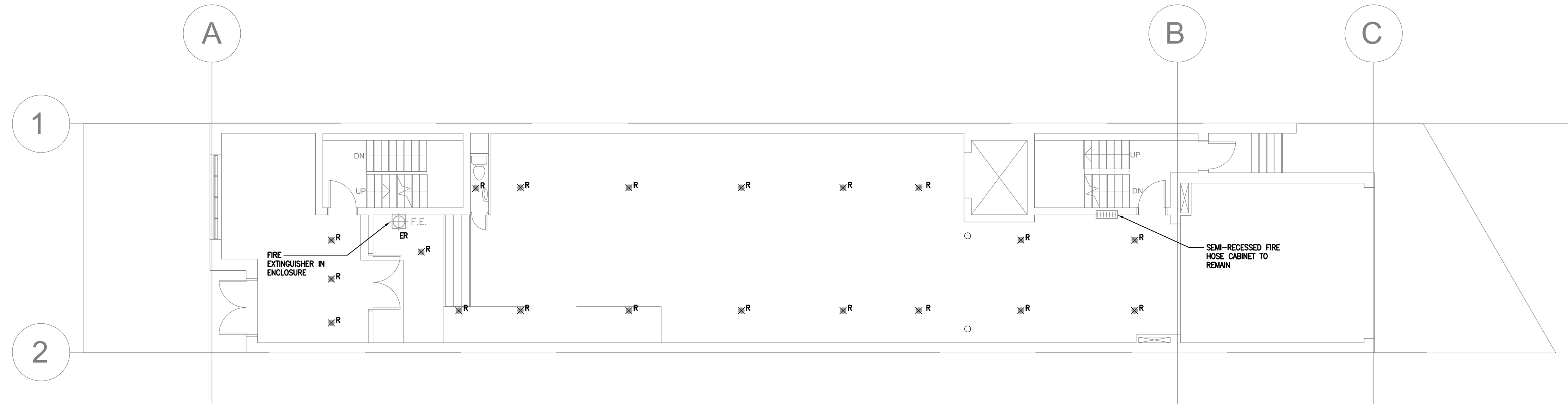
Rev	Description	Date
1	Final Review	16 July '18
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1 BASEMENT 2 – FIRE PROTECTION DEMOLITION
M-6 SCALE: 1:100



2 BASEMENT 1 – FIRE PROTECTION DEMOLITION
M-6 SCALE: 1:100



3 LEVEL 1 – FIRE PROTECTION DEMOLITION
M-6 SCALE: 1:100

- DEMOLITION NOTES:**
- REMOVE SPRINKLER HEADS IN RENOVATED AREAS WHERE SHOWN AND WHERE CEILING IS TO BE REPLACED.
 - REVISE SPRINKLER PIPING TO SUIT NEW CEILING HEIGHT AND LOCATION OF NEW SPRINKLER HEADS. REFER TO ARCHITECTURAL DRAWINGS FOR NEW CEILING HEIGHTS AND CEILING TYPE.
 - IN ADDITION TO PIPE REVISIONS ASSOCIATED WITH NEW SPRINKLER HEADS LAYOUT AND NEW CEILING HEIGHTS, ALLOW IN CONTRACT FOR REPLACEMENT OF 50 FT OF 50M & 50 FT OF 35M SPRINKLER LINE (FOR UNFORESEEN SITE CONDITIONS AND SERVICES INTERFERENCE).
 - FOR EXISTING AND NEW CEILING HEIGHTS – REFER TO ARCHITECTURAL DRAWINGS. REVISE SPRINKLER PIPING TO SUIT NEW CEILING HEIGHTS.

- LEGEND:**
- EX DENOTES EXISTING TO REMAIN
 - ER EXISTING TO BE RELOCATED (PROVIDE NEW SPRINKLER HEAD IN NEW LOCATION)
 - R EXISTING TO BE REMOVED
 - RP RELOCATED POSITION

SHARMA & PARTNERS INC.
Mechanical and Electrical Engineers

35 Carlaw Drive,
Unit 108
Toronto, Ontario
M5A 2P8
Tel: (416) 291-8822



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WORKSHOP architecture inc

1157 Davenport Road
Toronto Ontario M5H 2C4
T 416.901.8055 F 416.849.0383
www.workshoparchitecture.ca

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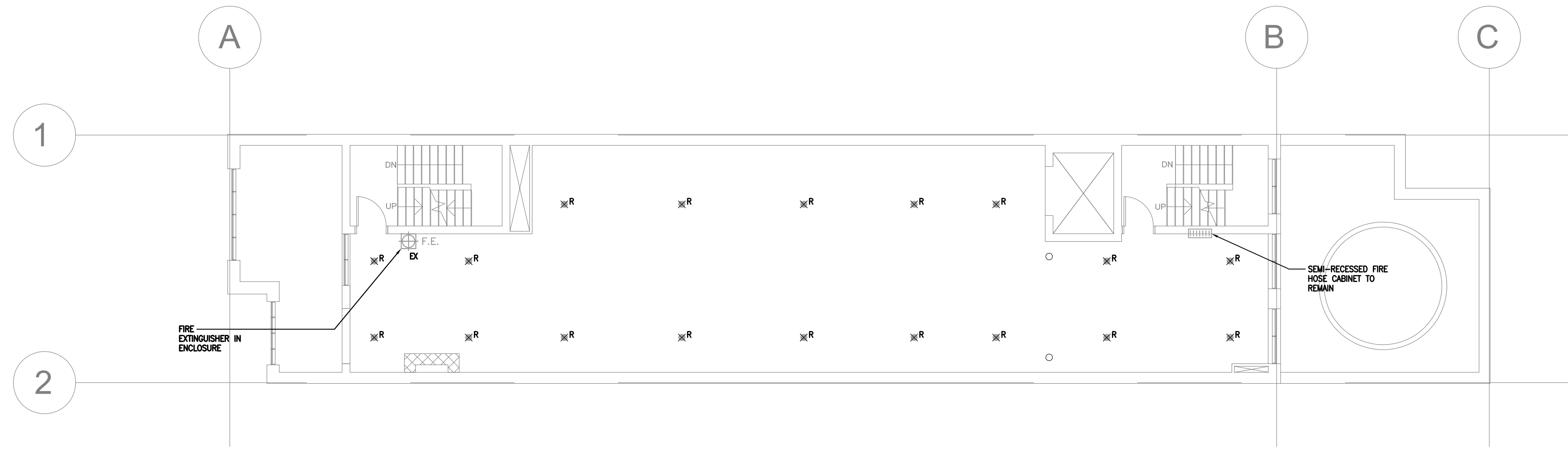
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PROJECT CODE: 18_22 SCALE: As indicated

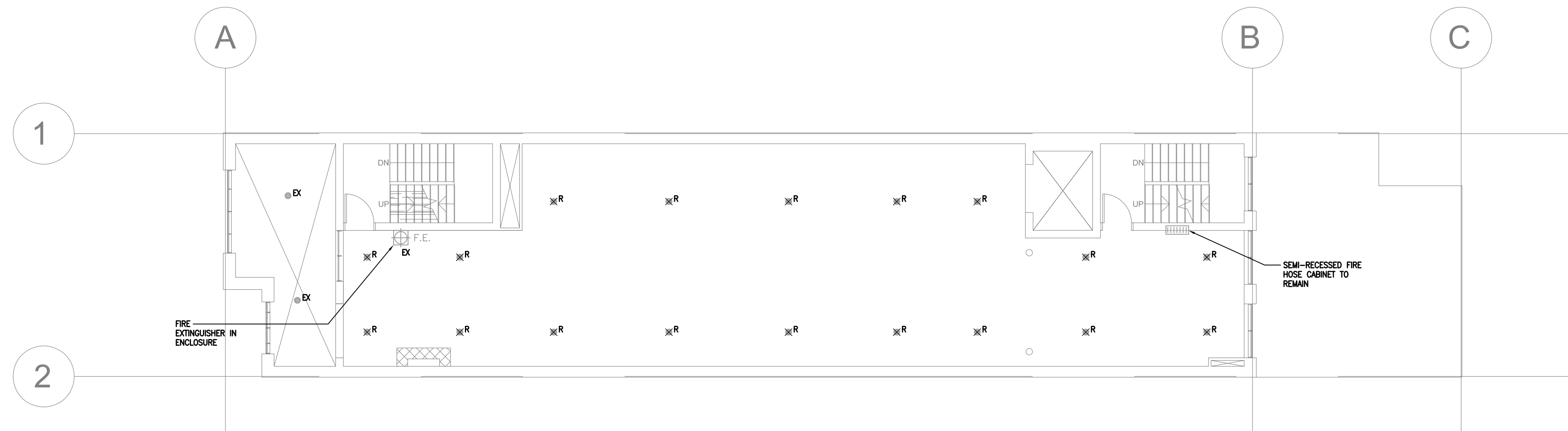
DATE: 04 Sept 2018 STATUS: **Issued for Construction**

Basement 1 & 2 and Level 1
Fire Protection Demolition

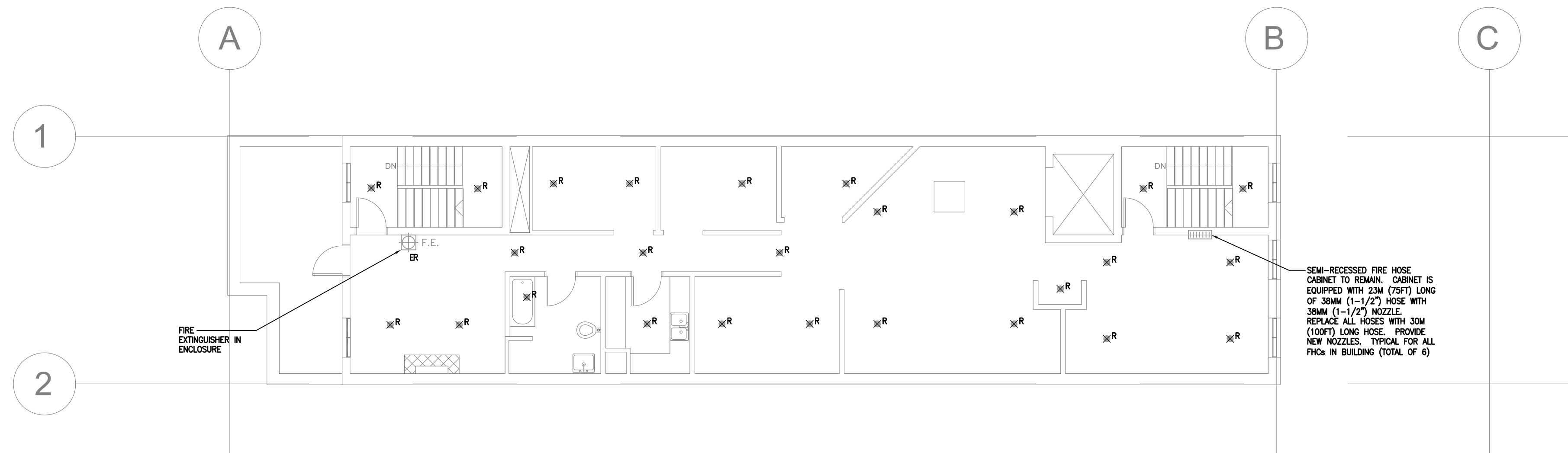
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1 LEVEL 2 – FIRE PROTECTION DEMOLITION
M-7 SCALE: 1:100



2 LEVEL 3 – FIRE PROTECTION DEMOLITION
M-7 SCALE: 1:100



3 LEVEL 4 – FIRE PROTECTION DEMOLITION
M-7 SCALE: 1:100

- DEMOLITION NOTES:**
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 - IN ADDITION TO PIPE REVISIONS ASSOCIATED WITH NEW SPRINKLER HEADS LAYOUT AND NEW CEILING HEIGHTS, ALLOW IN CONTRACT FOR REPLACEMENT OF 50 FT OF 50 & 50 FT OF 38 SPRINKLER LINE (FOR UNFORESEEN SITE CONDITIONS AND SERVICES INTERFERENCE).
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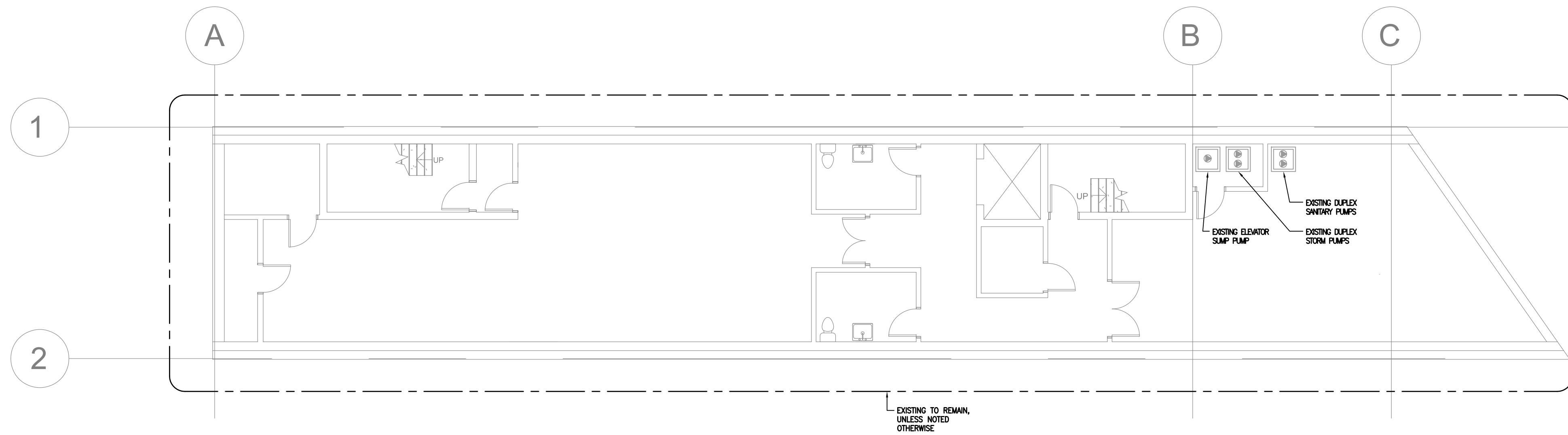
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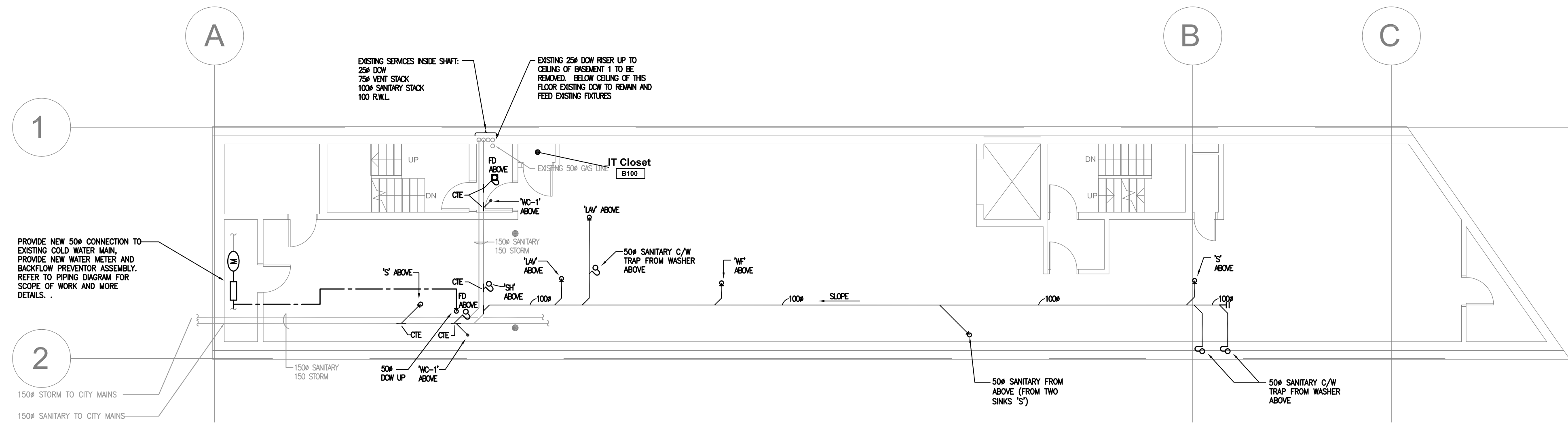
PROJECT CODE:	SCALE:
18_22	As indicated
DATE:	STATUS:
04 Sept 2018	Issued for Construction

Level 2, 3 & 4
Fire Protection Demolition

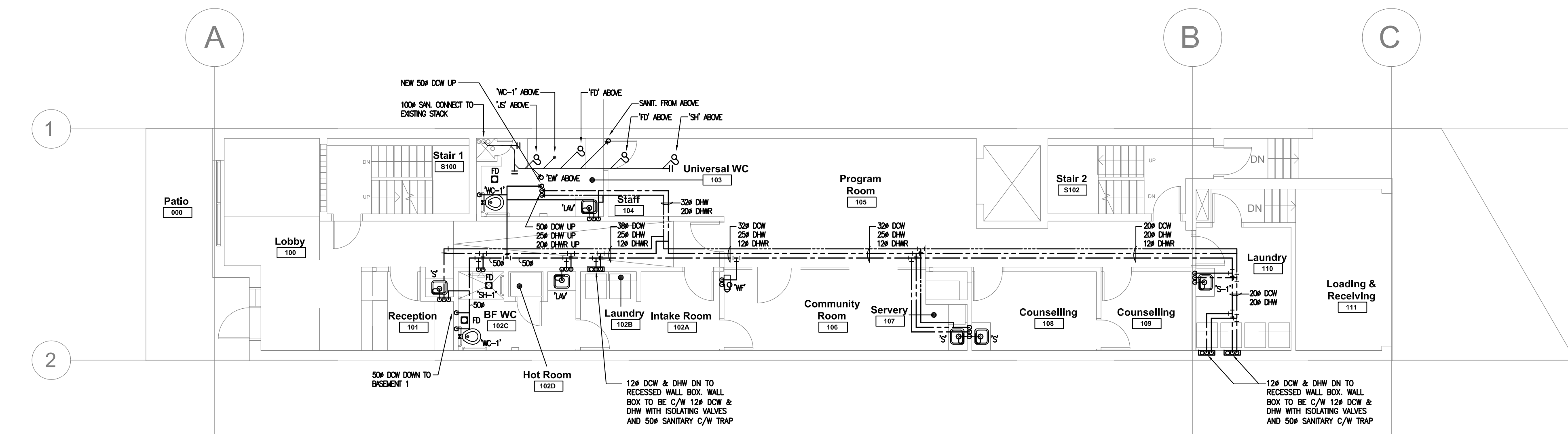
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3	Issued for Addendum MAD-1	30 July '18
4	Issued for Construction	04 Sept '18



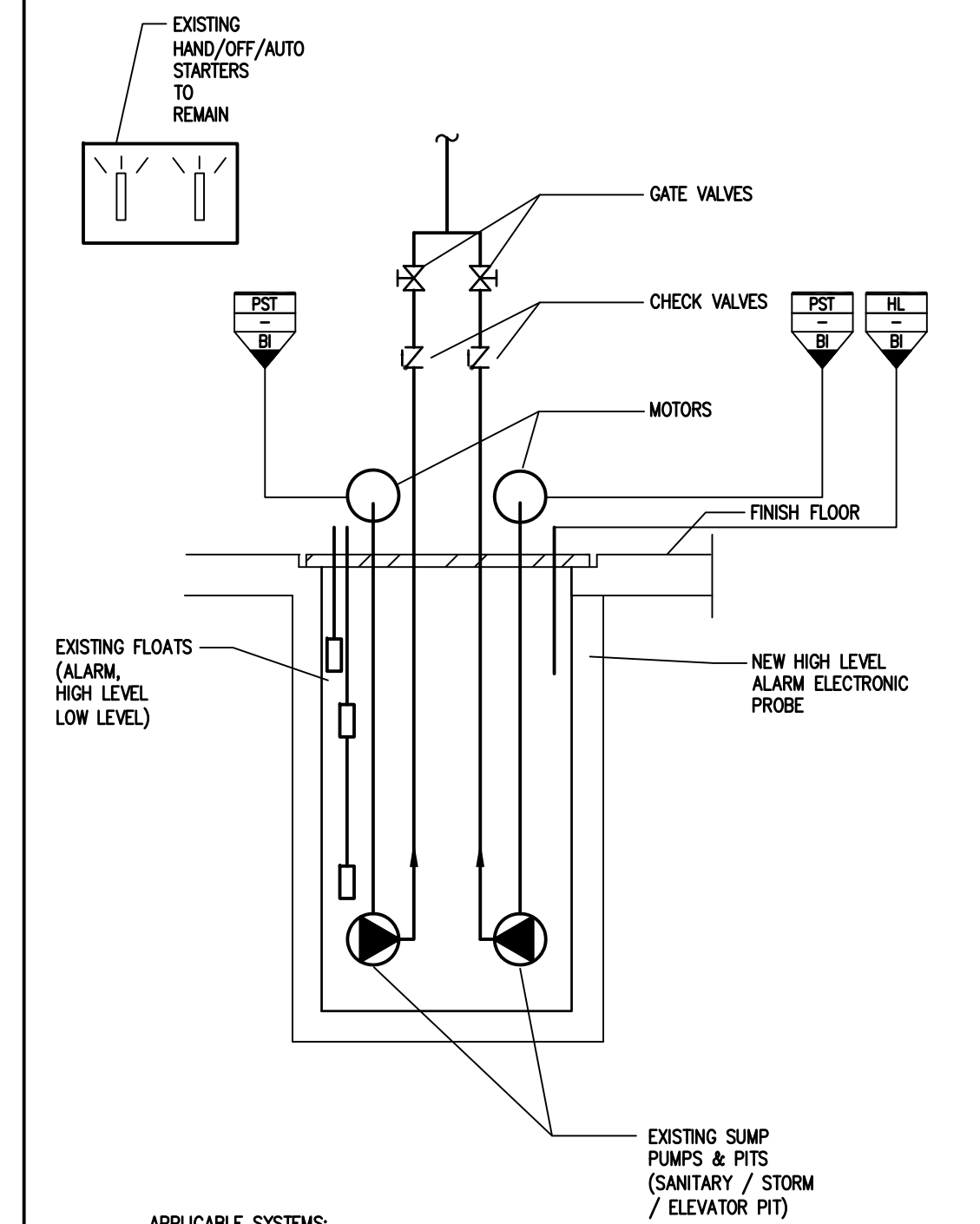
1 BASEMENT 2 - PLUMBING NEW LAYOUT
M-8 SCALE: 1:100



2 BASEMENT 1 - PLUMBING NEW LAYOUT
M-8 SCALE: 1:100



3 LEVEL 1 - PLUMBING NEW LAYOUT
M-8 SCALE: 1:100



- APPLICABLE SYSTEMS:
- DUPLEX SANITARY PUMPS LOCATED IN BASEMENT 2 LEVEL
 - DUPLEX SUMP PUMPS LOCATED IN BASEMENT 2 LEVEL
 - ELEVATOR PIT SUMP PUMP LOCATED IN BASEMENT 2 LEVEL
- NOTES:
1. PROVIDE NEW ELECTRONIC WATER LEVEL CONTROL FOR HIGH LEVEL ALARM.
 2. CONNECT HIGH LEVEL ALARM TO REMOTE BAS
 3. PROVIDE CURRENT SENSOR AT EACH PUMP
 4. PROVIDE STATUS OF EACH PUMP AT BAS FROM NEW CURRENT SENSOR
 5. EXISTING SEQUENCE OF PUMP OPERATION TO REMAIN

4 TYP. SUMP PUMP SYSTEM CONTROL, MONITORING & ALARM
M-8 N.T.S.

SHARMA & PARTNERS INC.
Mechanical and Electrical Engineers
35 Carlaw Drive, Unit 108
Toronto, Ontario M5S 2P8
Tel: (416) 291-8822

WORKSHOP architecture
WORKSHOP architecture inc
1157 Davenport Road
Toronto Ontario M5H 2C4
T 416.901.8055 F 416.849.0383
www.workshoparchitecture.ca

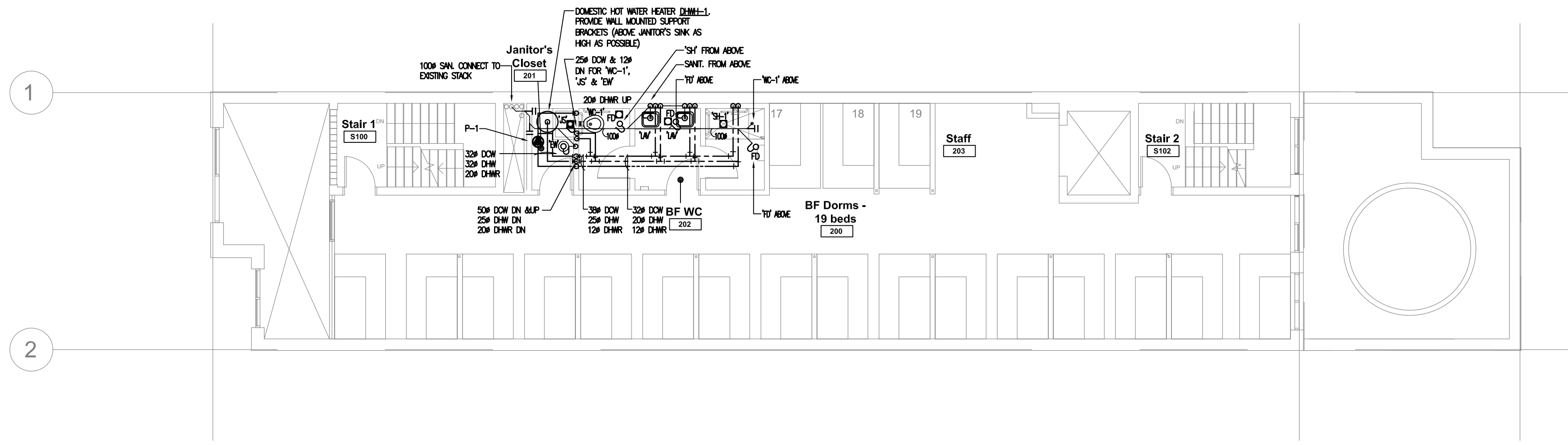
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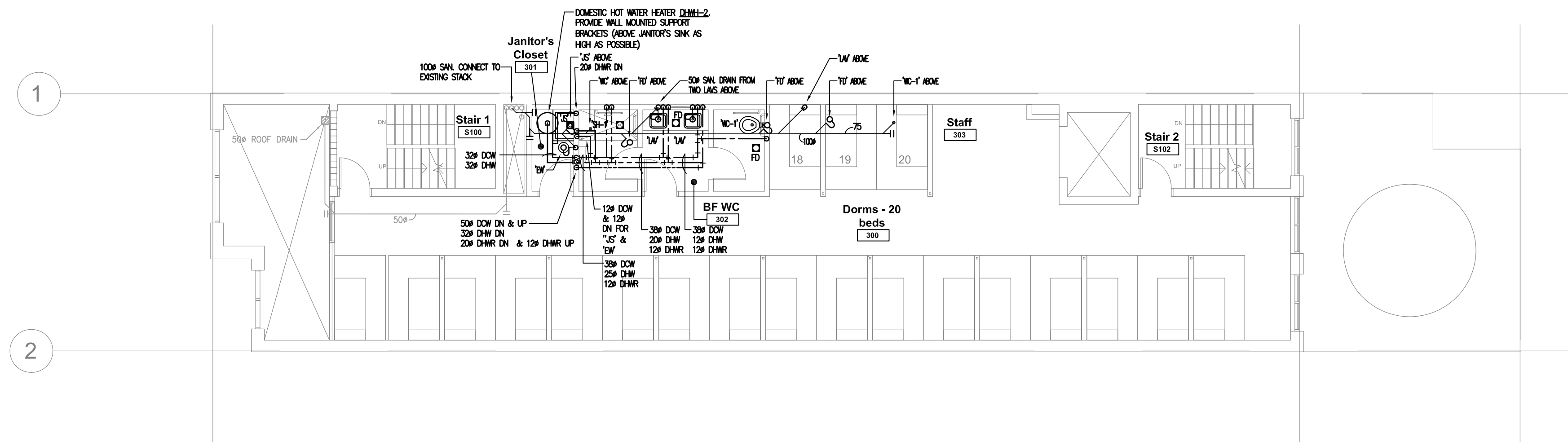
DATE: 04 Sept 2018
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Basement 1 & 2 and Level 1
Plumbing New Layout

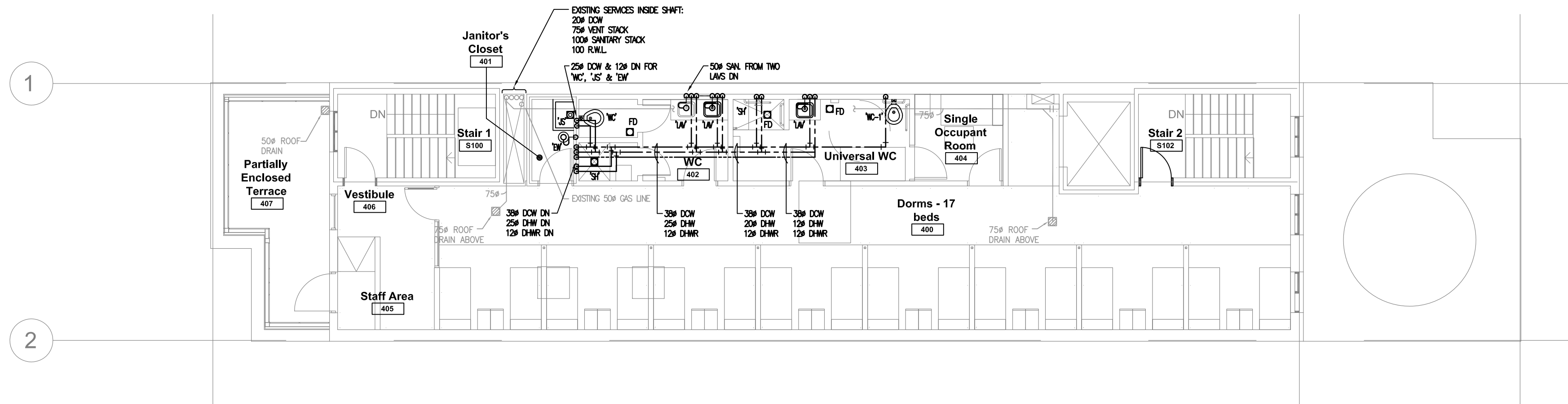
Rev	Description	Date
1	Final Review	16 July '18
2	Issued for Permit & Tender	16 July '18
3	Issued for Addendum MAD-1	30 July '18
4	Issued for Construction	04 Sept '18



1 LEVEL 2 - PLUMBING NEW LAYOUT
M-9 SCALE: 1:100



2 LEVEL 3 - PLUMBING NEW LAYOUT
M-9 SCALE: 1:100



3 LEVEL 4 - PLUMBING NEW LAYOUT
M-9 SCALE: 1:100

SHARMA & PARTNERS INC.
Mechanical and Electrical Engineers
85 Carlaw Drive,
Unit 108
Toronto, Ontario
M5A 2P8
Tel: (416) 291-8822



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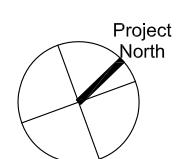
WORKSHOP architecture inc
1157 Davenport Road
Toronto Ontario M5H 2C4
T 416.901.8055 F 416.849.0383
www.workshoparchitecture.ca

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348 Davenport Road
Toronto, ON
M5R 1K6

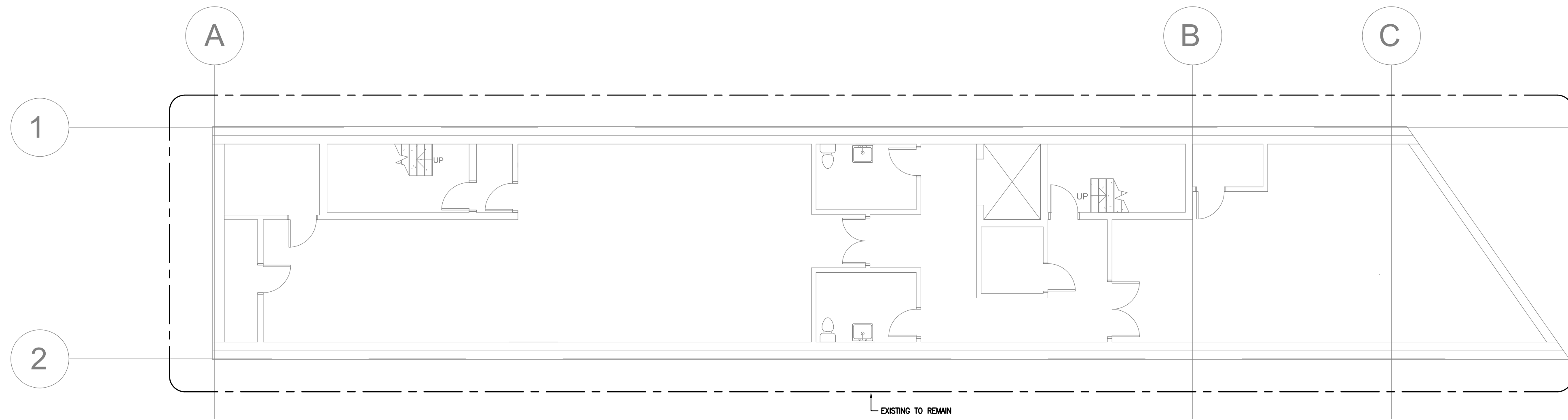
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Level 2, 3 & 4
Plumbing New Layout

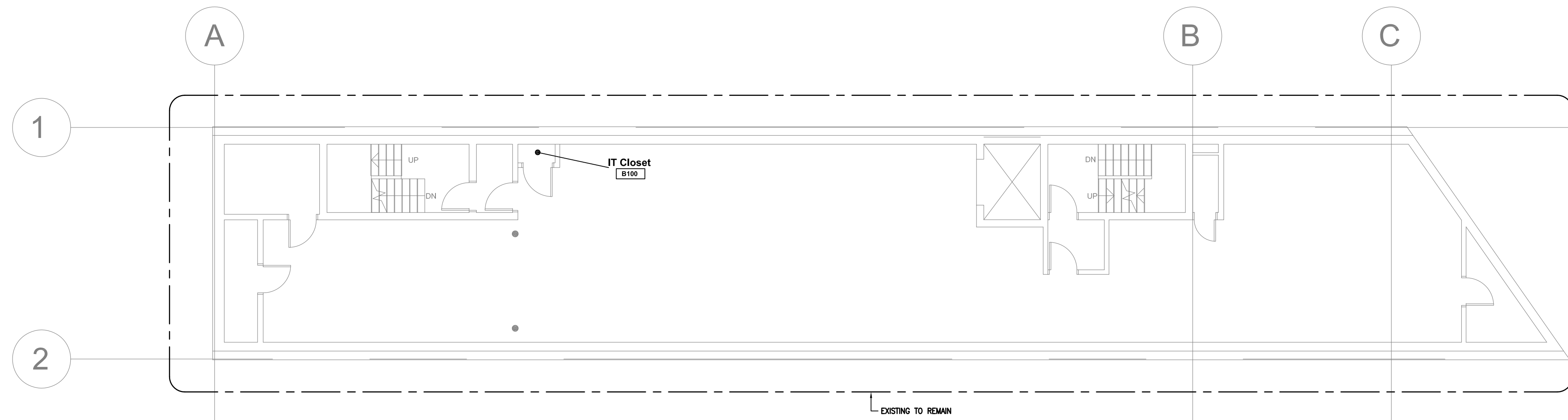


Project
North
drawing number
M-9

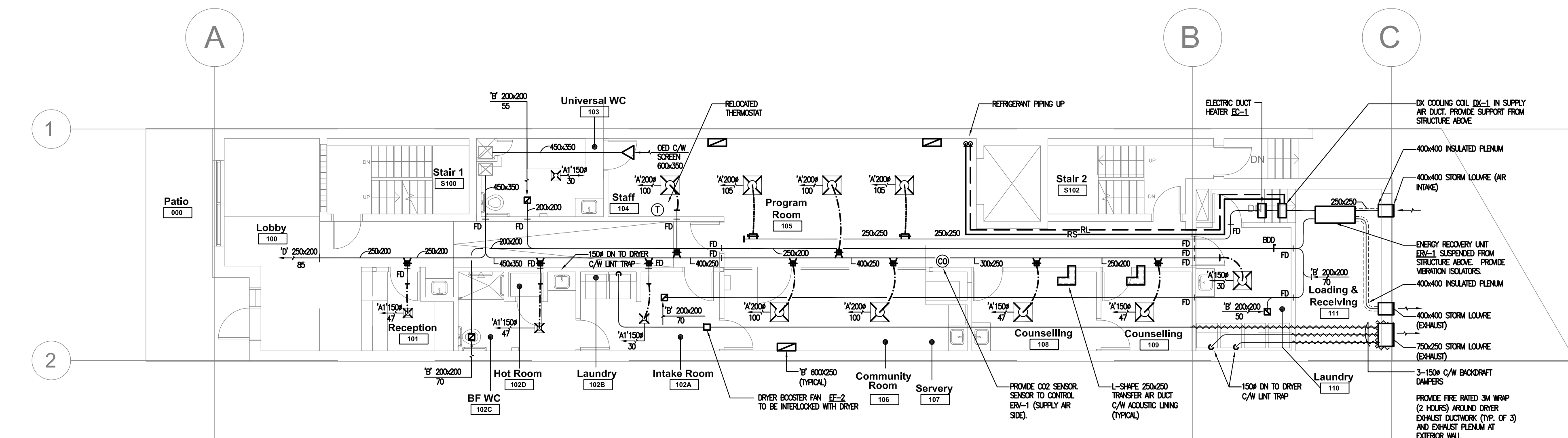
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1 BASEMENT 2 – HVAC NEW LAYOUT
M-10 SCALE: 1:100



2 BASEMENT 1 – HVAC NEW LAYOUT
M-10 SCALE: 1:100



3 LEVEL 1 – HVAC NEW LAYOUT
M-10 SCALE: 1:100

SHARMA & PARTNERS INC.
Mechanical and Electrical Engineers
35 Carlaw Drive,
Unit 108
Toronto, Ontario
M5A 2P8
Tel: (416) 291-8822



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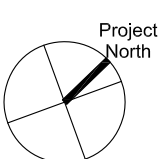
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Toronto Ontario M5H 2C4
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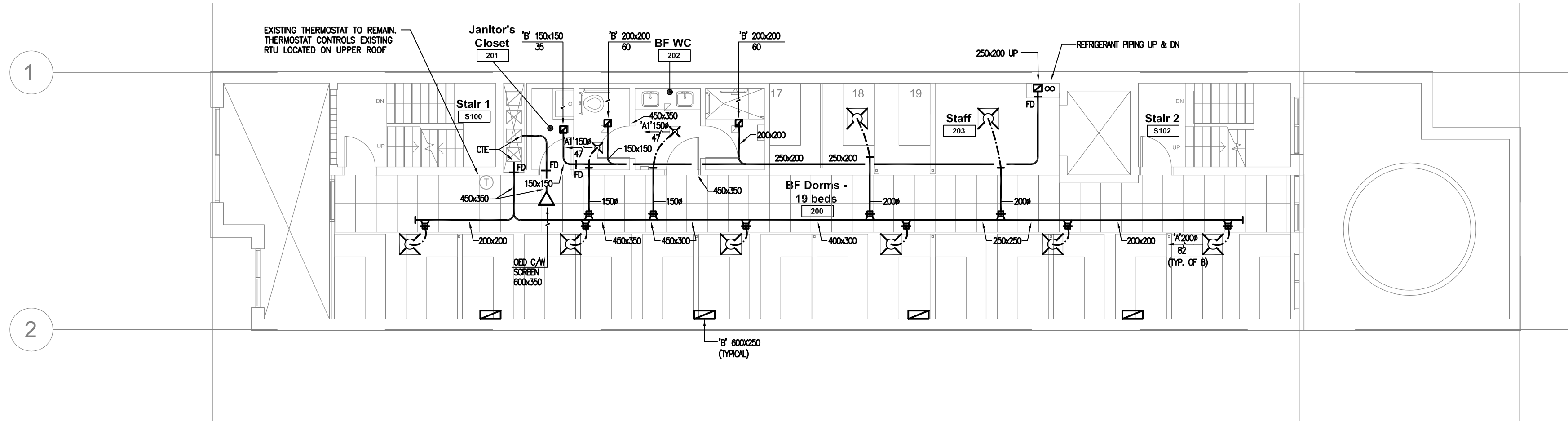
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Basement 1 & 2 and Level 1
HVAC New Layout

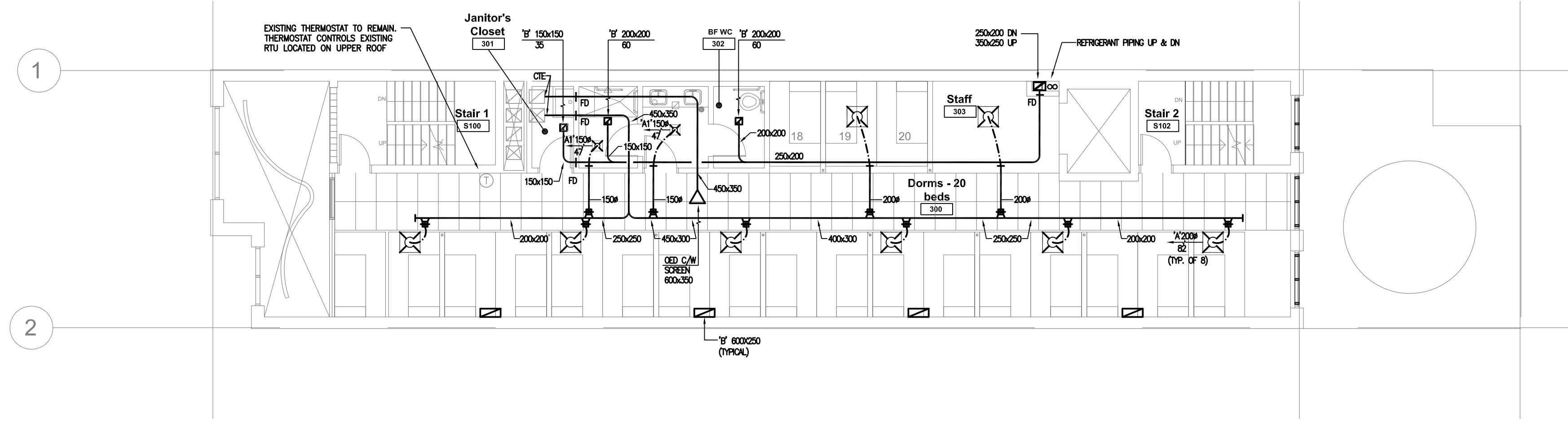


Project
North
drawing number
M-10

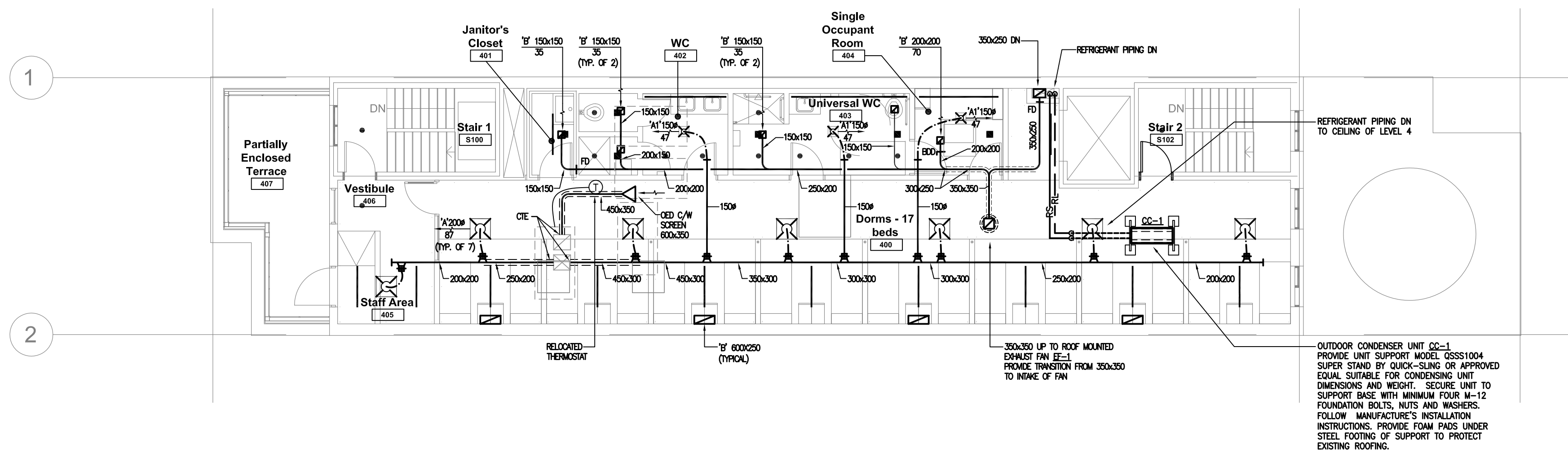
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1 LEVEL 2 – HVAC NEW LAYOUT
M-11 SCALE: 1:100



2 LEVEL 3 – HVAC NEW LAYOUT
M-11 SCALE: 1:100



3 LEVEL 4 – HVAC NEW LAYOUT
M-11 SCALE: 1:100

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Mechanical and Electrical Engineers
35 Carlaw Drive,
Unit 108
Toronto, Ontario
M5A 2P8
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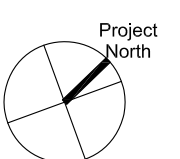
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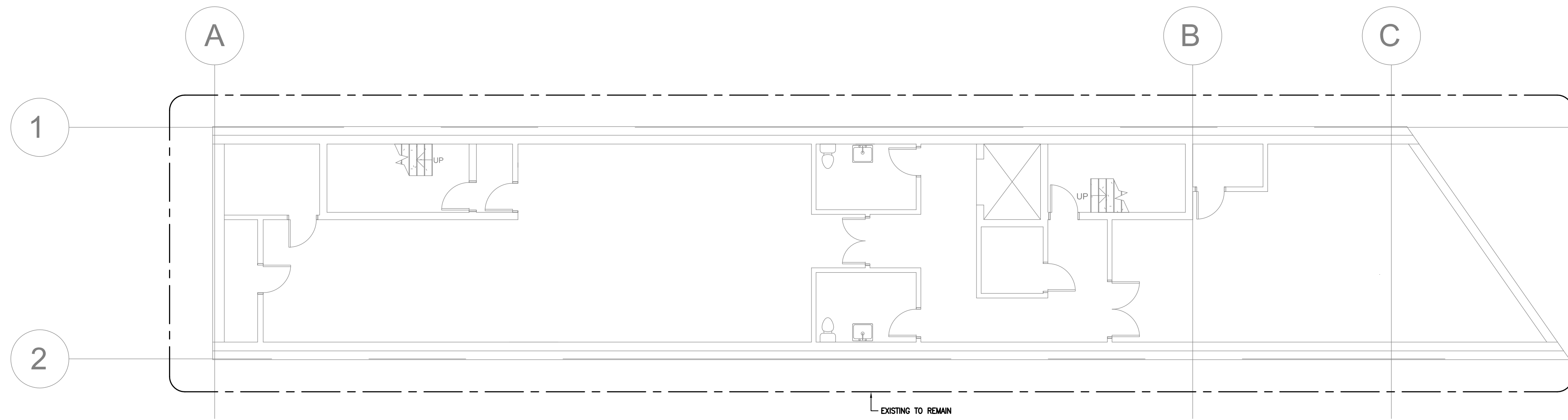
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Level 2, 3 & 4
HVAC New Layout

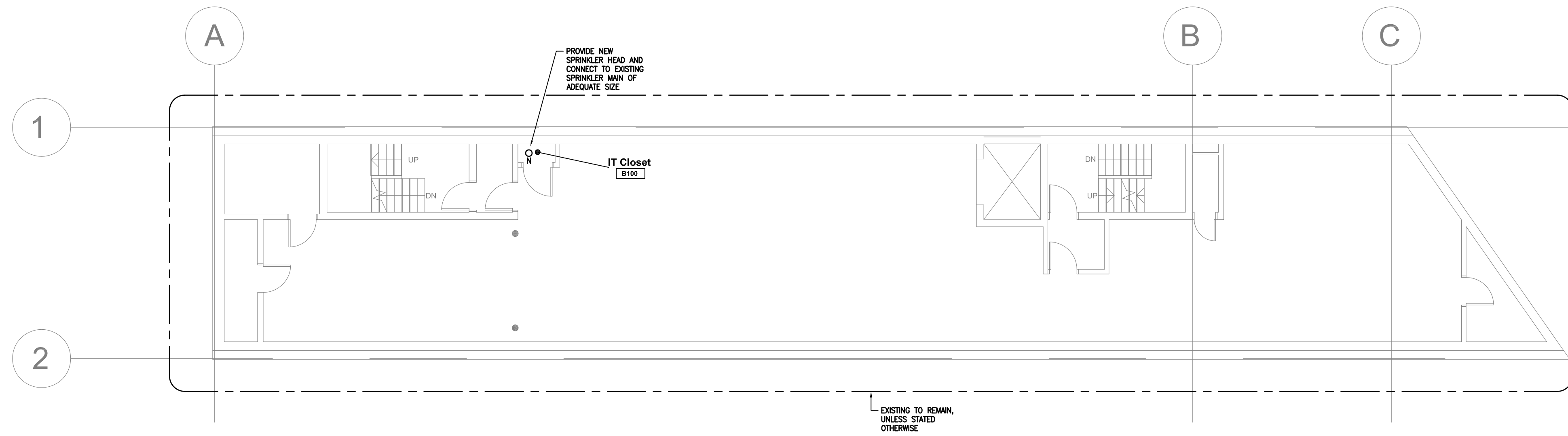


Project
North
drawing number
M-11

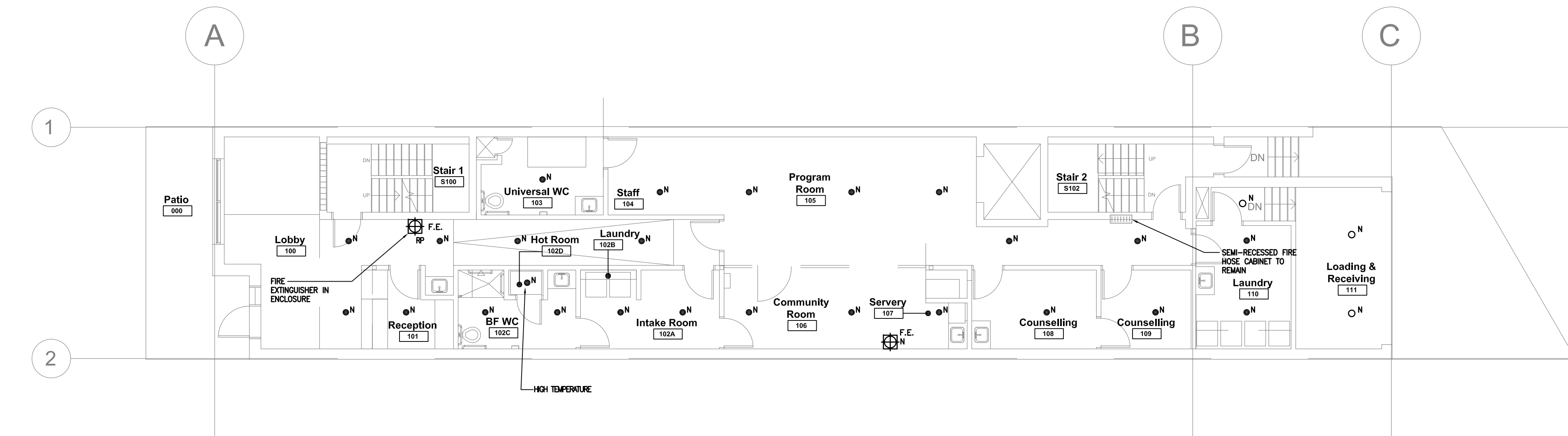
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1 BASEMENT 2 – FIRE PROTECTION NEW LAYOUT
M-12 SCALE: 1:100



2 BASEMENT 1 – FIRE PROTECTION NEW LAYOUT
M-12 SCALE: 1:100



3 LEVEL 1 – FIRE PROTECTION NEW LAYOUT
M-12 SCALE: 1:100

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Mechanical and Electrical Engineers
35 Carlaw Drive,
Unit 108
Toronto, Ontario
M5A 2P8
Tel: (416) 291-8822



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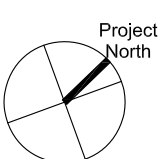
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1157 Davenport Road
Toronto Ontario M5H 2C4
T 416.901.8055 F 416.849.0383
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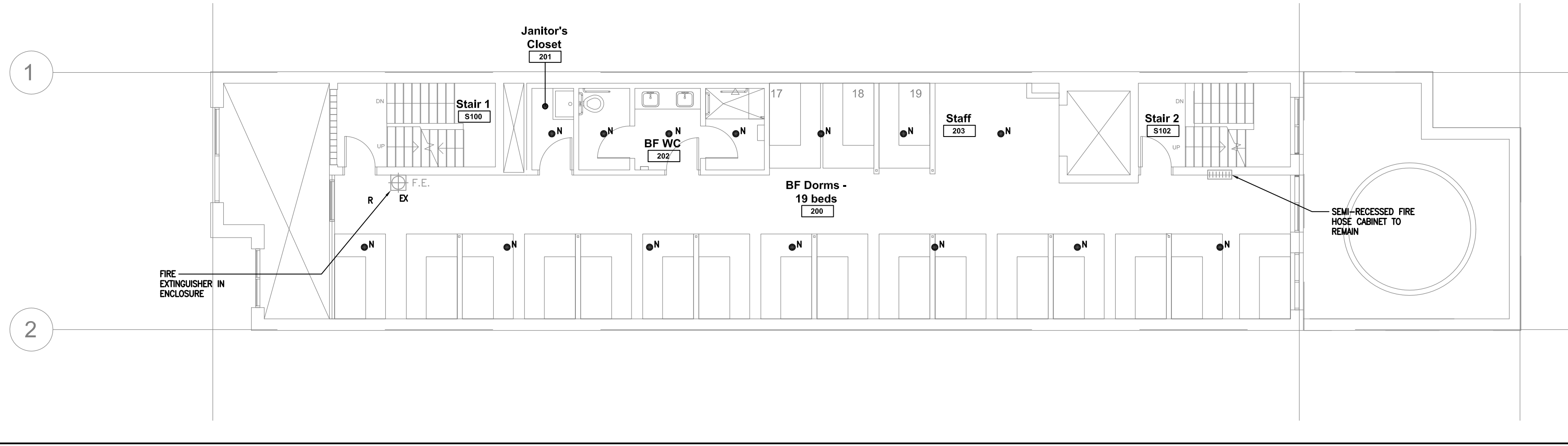
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**Basement 1 & 2 and Level 1
Fire Protection New Layout**

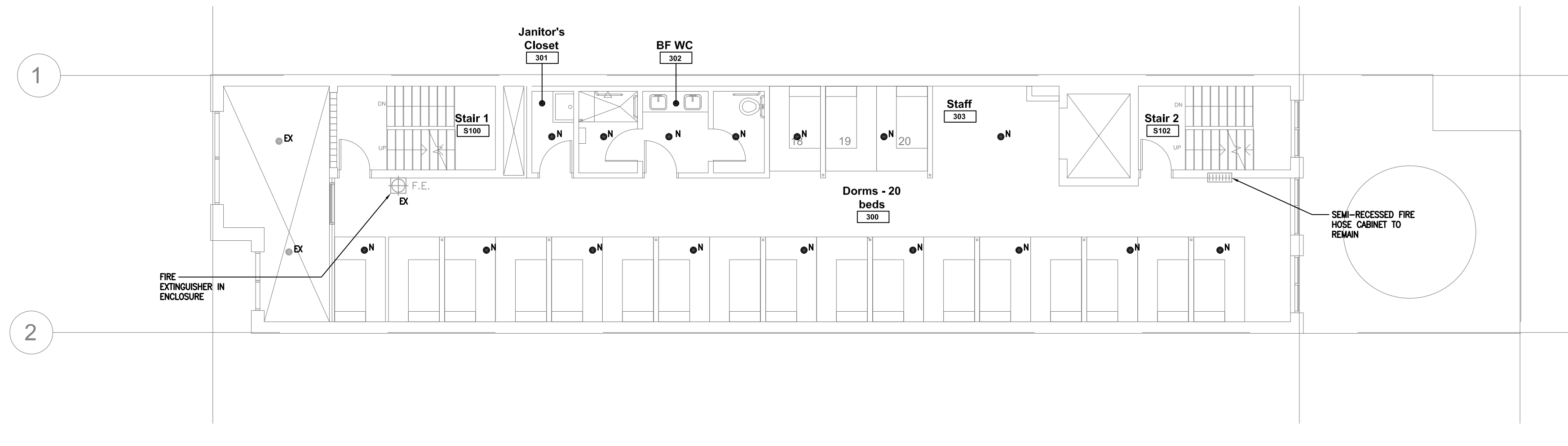


Project
North
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M-12

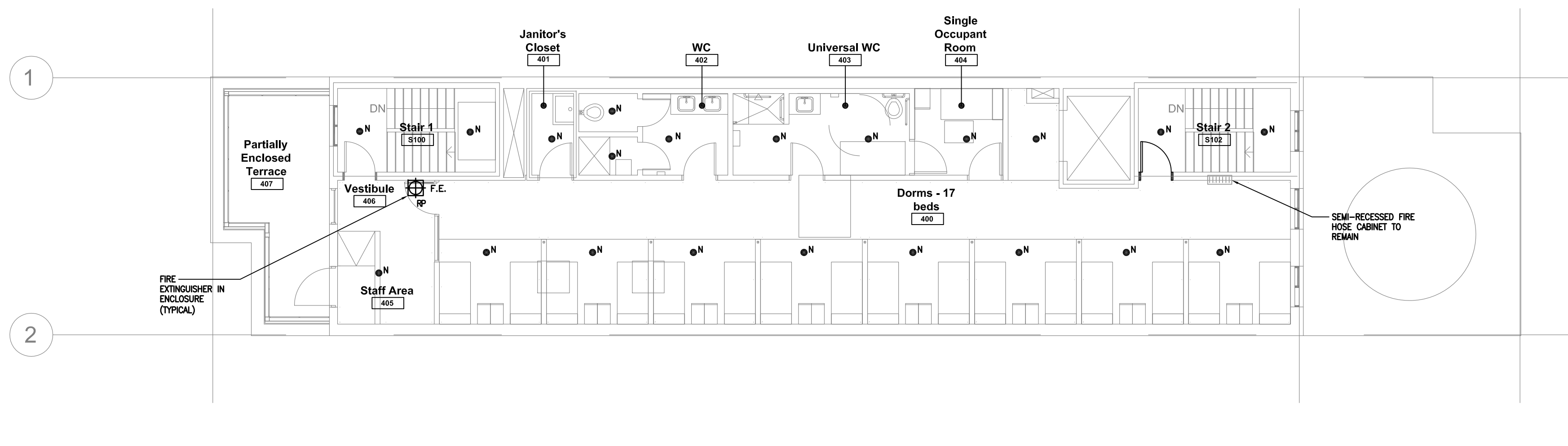
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1 LEVEL 2 - FIRE PROTECTION DEMOLITION
M-13 SCALE: 1:100



2 LEVEL 3 - FIRE PROTECTION DEMOLITION
M-13 SCALE: 1:100



3 LEVEL 4 - FIRE PROTECTION DEMOLITION
M-13 SCALE: 1:100

SHARMA & PARTNERS INC.
Mechanical and Electrical Engineers
35 Carlaw Drive,
Unit 105
Toronto, Ontario
M5A 2P8
Tel: (416) 291-8822



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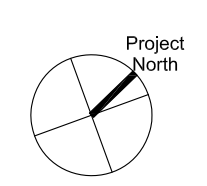
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Toronto Ontario M5H 2C4
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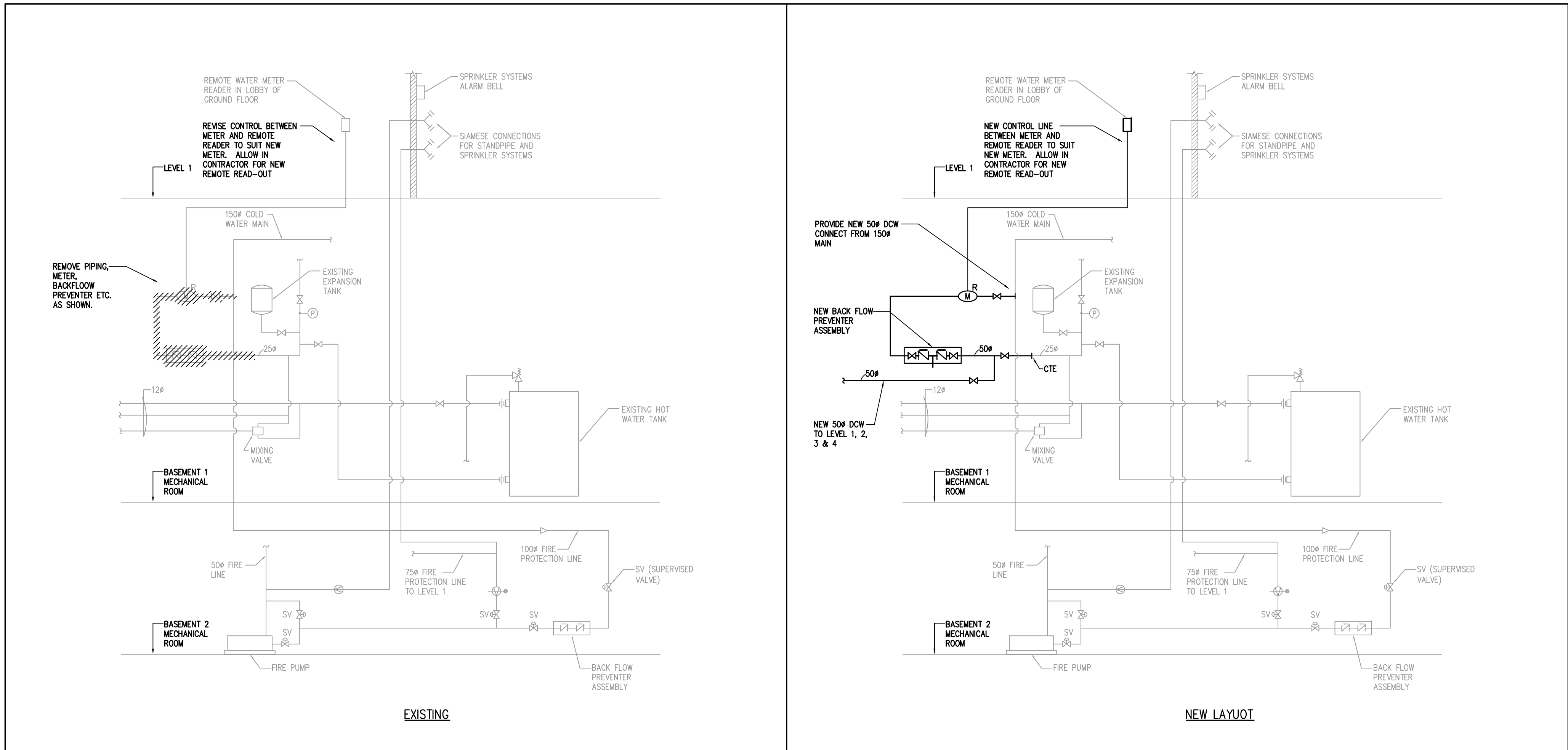
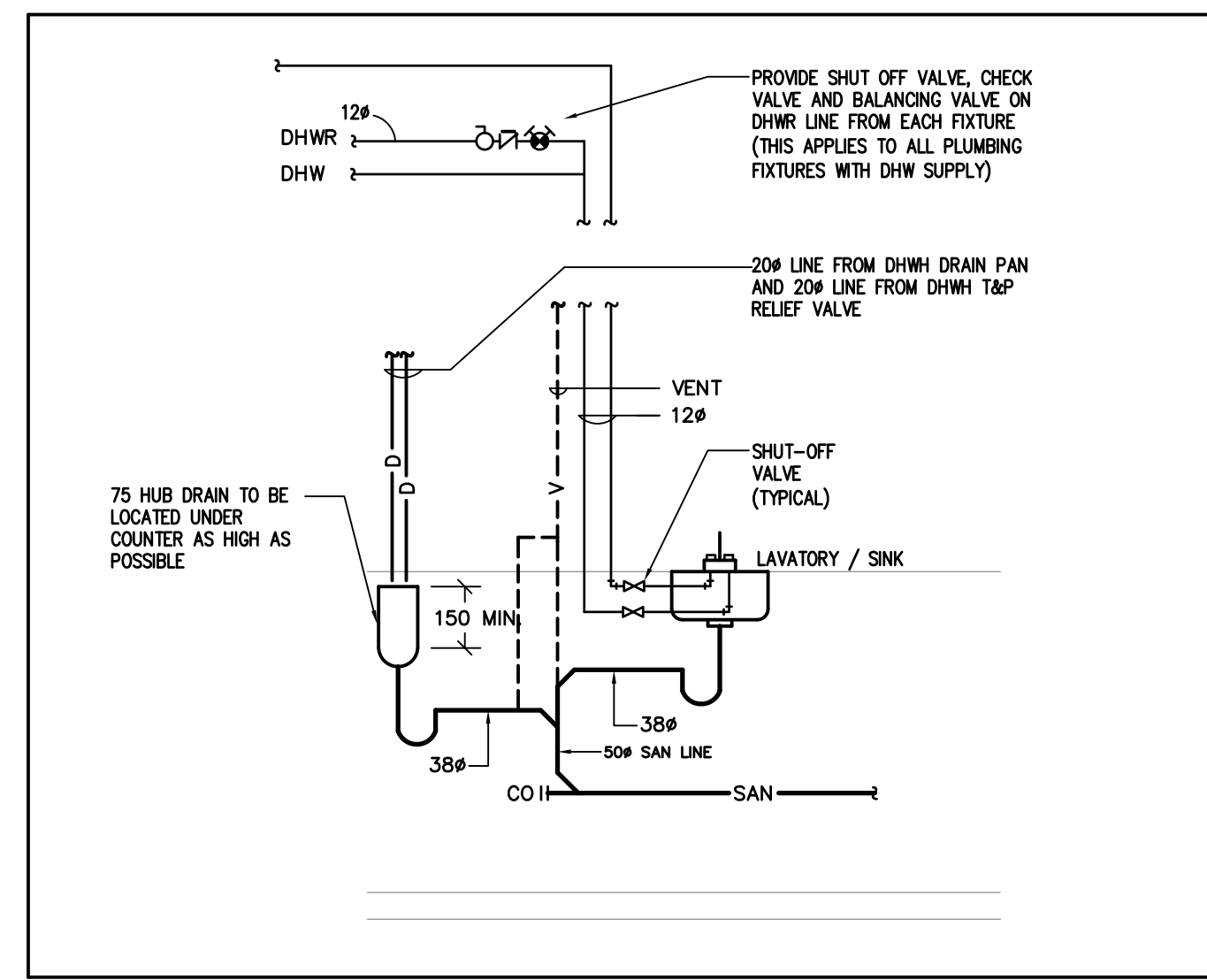
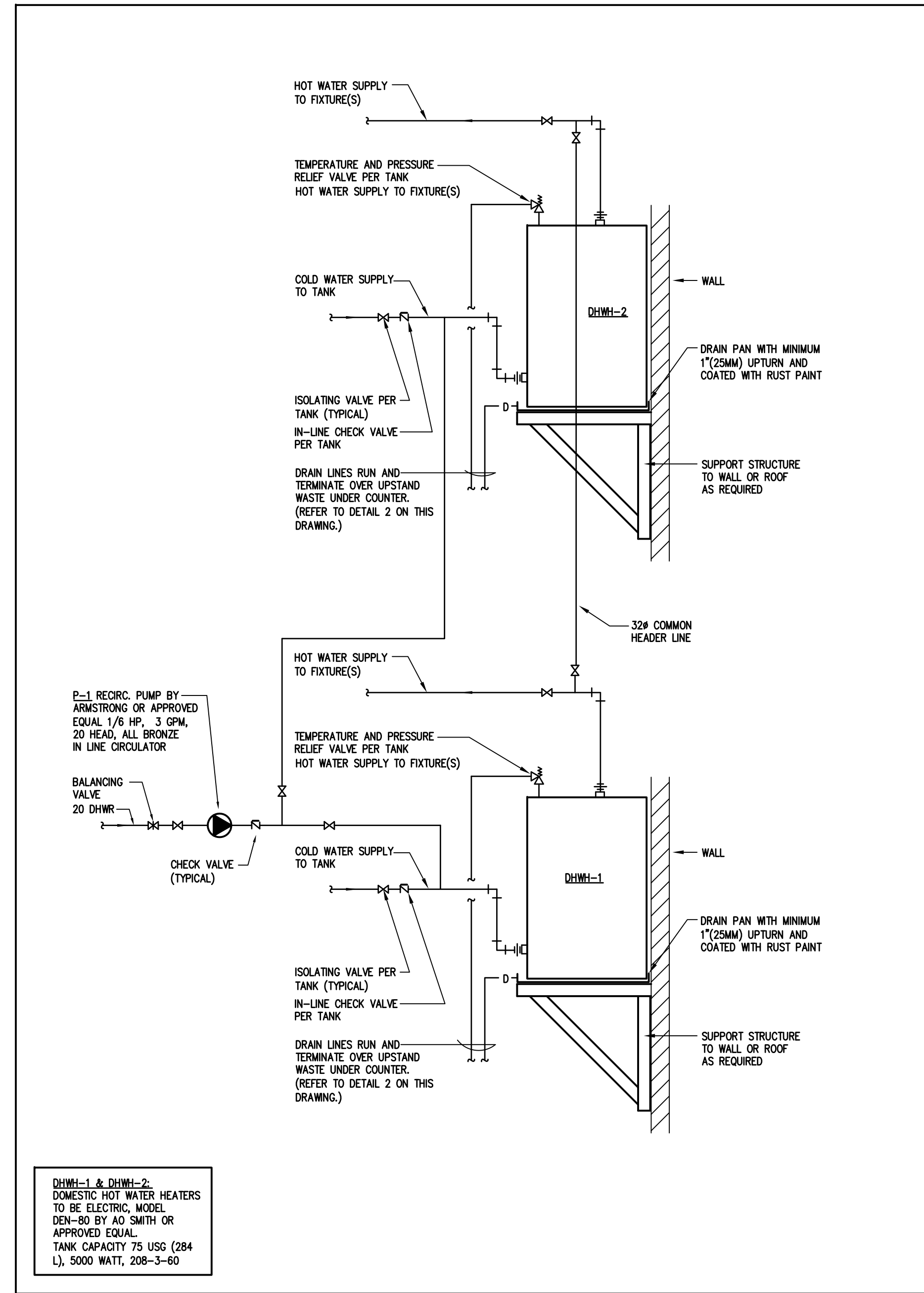
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Level 2, 3 & 4
Fire Protection New Layout



Project Number
M-13

Rev	Description	Date
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REF. LETTER	AREA SERVED / DESIGNATION	MANUFACTURE	MODEL	CAPACITY L/S (CFM)	E.S.P. PA (W.G.)	ELECTRIC V-PH-HZ	HP	DRIVE	FAN RPM	REMARKS
EF-1	GENERAL EXHAUST	GREENHECK	G-123-VG	565 (1200)	150 (0.6)	120-1-60	1/2	DIRECT	1318	CENTRIFUGAL ROOF EXHAUST FAN C/W BACKDRIFT DAMPER, SPEED CONTROLLER (POTENTIOMETER DIAL MOUNTED ON MOTOR), 350MM ROOF CURB WITH ALUMINUM CURB CAP, BIRD SCREEN, DISCONNECT
EF-2	DRYER BOOSTER FAN	REVERSONATIC	RI-150	AS DRYER	62 (0.25)	120-1-60	85W	DIRECT	2550	C/W BACKDRIFT DAMPER, DISCONNECT, WEATHERPROOF WALL BOX, SPEED CONTROLLER, FAN TO BE INTERLOCKED WITH DRYER

TAG	AHU No.	DESIGNATION	SEASON	SUPPLY AIR FLOW (L/S)	PRESSURE DROP (Pa)	ENTERING AIR		LEAVING AIR		EXHAUST AIRFLOW (L/S)	PRESSURE DROP (Pa)	ENTERING AIR		LEAVING AIR		MOTOR (HP)	SELECTION	REMARKS
						DB °C (°F)	WB °C (°F)	DB °C (°F)	WB °C (°F)			DB °C (°F)	WB °C (°F)	DB °C (°F)	WB °C (°F)			
HRW-1	HRU-1	BASEMENT	SUMMER	385	225	32.2 (90)	23.9 (75)	24.9 (76.9)	17.9 (64.3)	480	225	23.9 (75)	16.8 (62.2)	29.7 (85.5)	21.9 (971.4)	0.37	COOK ERY WHEEL	HEAT RECOVERY WHEEL IS PART OF HEAT RECOVERY UNIT HRU-1, FACTORY INSTALLED AND WIRED
			WINTER	385	225	-13.6 (8.5)	-14.6 (5.6)	17.8 (64)	9.56 (49.2)	480	225	22.2 (72)	12.8 (53.9)	-2.5 (27.5)	-4.4 (24.1)	0.37		

NOTES: WINTER OUTDOOR AIR TEMPERATURE IS ADJUSTED TO FROST PREVENTION CONDITIONS FOR WHEEL.

NO.	AREA SERVED	MAKER	REFRIGERANT	COOLING CAPACITY		ELECTRICAL DATA			REMARKS
				RATED BTU/H	CAPACITY RANGE TON	V-PH-HZ	MAX. BREAKER SIZE	MCA AMP	
CC-1	LEVEL 1	MITSUBISHI	R-410A	12,000	1.0	208-1-60	20	15	C/W INDOOR DX COIL, REFRIGERANT PIPING, WIRING, CONTROLS & ROOF SUPPORT.

REF. LETTER	APPLICATION	MANUFACTURER DATA		OPPOSED BLADE DAMPER	FINISH	REMARKS	
		SELECTION MFG.	MODEL DESCRIPTION AND SIZE (in x in)				
A	SQUARE PLAQUE SUPPLY AIR DIFFUSER	EH PRICE	SPD -600x600" ROUND NECK	NECK SIZE AS SHOWN ON DRGS	NO	WHITE	FRAME & BORDER TO SUIT APPLICATION
A1	SQUARE PLAQUE SUPPLY AIR DIFFUSER	EH PRICE	SPD -300x300" ROUND NECK	NECK SIZE AS SHOWN ON DRGS	NO	WHITE	FRAME & BORDER TO SUIT APPLICATION
B	EGGCRATE RETURN GRILLE	EH PRICE	50R 12x12x12 ALUMINUM CORE, SIZE AS SHOWN	SIZE AS SHOWN ON DRGS	NO	WHITE	FRAME & BORDER TO SUIT APPLICATION
C	RETURN / EXHAUST GRILLE	EH PRICE	535 STEEL	SIZE AS SHOWN ON DRGS 20 MM SPACING, 35° DEFLECTION	NO	WHITE	FRAME & BORDER TO SUIT APPLICATION
D	SUPPLY AIR GRILLE	EH PRICE	520 LOUVERED, STEEL	SIZE AS SHOWN ON DRGS 20MM SPACING, DOUBLE DEFLECTION	NO	WHITE	FRAME & BORDER TO SUIT APPLICATION

NOTES: PROVIDE BALANCING DAMPERS AT GRILLE / DIFFUSER FOR DRYWALL APPLICATIONS FOR RETURN / EXHAUST GRILLES PROVIDE PLENUM BOX FOR DUCT CONNECTION (WHERE SUITABLE)

TAG	AREA SERVED	UNIT MODEL NO	FANS					UNIT ELECTRIC DATA			REMARKS		
			FUNCTION	AIR FLOW (l/s)	MIN. OUTSIDE AIR (%)	E.S.P. (PA)	FAN RPM	V-PH-HZ	MOTOR HP	V-PH-HZ		FLA	MCCP
ERV-1	LEVEL 1	COOK ERV-500	SUPPLY	210	100	275	1600	120-1-60	0.5	120-1-60		20	HEAT RECOVERY UNIT TO BE C/W TEMPERATURE SENSOR, MERV 13 SUPPLY AIR FILTER, CONTROLS
			EXHAUST	315	-	150	1750	120-1-60	0.5				

TAG	FUNCTION	AIR FLOW L/S	FIN PER IN	FACE AREA (FT²)	FACE VELOCITY (FPM)	FLUID TYPE	CAPACITY (MBT)		AIR			REMARKS
							SENSIBLE	TOTAL	E.A.T. (°F)	L.A.T. (°F)	A.P.D. (N.W.G.)	
DX-1	COOLING	210	12	1.2	261	261	-	1TON	76.9 / 64.3	62.6 / 59.4	0.2	

TAG	AIR FLOW CAPACITY (L/S)	HEATING CAPACITY (WATT)	DUCT SIZE (mm X mm)	POWER V-PH-HZ	REMARKS

SHARMA & PARTNERS INC.
Mechanical and Electrical Engineers
95 Colborne Drive, Unit 108
Toronto, Ontario M8S 2P8
Tel: (416) 291-8822

WORKSHOP architecture
WORKSHOP architecture inc
1157 Davenport Road
Toronto Ontario M5H 2C4
T 416.901.8055 F 416.849.0383
www.workshoparchitecture.ca

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348 Davenport Road
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MECHANICAL SPECIFICATION

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GENERAL MECHANICAL CONDITIONS – SECTION 15050

1. CONFORM TO INSTRUCTIONS TO BIDDERS, GENERAL CONDITIONS AND GENERAL REQUIREMENTS.
2. THIS SECTION 15050 SHALL APPLY TO ALL DIVISION 15 SECTIONS.
3. BEFORE SUBMITTING TENDERS, EXAMINE SITE, EXISTING SERVICES AND ALL DRAWINGS. EXTRAS WILL NOT BE ALLOWED FOR FAILURE TO DO SO.
4. PROVIDE ALL LABOUR, MATERIALS AND EQUIPMENT NECESSARY TO EXECUTE THE WORK SHOWN AND DESCRIBED. INSTALLATION OF MATERIALS SHALL MEET ALL APPLICABLE PROVINCIAL, FEDERAL AND MUNICIPAL REQUIREMENTS.
5. OBTAIN PERMITS AND PAY ALL FEES FOR WORK AND REQUIRED INSPECTIONS.
6. MAINTAIN LIABILITY INSURANCE TO PROTECT OWNER AND THE CONTRACTOR FROM ANY AND ALL CLAIMS UNDER THE WORKER'S COMPENSATION ACT.
7. THE DRAWINGS SHALL BE CONSIDERED DIAGRAMMATIC ONLY. ALL MEASUREMENTS SHALL BE TAKEN FROM BUILDING SITE AND ARCHITECT'S DRAWINGS.
8. ALL MATERIALS SHALL CONFORM TO CSA, HEPC AND CEC REQUIREMENTS AND SHALL BEAR CSA LABEL. GAS FIRED EQUIPMENT SHALL BEAR CSA LABEL.
9. ALL EXISTING SERVICES MUST BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION. THIS CONTRACTOR TO PROVIDE ALL NECESSARY TEMPORARY LINES, ETC. SO AS TO CARRY OUT THE ABOVE.
10. TEMPORARY LIGHT, POWER AND WATER BY GENERAL CONTRACTOR.
11. ALL CUTTING AND PATCHING FOR MECHANICAL WORK WILL BE THE RESPONSIBILITY OF THIS SUB-CONTRACTOR. HIRE SPECIALIZED TRADES TO DO THIS WORK. X-RAY FLOORS PRIOR TO CUTTING AND COORDINATE AFTER HOUR X –RAY OF THE FLOOR.
12. PROVIDE TEMPORARY BUILDINGS AND MATERIAL STORAGE AS REQUIRED AND BE RESPONSIBLE FOR ANY LOSS OR DAMAGE THERETO.
13. SUBMIT SAMPLES OF MATERIALS WHEN REQUIRED.
14. SUBMIT ELECTRONIC COPIES OF SHOP DRAWINGS FOR REVIEW COVERING MAJOR MANUFACTURED ITEMS, I.E. FANS, PLUMBING FIXTURES, OIL COIL, CONDENSING UNIT, HOT WATER TANK, GRILLES AND DIFFUSERS, CONTROLS ETC.
15. WHERE SUBSTITUTIONS ARE MADE FOR EQUIPMENT SPECIFIED BY NAME OR MODEL NUMBER, BE FULLY RESPONSIBLE FOR CAPACITIES AS WELL AS PHYSICAL FIT OF SUBSTITUTED MATERIALS.
16. SUPPLY AND LOCATE ALL BASES, SUPPORTS, SLEEVES, CURBS, ETC. REQUIRED FOR THIS WORK. FLASHING BY ROOF TRADES. COUNTERFLASHING BY THIS CONTRACTOR.
17. UNLESS OTHERWISE NOTED, ALL MOTORS 1/2 HP AND UNDER SHALL BE 115V/60, MOTORS OVER 1/2 HP SHALL BE OF 3 PHASE VOLTAGE AVAILABLE ON PROJECT.
18. SUPPLY PROPER STARTERS WITH OVERLOAD PROTECTION AND DISCONNECT SWITCHES FOR POWERED MECHANICAL EQUIPMENT AND HAND OVER TO ELECTRICAL CONTRACTOR FOR INSTALLATION. THIS DOES NOT INCLUDE ISOLATION SWITCHES, UNLESS STATED SPECIFICALLY.
19. ALL POWER WIRING BY ELECTRICAL CONTRACTOR, CONTROL AND INTERLOCK WIRING BY MECHANICAL CONTRACTOR. CONTROL WIRING IN RETURN AIR CEILING SPACES SHALL BE FT-6 OR INSTALLED IN CONDUIT.
 - A. UNLESS SPECIFICALLY NOTED, OTHERWISE ALL WIRING BY THIS CONTRACTOR.
20. SUPPLY AND INSTALL ALL NECESSARY ACCESS DOORS FOR MECHANICAL EQUIPMENT INCLUDING ENTERING AND LEAVING SIDES OF ALL COILS, FIRE DAMPERS ETC.. WHERE NECESSARY, DOORS SHALL BE RATED TO SUIT FIRE ASSEMBLY RATING.
21. PIPE HANGERS SHALL BE CLEVIS SPLIT TYPE WITH MILD STEEL RODS. FOR COPPER PIPE USE PLASTIC INSERTS. USE OVERSIZED HANGERS AND SADDLES FOR C.W. PIPING. DO NOT SUPPORT EQUIPMENT, DUCTS OR PIPING FROM ROOF DECK WITHOUT PERMISSION FROM ARCHITECTS. SUPPLY AND INSTALL NECESSARY STEEL TO TRANSFER LOAD TO STRUCTURAL MEMBERS.
22. PROVIDE CONCRETE OR METAL CURBS OR SLEEVES AROUND ALL MECHANICAL ROOM FLOOR PENETRATIONS WHERE ROOM IS NOT LOCATED ON GRADE. SEAL ALL OPENINGS WATERTIGHT.
23. ALL DISSIMILAR METAL (STEEL-COPPER, ETC.) SHALL BE SEPARATED USING GASKETS AND INSULATING WASHERS OR WATTS "DI-ELECTRIC" FITTINGS.
24. INSTALL CHROME-PLATED ESCUTCHEONS WHERE BRANCH PIPES PASS THROUGH FINISHED SURFACE.
25. KEEP ACCURATE RECORD OF "AS-BUILT" DRAWINGS AND SUBMIT THESE BEFORE FINAL CERTIFICATE OF COMPLETION. BURIED SERVICES MUST BE DIMENSIONED. PROVIDE A CAD DISK OF THE AS-BUILT DRAWINGS TO CONSULTANT FOR REVIEW AND VERIFICATION.
26. ALL SURFACES MUST BE LEFT CLEAN AND SMOOTH, READY FOR PAINTING BY GENERAL TRADES.
27. IDENTIFY ALL PIPING. USE STENCILS OR COLOUR CODES AND DIRECTIONAL ARROWS.
28. IDENTIFY ALL FANS, STARTERS, REMOTE CONTROL AND ALL OTHER EQUIPMENT AS TO SERVICE BY A BLACK LAMACOID ENGRAVED NAMEPLATE WITH WHITE CORE, FIRMLY AFFIXED WITH SCREWS TO EACH UNIT.
29. PROVIDE FIRE STOPPING AND SMOKE SEALS.
 - A. PRIMERS TO MANUFACTURER'S RECOMMENDATIONS FOR SPECIFIC MATERIAL, SUBSTRATE, AND END USE.
 - B. DAMMING AND BACKUP MATERIALS, SUPPORTS AND ANCHORING DEVICES TO BE TO MANUFACTURER'S RECOMMENDATIONS; AND IN ACCORDANCE WITH TESTED ASSEMBLY BEING INSTALLED AS ACCEPTABLE TO AUTHORITY HAVING JURISDICTION.
 - C. SEALANTS FOR VERTICAL JOINTS TO BE NON-SAGGING.
 - D. FIRESTOP AND SMOKE SEAL AROUND MECHANICAL AND ELECTRICAL ASSEMBLIES PENETRATING NON-RATED FIRE SEPARATIONS.
 - E. RIGID DUCTS WITH DIMENSIONS GREATER THAN 1300 MM TO BE FIRE STOPPED BY BEAD OF FIRE STOPPING MATERIAL BETWEEN RETAINING ANGLE AND FIRE SEPARATION, AND BETWEEN RETAINING ANGLE AND DUCT, ON EACH SIDE OF FIRE SEPARATION.
 - F. REMOVE EXCESS MATERIALS AND DEBRIS AND CLEAN ADJACENT SURFACES IMMEDIATELY AFTER APPLICATION.
 - G. REMOVE TEMPORARY DAMS AFTER INITIAL SET OF FIRE STOPPING AND SMOKE SEAL MATERIALS.
30. ON COMPLETION OF THE WORK, REMOVE FROM THE PREMISES ALL TOOLS, DEBRIS, SURPLUS AND WASTE MATERIALS RESULTING FROM OPERATIONS UNDER THIS SECTION. CLEAN ALL EQUIPMENT AND LEAVE ALL ITEMS IN PERFECT ORDER READY FOR OPERATION.
31. AFTER ACCEPTANCE, INSTRUCT OWNER IN EQUIPMENT OPERATION AND PROVIDE HIM WITH OPERATING AND MAINTENANCE MANUALS STANDARDS AND EXTENDED WARRANTY DOCUMENTS, INSPECTION CERTIFICATES AND COPIES OF SHOP DRAWINGS OF INSTALLED EQUIPMENT.
32. THE CONTRACTOR SHALL, BEFORE FINAL PAYMENT IS MADE, GUARANTEE ALL MATERIALS AND WORKMANSHIP SUPPLIED BY HIM IN THE PERFORMANCE OF THIS CONTRACT FOR A PERIOD OF ONE YEAR FROM DATE OF FINAL ACCEPTANCE AND SHALL, WHEN CALLED UPON, MAKE GOOD WITHOUT FURTHER COST TO THE OWNER SUCH DEFECTS AS MAY APPEAR WITHIN THIS PERIOD.
33. SHOULD ANY DISCREPANCY APPEAR BETWEEN THESE SPECIFICATIONS AND THE DRAWINGS TO CAUSE DOUBT AS TO THE TRUE MEANING AND INTENT OF THE DRAWINGS AND SPECIFICATIONS, A RULING SHALL BE OBTAINED FROM THE ARCHITECT CONSULTANT BEFORE SUBMITTING THE TENDER. IF THIS IS NOT DONE IT WILL BE ASSUMED THAT THE MORE EXPENSIVE ALTERNATIVE HAS BEEN INCLUDED IN THE CONTRACT.
34. ANY ERROR OR INCONSISTENCY IN THE DRAWINGS OR SPECIFICATIONS NOTED AFTER AWARD OF CONTRACT MUST BE REPORTED TO THE ARCHITECT CONSULTANT BEFORE COMMENCING WORK.
35. THE OMISSION OR INCORRECT MENTION OF WORK, MATERIALS, ETC. THAT ARE INDISPENSABLE TO THE COMPLETED WORK, IS NOT TO BE INTERPRETED AS RELIEVING OF THE NECESSITY OF PROVIDING SUCH WORK, MATERIALS, ETC. AT NO EXPENSE TO THE OWNER.
36. ALLOW FOR CONNECTIONS TO EXISTING SYSTEMS DURING AFTER HOURS OR WEEKENDS, INCLUDING BUT NOT LIMITED TO PLUMBING AND DRAINAGE, WATER PIPING, HEATING SYSTEMS, ELECTRICAL AND CONTROL CONNECTIONS.

SPRINKLERS – SECTION 15330

1. ALTER THE EXISTING SPRINKLER SYSTEM TO SUIT REVISED LAYOUT.
2. THIS IS PERFORMANCE SPECIFICATION ONLY. PREPARE SPRINKLER SHOP DRAWINGS FOR SUBMISSION TO ENGINEER, UNDERWRITERS AND BUILDING DEPARTMENT FOR APPROVAL PRIOR TO INSTALLATION. ENGINEERS DRAWINGS INDICATE GENERAL AREAS TO BE SPRINKLERED ONLY. THIS CONTRACTOR TO PROVIDE HYDRAULIC CALCULATIONS PREPARED AND STAMPED BY PROFESSIONAL ENGINEER ON ONTARIO.
3. SPRINKLER WORK SHALL BEGIN INSIDE BUILDING AT MAINS ON EACH FLOOR OR WHERE INDICATED ON DRAWINGS.
4. SYSTEM SHALL BE COMPLETE WITH ALL NECESSARY PIPING, HANGERS, HEADS, DRIPS, DRAINS, SPARE SPRINKLERS AND CABINETS, ETC., ALL IN STRICT ACCORDANCE WITH STANDARDS AS STIPULATED IN THE NATIONAL FIRE PREVENTION ASSOCIATION NFPA 13 AS REVISED TO DATE AND/OR AS APPROVED BY THE LOCAL FIRE DEPARTMENT AND BUILDING DEPARTMENT.
5. ALL SHUT OFF VALVES AND ISOLATING VALVES SHALL BE SUPPLIED WITH ULC LISTED MONITOR SWITCHES FOR ELECTRICAL SUPERVISION OF VALVE.
6. IN GENERAL, SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH "LIGHT HAZARD OCCUPANCY" STANDARDS.
 - ALL WIRING NECESSARY FOR SPRINKLER ALARMS AND ELECTRICAL SUPERVISION WILL BE DONE BY ELECTRICAL CONTRACTOR.
7. ALL HEADS UNLESS NOTED OTHERWISE SHALL BE EQUAL TO GRINNELL "DURO SPEED", LOW HEADS SHALL BE EQUIPPED WITH GUARDS.
8. WHERE SUSPENDED CEILINGS OCCUR, PIPING SHALL BE CONCEALED ABOVE CEILINGS, HEADS SHALL BE CHROME PLATED RECESSED PENDANT TYPE. IN AREAS WHERE THERE ARE NO SUSPENDED CEILINGS, HEADS SHALL BE UPRIGHT TYPE WITH PLAIN BRONZE FINISH. SUBMIT SAMPLES TO ARCHITECT FOR APPROVAL BEFORE INSTALLATION.
9. IN HIGH TEMPERATURE LOCATIONS I.E. ADJACENT TO UNIT HEATERS ETC., PROVIDE HEADS WITH HIGHER TEMPERATURE RATINGS. VERIFY LOCATIONS AND RATINGS WITH CONSULTANTS.
10. CONTRACTOR SHALL PAY ALL NECESSARY CHARGES HE INCURS FROM UNDERWRITERS FOR THEIR REVIEW OF THESE DRAWINGS.
11. WHERE CEILINGS ARE RAISED OR LOWERED, ADJUST HEADS TO SUIT NEW CEILING HEIGHTS.
12. WHERE CEILINGS ARE REMOVED AND REPLACED, REMOVE AND REPLACE HEADS AS REQUIRED TO PERMIT EXECUTION OF NECESSARY WORK.

PLUMBING & DRAINAGE INSIDE THE BUILDING – SECTION 15400

1. ALL WORK SHALL BE EXECUTED BY LICENSED PLUMBERS.
2. ALL PLUMBING AND DRAINAGE WORK SHALL BE INSTALLED AS REQUIRED BY ONTARIO BUILDING CODE, REVISED TO DATE, AND SHALL MEET THE REQUIREMENTS OF ALL PROVINCIAL AND MUNICIPAL AUTHORITIES HAVING JURISDICTION.
3. INCLUDE ALL PIPING, FITTINGS AND EQUIPMENT SHOWN ON DRAWINGS OR DESCRIBED IN SPECIFICATIONS. ALL ITEMS NOT MENTIONED BUT UNDERSTOOD TO BE NECESSARY TO COMPLETE THE PLUMBING SYSTEM SHALL BE INCLUDED.
4. CONTRACT EXTENDS AS SHOWN OR/AND DESCRIBED ON THE DRAWINGS.
5. MAKE ALL NECESSARY CONNECTIONS TO EXISTING SERVICES.
6. ALL ABOVE GROUND SANITARY AND STORM DRAINAGE PIPING SHALL BE IPEX SYSTEM 15 PVC-DWV WITH ONE STEP CEMENT. (CAST IRON MECHANICAL JOINT OR DWV COPPER). PVC PIPING IS NOT PERMITTED IN RETURN AIR CEILING SPACES OR RETURN AIR SHAFTS.
7. ABOVE GROUND WATER PIPING SHALL BE TYPE "L" COPPER C/W 95/5 SOLDER JOINTS. FOR 2" (50MM) AND OVER, VTAUJIC ROLL-GROOVED JOINTING WILL BE ACCEPTED.
8. BURIED DOMESTIC WATER PIPING SHALL BE COPPER TYPE "K" OR CEMENT LINED DUCTILE IRON. PVC APPROVED FOR MUNICIPAL POTABLE WATER. BURIED INCOMING FIRE LINE SHALL BE CEMENT LINED DUCTILE IRON.
9. ALL ABOVE GROUND VENT PIPING SHALL BE IPEX SYSTEM 15 PVC-DWV WITH ONE STEP CEMENT (CAST IRON WITH MECHANICAL JOINT OR DWV COPPER).
10. BURIED VENT PIPING MAY BE ABS PLASTIC SOLVENT WELD.
11. ALL FIRE PROTECTION PIPING TO BE "THINWALL" PIPE WITH GROOVED FITTINGS.
12. VALVES UP TO 2" (50MM) SHALL BE FULL THROAT BRONZE BALL VALVES. 2 1/2" (65MM) AND OVER SHALL BE BUTTERFLY VALVES.
13. VISIBLE SINK DRAINAGE TRAPS AND SUPPLY PIPING SHALL BE CHROME PLATED.
14. CLEANOUTS SHALL BE INSTALLED AS REQUIRED BY CODE AND WHERE SHOWN AND SHALL SUIT FLOORING MATERIAL.
15. PROVIDE ELECTRONIC OR PRESSURE ACTIVATED TRAP SEAL PRIMERS FOR ALL FLOOR DRAINS.
16. PROVIDE HAMMER ARRESTORS ON DCW AND DHW SUPPLIES TO FIXTURE (OR GROUP OF FIXTURES) AND WHERE REQUIRED.
17. EXISTING FIRE HOSE CABINETS TO REMAIN. PROVIDE NEW 38MM DIAM. 30M (100 FT) LONG HOSES WITH NEW NOZZLES FOR ALL FHCS IN THE BUILDING.
18. SUPPLY AND INSTALL ALL HOT AND COLD WATER, WASTE AND VENT CONNECTIONS REQUIRED FOR ALL PLUMBING FIXTURES
19. SUPPLY AND INSTALL ALL NECESSARY GAS PRESSURE AND WATER PRESSURE REGULATORS WHERE REQUIRED BY INDIVIDUAL APPARATUS AND EQUIPMENT. RUN NECESSARY VENTS TO ATMOSPHERE.
20. PROVIDE APPROVED BACKFLOW PREVENTORS ON ALL INSIDE AND OUTSIDE HOSE BIBBS. ON MECHANICAL EQUIPMENT CONNECTIONS, USE REDUCED PRESSURE TYPE BACKFLOW PREVENTORS.
21. ALL SPRINKLER INSTALLATIONS SHALL BE INSTALLED AS STIPULATED IN NFPA 13.
22. DOMESTIC COLD AND HOT WATER PIPING SHALL BE INSULATED WITH 1" (25MM) THICK FIBREGLAS PIPE INSULATION WITH ASJ. USE 1 1/2" (40MM) MATERIAL FOR PIPING 2" AND OVER. HORIZONTAL RUNS OF SANITARY AND STORM DRAINS SHALL BE INSULATED IN A SIMILAR MANNER. IN EXPOSED AREAS FINISH WITH CANVAS OR P.V.C. JACKETING. INSULATE ALSO COLD WATER METERS. PVC DRAINAGE PIPING NEED NOT BE INSULATED.
23. ROOF DRAIN BODIES TO BE INSULATED, AND AREAS EXPOSED TO BE FINISHED WITH CANVAS OR PVC JACKETING.
24. REMOVE OLD INSULATION AND PROVIDE NEW ON ALL STORM WATER LINES.
25. SUPPLY ALL HOT WATER TANKS AS SHOWN ON DRAWINGS.
26. SUPPLY AND INSTALL ALL FIRE EXTINGUISHERS AS REQUIRED BY CODE.
27. SUPPLY AND INSTALL AND PAY ALL CHARGES FOR INSTALLATION OF WATER METER C/W 3 VALVE BYPASS. ENTIRE INSTALLATION TO LOCAL STANDARDS.
28. SEE FIXTURE SCHEDULE FOR PLUMBING FIXTURE TYPES.
29. SUPPLY AND INSTALL WHEEL HANDLE OR SCREW FIXTURES STOP VALVE ON THE HOT AND COLD WATER SUPPLY TO EVERY FIXTURE ON THE JOB, IN ADDITION TO THE VALVE OR FAUCET ON THE FIXTURE ITSELF.
30. PROTECT ALL FIXTURES UNTIL HANDED OVER TO THE OWNER. ALL FIXTURES SHALL BE C/W NECESSARY TRIM, TRAP SUPPLIES, STOPS, TAIL PIECES, TRAPS, GASKETS, ETC. ON THE FIXTURE ITSELF.
31. ALL EXISTING DRAIN LINES TO BE PRESSURE WASHED AND VIDEO INSPECTED BY PLUMBING CONTRACTOR, PRIOR TO COMMENCEMENT OF WORK.

WARM AIR HEATING, VENTILATING & AIR CONDITIONING – SECTION 15550

1. SUPPLY AND INSTALL ALL HEATING, VENTILATION AND AIR HANDLING EQUIPMENT AS SHOWN ON DRAWINGS.
2. SUPPLY AND INSTALL DUCTWORK AS INDICATED ON DRAWING. DUCTWORK SHALL BE FABRICATED AND INSTALLED IN STRICT ACCORDANCE WITH LATEST SMACNA STANDARDS AND SHALL BE MANUFACTURED OF GALVANIZED STEEL UNLESS SPECIFICALLY NOTED OTHERWISE.
3. INSTALL MANUAL BALANCING DAMPERS AT ALL BRANCH TAKEOFFS AND IN OTHER LOCATIONS WHERE NECESSARY FOR SYSTEM BALANCING.
4. FLEXIBLE DUCTS SHALL BE ALUMINUM HELICALLY WOUND SPIRAL DUCT, EQUAL TO FLEXMASTER T/L, MAXIMUM 10 FT. LENGTH. PROVIDE ACOUSTIC FLEX EQUAL TO FLEXMASTER MODEL T/L-A, WHERE DUCTS ARE TO BE INTERNALLY INSULATED.
5. INSTALL U/L LABELLED FIRE DAMPERS AND FIRE STOP FLAPS WHERE SHOWN AND WHERE REQUIRED. THESE SHALL BE INSTALLED IN ACCORDANCE WITH ULC APPROVED METHODS, FOR DUCTS UNDER 12" (300MM) USE 100% FREE AIR DAMPERS. DAMPERS IN ALUMINUM AND STAINLESS STEEL DUCT SHALL BE MANUFACTURED OF STAINLESS STEEL. ADVISE DRYWALL TRADES OF APPROVED INSTALLATION METHODS IN DRYWALL PARTITIONS.
6. INSTALL 6" (150MM) APPROVED FLEXIBLE CONNECTOR ON DUCT CONNECTIONS TO RESILIENTLY MOUNTED FANS.
7. WHERE SHOWN, DUCTWORK SHALL BE LINED INTERNALLY WITH (1/2") (1") (12MM) (25MM) FACED FLEXIBLE DUCT LINER. SHOWN SIZES ARE CLEAR INSIDE DIMENSIONS, INCREASE DUCT SIZE ACCORDINGLY.
 - SIMILARLY LINE SUPPLY AND RETURN DUCTS 10 FT (3M) FROM ALL ROOFTOP AC UNITS AND INDOOR AIR HANDLER/AND HEAT PUMPS.
8. SUPPLY ALL GRILLES AND DIFFUSERS WHERE SHOWN ON DRAWINGS. FINISH SHALL BE OFF-WHITE BAKED ENAMEL.
9. THE REFRIGERANT LINES SHALL BE SIZED FOR A PRESSURE DROP OF NOT MORE THAN 14 KPA (2 PSI). REFRIGERANT PIPE SHALL BE TYPE L NITROGEN CHARGED ACR GRADE COPPER WITH FORGED BRASS OR WROUGHT COPPER REFRIGERATION FITTINGS. ALL JOINTS SHALL BE BRAZED. SAE FLARED FITTINGS ARE NOT ACCEPTED.
10. PROVIDE SIGHT GLASSES FOR ALL LIQUID LINES AND SPORLAN LIQUID LINE DRIERS AHEAD OF EACH THERMO EXPANSION VALVE. PROVIDE SOLENOID VALVE AHEAD OF EACH EXPANSION VALVE. SUCTION LINES SHALL BE PROPERLY LOOPED IN ORDER TO ALLOW THE RETURN OF OIL TO RETURN TO THE COMPRESSOR. PROVIDE NECESSARY WIRING TO OPERATE CONDENSER AND DX SOLENOID.
11. REFRIGERANT SUCTION LINES SHALL BE INSULATED WITH 3/4" (19MM) THICK ARMAFLEX INSULATION, WITH CEMENTED JOINTS. LIQUID LINES OUTDOORS EXPOSED TO SUNLIGHT SHALL ALSO BE SIMILARLY INSULATED. COVER EXTERIOR INSULATION WITH ALUMINUM JACKETING.
12. INCLUDE FOR STARTUP OF ALL NEW EQUIPMENT.
13. CENTRIFUGAL FANS SHALL BE COMPLETE WITH BELT GUARDS WITH TACHOMETER OPENINGS.
14. ALL BACKDRAFT AND ELECTRIC MOTORIZED DAMPERS SHALL BE LOW LEAKAGE TYPE.
15. ALL EXTERIOR DUCTWORK SHALL BE INTERNALLY INSULATED WITH 1 1/2" (12MM) OF COATED FIBREGLAS DUCT INSULATION. INSULATE THE EXTERIOR WITH 2" (50MM) OF RIGID INSULATION AND FINISH WITH ALUMINUM JACKETING, BANDED ON AND SEALED WITH SILICONE OR SIMILAR SEALER. (TOTAL INSULATION VALUE R-12). DUCTWORK IN UNHEATED SPACES SHALL ALSO BE INSULATED TO R-12.
16. EXHAUST AIR DUCTWORK WITHIN 5 FT. (1500MM) OF A WALL OR ROOF, AND ALL OUTSIDE AIR INTAKE DUCTWORK, SHALL BE EXTERNALLY INSULATED WITH 2 1/2" (38MM) THICK FOIL FACED FLEXIBLE FIBREGLAS DUCT INSULATION (R-10). APPLY USING RECOMMENDED ADHESIVE AND TAPE ALL JOINTS USING VAPOUR BARRIER TAPE. ALL AIR CONDITIONED AIR SUPPLY DUCTWORK, UNLESS SPECIFICALLY NOTED OTHERWISE, SHALL BE INSULATED IN A SIMILAR MANNER USING 1" MATERIAL.
17. SUPPLY AND INSTALL ELECTRIC DUCT HEATERS OF SIZE AND TYPE AS SHOWN ON DRAWINGS. INCLUDE AIR FLOW SWITCH, CONTACTORS, SAFETY CUTOUTS, CONTROL TRANSFORMER, SCR CONTROLLER ETC.
18. ENERGY RECOVERY UNIT
 - A. PROVIDE ENERGY RECOVERY VENTILATOR AS SHOWN.
 - B. FANS
 - TWO (2) FACTORY-BALANCED FANS WITH BACKWARD CURVED BLADES. MOTORS TO BE WITH PERMANENTLY LUBRICATED, SEALED BALL-BEARINGS TO GUARANTEE LONG LIFE AND MAINTENANCE-FREE OPERATION.
 - C. ENERGY RECOVERY CORE
 - AHRI CERTIFIED CORE MADE FROM WATER VAPOR TRANSPORT DURABLE POLYMER MEMBRANE THAT IS HIGHLY PERMEABLE TO HUMIDITY. THE ERV CORE IS FREEZE TOLERANT AND WATER WASHABLE.
 - D. FROST PREVENTION
 - A. FROST PREVENTION SEQUENCE IS ACTIVATED AT AN OUTDOOR AIR TEMPERATURE OF 14F (-10°C) AND LOWER. DURING THE FROST PREVENTION SEQUENCE, THE SUPPLY BLOWER SHUTS DOWN AND THE EXHAUST BLOWER SWITCHES INTO HIGH SPEED TO MAXIMIZE THE EFFECTIVENESS OF THE FROST PREVENTION STRATEGY. THE UNIT THEN RETURNS TO NORMAL OPERATION, AND CONTINUES CYCLE.
 - SERVICEABILITY
 - E. CORE, FILTERS, FANS AND ELECTRICAL PANEL TO BE EASILY ACCESSED FROM THE ACCESS PANEL.
 - F. CABINET
 - 24 GAUGE G90 GALVANIZED STEEL.
 - G. INSULATION
 - INSULATED WITH 1 in. (25 MM) OF FOIL-FACED HIGH DENSITY POLYSTYRENE FOAM OR 0.25 in. (6 MM) OF CLOSED-CELL FOAM ON THE TOP OF THE UNIT.
 - H. FILTERS
 - TWO (2) WASHABLE ELECTROSTATIC PANEL TYPE OR REPLACEABLE AIR FILTERS.
 - I. INSTALLATION
 - PROVIDE UNIT SUPPORT AND HUNG FROM STRUCTURE ABOVE. PROVIDE VIBRATION ISOLATORS.
 - PROVIDE FLEXIBLE CONNECTORS ON ALL DUCT CONNECTIONS TO THE UNIT.
 - J. WARRANTY
 - 5 YEARS ON ENERGY RECOVERY CORE, 7 YEAR ON MOTORS, AND 5 YEAR ON PARTS.
 - K. REQUIREMENTS AND STANDARDS
 - I. COMPLIES WITH THE UL 1812 REQUIREMENTS REGULATING THE CONSTRUCTION AND INSTALLATION OF HEAT RECOVERY VENTILATORS
 - II. COMPLIES WITH THE CSA C222.2 NO. 113 STANDARD APPLICABLE TO VENTILATORS
 - III. COMPLIES WITH THE CSA F326 REQUIREMENTS REGULATING THE INSTALLATION OF HEAT RECOVERY VENTILATORS
 - IV. TECHNICAL DATA WAS OBTAINED FROM PUBLISHED RESULTS OF TEST RELATING TO CSA C439 STANDARDS
 - V. ERV CORE ISO 846 CERTIFIED FOR MOLD AND BACTERIA RESISTANCE
 - VI. HW CERTIFIED
19. PROVIDE ALL MOTORIZED DAMPERS TO OPEN AND CLOSE AS RESPECTIVE FANS START AND STOP.
20. SUPPLY AND INSTALL ALUMINUM WEATHER LOUVRES WHERE SHOWN. 4" (100MM) [6" (150MM)] STORMPROOF BLADE C/W BIRDSCREEN, LOUVE COLOUR TO ARCHITECT'S APPROVAL. BLANK OFF ALL UNUSED SECTIONS WITH INSULATED SHEETMETAL.
21. ADJUST ALL FAN SPEEDS TO DELIVER SHOWN AIR QUANTITIES. BALANCE ALL AIR SYSTEMS AND SUPPLY WRITTEN AIR BALANCING REPORT. INCLUDE NECESSARY SPARE BELTS PULLEYS FOR FIELD ADJUSTMENT AND REPLACEMENT OF FILTERS. SET AIR SYSTEMS CONTROLS AND DEMONSTRATE OPERATION TO OWNER'S REPRESENTATIVE.

IN RENOVATION WORK, VERIFY EXISTING AIR QUANTITIES BEFORE PROCEEDING WITH MODIFICATIONS

CONTROLS – SECTION 15650

1. ALL CONTROL WIRING SHALL BE CARRIED BY DIV.15. POWER WIRING SHALL BE BY DIV.16. THE CONTROL SYSTEM SHALL BE SUPPLIED AND INSTALLED COMPLETE IN ALL RESPECT AND FULLY FUNCTIONAL. DEMONSTRATE TO THE MECHANICAL CONSULTANT ON COMPLETION OF WORK.
2. THIS MECHANICAL CONTRACTOR TO HIRE AND PAY FOR APPROVED CONTROL CONTRACTOR.
3. PROVIDE ALL CONTROLS AND WIRING INCLUDING APPURTENANCES NECESSARY FOR COMPLETE AND OPERATING SYSTEMS.
4. NEW THERMOSTATS SHALL MATCH BASE BUILDING (WITH LOCKABLE VENTILATED TAMPER-PROOF COVER)
5. CLEAN AND RECALIBRATE ALL EXISTING THERMOSTATS UPON COMPLETION OF CONSTRUCTION. SUBMIT REPORT THAT THIS WORK HAS BEEN COMPLETED. RELOCATE EXISTING THERMOSTATS AS SHOWN AND RE-WIRED TO SUIT NEW LOCATION.
6. PROVIDE ALL NECESSARY EMT CONDUIT, FITTINGS AND WIRE TO PROVIDE A COMPLETE AND OPERATING CONTROL SYSTEM. HARD WIRE ALL ELECTRICAL CONTROL DEVICES INTO THE ASSOCIATED SYSTEM MAGNETIC STARTER. PROVIDE POWER TO CONTROL PANEL FROM THE NEAREST NORMAL POWER ELECTRICAL DISTRIBUTION PANEL.
7. ENERGY RECOVERY SYSTEM SEQUENCE OF OPERATION:
 - A. ENERGY RECOVERY SYSTEM CONSISTS OF ENERGY RECOVERY VENTILATOR ERV, DX COOLING COIL AND ELECTRIC HEATING COIL.
 - B. IN ADDITIONAL TO BUILT-IN CONTROLS FOR ERV UNIT PROVIDE ALL REQUIRED CONTROLS (CONTROLLERS, WIRING ETC.) TO ACHIEVE SPECIFIED SEQUENCE OF OPERATION.
 - C. ERV UNIT TO OPERATE ON EXHAUST MODE (EXHAUST FAN ON) AT ALL TIMES.
 - D. WHENEVER SPACE CO2 SENSOR READINGS ARE ABOVE SET POINT (ABOVE 700PPM – ADJUSTABLE) THE SYSTEM TO OPERATE AT 'FULL' MODE AS FOLLOWING:
 - ERV SUPPLY AND RETURN FANS ARE ON, HEAT WHEEL IS OPERATIONAL.
 - DX COOLING COIL AND ELECTRICAL HEATING COIL MODULATE IN SEQUENCE TO MAINTAIN SUPPLY AIR TEMPERATURE AT 55F/54F IN SUMMER AND 65F IN WINTER (DUCT MOUNTED TEMPERATURE SENSOR). SUPPLY TEMPERATURE SETPOINTS TO BE ADJUSTABLE.
 - AVOID SIMULTANEOUS HEATING AND COOLING
 - PROVIDE DUCT MOUNTED TEMPERATURE SENSOR DOWNSTREAM OF DX AND HEATING COILS
8. PROVIDE CONTROLS SYSTEMS TRAINING FOR CLIENT'S REPRESENTATIVES WHEN SYSTEM HAS BEEN COMPLETED AND VERIFIED AS PER SPECIFICATIONS. PROVIDE FOUR HOURS MINIMUM FOR NEW HVAC CONTROL SYSTEMS.

Rev Description Date

Rev	Description	Date
1	Final Review	16 July '18
2	Issued for Permit & Tender	16 July '18
3	Issued for Construction	04 Sept '18

SHARMA & PARTNERS INC.
 Mechanical and Electrical Engineers

636 Cawthra Drive,
 Unit 108
 Toronto, Ontario
 M8A 2P8
 Tel: (416) 291-8822


 A. PROTOKIN
 P. ENG.
 PROVINCE OF ONTARIO

WORKSHOP
 architecture

WORKSHOP architecture inc
 1157 Davenport Road
 Toronto Ontario M5H 2C4
 T 416.901.8055 F 416.849.0383
 www.workshoparchitecture.ca

Davenport Shelter

348 Davenport Road
 Toronto, ON
 MSR 1K6

PROJECT CODE:	SCALE:
18_22	As indicated
DATE:	STATUS:
04 Sept 2018	Issued for Construction

Mechanical Specification

 Project North
 drawing number
M-15

ELECTRICAL LEGEND

POWER	
SYMBOL	DESCRIPTION
	125V, 15A DUPLEX U-GROUND RECEPTACLE UNLESS OTHERWISE NOTED.
	DUPLEX RECEPTACLE AS ABOVE, CSA 5-20A TYPE.
	SAME AS ABOVE EXCEPT CONNECT TO CONTROLLED CIRCUIT. RECEPTACLE SHALL BE GREY COLOUR.
	DOUBLE DUPLEX RECEPTACLE IN A COMMON COVER PLATE.
	125V, 15A SINGLE RECEPTACLE. VOLTAGE/AMPERAGE AND TYPE AS INDICATED.
	SPECIAL RECEPTACLE. VOLTAGE/AMPERAGE AND TYPE AS INDICATED.
	RECEPTABLES AS ABOVE BUT MOUNTED ABOVE COUNTER OR 42" AFF.
	RECEPTABLE AS ABOVE SUBSCRIPTS DENOTE SPECIAL TYPE AS PER ABBREVIATION LIST.
	15A DUPLEX RECEPTACLE WITH TWO USB CHARGERS, MODEL TR5282USBW BY LEGRAND OR APPROVED EQUAL.
	IG DENOTES ISOLATED GROUND RECEPTACLE WITH DEDICATED GROUND WIRE AND SEPARATE CIRCUIT NEUTRAL.
	125V, 15A DUPLEX RECEPTACLE. SPLIT-WIRED WITH EACH HALF ON SEPARATE CIRCUIT.
	125V, 15A CEILING MOUNTED DUPLEX RECEPTACLE AS SPECIFIED.
	FUSED DISCONNECT SWITCH. SIZE AS NOTE. (EG. 30A/3P/3N WITH 20A FUSES)
	AS ABOVE BUT C/W TIME DELAY FUSES.
	BREAKER. SIZE AS NOTED.
	UNFUSED DISCONNECT SWITCH. SIZE TO SUIT OR AS NOTED. SEE ABBREVIATION FOR OTHER SUBSCRIPTS.
	MOTOR AS INDICATED. INCLUDE FINAL CONNECTION.
	COMBINATION LINE VOLTAGE MOTOR STARTER AND SWITCH.
	LINE VOLTAGE MOTOR STARTER. SEE SPECIFICATION FOR SCOPE OF WORK.
	JUNCTION BOX AS INDICATED.
	120V DIRECT CONNECTION FOR USE AS NOTED. INCLUDE FINAL CONNECTION. 'PL' DENOTES FOR ELECTRONIC PLUMBING FIXTURES.
	SPECIAL DIRECT CONNECTION FOR USE AS NOTE. INCLUDE FINAL CONNECTION.
	WALL MOUNTED FEED TO SYSTEM FURNITURE. POWER AND COMMUNICATIONS RESPECTIVELY. PROVIDE CONNECTION TO FURNITURE.
	PUSHBUTTON FOR USE AS NOTED.
	FLUSH OR SURFACE MOUNTED ELECTRICAL PANEL RESPECTIVELY.
	ELECTRIC HEATER. BASEBOARD/FORCED-AIR RESPECTIVELY. TYPE AS INDICATED.
	TRANSIENT VOLTAGE SURGE SUPPRESSION
	ELECTRIC HEATER DESCRIPTION. LETTER DENOTES TYPE. NUMBER DENOTES WATTAGE.

LIGHTING	
SYMBOL	DESCRIPTION
	FLUORESCENT STRIP LIGHT IN GYVE OR VALENCE. LENGTH SHOWN TO SCALE ON THE DRAWINGS. LETTER DENOTES TYPE.
	FLUORESCENT LUMINAIRE. CEILING OR WALL MOUNTED RESPECTIVELY. LETTER DENOTES TYPE.
	LUMINAIRE AS ABOVE BUT CONNECTED TO NIGHT LIGHT CIRCUIT.
	LUMINAIRE AS ABOVE BUT CONNECTED TO EMERGENCY OR NORMAL & EMERGENCY LIGHT CIRCUITS WITH BY-PASS UNIT - SEE SPEC FOR MORE DETAILS.
	CEILING OR WALL MOUNTED LUMINAIRE RESPECTIVELY. LETTER DENOTES TYPE.
	LUMINAIRE AS ABOVE BUT CONNECTED TO NIGHT LIGHT CIRCUIT.
	LUMINAIRE AS ABOVE BUT CONNECTED TO EMERGENCY OR NORMAL & EMERGENCY LIGHT CIRCUITS WITH BY-PASS UNIT - SEE SPEC FOR MORE DETAILS.
	CEILING OR WALL MOUNTED ILLUMINATED EXIT SIGN RESPECTIVELY. SINGLE OR DOUBLE FACED AS INDICATED BY FILLED IN PORTION(S) WITH ARROW(S) AS INDICATED.
	SURFACE MOUNTED SINGLE OF DOUBLE EMERGENCY LIGHTING REMOTE HEAD. CEILING OR WALL MOUNTED AS SHOWN.
	EMERGENCY BATTERY UNIT "BU1" C/W LIGHTING HEAD(S) AS SHOWN ON PLAN.
	15A/20A 120V SINGLE POLE TOGGLE SWITCH(ES) WITH ONE, TWO OR THREE-GANG COVERPLATE RESPECTIVELY. SWITCHES RATING TO SUIT LIGHTING LOADS & BREAKER SIZE.
	DIMMER. LUTRON NOVA "T", 120V OR 347V AND CAPACITY TO SUIT LOADS.
	PHOTOCCELL.
	OCCUPANCY SENSOR. NUMBER DENOTES TYPE. REFER TO SCHEDULE.

FIRE ALARM	
SYMBOL	DESCRIPTION
	FIRE ALARM SPEAKER/STROBE COMBINATION.
	FIRE ALARM SPEAKER
	FIRE ALARM MANUAL PULL STATION.
	FIRE ALARM MINI HORN IN RESIDENT, SWITCH C/W 10 MINUTES SILENCESABLE SWITCH
	FIRE ALARM BELL.
	FIRE ALARM SMOKE DETECTOR
	FIRE ALARM SMOKE/CO DETECTOR WITH SOUNDER BASE
	SELF CONTAINED SMOKE AND CO DETECTOR (NOT CONNECTED TO FIRE ALARM SYSTEM) WITH VISUAL SIGNALING , BATTERY BACK-UP , MINIMUM 2000 SQ.FT. COVARGAME
	FIRE ALARM HEAT DETECTOR, COMBINATION FIXED TEMPERATURE AND RATE-OF-RISE.
	FIRE ALARM HEAT DETECTOR, FIXED TEMPERATURE (EG. 190°F)
	FIRE ALARM DUCT MOUNTED SMOKE DETECTOR C/W REMOTE INDICATOR. S/A: SUPPLY R/A: RETURN SUPPLIED, INSTALLED AND WREED TO FIRE ALARM SYSTEM BY DIV. 16.
	RECESSED OR SURFACE MOUNTED FIRE ALARM CONTROL PANEL/OR ANNUNCIATOR AS NOTED. FACP: FIRE ALARM CONTROL PANEL. FAAP: FIRE ALARM ANNUNCIATOR PANEL.
	FIRE PROTECTION SYSTEM SWITCH. SUPPLIED AND INSTALLED BY DIV. 15. WREED TO FIRE ALARM SYSTEM BY DIV. 16. "SV" DENOTES FLOW SWITCH "SV" DENOTES SUPERVISED VALVE. "PS" DENOTES PRESSURE SWITCH.
	CEILING OR WALL MOUNTED FIRE ALARM SYSTEM SPEAKER W BACKBOX

COMMUNICATION / AV SYSTEM	
SYMBOL	DESCRIPTION
	TELEPHONE OUTLET (SEE RISER DIAGRAM WHERE APPLICABLE)
	DATA OUTLET (SEE RISER DIAGRAM WHERE APPLICABLE)
	COMBINATION TELEPHONE/DATA OUTLET.SEE RISER DIAGRAM FOR DETAIL
	OUTLET AS ABOVE BUT MOUNTED ABOVE COUNTER OR 42" AFF.
	SPEAKER (OTHER THAN FIRE ALARM) WITH OUTLET FOR WALL OR CEILING MOUNTED.
	CATV OUTLET. REFER TO SCOPE OF WORK.
	CEILING OR WALL MOUNTED WIRELESS ACCESS POINT
	INTERCOM STATION

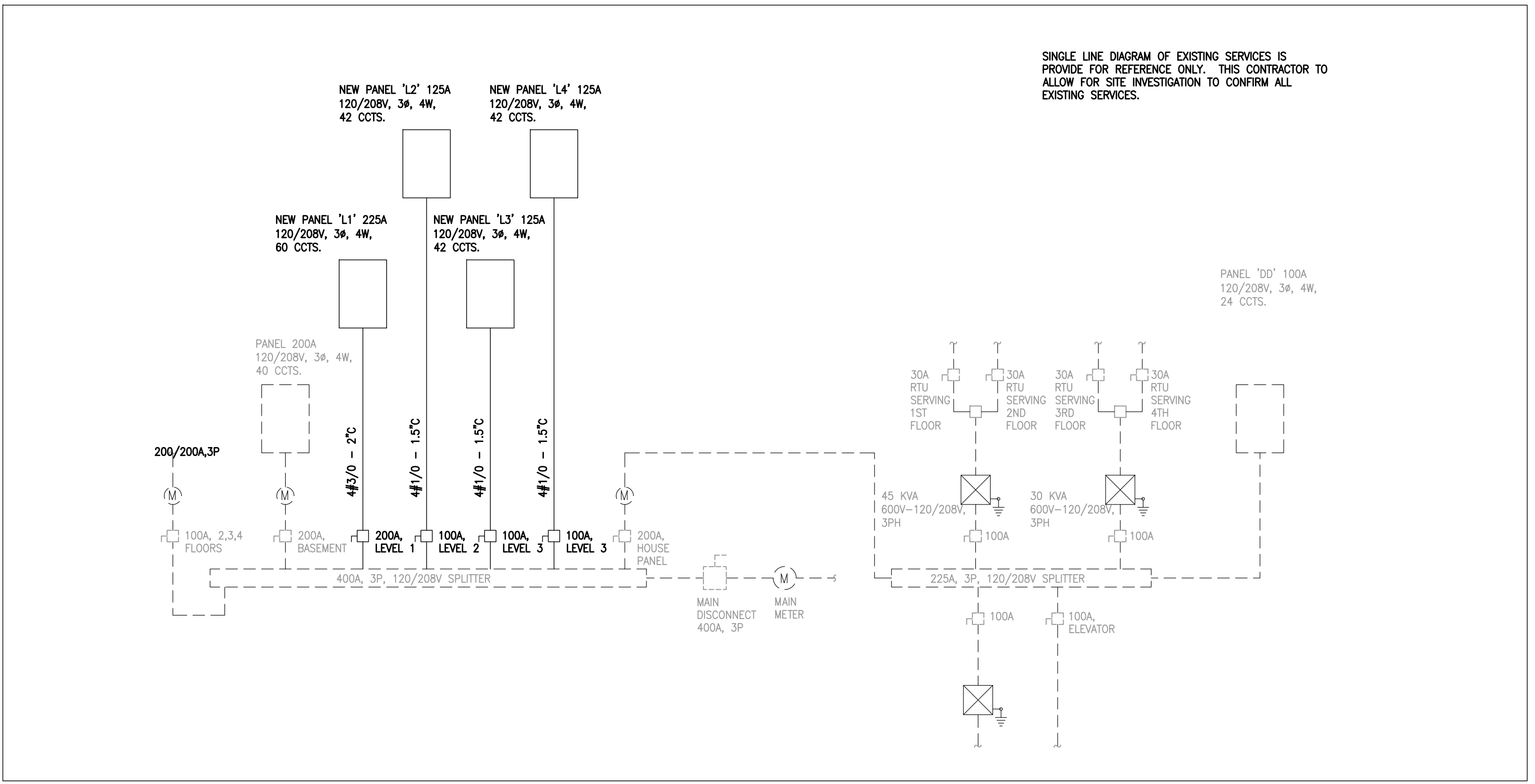
SECURITY	
SYMBOL	DESCRIPTION
	SECURITY SYSTEM, DOOR CONTACT.
	SECURITY SYSTEM, CARD READER
	SECURITY SYSTEM, ELECTRIC STRIKE
	CCTV SYSTEM CAMERA

ABBREVIATIONS	
SYMBOL	DESCRIPTION
	WEATHERPROOF
	GROUND FAULT INTERRUPTER
	MOTORIZED DAMPER
	PANEL "A", CIRCUIT #1.
	BASEBOARD HEATER
	ABOVE FINISHED FLOOR
	TWIST-LOCK
	NEW
	DENOTES EXISTING TO BE RELOCATED
	EXISTING TO REMAIN
	EXISTING TO BE REMOVED
	RELOCATED POSITION
	CEILING MOUNTED
	ONE DATA OUTLET, '1' DENOTES NUMBER OF OUTLETS
	ONE VOICE OUTLET, '1' DENOTES NUMBER OF OUTLETS
	DETAIL #
	DRAWING WHERE DETAIL IS SHOWN.

ELECTRICAL DRAWING LIST	
NUMBER	DESCRIPTION
E-1	ELECTRICAL LEGEND, DRAWING LIST, DETAILS AND SCHEDULES
E-2	BASEMENT 1 & 2 AND LEVEL 1 - POWER DEMOLITION
E-3	LEVEL 2, 3 AND 4 - POWER DEMOLITION
E-4	BASEMENT 1 & 2 AND LEVEL 1 - LIGHTING DEMOLITION
E-5	LEVEL 2, 3 AND 4 - LIGHTING DEMOLITION
E-6	BASEMENT 1 & 2 AND LEVEL 1 - POWER NEW LAYOUT
E-7	LEVEL 2, 3 AND 4 - POWER NEW LAYOUT
E-8	BASEMENT 1 & 2 AND LEVEL 1 - LIGHTING NEW LAYOUT
E-9	LEVEL 2, 3 AND 4 - LIGHTING NEW LAYOUT
E-10	ELECTRICAL DETAILS
E-11	PANEL SCHEDULES
E-12	ELECTRICAL SPECIFICATION
E-13	FIRE ALARM SYSTEM

HAND DRYER SPECIFICATIONS	
HAND DRYERS TO BE PROVIDED BY DIVISION 16 CONTRACTOR. DRYERS TO BE SURFACE MOUNTED AIRBLADE V BY DYSON. ELECTRICAL DATA: 120V, 60HZ, 1,000 W MOTOR, NO HEATER FINISH: SPRAYED NICKEL	
PROVIDE MOUNTING BRACKETS	
- MOUNT DRYER AT 655mm AFF FROM UNDERSIDE	

EMERGENCY BATTERY UNIT SPECIFICATIONS	
BATTERY UNITS	
BATTERY UNIT SHALL BE LUMACELL CAT. #RG24S SERIES WITH CAPACITY AS INDICATED ON DRAWING AND EQUAL BY EMERGLITE, DUALITE OR BECHELL. UNITS SHALL BE FOR OPERATION ON 120 VOLT - 10 YEARS LIFE BATTERY - WITH NUMBER OF HEADS INDICATED ON THE DRAWINGS. UNITS SHALL BE PLUG-IN TYPE WITH SEALED PURE LEAD BATTERIES. THE CHARGER SHALL BE COMPLETELY AUTOMATIC, SOLID STATE TYPE BROWN OUT FEATURE, CAPABLE OF FULLY RECHARGING DISCHARGED BATTERY IN 24 HOURS. TRANSFER DEVICE SHALL AUTOMATICALLY SWITCH LOAD ON AT POWER FAILURE AND OFF ON RETURN OF NORMAL POWER. UNITS SHALL HAVE LOW VOLTAGE DISCONNECT FEATURE. PROVIDE DUPLEX POWER OUTLET FOR EACH BATTERY UNIT.	
REMOTE HEADS "DC"	
1. SINGLE AND DOUBLE REMOTE HEADS SHALL BE MR16, 24V, 6W, LED LAMPS. EMERGENCY LIGHTING REMOTE HEADS SHALL BE WHITE. LUMACELL CAT. #MQM SERIES OR APPROVED EQUAL.	
2. WP - SINGLE AND DOUBLE REMOTE HEADS SHALL BE MR16 24V, DC 12W, EMERGENCY LIGHTING REMOTE HEADS SHALL BE WHITE. WEATHER-PROOF. LUMACELL CAT. #Q-BIC SERIES OR APPROVED EQUAL.	
EXIT SIGN "X"	
SINGLE FACE OR DOUBLE FACE AS PER DRAWING, UNIVERSAL MOUNTED LED SIGN, GREEN RUNNING MAN PICTOGRAM, ALUMINUM HOUSING, LESS THAN 3W LED, 120VAC & 24VDC INPUT. GREEN MAN ON WHITE FACE. LUMACELL CAT.# LA SERIES OR APPROVED EQUAL	



1 SINGLE LINE DIAGRAM
E-1 SCALE: N.T.S.

ELECTRIC HEATER SCHEDULE	
TYPE	DESCRIPTION
	208V, 1PH HEAVY DUTY ELECTRIC BASEBOARD HEATER WHITE FINISH C/W TEMPER-PROOF BUILT-IN THERMOSTAT. KILOWATTAGE AS INDICATED ON DRAWING.
	208V, 1PH ELECTRIC FORCED-AIR HEATER, WHITE FINISH C/W BUILT-IN THERMOSTAT. KILOWATTAGE AS INDICATED ON DRAWING.

NOTES:

- PRIOR TO REMOVAL OF OLD ELECTRIC HEATERS AND ORDERING NEW HEATERS THIS CONTRACTOR TO VERIFY ON SITE CAPACITY AND VOLTAGE OF EACH AND REPORT BACK TO CONSULTANT TEAM.
- ALL HEATERS TO BE PROVIDED WITH TEMPER PROOF SCREWS

SECURITY AND P.A. SYSTEM	
SECURITY AND P.A. SYSTEM SCOPE OF WORK IS BY OTHERS.	
THIS CONTRACTOR TO COORDINATE WITH SYSTEMS PROVIDERS AND PROVIDE POWER SUPPLY (120V) AND EMPTY CONDUITS FOR EACH DEVICE (REFER TO FLOOR PLAN FOR DEVICES LOCATIONS). EMPT CONDUITS TO BE PROVIDED WITH PULL STRINGS. CONDUIT SIZE IS 3/4" OR AS PER SYSTEM PROVIDER. ALLOW FOR 2" CONDUIT FROM EACH FLOOR DOWN TO BASEMENT 1 (IT ROOM) FOR EACH SYSTEM.	
THIS CONTRACTOR TO ASSIST SYSTEM PROVIDER IN REMOVING OLD DEVICES AS REQUIRED.	

ADDITIONAL SCOPE OF WORK	
IN ADDITION TO SHOWN ON DRAWINGS ALLOW FOR THE FOLLOWING:	
REMOVAL OF 10 POWER OUTLETS	
REMOVAL OF 5 FIRE ALARM DEVICES	
REMOVAL OF 5 VOICE OUTLETS	
REMOVAL OF 5 DATA OUTLETS	
REMOVAL OF EXISTING 30 M OF 1" WITH 3#6 WIRING AND PROVISION OF NEW OF SAME LENGTH.	
REMOVAL OF EXISTING 30 M OF 1" WITH 3 CAT 6 CABLES AND PROVISION OF NEW OF SAME LENGTH.	
ADDITIONAL 50M OF 3#10-20MCM	

GENERAL NOTES: (APPLY TO ALL DRAWINGS)	
1. IN GENERAL, REMOVE ALL EXISTING WIRING WITHIN RENOVATED AREAS. REMOVE DISTRIBUTION PANELS ON LEVEL 1, 2, 3, 4.	
2. ELECTRICAL CONTRACTOR TO PROVIDE MOUNTING HARDWARE FOR LIGHT FIXTURES.	
3. ENSURE THAT BASE BUILDING DESIGN IS NOT ALTERED.	
4. ELECTRICAL CONTRACTOR SHALL ASSUME RESPONSIBILITY FOR ANY DISRUPTION CAUSE BY HIS FORCES TO OPERATIONAL BUILDING SERVICES. REPAIR ANY SYSTEM DAMAGED DURING THE EXECUTION OF THE WORK.	
5. WHENEVER APPLICABLE: ANY SHUT-DOWN OF BUILDING SERVICES SHALL HAVE THE APPROVAL OF THE CLIENT. COORDINATE WITH THE CLIENT AND THE GENERAL CONTRACTOR TO MINIMIZE DISRUPTION TO THE EVERY OPERATION OF THE BUILDING. IF REQUIRED, CARRY OUT THE WORK AFTER WORKING HOURS OR ON WEEKENDS. INCLUDE ALL ASSOCIATED COST IN CONTRACT.	
6. ALL WORK REQUIRED AND/OR SHOWN ON THE DRAWINGS RELATED TO LIFE SAFETY SYSTEMS (IE. FIRE ALARM, ETC.) SHALL BE INCLUDED IN THIS CONTRACT. EMPLOY AND PAY FOR THE SERVICES OF THE SYSTEM PROVIDER WHERE FINAL CONNECTIONS, MODIFICATIONS AND PROVISIONS OF THE NEW DEVICES IN EXISTING SYSTEM CONTROL PANEL IS TO BE DONE (IE. MODULES, RELAYS, SUB-PANELS, ETC.). ENSURE THAT NEW DEVICES ARE COMPATIBLE WITH THE EXISTING SYSTEM. MAINTAIN THE INTEGRITY OF THE EXISTING SUPERVISED CIRCUITS WHEN NEW DEVICES ARE TO BE CONNECTED. THE SYSTEM SHALL BE TESTED AND CERTIFIED FOR PROPER OPERATION UPON COMPLETION OF WORK.	
7. THE WORK SHALL BE CARRIED OUT AT ALL TIME IN A MANNER THAT DOES NOT DISTURB CURRENT BUILDING OPERATION. THE PREMISES SHALL BE LEFT IN A SAFE CLEAN CONDITION SUITABLE FOR OCCUPANT'S WORK AT THE BEGINNING OF EACH WORK DAY DURING CONSTRUCTION.	
8. REFER TO ARCHITECT'S OR INTERIOR DESIGNER'S DRAWINGS FOR EXACT LOCATIONS OF ELECTRICAL EQUIPMENT AND DEVICES.	
9. PROVIDE UPDATED PANEL DIRECTORY FOR EACH EXISTING PANEL. PROVIDE NEW TYPED DIRECTORIES FOR NEW AND EXISTING PANELS.	
10. CIRCUIT NUMBERS SHOWN ON PLANS ARE FOR GROUPING PURPOSE ONLY. BALANCE LOADS TO WITHIN 10% ACROSS PHASES.	
11. ELECTRICAL DRAWINGS TO BE READ IN CONJUNCTION WITH ARCHITECTURAL AND MECHANICAL DRAWINGS.	
12. FOR EXACT LOCATION OF ALL MECHANICAL EQUIPMENT, SEE MECHANICAL DRAWINGS. CO-ORDINATE ALL WORK WITH MECHANICAL CONTRACTOR.	
13. ALL EXISTING EQUIPMENT AND DEVICES SHALL REMAIN UNLESS OTHERWISE NOTED.	
14. ALLOW CUTTING AND PATCHING AT EXISTING WALLS/CEILING TO RUN CONDUITS/WIRING.	
15. ALL CABLING, PATCHES TERMINATION, CABLE TESTING AND IDENTIFICATION, JACK ETC FROM ROOM OUTLETS TO IT ROOM BY THIS CONTRACTOR FOR P/A AND DATA.	
16. ALL NEW PROPOSED SURFACE MOUNTED CONDUIT ROUTING TO BE APPROVED BY THE ARCH BEFORE INSTALLATION.	
17. REFER TO ARCH INTERIOR ELEVATIONS AND PLANS FOR ALL SURFACE MOUNTED CONDUIT ROUTING.	
18. ALL EXPOSED CONDUIT AND BOXES TO BE PAINT FINISH.	
19. COORDINATE CONTRACTION SCHEDULE WITH LONG DELIVERY TIME ITEMS.	
20. ALL LOCATIONS OF FIRE AND SAFETY DEVICES TO BE COORDINATED WITH ARCHITECT PRIOR TO INSTALLATION	

NOTES RE. VOICE/DATA SYSTEM	
VOICE AND DATA SYSTEM SHALL BE PROVIDED BY OTHERS.	
THIS ELECTRICAL CONTRACTOR SHALL PROVIDE THE FOLLOWING:	
1. TELEPHONE OUTLET SHALL BE SINGLE GANG BOX C/W 3/4" TO ZONE CONDUIT.	
2. DATA OUTLET SHALL BE SINGLE GANG C/W 3/4" TO ZONE CONDUIT.	
3. COMBINATION TELEPHONE/DATA OUTLET SHALL BE SINGLE GANG C/W 3/4" TO ZONE CONDUIT.	
4. ALL CONDUITS SHALL BE C/W PULL STRING.	
5. PROVIDE ZONE CONDUIT/BOXES FOR VOICE AND DATA CABLING.	
6. CEILING PLENUM IS RETURN AIR PLENUM AND ALLOWED FOR FT6 RATING CABLES ONLY.	
7. LOCATION AND QUANTITY OF OUTLETS ARE SHOWN ON FLOOR PLAN.	

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1	Final Review	16 July '18
2	Issued for Permit & Tender	16 July '18
3	Issued for Construction	04 Sept '18

SHARMA & PARTNERS INC.
Mechanical and Electrical Engineers

85 Collier Drive,
Unit 108
Toronto, Ontario
M5S 2P8
Tel: (416) 291-8822

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architecture

WORKSHOP architecture inc
1157 Davenport Road
Toronto Ontario M5H 2C4
T 416.901.8055 F 416.849.0383
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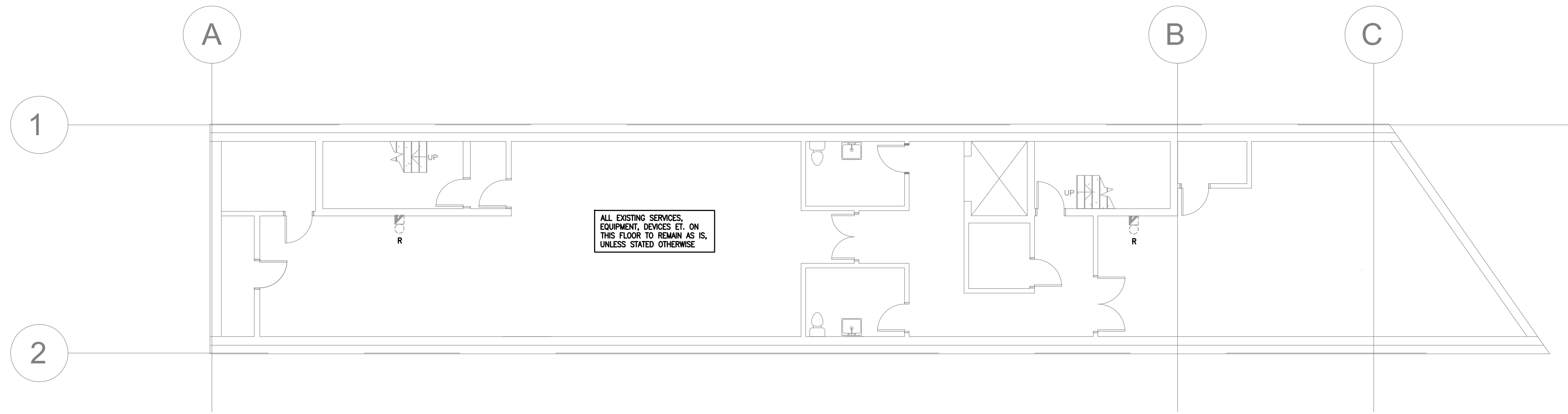
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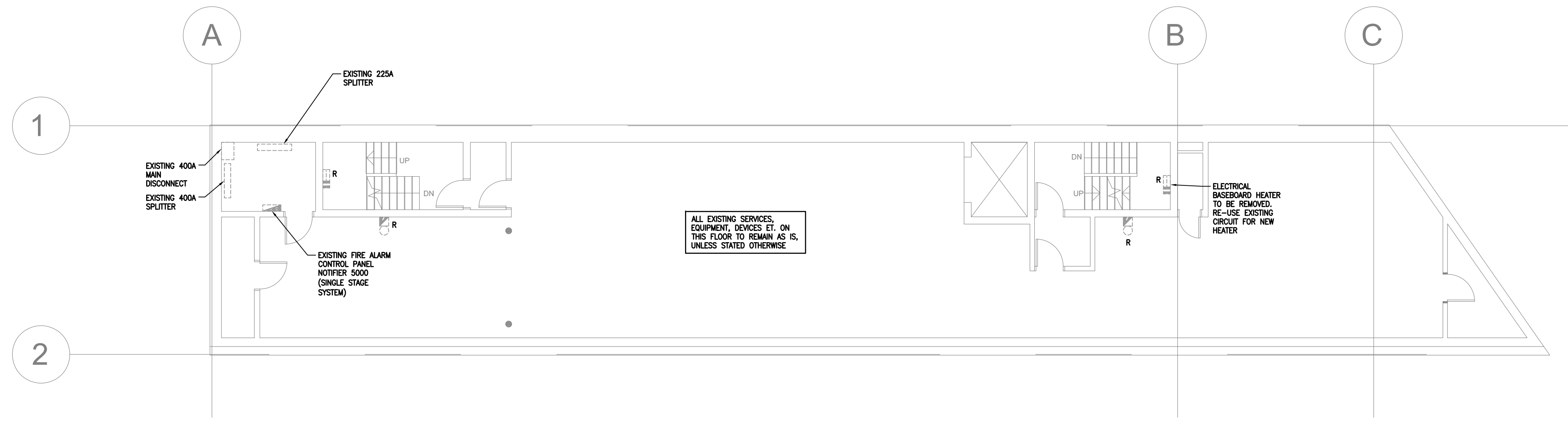
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Electrical Legend, Drawing List, Details and Schedules

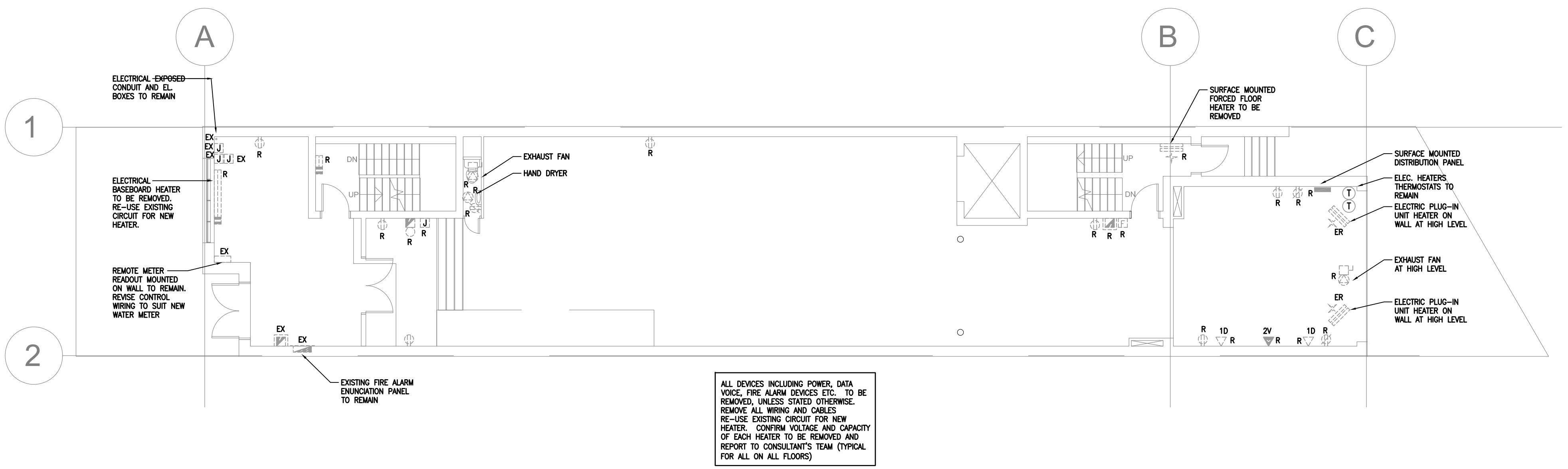
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1 BASEMENT 2 – POWER DEMOLITION
E-2 SCALE: 1:100



2 BASEMENT 1 – POWER DEMOLITION
E-2 SCALE: 1:100



3 LEVEL 1 – POWER DEMOLITION
E-2 SCALE: 1:100

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Mechanical and Electrical Engineers
85 Carlaw Drive,
Unit 108
Toronto, Ontario
M5A 2P8
Tel: (416) 291-8822



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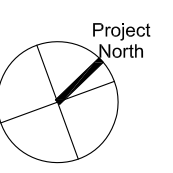
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WORKSHOP architecture inc
1157 Davenport Road
Toronto Ontario M5H 2C4
T 416.901.8055 F 416.849.0383
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Toronto, ON
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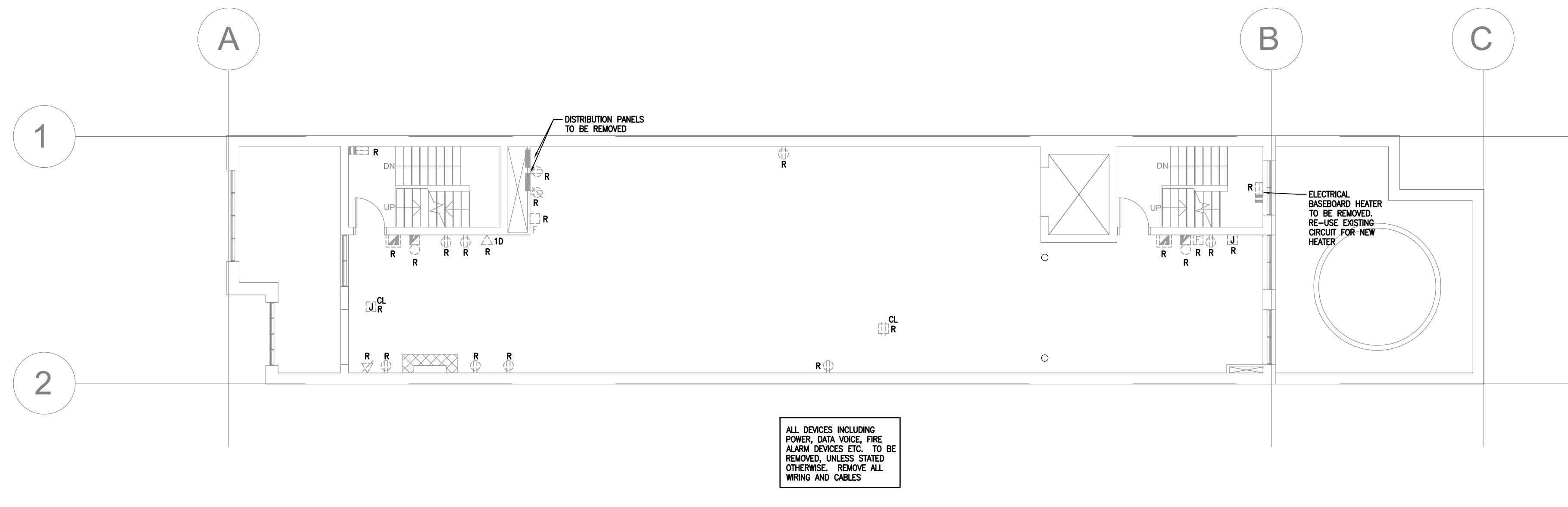
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Basement 1 & 2 and Level 1
Power Demolition

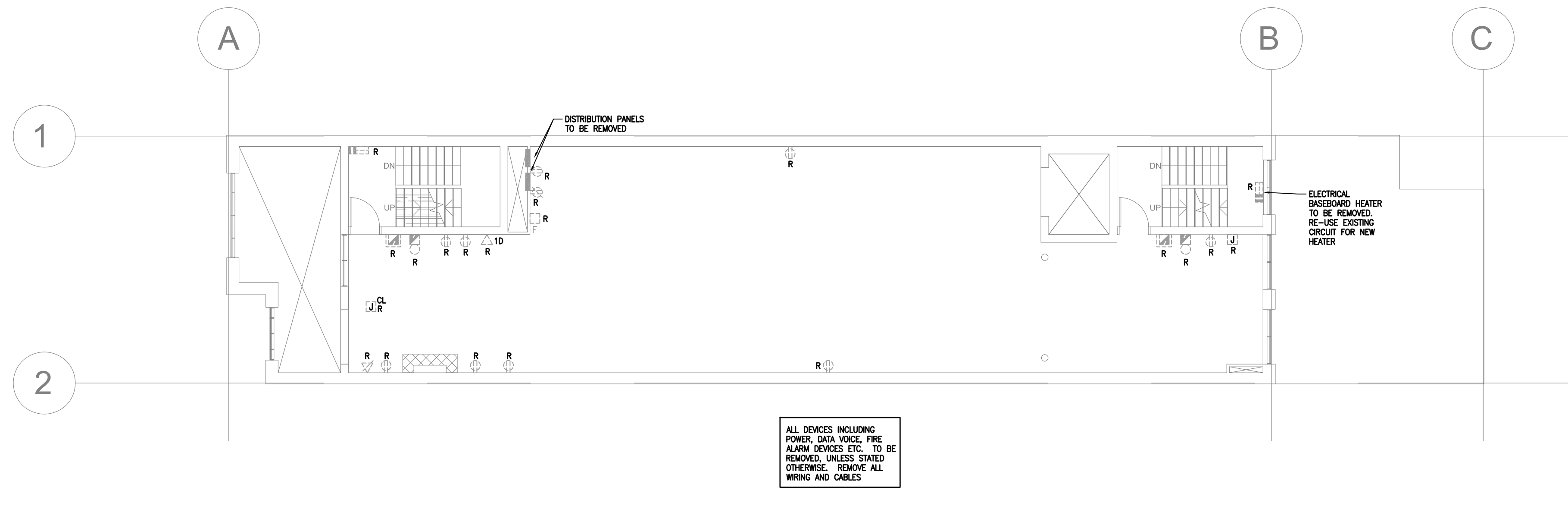


Project North
drawing number
E-2

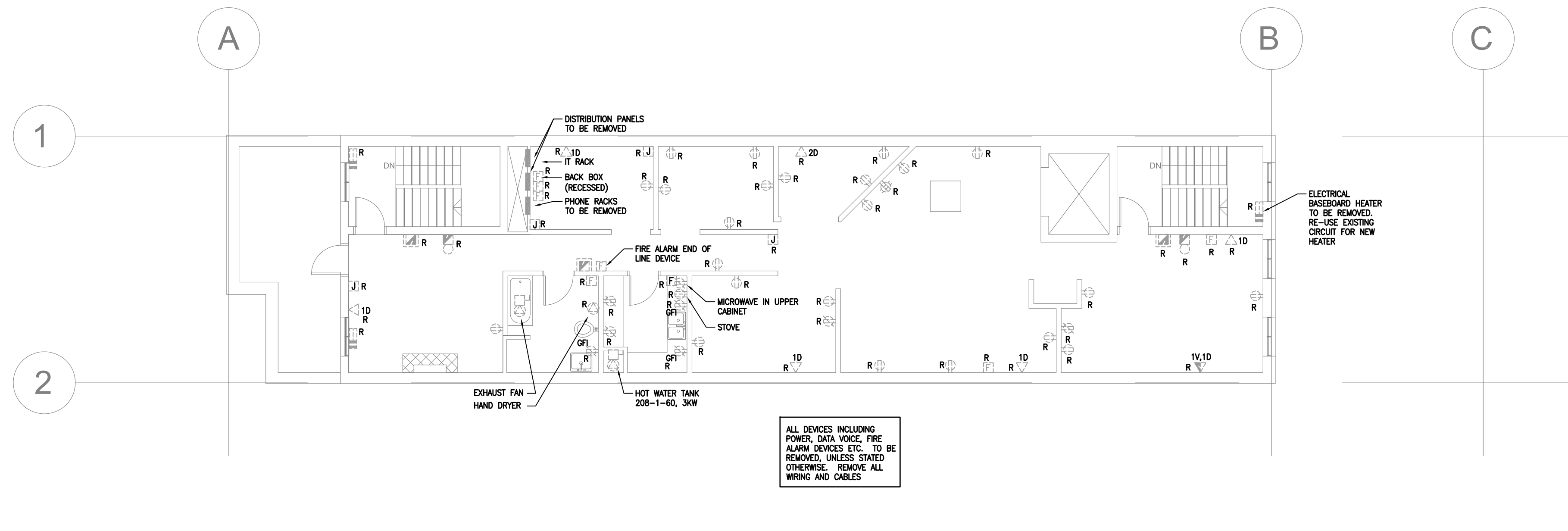
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1 LEVEL 2 – POWER DEMOLITION
E-3 SCALE: 1:100



2 LEVEL 3 – POWER DEMOLITION
E-3 SCALE: 1:100



3 LEVEL 4 – POWER DEMOLITION
E-3 SCALE: 1:100

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Mechanical and Electrical Engineers
85 Carlaw Drive,
Unit 108
Toronto, Ontario
M5A 2P8
Tel: (416) 291-8822



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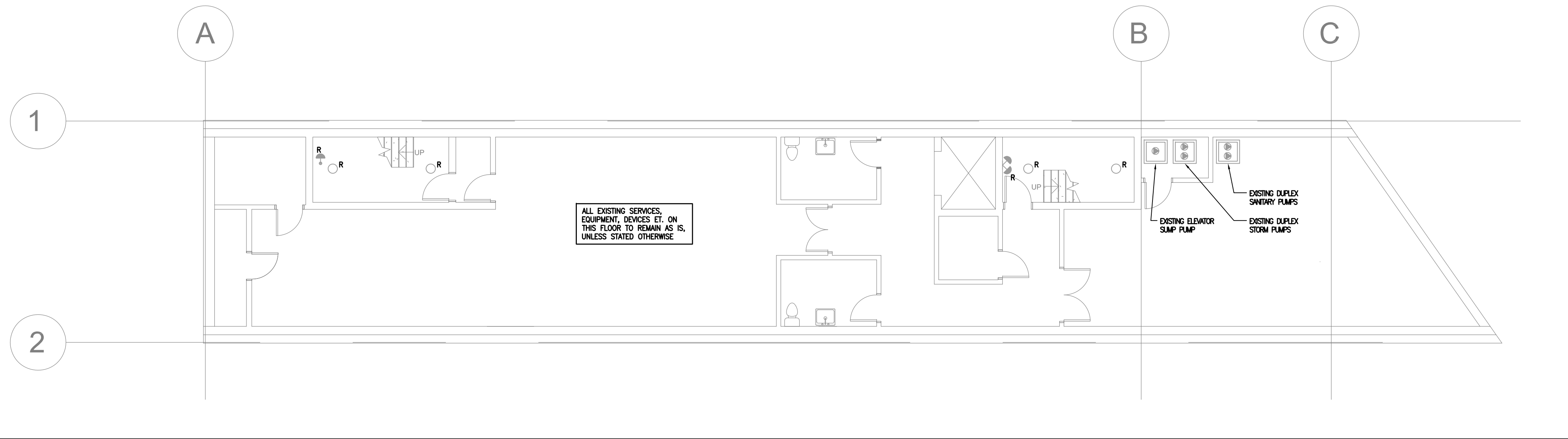
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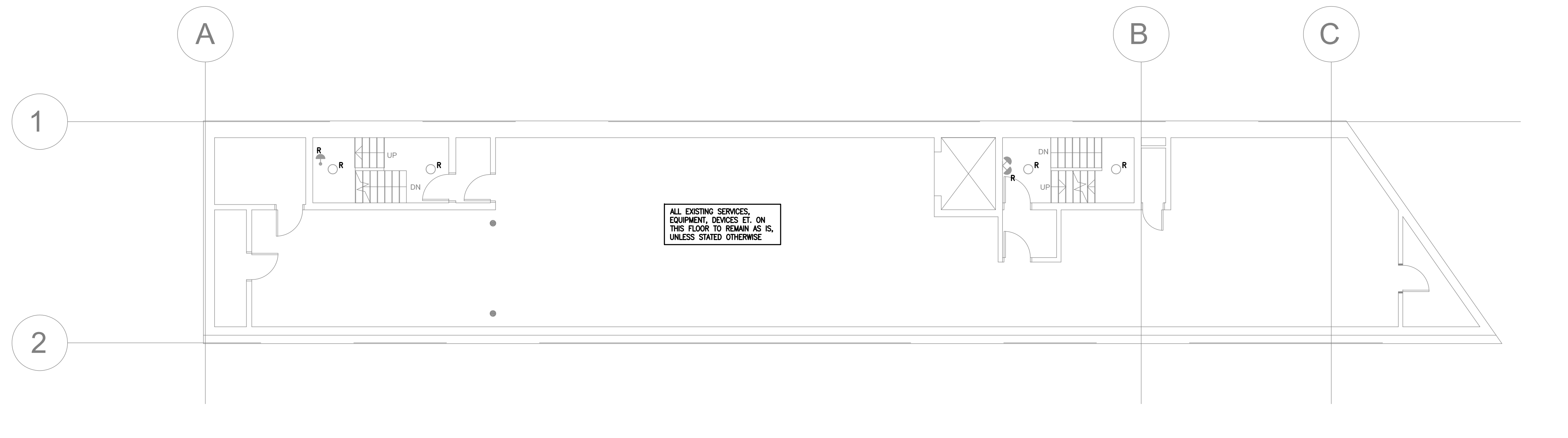
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Level 2, 3 & 4
Power Demolition

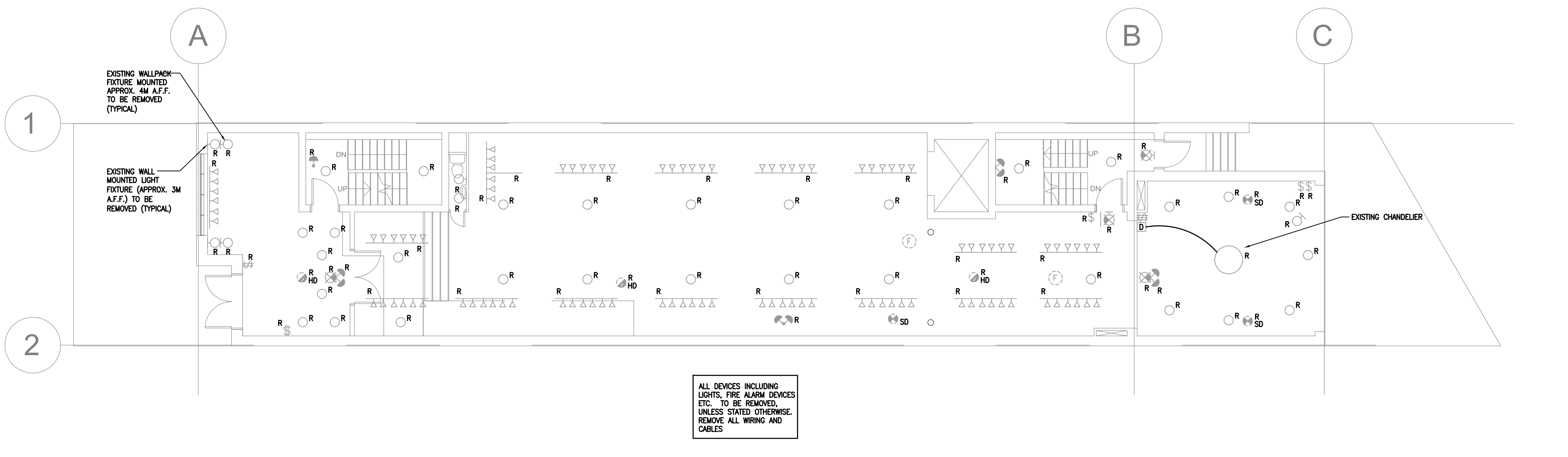
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1 BASEMENT 2 – LIGHTING DEMOLITION
E-4 SCALE: 1:100



2 BASEMENT 1 – LIGHTING DEMOLITION
E-4 SCALE: 1:100



3 LEVEL 1 – LIGHTING DEMOLITION
E-4 SCALE: 1:100

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Mechanical and Electrical Engineers
35 Cadara Drive,
Unit 105
Toronto, Ontario
M5A 2P8
Tel: (416) 291-8822



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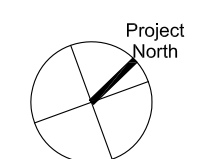
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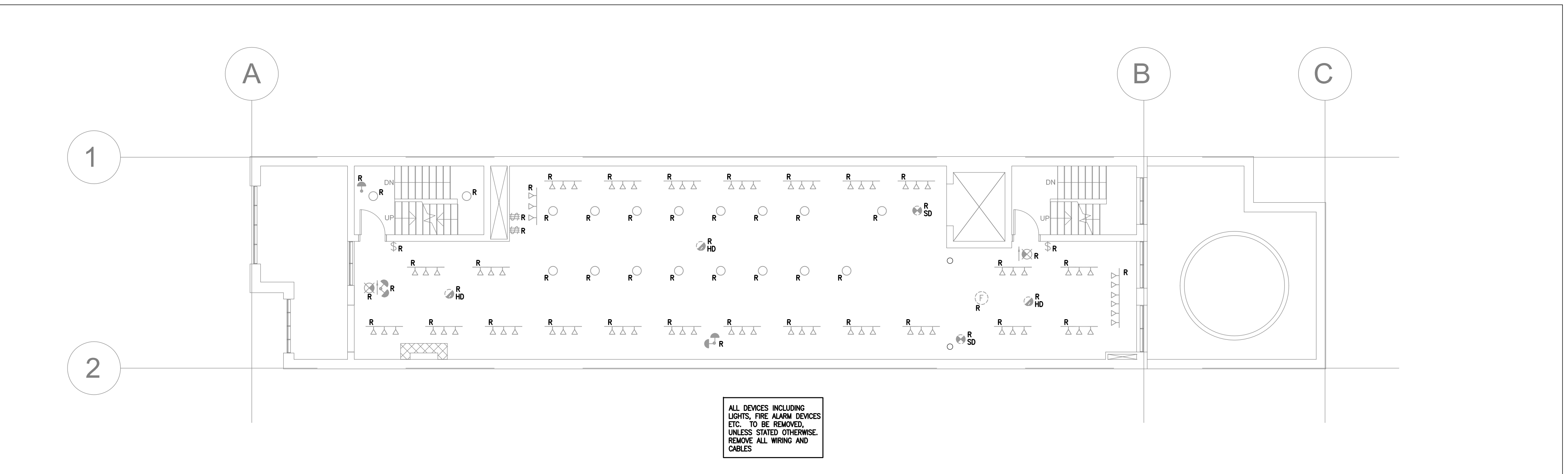
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Basement 1 & 2 and Level 1
Lighting Demolition

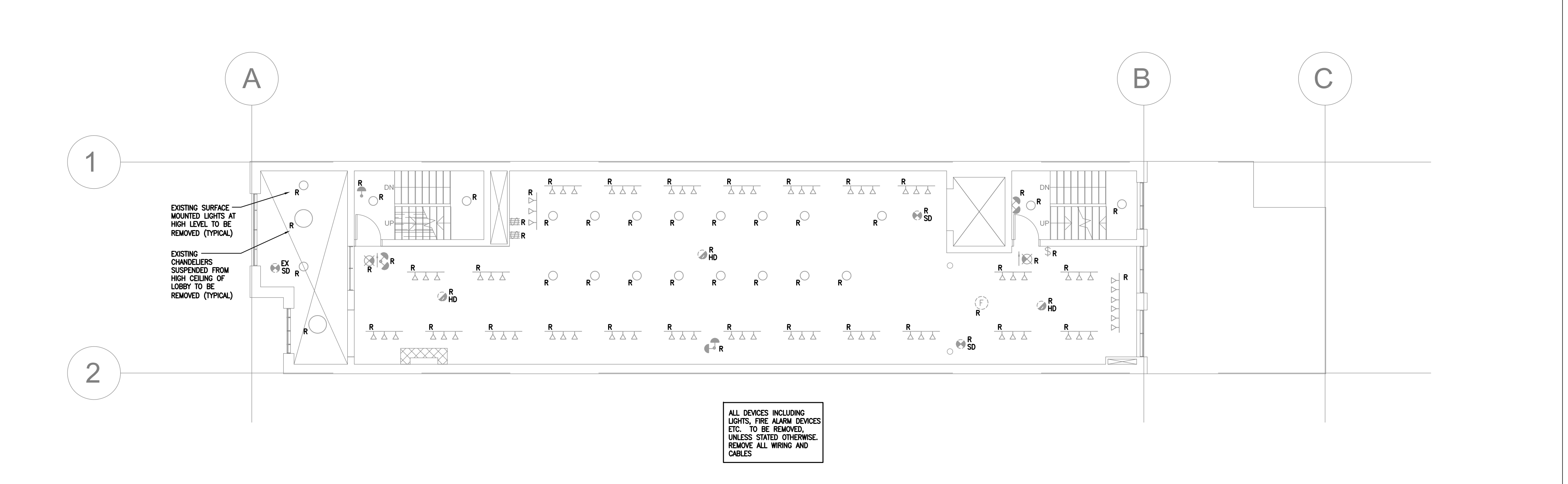


Project
North
drawing number
E-4

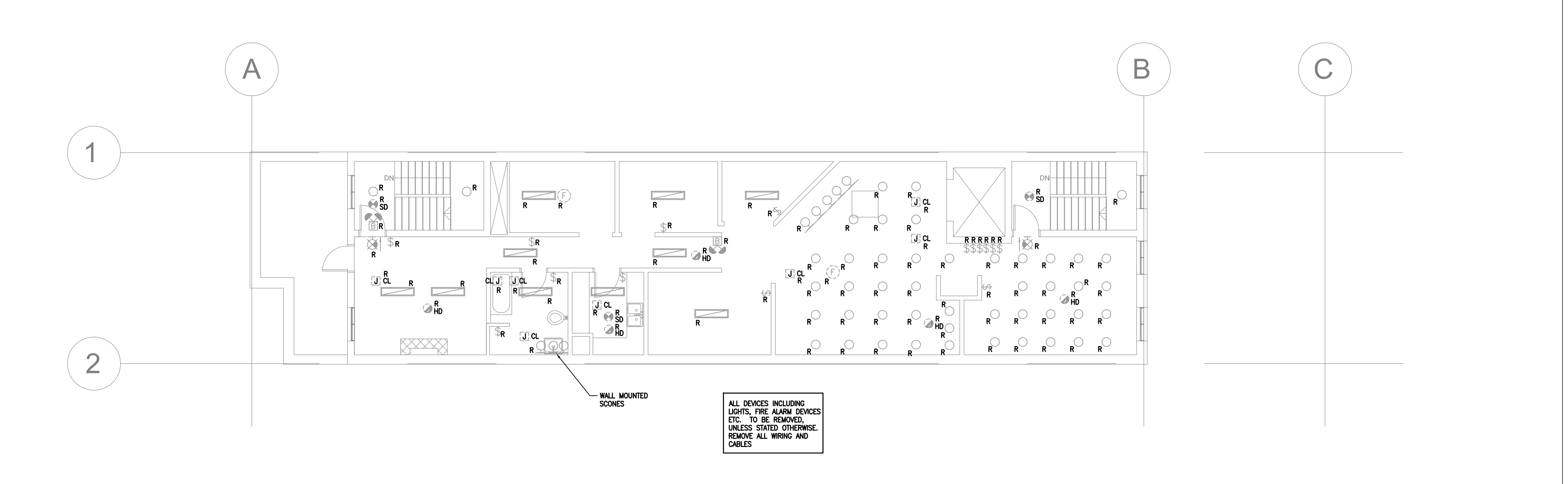
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1 LEVEL 2 – LIGHTING DEMOLITION
E-5 SCALE: 1:100



2 BASEMENT 1 – LIGHTING DEMOLITION
E-5 SCALE: 1:100



3 LEVEL 1 – LIGHTING DEMOLITION
E-5 SCALE: 1:100

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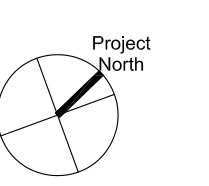
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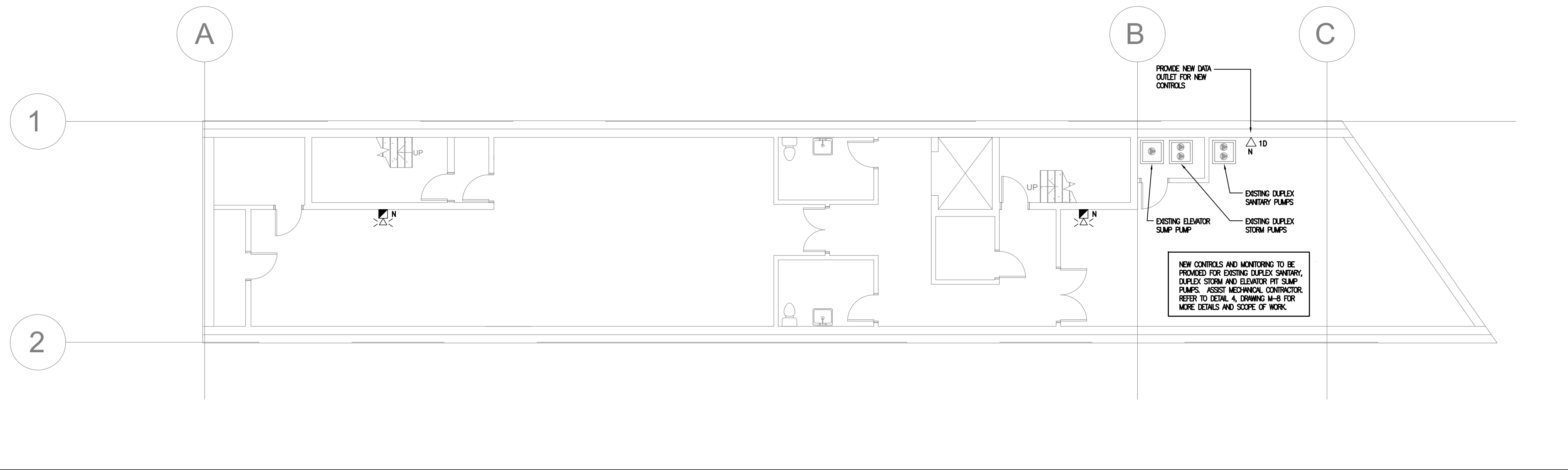
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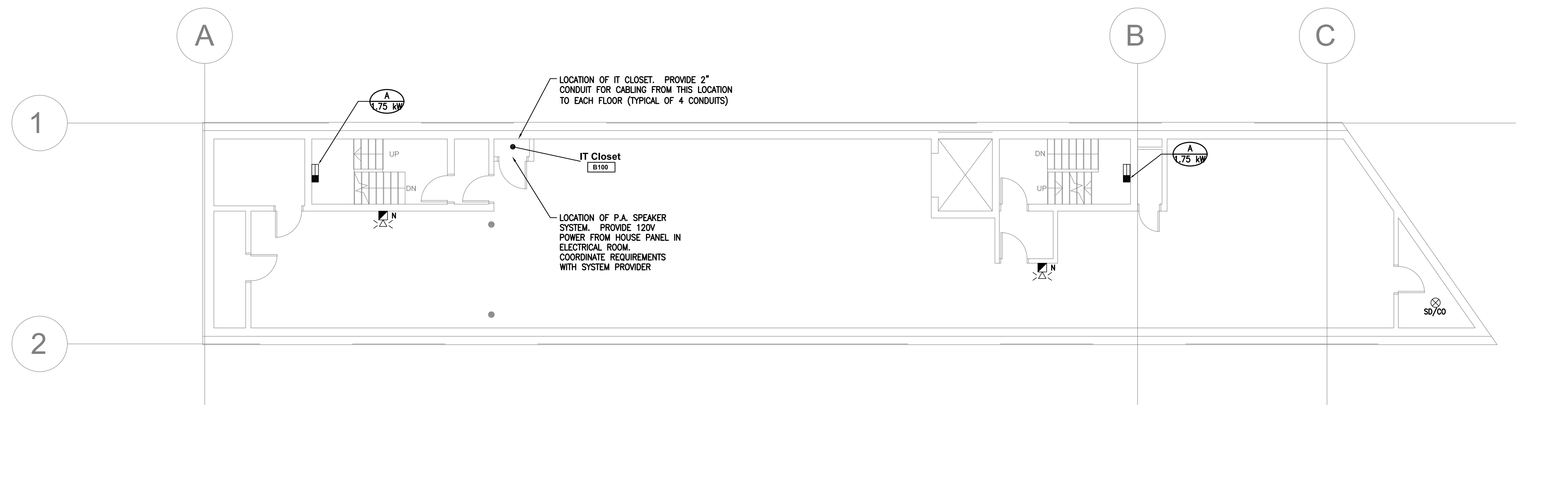
Level 2, 3 & 4 Lighting Demolition



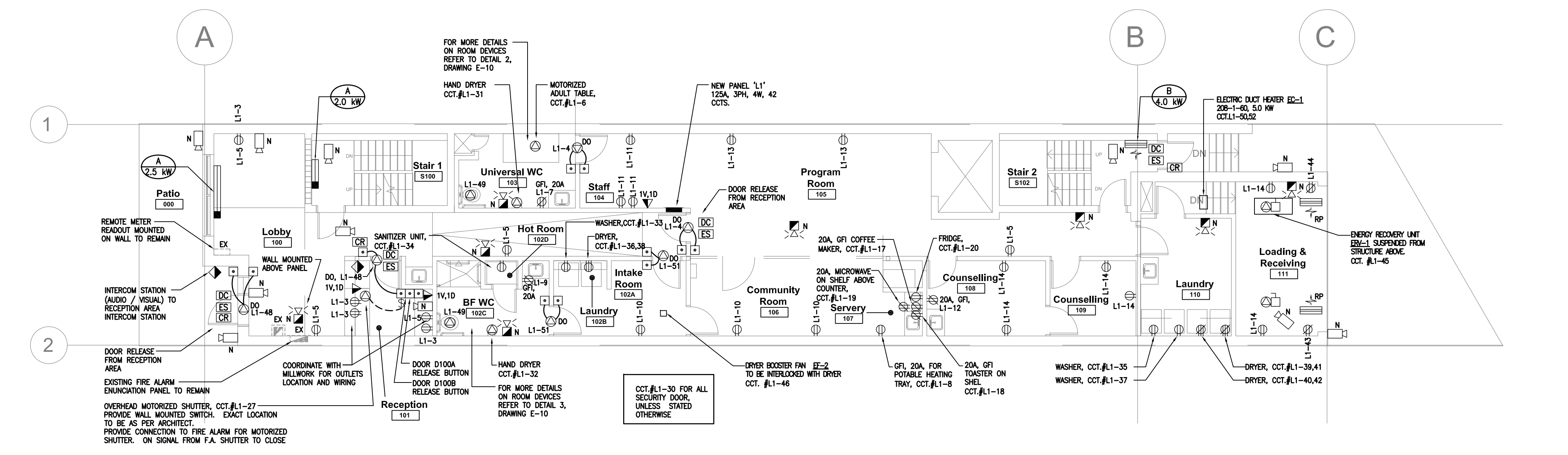
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1 BASEMENT 2 – POWER NEW LAYOUT
E-6 SCALE: 1:100



2 BASEMENT 1 – POWER NEW LAYOUT
E-6 SCALE: 1:100



3 LEVEL 1 – POWER NEW LAYOUT
E-6 SCALE: 1:100

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Mechanical and Electrical Engineers
55 Cadara Drive,
Unit 105
Toronto, Ontario
M5A 2P8
Tel: (416) 291-8822



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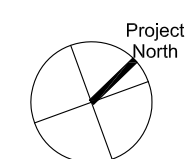
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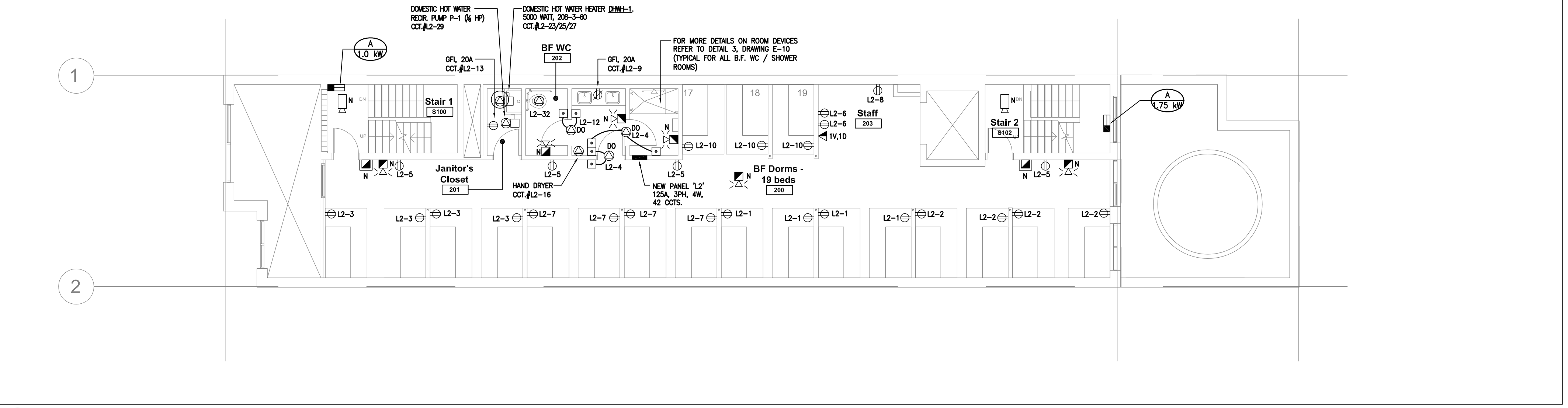
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Basement 1 & 2 and Level 1
Power New Layout

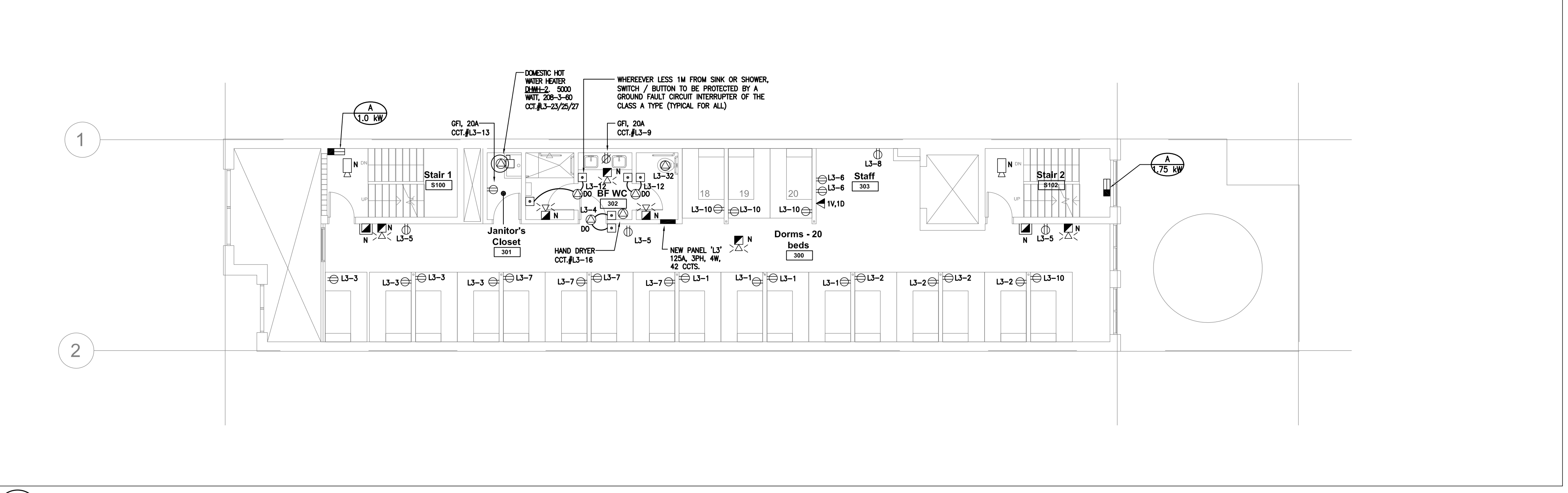


Project
North
drawing number
E-6

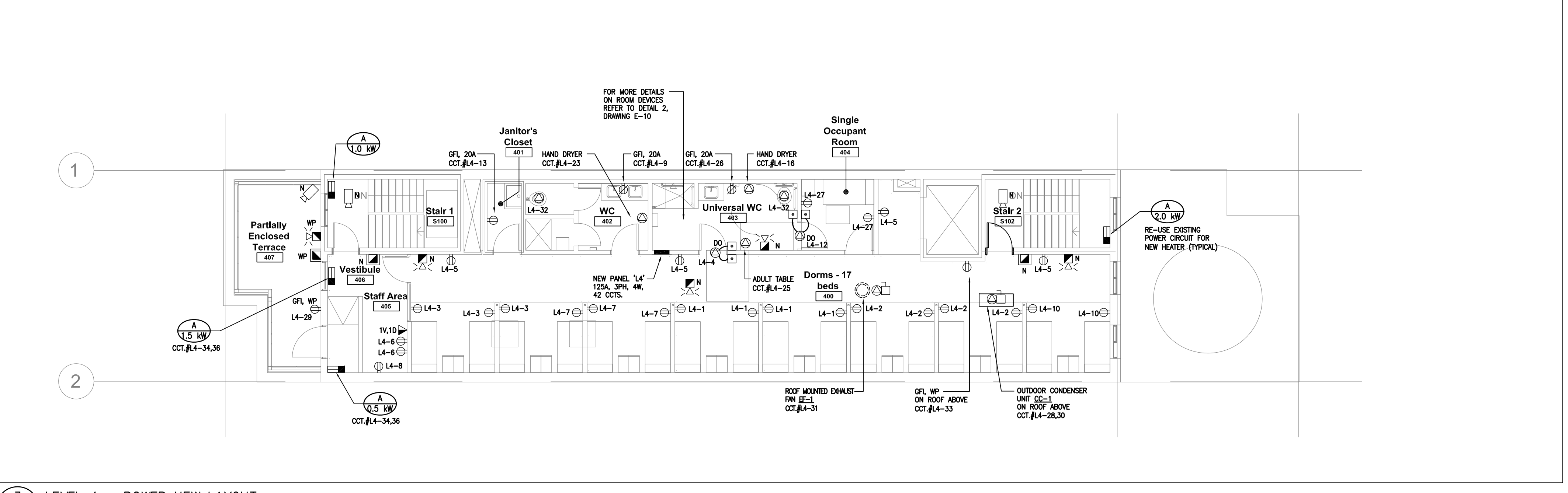
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1 LEVEL 2 - POWER NEW LAYOUT
E-7 SCALE: 1:100



2 LEVEL 3 - POWER NEW LAYOUT
E-7 SCALE: 1:100



3 LEVEL 4 - POWER NEW LAYOUT
E-7 SCALE: 1:100

SHARMA & PARTNERS INC.
Mechanical and Electrical Engineers

85 Carlaw Drive,
Unit 108
Toronto, Ontario
M5S 2P8
Tel: (416) 291-8822

PROFESSIONAL ENGINEER
A. PROTKIN
PROVINCE OF ONTARIO

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architecture

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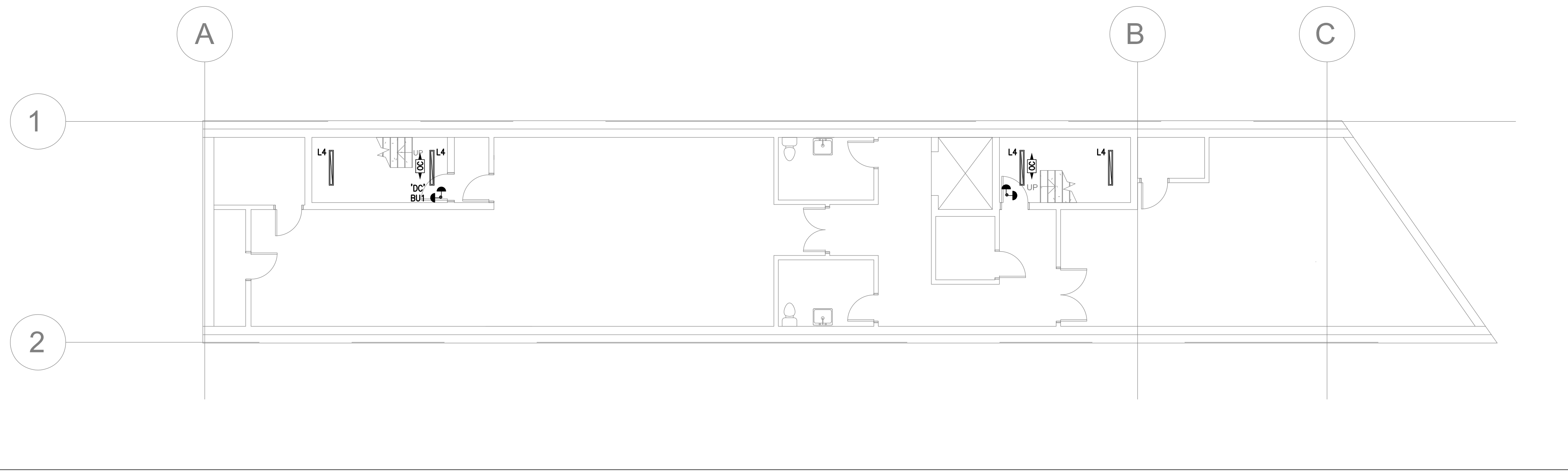
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PROJECT CODE: 18_22 SCALE: As indicated

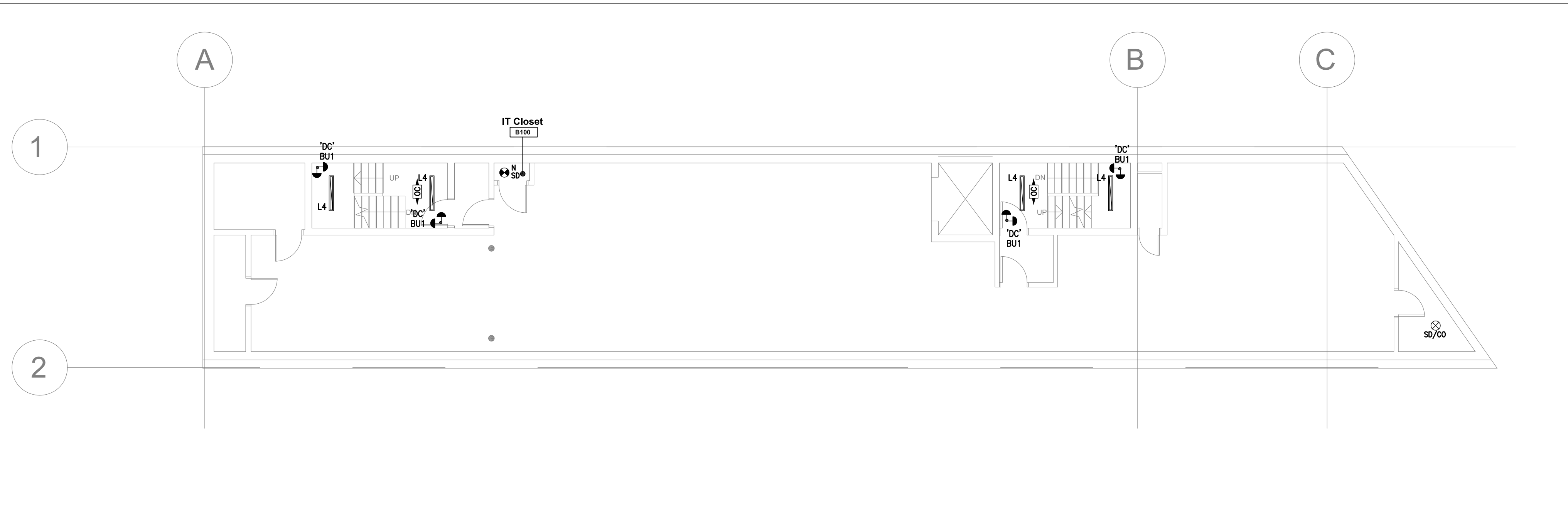
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Level 2, 3 & 4
Power New Layout

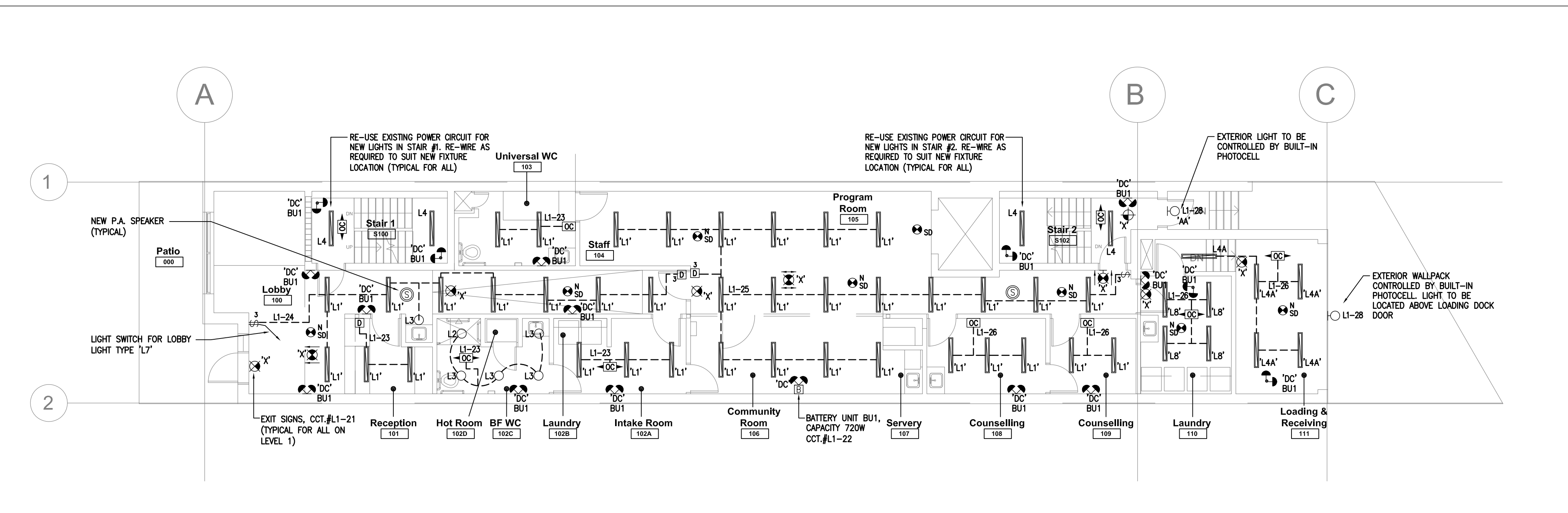
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1 BASEMENT 2 - LIGHTING NEW LAYOUT
E-8 SCALE: 1:100



2 BASEMENT 1 - LIGHTING NEW LAYOUT
E-8 SCALE: 1:100



3 LEVEL 1 - LIGHTING NEW LAYOUT
E-8 SCALE: 1:100

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Mechanical and Electrical Engineers
85 Carlaw Drive,
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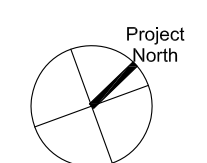
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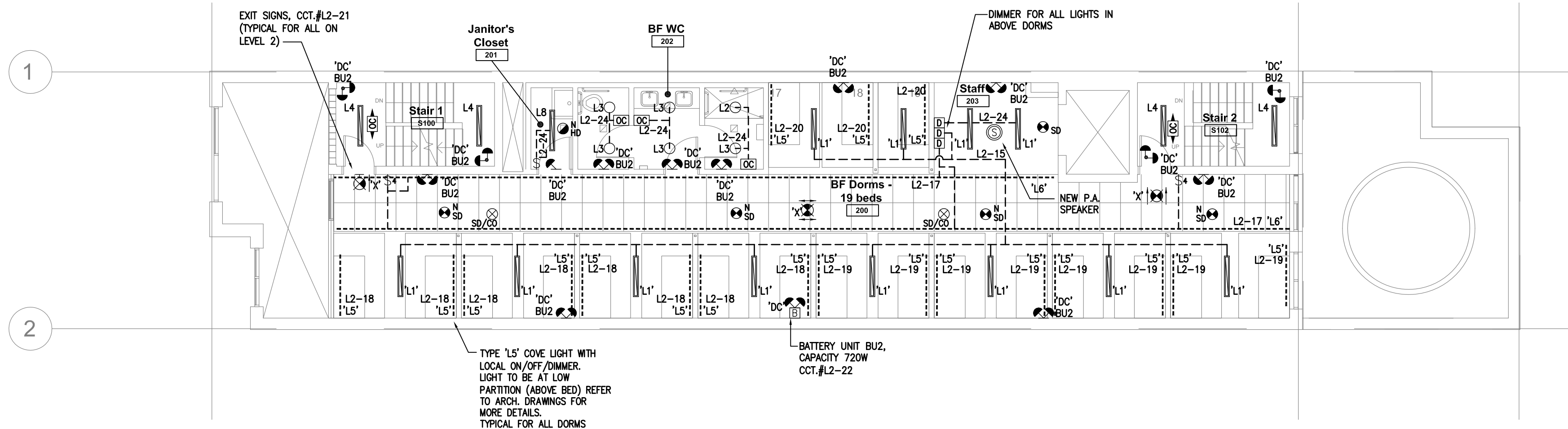
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Basement 1 & 2 and Level 1
Lighting New Layout

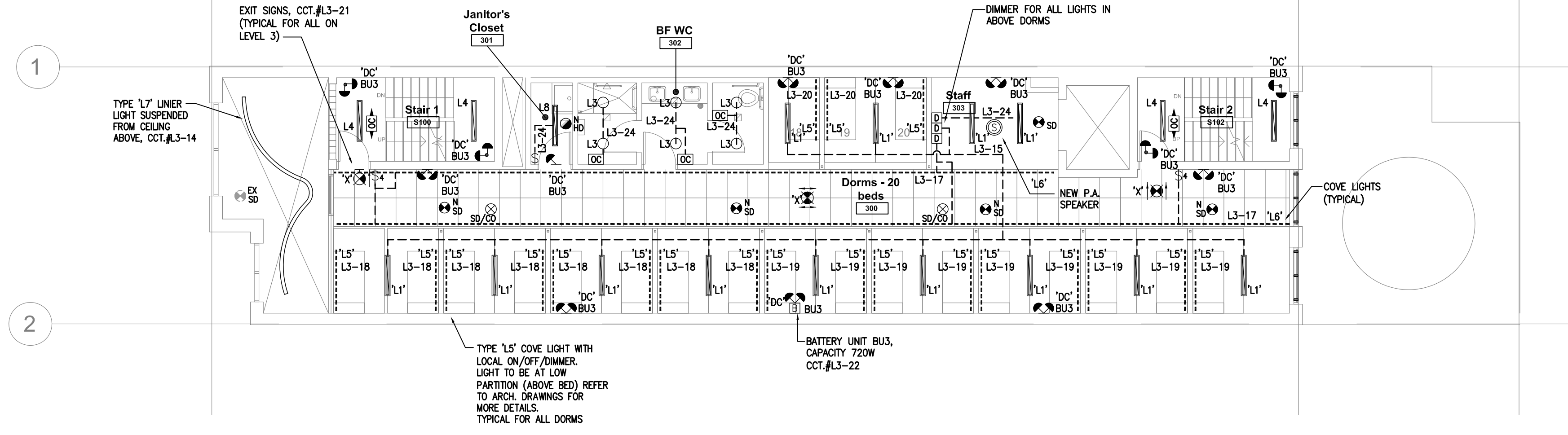


Project
North
drawing number
E-8

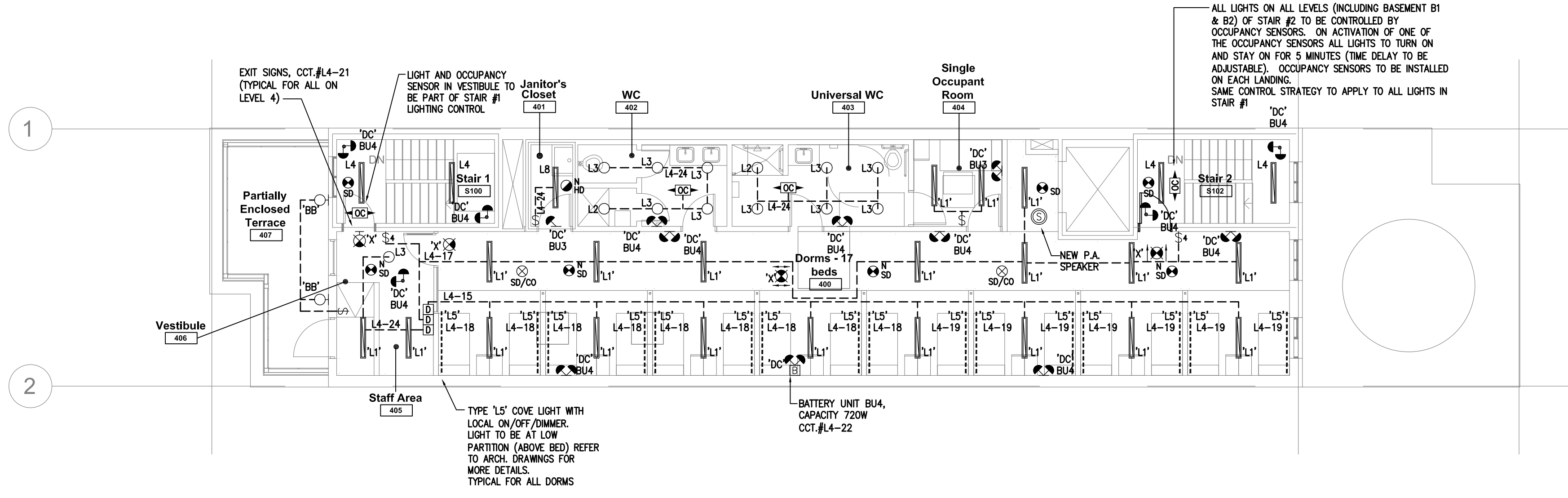
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1 LEVEL 2 - LIGHTING NEW LAYOUT
E-9 SCALE: 1:100



2 LEVEL 3 - LIGHTING NEW LAYOUT
E-9 SCALE: 1:100



3 LEVEL 4 - LIGHTING NEW LAYOUT
E-9 SCALE: 1:100

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Toronto, Ontario
M5S 2P8
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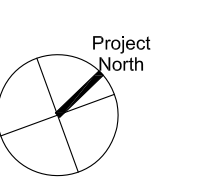
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Toronto Ontario M5H 2C4
T 416.901.8055 F 416.849.0383
www.workshoparchitecture.ca

Davenport Shelter

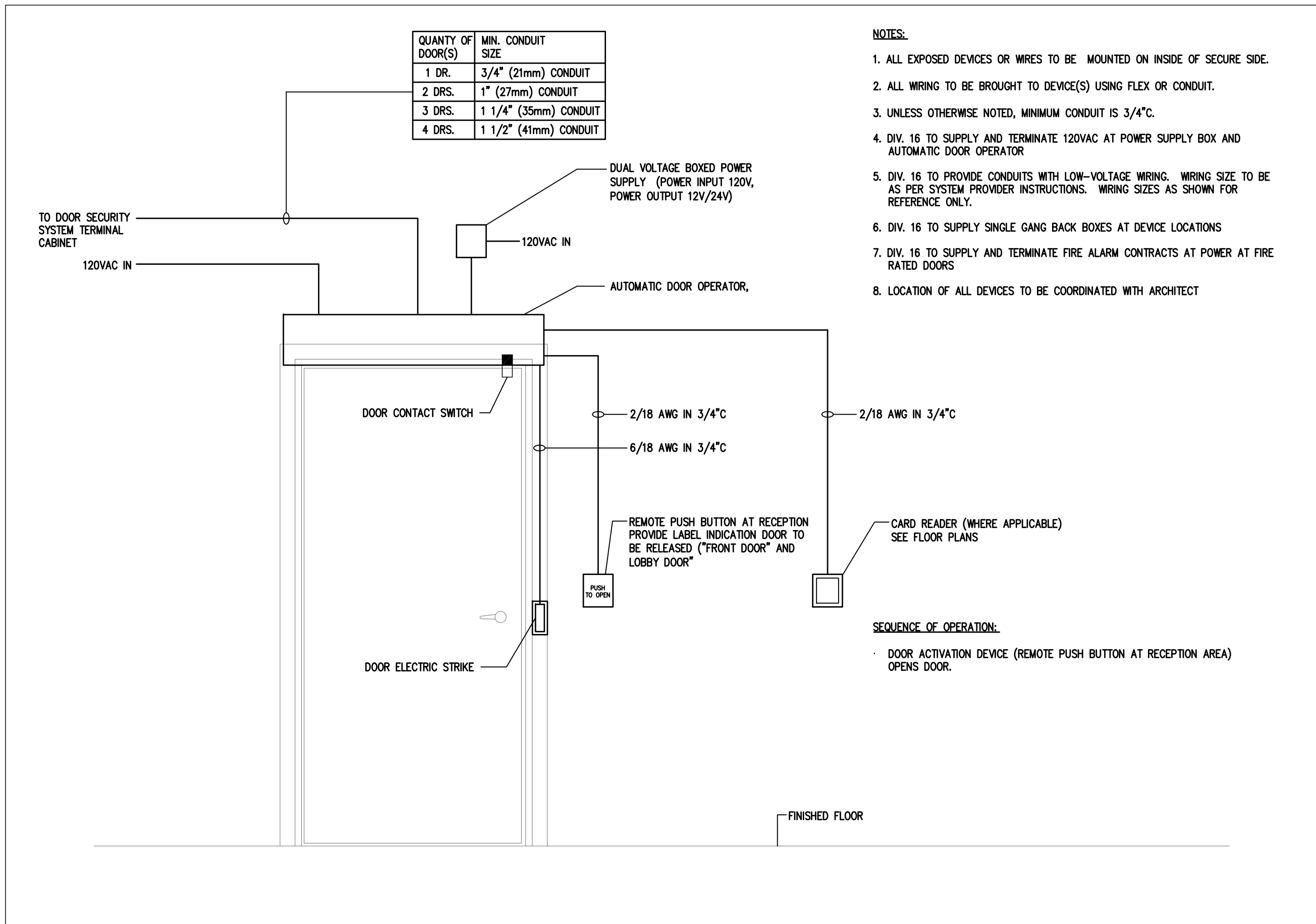
348 Davenport Road
Toronto, ON
MSR 1K6

PROJECT CODE: 18_22
DATE: 04 Sept 2018
SCALE: As indicated
STATUS: Issued for Construction

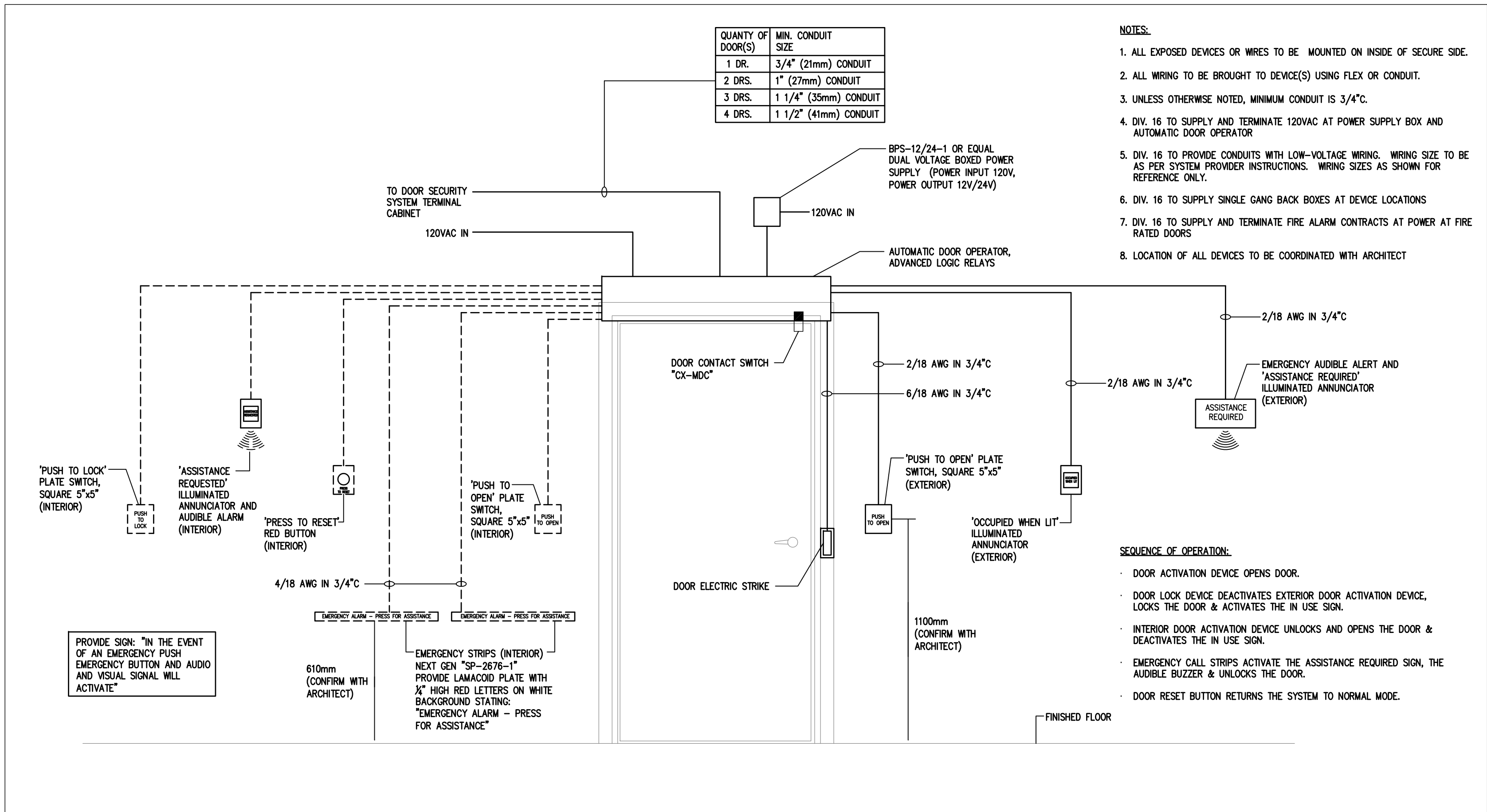
Level 2, 3 & 4
Lighting New Layout



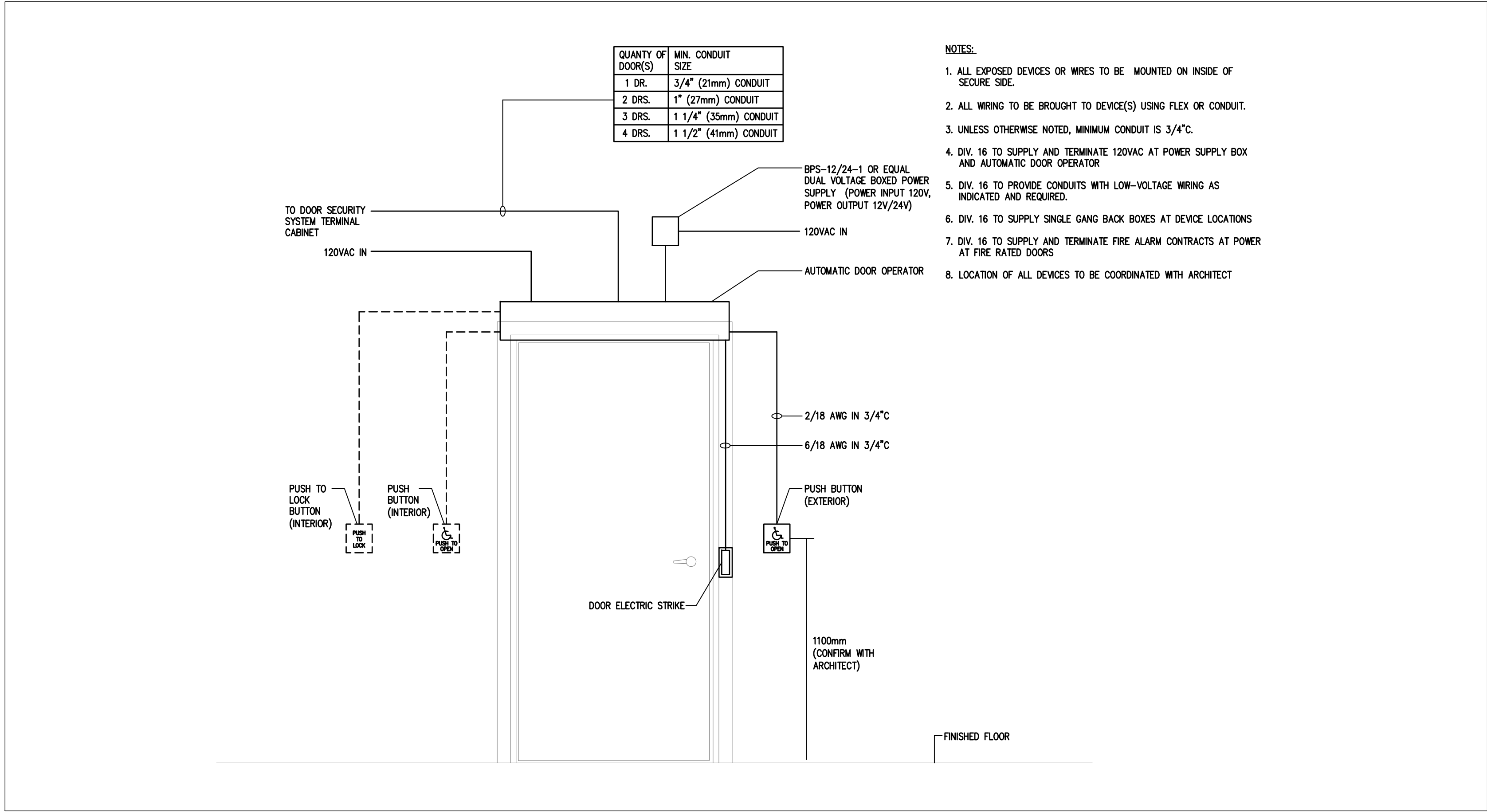
Project North
drawing number
E-9



1 SECURITY DOOR DETAIL
E-10 SCALE: N.T.S.



2 UNIVERSAL WASHROOM DOOR DETAIL
E-10 SCALE: N.T.S.



3 BARRIER FREE WASHROOM DOOR DETAIL
E-10 SCALE: N.T.S.

Rev	Description	Date
1	Final Review	16 July '18
2	Issued for Permit & Tender	16 July '18
3	Issued for Construction	04 Sept '18

SHARMA & PARTNERS INC.
Mechanical and Electrical Engineers
55 Carlaw Drive,
Unit 108
Toronto, Ontario
M5A 2P8
Tel: (416) 291-8822



SRJ PROJECT # 2018-1039

WORKSHOP
architecture

WORKSHOP architecture inc
1157 Davenport Road
Toronto Ontario M5H 2C4
T 416.901.8055 F 416.849.0383
www.workshoparchitecture.ca

Davenport Shelter

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PANEL L1 120/208V,3PH,4W		TYPE: MAINS: MOUNTING: BOLT-ON 125 AMPS RECESSED		LOCATION: LEVEL 1		
LOAD	DESCRIPTION	BREAKER	CIRCUITS	BREAKER	DESCRIPTION	LOAD
--	SPARE	15A	1	2	15A SPARE	--
--	RECEPTS, RECEPTION	15A	3	4	15A DOOR OPERATOR	--
--	CONVENIENCE RECEPTS	15A	5	6	15A ADULT TABLE, UNIVERSAL WC	--
--	GFI RECEPT, UNIVERSAL WC	20A	7	8	20A GFI, POTABLE HEATING TRAY	--
--	GFI RECEPT, B.F. WC	20A	9	10	15A RECEPTS, COMMUNITY ROOM	--
--	RECEPTS, OFFICE	15A	11	12	20A GFI RECEPT, CONSULTING ROOM	--
--	RECEPTS, PROGRAM ROOM	15A	13	14	15A RECEPT, CONSULTING ROOM	--
--	SPARE		15	16	15A RECEPT, LOADING AND RECEIVING	--
--	GFI, COFFEE MAKER	20A	17	18	20A GFI, TOASTER	--
--	MICROWAVE	20A	19	20	15A FRIDGE	--
--	EXIT SIGNS	15A	21	22	15A BATTERY UNIT BU1	--
--	LIGHTS	20A	23	24	20A LIGHTS	--
--	LIGHTS	20A	25	26	20A LIGHTS	--
--	MOTORIZED SHUTTER	15A	27	28	15A EXTERIOR LIGHTS	--
--	SPACE		29	30	15A DOOR CONTROLS	--
1KW	HAND DRYER	20A	31	32	20A HAND DRYER	1KW
--	WASHER	15A	33	34	15A SANITIZER UNIT	--
--	WASHER	15A	35	36	30A DRYER	--
--	WASHER	15A	37	38	2P DRYER	--
DRYER		30A	39	40	30A DRYER	
		2P	41	42	2P DRYER	
RECEPT, HEATER IN LOADING AREA		20A	43	44	20A RECEPT, HEATER IN LOADING AREA	
ERV-1		20A	45	46	15A DRYER BOOSTER FAN EF-2	
MECHANICAL CONTROLS		15A	47	48	15A DOOR OPERATORS	
PLUMBING		15A	49	50	30A ELECTRIC DUCT HEATER EC-1	5KW
DOOR OPERATOR		15A	51	52	2P	
SPARE		15A	53	54	15A SPARE	
SPARE		15A	55	56	15A SPARE	
SPARE		15A	57	58	15A SPARE	
SPARE		15A	59	60	15A SPARE	

NOTE: PROVIDE TEMPER-PROOF LOCKABLE PANEL DOORS

PANEL L2 120/208V,3PH,4W		TYPE: MAINS: MOUNTING: BOLT-ON 125 AMPS RECESSED		LOCATION: LEVEL 2		
LOAD	DESCRIPTION	BREAKER	CIRCUITS	BREAKER	DESCRIPTION	LOAD
--	RECEPTS, DORMS	15A	1	2	15A RECEPTS, DORMS	--
--	RECEPTS, DORMS	15A	3	4	15A DOOR OPERATOR	--
--	CONVENIENCE RECEPTS	15A	5	6	15A RECEPTS, STAFF ROOM	--
--	RECEPTS, DORMS	20A	7	8	15A RECEPTS, STAFF ROOM	--
--	GFI RECEPT, B.F. WC	20A	9	10	15A RECEPTS, DORMS	--
--	SPARE	15A	11	12	12A DOOR OPERATOR	--
--	GFI RECEPT, JANITOR'S ROOM	20A	13	14	15A SPARE	--
--	LIGHTS	20A	15	16	15A HAND DRYER	1KW
--	LIGHTS	20A	17	18	20A LIGHTS	--
--	LIGHTS	20A	19	20	20A LIGHTS	--
--	EXIT SIGNS	15A	21	22	15A BATTERY UNIT BU2	--
5KW	DHW-2	20A	23	24	20A LIGHTS	--
		25	25	26	15A SPARE	--
		3P	27	28	15A SPARE	--
--	DOMESTIC HOT WATER REGR. PUMP P-1	15A	29	30	15A SPARE	--
--	SPACE		31	32	15A PLUMBING	--
--	SPACE		33	34	15A SPARE	--
--	SPACE		35	36	15A SPARE	--
--	SPACE		37	38	15A SPARE	--
--	SPACE		39	40	15A SPARE	--
--	SPACE		41	42	15A SPARE	--

NOTE: PROVIDE TEMPER-PROOF LOCKABLE PANEL DOORS

PANEL L3 120/208V,3PH,4W		TYPE: MAINS: MOUNTING: BOLT-ON 125 AMPS RECESSED		LOCATION: LEVEL 3		
LOAD	DESCRIPTION	BREAKER	CIRCUITS	BREAKER	DESCRIPTION	LOAD
--	RECEPTS, DORMS	15A	1	2	15A RECEPTS, DORMS	--
--	RECEPTS, DORMS	15A	3	4	15A DOOR OPERATOR	--
--	CONVENIENCE RECEPTS	15A	5	6	15A RECEPTS, STAFF ROOM	--
--	RECEPTS, DORMS	20A	7	8	15A RECEPTS, STAFF ROOM	--
--	GFI RECEPT, B.F. WC	20A	9	10	15A RECEPTS, DORMS	--
--	SPARE	15A	11	12	12A DOOR OPERATOR	--
--	GFI RECEPT, JANITOR'S ROOM	20A	13	14	15A LOBBY LIGHT	--
--	LIGHTS	20A	15	16	15A HAND DRYER	1KW
--	LIGHTS	20A	17	18	20A LIGHTS	--
--	LIGHTS	20A	19	20	20A LIGHTS	--
--	EXIT SIGNS	15A	21	22	15A BATTERY UNIT BU3	--
5KW	DHW-2	20A	23	24	20A LIGHTS	--
		25	25	26	15A SPARE	--
		3P	27	28	15A SPARE	--
--	SPACE		29	30	15A SPARE	--
--	SPACE		31	32	15A PLUMBING	--
--	SPACE		33	34	15A SPARE	--
--	SPACE		35	36	15A SPARE	--
--	SPACE		37	38	15A SPARE	--
--	SPACE		39	40	15A SPARE	--
--	SPACE		41	42	15A SPARE	--

NOTE: PROVIDE TEMPER-PROOF LOCKABLE PANEL DOORS

PANEL L4 120/208V,3PH,4W		TYPE: MAINS: MOUNTING: BOLT-ON 125 AMPS RECESSED		LOCATION: LEVEL 4			
LOAD	DESCRIPTION	BREAKER	CIRCUITS	BREAKER	DESCRIPTION	LOAD	
--	RECEPTS, DORMS	15A	1	2	15A RECEPTS, DORMS	--	
--	RECEPTS, DORMS	15A	3	4	15A DOOR OPERATOR	--	
--	CONVENIENCE RECEPTS	15A	5	6	15A RECEPTS, STAFF ROOM	--	
--	RECEPTS, DORMS	20A	7	8	15A RECEPTS, STAFF ROOM	--	
--	GFI RECEPT, WC	20A	9	10	15A RECEPTS, DORMS	--	
--	SPARE	15A	11	12	12A DOOR OPERATOR	--	
--	GFI RECEPT, JANITOR'S ROOM	20A	13	14	15A SPARE	--	
--	LIGHTS	20A	15	16	15A HAND DRYER	1KW	
--	LIGHTS	20A	17	18	20A LIGHTS	--	
--	LIGHTS	20A	19	20	20A LIGHTS	--	
--	EXIT SIGNS	15A	21	22	15A BATTERY UNIT BU4	--	
1KW	HAND DRYER	15A	23	24	20A LIGHTS	--	
--	ADULT TABLE, UNIVERSAL WC	15A	25	26	15A GFI RECEPT, UNIVERSAL WC	--	
--	RECEPTS, SINGLE OCCUPANT ROOM	15A	27	28	15A OUTDOOR CONDENSING UNIT CC-1	--	
--	OUTDOOR RECEPT, GFI, WP	20A	29	30	1P		
--	EXHAUST FAN EF-1	15A	31	32	15A PLUMBING	--	
--	GFI, WP OUTDOOR RECEPT. ON ROOF	20A	33	34	20A		
--	SPACE		35	36	1P	NEW BASEBOARD HEATERS	2.0KW
--	SPACE		37	38	15A SPARE	--	
--	SPACE		39	40	15A SPARE	--	
--	SPACE		41	42	15A SPARE	--	

NOTE: PROVIDE TEMPER-PROOF LOCKABLE PANEL DOORS

LUMINAIRE SCHEDULE	
TYPE 'L1'	RECESSED LINEAR LIGHT (4FT LONG), LED, KOLIKA-L3KOL STANPRO, FOR CEILING TYPE REFER TO ARCH. DRAWINGS. FINISH: WHITE LAMP: LED, 3500K, 4000LM/4FT. VOLTAGE: 120V, DIMMING DRIVER 0-10VDC. LENS: FLUSH SINK, SYMMETRIC MANUFACTURER: STANPRO KOLIKA, CAT#L3KOL-4LS4D OR APPROVED EQUAL
TYPE 'L2'	SAME AS TYPE L3 BUT WATERPROOF
TYPE 'L3'	150mm (6") DIAMETER RECESSED COMPACT LED DOWNLIGHT, FRAME TO SUIT CEILING TYPE (REFER TO ARCH. DRAWINGS), WHITE TRIM RING. FINISH: WHITE LAMP: LED, 3500K, 1800LM, CLEAR LENS VOLTAGE: 120V, DIMMING 0-10V MANUFACTURER: STANPRO, CR6 SERIES OR APPROVED EQUAL CAT# CR61880-WWW/35K-W-L
TYPE 'L4'	SURFACE MOUNTED LINER STRIP, LED, DAY-BRITE BY PHILIPS. FINISH: WHITE LAMP: LED, 4000K, 3000LM/4FT, 23W VOLTAGE: 120V, DIMMING DRIVER 0-10V. MANUFACTURER: PHILIPS CAT#L4FR3035UDZT OR APPROVED EQUAL
TYPE 'L4A'	SAME AS TYPE 'L4' BUT SUSPENDED. PROVIDE AIRCRAFT CABLE KIT WITH. INSTALLATION HEIGHT AS PER ARCHITECT.
TYPE 'L5'	LED SLIM STRIP WITH LENS LED, L2SS5 STANPRO, OVERALL FIXTURE LENGTH 6FT, PROVIDE DIMMER/ON/OFF SWITCH FOR EACH 6FT LONG FIXTURE. FOR INSTALLATION DETAILS TYPE REFER TO ARCH. DRAWINGS. FINISH: WHITE LAMP: LED, 3500K, 3900LM/4FT, 30W VOLTAGE: 120V, DIMMING DRIVER 0-10V. MANUFACTURER: STANPRO CAT#L2SS5-48LS1-W/35K OR APPROVED EQUAL
TYPE 'L6'	LINER COVE LIGHT, EW COVE QLX POWERCORE, 12IN (305MM), WIDE BEAM ANGLE, HIGH OUTPUT LINEAR LED COVE LIGHT WITH POLYCARBONATE LENS. LENGTH: TO SUIT COVE LENGTH - REFER TO ARCHITECTURAL DRAWING LUMENS: 235 LUMENS, 3500K POWER: 120V, 6W MAX. MANUFACTURER: PHILIPS LIGHTING CAT# EW COVE QLX POWER CORE SERIES OR APPROVED EQUAL
TYPE 'L7'	CUSTOM SUPER=G MODULE SYSTEM LIGHT FIXTURE BY ZANEEN, SURFACE MOUNTED SHAPE AND LENGTH TO MATCH SHAPE AND LENGTH AS SHOWN ON ARCHITECTURAL DRAWING. PROVIDE ALL COMPONENTS TO ACHIEVE REQUIRED SHAPE, INCLUDE MOUNTING KIT FINISH: AS PER ARCHITECT LAMP: LED, 4000K, 0-10V DIMMING POWER: 120V, MANUFACTURER: ZANEEN SUPER=G MODULE SYSTEM OR APPROVED EQUAL
TYPE 'L8'	RECESSED 1FT X 4FT, LED, L3TSB STANPRO, FOR CEILING TYPE REFER TO ARCH. DRAWINGS. FINISH: WHITE LAMP: LED, 3500K, 4880LM/4FT, 42W VOLTAGE: 120V, DIMMING DRIVER 0-10V. LENS: PRISMATIC ACRYLIC MANUFACTURER: STANPRO CAT#L3TSB-1-LS2A-A/35K OR APPROVED EQUAL
TYPE 'AA'	OUTDOOR CUT-OFF WALL PACK, LED, WP2-L STANPRO, WITH BUILT-IN PHOTOCCELL FINISH: BRONZE LAMP: LED, 4000K, 4772LM, 59W VOLTAGE: 120V MANUFACTURER: STANPRO CAT#WP2-LS23-W/40K OR APPROVED EQUAL
TYPE 'BB'	OUTDOOR WALL PACK, LED, BUA-L STANPRO, FINISH: BRONZE LAMP: LED, 4000K, 1674LM, 20W VOLTAGE: 120V MANUFACTURER: STANPRO CAT#BUA-LS1C-W/F OR APPROVED EQUAL
COORDINATE ORDERING AND DELIVERY WITH CONSTRUCTION SCHEDULE DUE TO LONG LEAD DELIVERY TIME ON ANY OF FIXTURES	

OCCUPANCY SENSOR SCHEDULE	
CC	FLUSH WALL MOUNTED DUAL TECHNOLOGY OCCUPANCY SENSOR SWITCH: - AUTO-ON WITH MANUAL OFF SWITCH. - FITS A STANDARD SWITCH BOX WITH DECORA COVER PLATE. - ADJUSTABLE TIME DELAY BETWEEN 30 SECONDS AND 30 MINUTES. - ADJUSTABLE INTEGRATED NATURAL LIGHT LEVEL SENSOR BETWEEN 2 AND 200 FOOT CANDLES. - 5 YEAR WARRANTY. WATT-STOPPER CAT.# DW-100-120-1.
CC	SURFACE CEILING MOUNTED DUAL TECHNOLOGY OCCUPANCY SENSOR, ROOM SENSORS. - UP TO 1000 SQ.FT. COVERAGE. - SENSITIVITY ADJUSTMENT. - ADJUSTABLE TIME DELAY BETWEEN 1 SECONDS TO 30 MINUTES. - 5 YEAR WARRANTY. ARROWS INDICATE ORIENTATION OF TRANSMITTERS. WATT-STOPPER CAT.# LMDG-100 SERIES.
NOTES:	
<ol style="list-style-type: none"> ADJUST SENSITIVITY OF SENSORS TO SUIT ROOM SIZE AND CONFIGURATION TO PREVENT SENSORS FROM "SEEING" OUTSIDE THE ROOM. ADJUST LIGHT LEVEL SENSORS TO 65 FOOT CANDLES. ADJUST TIME DELAY TO 30 MINUTES. ALLOW IN CONTRACT LABOUR TO ADJUST SENSORS A SECOND TIME TO OWNER'S DIRECTIVES. PROVIDE MINIMUM TWO TIMES SETTING BY WATTS-STOPPER REPRESENTATIVE. COORDINATE WITH WATTS-STOPPER AND ALLOW IN CONTRACTOR TO HIRE WATTS-STOPPER REPRESENTATIVE FOR SETTING, PROGRAM, TRAINING OWNER STAFF, ETC., TO INSURE WATTS-STOPPER CONTROL SYSTEM IN GOOD OPERATIONAL CONDITION. 	

Rev	Description	Date
1	Final Review	16 July '18
2	Issued for Permit & Tender	16 July '18
3	Issued for Construction	04 Sept '18

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Mechanical and Electrical Engineers
55 Colborne Drive,
Unit 108
Toronto, Ontario
M5S 2P8
Tel: (416) 291-8822



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architecture
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ELECTRICAL SPECIFICATION

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GENERAL ELECTRICAL CONDITIONS – SECTION 16050

- COMPLY WITH GENERAL CONDITIONS OF THE CONTRACT AND DIVISION 15, MECHANICAL SPECIFICATIONS. DIVISION 15 SHALL BE THE PRIME CONTRACTOR.
- THIS SECTION APPLIES TO ALL SECTIONS OF DIVISION 16.
- PROVIDE EACH ITEM MENTIONED OR INDICATED OF QUALITY AND SUBJECT TO QUALIFICATIONS NOTED; PERFORM ACCORDING TO CONDITIONS STATED EACH OPERATION PRESCRIBED; AND PROVIDE THEREFOR ALL LABOUR, MATERIAL, EQUIPMENT, INCIDENTALS AND SERVICES REQUIRED TO COMPLETE THE INSTALLATION.
- WORK BY OTHER DIVISIONS
 - PAINTING OF EXPOSED CONDUITS, DUCTS AND UNFINISHED ELECTRICAL EQUIPMENT: UNDER DIVISION 15.
 - CONCRETE WORK – UNDER DIVISION 16.
 - CUTTING AND PATCHING WILL BE BY DIVISION 16. PATCHING SHALL BE OF SAME MATERIAL AS SURROUNDING AREA AND SHALL BE PAINTED OR FINISHED TO MATCH EXISTING.
- MAKE A SET OF WHITE PRINTS AND AS THE JOB PROGRESSES, MARK ON CHANGES MADE THROUGH ANY APPROVED CHANGE ORDER AS WELL AS THE LOCATION OF FEEDERS, CONDUIT RUNS, JUNCTION BOXES, AND ALL CHANGES IN CIRCUITING, LOCATION OF EQUIPMENT, RUNS OF CONDUITS, WIRING, ETC. FROM THAT ORIGINALLY SHOWN, SO THAT ON THE COMPLETION OF THE JOB THE RECORD DRAWINGS WILL SHOW THE EXACT LOCATION AS ACTUALLY INSTALLED. RECORD DRAWINGS SHALL BE KEPT AT THE SITE AND SHALL BE BROUGHT UP TO DATE AS THE WORK PROGRESSES. SUBMIT COMPLETED RECORD DRAWINGS BEFORE FINAL CERTIFICATE OF JOB ACCEPTANCE IS ISSUED.
- THE FOLLOWING DOCUMENTS SHALL BE SUBMITTED TO THE CONSULTANT ON THE COMPLETION OF THE PROJECT AS DESCRIBED ABOVE:
 - ELECTRICAL INSPECTION CERTIFICATE
 - AS_BUILT DRAWINGS
 - DATA BOOKS
 - GUARANTEE
 - OTHER CERTIFICATES SPECIFIED.
- ALL MATERIAL SHALL BE STORED NEATLY AND OUT OF THE WAY. CLEAN UP DAILY ALL REFUSE CAUSED BY WORK.
- BIND WITHIN A HARD COVERED, LOOSE LEAF BINDER. A COMPLETE SET OF MANUFACTURER'S OPERATING AND MAINTENANCE INSTRUCTIONS SHOWING ALL MAJOR ELECTRICAL EQUIPMENT AND SYSTEMS INCLUDE SHOP DRAWINGS AND DETAIL DRAWINGS. INSTRUCTIONS SHALL BE COMPLETE FOR INSTALLATION, OPERATION AND MAINTENANCE. SPARE PART SUPPLIERS, LISTS AND ADDRESSES SHALL BE INCLUDED. MAKE ANY ADDITIONS AND/OR CORRECTIONS REQUIRED BY THE CONSULTANT AND SUBMIT TWO CORRECT COPIES TO THE CONSULTANT. INSTRUCTIONS SHALL BE REVIEWED WITH THE OPERATING PERSONNEL TO ENSURE A THOROUGH UNDERSTANDING OF THE EQUIPMENT AND ITS OPERATION.
- EXAMINE THE SITE, EXISTING EQUIPMENT AND THE LOCAL CONDITIONS AFFECTING THE WORK UNDER THIS CONTRACT. NO ALLOWANCE WILL BE MADE SUBSEQUENTLY FOR ANY OBVIOUS CONSIDERATIONS OVERLOOKED.
- AFTER THE WORK IS COMPLETE BUT BEFORE FINAL PAYMENT, GIVE THE OWNER A WRITTEN GUARANTEE THAT YOU WILL, AT NO CHARGE TO THE OWNER, REPLACE OR REPAIR ANY DEFECTS IN WORKMANSHIP AND MATERIALS NOT DUE, IN THE OPINION OF THE ARCHITECT TO MISUSE OR NEGLECT. GUARANTEE SHALL COVER A PERIOD OF 12 MONTHS FROM THE DATE OF ACCEPTANCE OF THE WORK BY THE ARCHITECT. THIS GUARANTEE SHALL IN NO WAY SUPPLANT ANY OTHER GUARANTEE OR GUARANTEES OF LONGER PERIOD, BUT SHALL BE BINDING ON ALL OTHER WORK NOT OTHERWISE COVERED.
- ALL WORK SHALL COMPLY STRICTLY TO THE REQUIREMENTS OF THE LATEST EDITIONS OF THE CANADIAN ELECTRICAL CSA CODE AS ADOPTED AND AMENDED BY PROVINCIAL REGULATIONS AND THE BUILDING CODE. THESE CODES AND ANY ADDITIONAL REQUIREMENTS OF THE POWER UTILITY SHALL FORM AN INTEGRAL PART OF THIS SPECIFICATION. WHERE DRAWINGS CALL FOR EQUIPMENT, WIRING OR OTHER REQUIREMENTS EXCEEDING THE MINIMUM REQUIREMENTS OF THE CODE, THE DRAWINGS SHALL BE FOLLOWED.
- BEFORE STARTING ANY WORK, SUBMIT THE REQUIRED NUMBER OF COPIES OF THE ELECTRICAL DRAWINGS TO THE POWER AUTHORITY AND ELECTRICAL INSPECTION DEPARTMENT REGIONAL OFFICE, FOR THEIR APPROVAL AND COMMENTS.
- PAY ALL FEES FOR EXAMINATION OF DRAWINGS AND OBTAIN ALL PERMITS REQUIRED AND PAY ALL PERMIT AND INSPECTION FEES.
- ARRANGE FOR INSPECTION OF ALL WORK BY THE POWER AUTHORITY AND INSPECTION DEPARTMENT. ON COMPLETION OF THE WORK, PRESENT TO THE OWNER THE FINAL UNCONDITIONAL CERTIFICATE OF APPROVAL.
- ON AWARD OF CONTRACT, SUBMIT FOR REVIEW LIST OF DELIVERY DATES AND 7 COPIES OF SHOP DRAWINGS FOR ALL EQUIPMENT.
- ALL MATERIALS SHALL BE NEW AND FREE FROM DEFECTS, NOISE AND VIBRATION. ALL EQUIPMENT SHALL BE CSA APPROVED.
- SCHEDULE AND COORDINATE ALL WORK WITH OTHER TRADES. RELOCATE OR REPLACE CONDUIT OR EQUIPMENT WHICH INTERFERES WITH OTHER TRADES DUE TO LACK OF COORDINATION WITH OTHER TRADES.
- THE OWNER SHALL HAVE TEMPORARY USE OF INSTALLATION PRIOR TO FINAL ACCEPTANCE.
- ALL CLAIMS FOR EXTRAS SHALL BE SUPPORTED BY WRITTEN AUTHORIZATION AND SHALL BE SUBMITTED WITH ITEMIZED MATERIAL AND LABOUR COSTS BREAKDOWNS. THE FORMAT OF THE BREAKDOWN SHALL FOLLOW THAT OF THE CHANGE DOCUMENT (I.E. THAT OF THE NOTICE OF CHANGE, SITE INSTRUCTION, CHANGE DIRECTIVE, ETC.). MATERIALS SHALL BE PRICED AT COST INCLUDING ANY DISCOUNT. LABOUR UNITS SHALL BE BASED ON CECA AND NECA LABOUR UNIT TABLES SUITABLE FOR THE TYPE OF WORK INVOLVED. THERE SHALL BE NO EXTRA CLAIM FOR RELOCATION OF ANY EQUIPMENT WITHIN 10 FEET (3M) FROM THE ORIGINAL LOCATION, PROVIDED THAT THE CHANGE IS MADE BEFORE INSTALLATION.
- ALL ELECTRICAL EQUIPMENT MOUNTED AND CONNECTED BY THIS CONTRACTOR, WHETHER SUPPLIED BY HIM OR NOT, SHALL BE IDENTIFIED BY MEANS OF PLASTIC NAMEPLATES.
- WIRING
 - ALL WIRING SHALL BE CONCEALED EXCEPT IN UNFINISHED AREAS AND IN AREAS NOTED WHERE WIRING MAY BE INSTALLED IN SURFACE CONDUITS.
 - ROD STEEL CONDUITS SHALL BE USED IN:
 - ALL EXPOSED WIRING SUBJECT TO MECHANICAL DAMAGE,
 - ALL AREAS REQUIRED BY CODE.
 - EMT CONDUITS MAY BE USED WHERE PERMITTED BY CODE:
 - EXPOSED WIRING,
 - IN FURRED WALLS.
 - ARMOURED FLEXIBLE CABLE TYPE AC90 (BX CABLE) MAY BE USED AS DROP CABLE FROM JUNCTION BOX TO LIGHT FIXTURES, RECEPTACLES AND MOTORS IF RUN IN HOLLOW PARTITIONS OR IN DRY ACCESSIBLE CEILING SPACES. MAXIMUM LENGTH 20FT.
 - FLEXIBLE CONDUIT SHALL BE USED FOR FINAL SHORT CONNECTIONS BETWEEN OUTLET AND ELECTRICAL EQUIPMENT SUCH AS RECESSED FIXTURES, MOTORS, TRANSFORMERS, MOTORIZED EQUIPMENT AND FIXED APPLIANCES. FLEXIBLE CONDUIT IN MECHANICAL ROOMS AND ON THE EXTERIOR WALL SHALL BE PVC JACKETED, LIQUID TIGHT.
 - HOME RUNS OF WIRING TO PANELS SHALL BE IN CONDUITS.
- ALL LOW VOLTAGE AND MULTI CONDUCTOR CABLES SHALL BE INSTALLED IN CONDUIT.
- ALL CONDUCTORS SHALL BE COPPER 600 VOLT GRADE WITH INSULATION TYPE RW90. MINIMUM CONDUCTOR SIZE SHALL BE #12 AWG AND COLOUR CODED. WIRE CONNECTIONS SHALL BE MADE WITH PRESSURE TIGHT SOLDERLESS CONNECTORS WITH VINYL INSULATING CAPS AND LOCKING RINGS.
 - MAXIMUM LENGTH FOR 15 AMP, 120/208 VOLT BRANCH CIRCUIT HOME RUNS SHALL BE AS FOLLOWS:

LOAD	#12 AWG	#10 AWG
RECEPTACLE	65 FT (20M)	OVER 65 FT (20M)
LIGHTING	90 FT (27M)	OVER 90 FT (27M)
- UNLESS OTHERWISE NOTED ON THE ARCHITECTURAL AND ELECTRICAL DRAWINGS, MOUNTING HEIGHTS OF EQUIPMENT ABOVE FINISHED FLOOR FROM CENTRE LINE OF THE MOUNTING BOX SHALL BE AS FOLLOWS:
 - TOP OF PANEL BOARD – 78" (1980MM)
 - LIGHT SWITCH – 47" (1200MM)
 - MOTOR STARTER/THERMOSTAT – SAME AS LIGHT SWITCH
 - RECEPTACLE, TELEPHONE, DATA, ETC. – 18" (460MM)
 - RECEPTACLES IN MECHANICAL ROOMS AND OTHER UNFINISHED AREAS – 47" (1200MM)
- IF NUMBER OF CONDUCTORS IN ANY ONE CONDUIT EXCEEDS 6 LINE CONDUCTORS, CONDUCTOR SIZE SHALL BE INCREASED TO ALLOW FOR DERATING AS REQUIRED BY CODE.
- MECHANICAL TRADE WILL SUPPLY ALL STARTERS, CONTROL TRANSFORMERS AND CONTROLS FOR EQUIPMENT SUPPLIED BY THEM AND WILL MOUNT ALL THESE EXCEPT FOR WALL MOUNTED STARTERS AND WALL MOUNTED LINE VOLTAGE CONTROLS, WHICH SHALL BE MOUNTED BY ELECTRICAL TRADE. ELECTRICAL TRADE SHALL DO ALL POWER WIRING, WHICH IS WIRING THAT CARRIES THE LOAD CURRENT OF THE MOTOR, HEATER, HOT WATER TANK OR OTHER EQUIPMENT SUPPLIED BY MECHANICAL TRADE. MECHANICAL TRADE WILL DO ALL OTHER RELATED WIRING.
- ALL CONDUITS AND OUTLET BOXES SHALL BE SUPPORTED FROM THE BUILDING SURFACES AND SHALL NOT BE SUPPORTED FROM OTHER CONDUITS, DUCTS OR PIPES.
- PROVIDE FIRE STOPS. FIRE STOPS SHALL SEAL OFF ALL FIRE RATED WALLS AND CEILINGS. FIRE STOPS SHALL BE CSA AND UL LISTED AND SHALL BE DESIGNED FOR APPLICATION REQUIRED TO MEET THE VARIOUS FIRE RATED SEPARATIONS. FIRE STOP SHALL BE HILTI, TREMSTOP MANUFACTURED BY TREMO, 3M OR EQUAL.

RACEWAY, ELECTRICAL DEVICES AND CONTROLS – SECTION 16100

- PROVIDE ALL MATERIAL, EQUIPMENT AND LABOUR REQUIRED FOR A COMPLETE AND ADEQUATE INSTALLATION OF ELECTRICAL MATERIALS AS SHOWN ON THE DRAWINGS AND AS DESCRIBED HEREIN.
- SWITCHES SHALL BE UNLESS OTHERWISE INDICATED, PASS & SEYMOUR, WHITE, DECORA TYPE AS FOLLOWS:
 - SPECIFICATION GRADE 15A 20A
SINGLE POLE 120V 2601-W 2621-W
3_WAY 120V 2603-W 2623-W
4_WAY 120V 2604-W 2624-W
 - SWITCHES OF EQUAL QUALITY AS MANUFACTURED BY BRYANT, ARROW HART, LEVITON/HUBBLE.
- COVERPLATES FOR RECEPTACLES, LIGHT SWITCHES, TELEPHONE, DATA AND TV OUTLETS SHALL BE SMOOTH THERMOPLASTIC FROM THE SAME MANUFACTURER AS FOR WIRING DEVICES. COLOUR SHALL MATCH COLOUR OF WIRING DEVICES.
- OUTLET BOXES SHALL BE ELECTRO GALVANIZED AND MADE OF CODE GAUGE STEEL. WHERE MORE THAN ONE DEVICE IS SHOWN ON PLAN, A MULTI-GANG BOX SHALL BE USED. OFFSET OUTLET BOXES, SHOWN BACK TO BACK IN PARTITIONS, HORIZONTALLY TO MINIMIZE NOISE TRANSMISSION BETWEEN ADJACENT AREAS. OUTLET BOX FOR DEVICES MOUNTED SIDE BY SIDE OR ONE ABOVE THE OTHER SHALL BE SEPARATED BY A MINIMUM OF ONE INCH (25MM).

SERVICES AND DISTRIBUTION – SECTION 16400

- PROVIDE ALL MATERIAL, EQUIPMENT AND LABOUR REQUIRED FOR A COMPLETE AND ADEQUATE DISTRIBUTION SYSTEM AS DESCRIBED HEREIN.
- POWER PANELS SHALL CONTAIN CIRCUIT BREAKERS OR FUSIBLE UNITS. FUSIBLE UNITS WILL NOT BE ACCEPTED IN LIEU OF BREAKERS AND VICE VERSA. PANELS SHALL BE AS MANUFACTURED BY SCHNEIDER, CUTLER-HAMMER OR SIEMENS.
- FUSIBLE UNITS SHALL HAVE QUICK-MAKE, QUICK-BREAK MECHANISM AND SHALL BE FRONT OPERATED. UNIT SHALL BE INDIVIDUALLY ENCLOSED WITH INSULATED END BARRIERS. FUSE CLIPS SHALL BE HIGH PRESSURE TYPE SUITABLE FOR AND COMPLETE HRC FUSES.
- CIRCUIT BREAKERS SHALL HAVE AMPACITY AND FRAME SIZE SHOWN ON THE DRAWINGS. BREAKERS SHALL HAVE DEFINITE OFF AND TRIP POSITIONS WITH PROVISIONS FOR PADLOCKING. BREAKERS SHALL BE BOLTED TO THE BUS. TWO AND THREE POLE BREAKERS SHALL HAVE COMMON TRIPS.
- UNLESS OTHERWISE NOTED, TWO AND THREE POLE MOULDED CASE CIRCUIT BREAKERS SHALL HAVE A MINIMUM INTERRUPTING CAPACITY OF 22KA RMS SYMMETRICAL, AND 10KA RMS SYMMETRICAL FOR SINGLE POLE.
- EACH FUSIBLE UNIT OR BREAKER SHALL HAVE A LAMACOD NAMEPLATE ATTACHED WITH CONTACT CEMENT OR SCREWS. NAMEPLATE SHALL CARRY NAME OF EQUIPMENT OR PANEL SERVED BY THE UNIT OR BREAKER.
- DISCONNECT SWITCHES SHALL BE TYPE A, HORSEPOWER RATED, 'SWITCHMATIC' BY FEDERAL PIONEER OR EQUAL BY SQUARE D, CUTLER-HAMMER, SIEMENS.
- FUSES SHALL BE HRC FORM 1. FUSES PROTECTING MOTORS OR TRANSFORMERS SHALL BE TIME DELAY TYPE.
- SUBMIT SHOP DRAWINGS FOR SWITCHBOARD, PANELS, TRANSFORMERS. SUBMIT SHORT CIRCUIT CALCULATIONS AT PANELS AND PROVIDE ALL REQUIRED ADJUSTMENT ON EQUIPMENT TO SUIT.

SECTION 16450 – LIGHTING

- SUPPLY AND INSTALL ALL LIGHTING FIXTURES, LAMPS, AND ALL REQUIRED ACCESSORIES AS INDICATED ON THE DRAWINGS BY LETTER TYPE AND AS HERINAFTER SPECIFIED.
- SUBMIT SHOP DRAWINGS FOR EACH LIGHTING FIXTURE TYPE.
- REPLACE AND INSTALL WITHOUT EXTRA COST TO THE OWNER:
 - ALL DEFECTIVE OR NOISY BALLASTS OR DRIVERS FOR A PERIOD OF ONE YEAR
 - ANY INCANDESCENT OR LOW VOLTAGE LAMP WHICH FAILS WITHIN 30 DAYS OF TAKEOVER
 - ANY FLUORESCENT OR H.I.D. LAMP WHICH FAILS WITHIN 90 DAYS OF TAKEOVER.
 - LED LIGHTS WITHIN 90 DAYS
- INCANDESCENT LAMPS SHALL BE 130V STANDARD SERVICE TYPE AS MANUFACTURED BY G.E., PHILIPS, OR SYLVANIA, UNLESS OTHERWISE NOTED.
- COMPACT FLUORESCENT LAMPS SHALL BE 3500K TYPE OR AS SPECIFIED WITH CRI OF 82 AS MANUFACTURED BY G.E., PHILIPS OR SYLVANIA. BALLASTS FOR COMPACT FLUORESCENT LAMPS SHALL BE HIGH POWER FACTOR, ELECTRONIC.
- FLUORESCENT T_8 LAMPS SHALL BE BL/PIN, RAPID START, 3500K WITH CRI OF 85, INITIAL LUMENS OF 3000 FOR F32 T_8, AS MANUFACTURED BY G.E., PHILIPS, OSRAM, OR SYLVANIA, UNLESS OTHERWISE NOTED.
- BALLASTS FOR FLUORESCENT T_8 LAMPS SHALL BE HIGH FREQUENCY ELECTRONIC, RAPID START WITH CLASS 'A' SOUND RATING, MINIMUM POWER FACTOR OF 95%, MAXIMUM TOTAL HARMONIC DISTORTION OF 15%, MINIMUM BALLAST FACTOR OF 85%, AND MAXIMUM CREST FACTOR OF 1.7. BALLASTS SHALL MEET ANSI/IEEE SPECIFICATION C62.41 FOR TRANSIENT AND SURGE IMMUNITY, AND FCC PART 18 SUBPART C FOR NON CONSUMER LIMITS FOR EM AND RF1 EMISSION. BALLASTS SHALL BE MANUFACTURED TO CERTIFIED BALLAST MANUFACTURERS STANDARDS AND AS MANUFACTURED BY G.E./MOTOROLA, ADVANCE/E.B.T.I, MAGNETEK, FLUOTRONIC (347V ONLY) OR OSRAM.
- DRIVERS FOR LED LIGHTS TO BE DIMMABLE (0-10) WHERE DIMMING CONTROL IS SHOWN
- ALL LIGHTING FIXTURES, INCLUDING THOSE MOUNTED IN SUSPENDED CEILING, TO BE SUPPORTED FROM BUILDING STRUCTURE.
- COORDINATE THE INSTALLATION OF LIGHTING FIXTURE WITH ALL TRADES TO PROVIDE SPACING INTENDED.
- FIXTURES SHALL BE PROPERLY CLEANED AND LEFT CLEAN AND DUST_FREE. ANY FIXTURE SHOWING MARKS OR SCRATCHES DUE TO HANDLING OR TOOL MARKS SHALL BE REPLACED

WORKING IN EXISTING BUILDING AND CONTINUITY OF SERVICES – SECTION 16500

- MECHANICAL AND ELECTRICAL ALTERATIONS AND ADDITIONS ARE BEING MADE IN THE EXISTING AREAS AS NOTED ON MECHANICAL DRAWINGS AND SPECIFICATIONS.
- VISIT THE SITE AND EXAMINE THE EXISTING CONDITIONS AND ALL TENDERING DOCUMENTS, DRAWINGS AND SPECIFICATIONS. MAKE ALL NECESSARY ALLOWANCES IN TENDER PRICE FOR REMOVAL, RELOCATION, REROUTING, RECONNECTION OF EXISTING ELECTRICAL EQUIPMENT AND WIRING AS MAY BE NECESSARY FOR THE EXECUTION AND COMPLETION OF THIS PROJECT. NO ALLOWANCE WILL BE MADE LATER FOR ANY EXPENSE INCURRED BY THIS TRADE THROUGH FAILURE TO MAKE THIS EXAMINATION.
- REMOVE AND/OR RELOCATE AND REINSTALL ALL WIRING AND EQUIPMENT AS NECESSARY TO ACCOMMODATE MECHANICAL ALTERATIONS AND ADDITIONS INDICATED ON THE DRAWINGS. WIRING LOCATED IN AREAS BEING ALTERED OR DEMOLISHED, BUT FEEDING OUTLETS OR EQUIPMENT REQUIRED TO REMAIN IN SERVICE SHALL BE REROUTED AS REQUIRED TO MAINTAIN THE CONTINUITY OF THESE SERVICES.
- EXISTING ELECTRICAL EQUIPMENT REMOVED AND INDICATED FOR REUSE SHALL BE CLEANED BEFORE INSTALLATION. ALL UNUSED CONDUIT ENTRANCE OPENINGS SHALL BE SEALED, ALL DEFECTIVE COMPONENTS SHALL BE REPLACED BEFORE REINSTALLATION.
- ALL WIRING SHALL BE RUN CONCEALED WHERE POSSIBLE EXCEPT THAT CONDUITS IN UNFINISHED AREAS AND ON EXISTING WALLS AND CEILING MAY BE INSTALLED ON SURFACE.
- REWORK EXISTING POWER SERVICE AND DISTRIBUTION TO SUIT MECHANICAL EQUIPMENT REVISIONS. PROVIDE NEW POWER PANEL, SPLITTER AND FUSIBLE UNITS, ETC., AS REQUIRED.
- SUPPLY, INSTALL AND MAINTAIN ALL REQUIRED TEMPORARY WIRING TO OCCUPIED AREAS AT ALL TIMES. PROVIDE ADEQUATE PROTECTION TO EXISTING WIRING AND EQUIPMENT SERVING THE EXISTING AND NEW WORK AND PARTICULARLY WHERE WIRING AND ELECTRICAL EQUIPMENT HAVE BECOME EXPOSED TO MECHANICAL INJURY OR MOISTURE IN THE COURSE OF ALTERATIONS OR NEW WORK.
- POWER SHUTDOWN, IF REQUIRED, MUST BE COORDINATED WITH CLIENT'S REPRESENTATIVE.
- CERTAIN ITEMS ARE IDENTIFIED ON THE DRAWINGS AS EXISTING EQUIPMENT TO BE REMOVED. DISCONNECT SAID EQUIPMENT AND MAKE SAFE. OBSOLETE CONDUITS AND CABLES SHALL BE DISCONNECTED FROM THEIR SOURCE OF SUPPLY, CUT BACK TO A SUITABLE POINT.
- ALL UNUSED FUSED SWITCHES AND CIRCUIT BREAKERS SHALL BECOME SPARE. PROVIDE NEW, UP-DATED DIRECTORIES FOR PANELS.
- CERTAIN ITEMS ARE IDENTIFIED ON THE DRAWINGS AS EXISTING EQUIPMENT RELOCATED: DISCONNECT SAID EQUIPMENT FROM ITS PRESENT SOURCE AND AFTER RELOCATION, RECONNECT AND REINSTALL ALL ELECTRICAL COMPONENTS. PROVIDE NEW DISCONNECTS TO SUIT EQUIPMENT RATING.
- ALL EXISTING EQUIPMENT AND MATERIAL NOT REQUIRED IN THE FINAL INSTALLATION SHALL BE CAREFULLY REMOVED AT THE APPROPRIATE TIME AND SHALL BE DISPOSED OF EXCEPT STARTERS FOR MECHANICAL EQUIPMENT BEING HANDED BACK TO THE CLIENT.

FIRE ALARM SYSTEM – SECTION 16720

- THE FIRE ALARM SYSTEM IS EXISTING NOTIFIER 5000 CONVENTIONAL, SINGLE STAGE.
- REMOVE OLD DEVICES AS SHOWN AND PROVIDE NEW.
- NEW SMOKE DETECTOR, SPEAKERS/STROBE, PULL STATION AND ALL F.A DEVICES AND ACCESSORIES SHALL BE COMPATIBLE WITH THE EXISTING SYSTEM.
- ALLOW FOR RE-WIRING (NEW WIRING FOR DEVICES OR/AND DEVICES ZONES TO FIRE ALARM PANEL) TO SUIT NEW QUANTITIES, TYPE, LOCATIONS ETC. OF DEVICES
- EXISTING FIRE ALARM BELLS TO BE REMOVED. PROVIDE NEW SPEAKER/STROBE THROUGH THE BUILDING.
- REUSE EXISTING FIRE ALARM SYSTEM. THE SYSTEM TO INCLUDE CONNECTIONS TO EXISTING SYSTEM DEVICES ALONG WITH REPLACEMENT OF DETECTION DEVICES AS SHOWN AND NEW DEVICES AS INDICATED ON THE DRAWINGS. INCLUDE FOR REQUIRED DEVICES SUCH AS AMPLIFIER, TONE GENERATOR ETC. AS REQUIRED FOR COMPLETE AND FUNCTIONAL SYSTEM.
- PROVIDE NEW LOOPS COMPLETED WITH LINE RESISTORS ETC. AS REQUIRED FOR COMPLETE AND FUNCTIONAL SYSTEM. RECONNECT ALL EXISTING ZONES AND DEVICES (ALLOW FOR NEW WIRING).
- THIS CONTRACTOR TO ALLOW IN CONTACT FOR SITE INVESTIGATION TO VERIFY ALL DEVICES AND ZONES.
- ELECTRICAL CONTRACTOR AND NOTIFIER FIRE ALARM SYSTEM SUPPLIER SHALL REVIEW EXISTING FIRE ALARM SYSTEM OPERATION, INSTALL ADDITIONAL MODULES AND EQUIPMENT AS REQUIRED. TEST AND VERIFY COMPLETE SYSTEM ON ALL FLOORS (THE ENTIRE BUILDING).
- COMPLETE INSTALLATION SHALL COMPLY WITH THE REQUIREMENTS OF CAN/ULC-5524 "STANDARD FOR THE INSTALLATION OF FIRE ALARM SYSTEMS" AND SHALL BE VERIFIED TO CAN/ULC-5537 "STANDARD FOR THE VERIFICATION OF FIRE ALARM SYSTEMS". WHERE THE REQUIREMENTS OF THIS SECTION EXCEED THE MINIMUM REQUIREMENTS OF THE ULC STANDARD, THESE SPECIFICATIONS SHALL GOVERN.
- WIRING:
 - SEPARATION OF WIRING SHALL ADHERE TO SUGGESTED WIRING AND INSTALLATION GUIDE OF CAN/ULC-5524.
 - WIRING SHALL BE SIZED IN ACCORDANCE WITH CLASS 2 REQUIREMENTS, BUT SHALL BE PROTECTED FROM MECHANICAL INJURY OR OTHER INJURIOUS CONDITIONS SUCH AS MOISTURE, EXCESSIVE HEAT OR CORROSIVE ACTION IN ACCORDANCE WITH CLASS 1 REQUIREMENTS. CONDUCTORS SHALL BE SOLID COPPER. THE MINIMUM SIZE OF ANY CONDUCTOR SHALL BE:
 - FOR ALARM RECEIVING CIRCUIT #18 AWG TWISTED SHIELDED PAIRS. IN NO CASE SHALL THE WIRE RESISTANCE IN THESE CIRCUITS EXCEED 50 OHMS.
 - FOR AUDIBLE SIGNAL CIRCUITS #14 AWG FOR 1 OR 2 CONDUCTORS IN A CABLE, #18 AWG FOR 3 OR 4 CONDUCTORS IN A CABLE. IN NO CASE SHALL THE VOLTAGE DROP TO ANY SIGNAL EXCEED 10%.
 - RATING OF CABLE SHALL BE 90 DEGREES C AND 300 VOLT MINIMUM.
 - WIRING SHALL BE INSTALLED IN CONDUIT AND IN ANY CASE SHALL CONFORM TO THE SYSTEM MANUFACTURER'S RECOMMENDATIONS. ALL CONDUITS SHALL BE GROUNDED PER CLASS 1 WIRING.
- VERIFICATION AND CERTIFICATION OF EQUIPMENT:
 - THAT THE TYPE OF EQUIPMENT INSTALLED IS THAT DESIGNATED IN THE SPECIFICATIONS.
 - THAT THE WIRING CONNECTIONS TO ALL EQUIPMENT COMPONENTS SHOW THAT THE INSTALLER UNDERTOOK TO HAVE OBSERVED ULC AND CSA REQUIREMENTS.
 - THAT EQUIPMENT OF THE MANUFACTURER'S MANUFACTURE HAS BEEN INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS, AND THAT ALL SIGNALING DEVICES OF WHATEVER MANUFACTURE HAVE BEEN OPERATED OR TESTED TO VERIFY THEIR OPERATION.
 - THAT THE SUPERVISORY WIRING OF THOSE ITEMS OF EQUIPMENT CONNECTED TO A SUPERVISED CIRCUIT IS OPERATING AND THAT THE GOVERNMENTAL REGULATIONS, IF ANY, CONCERNING SUCH SUPERVISORY WIRING, HAVE BEEN MET TO THE SATISFACTION OF INSPECTING OFFICIALS.
 - THE MANUFACTURER SHALL SUPPLY REASONABLE AMOUNTS OF TECHNICAL ASSISTANCE WITH RESPECT TO ANY CHANGES NECESSARY TO CONFORM TO THE ABOVE. DURING THE PERIOD OF INSPECTION BY THE MANUFACTURER, MAKE AVAILABLE TO THE MANUFACTURER ELECTRICIANS AS DESIGNATED BY THE MANUFACTURER.
 - OPEN FLAME AND SMOKE ARE NOT TO BE USED FOR TESTING.
- COMPLETION OF THE INSPECTION AND WHEN ALL OF THE ABOVE CONDITIONS HAVE BEEN COMPLIED WITH, THE MANUFACTURER SHALL ISSUE TO THE CONSULTANT:
 - A COPY OF THE INSPECTING TECHNICIAN'S REPORT SHOWING LOCATION OF EACH DEVICE AND CERTIFYING THE TEST RESULTS OF EACH DEVICE.
 - A CERTIFICATE OF VERIFICATION CONFIRMING THAT THE INSPECTION HAS BEEN COMPLETE AND SHOWING THE CONDITIONS UPON WHICH SUCH INSPECTION AND CERTIFICATION HAVE BEEN RENDERED.
 - PROOF OF LIABILITY INSURANCE FOR THE INSPECTION.
- ALL COSTS INVOLVED IN THIS INSPECTION SHALL BE INCLUDED IN THE TENDER PRICE.

Rev	Description	Date
1	Final Review	16 July '18
2	Issued for Permit & Tender	16 July '18
3	Issued for Addendum EAD-1	30 July '18
4	Issued for Construction	04 Sept '18

SHARMA & PARTNERS INC.
Mechanical and Electrical Engineers
635 Dufferin Drive,
Unit 108
Toronto, Ontario
M5S 2P8
Tel: (416) 291-8822



SPI PROJECT #: 2018-1039

WORKSHOP architecture

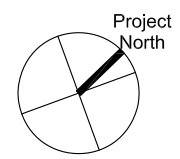
WORKSHOP architecture inc
1157 Davenport Road
Toronto Ontario M5H 2C4
T 416.901.8055 F 416.849.0383
www.workshoparchitecture.ca

Davenport Shelter

348 Davenport Road
Toronto, ON
MSR 1K6

PROJECT CODE:	SCALE:
18_22	N.T.S.
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04 Sept 2018	Issued for Construction

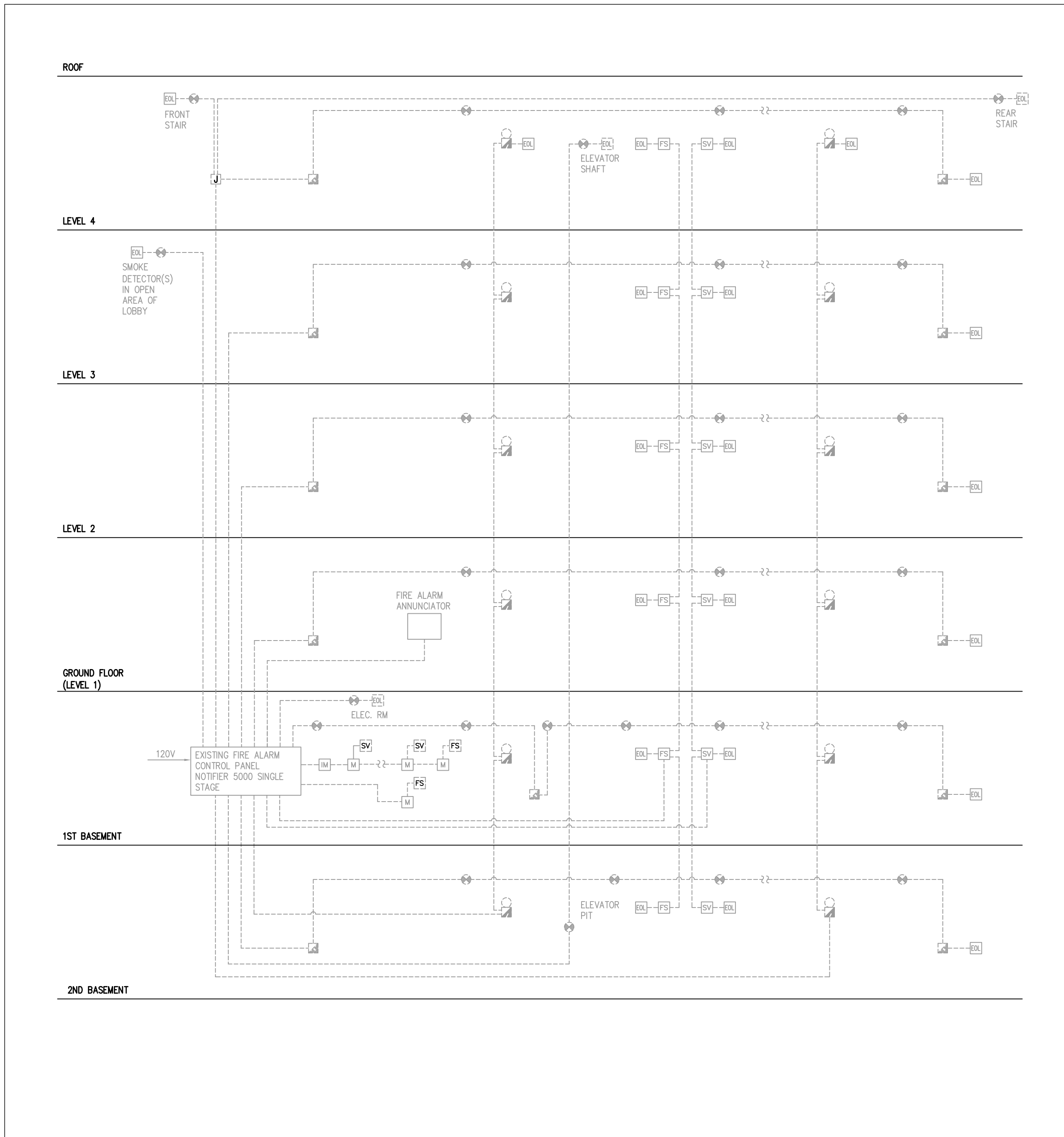
Electrical Specification



Project North

drawing number

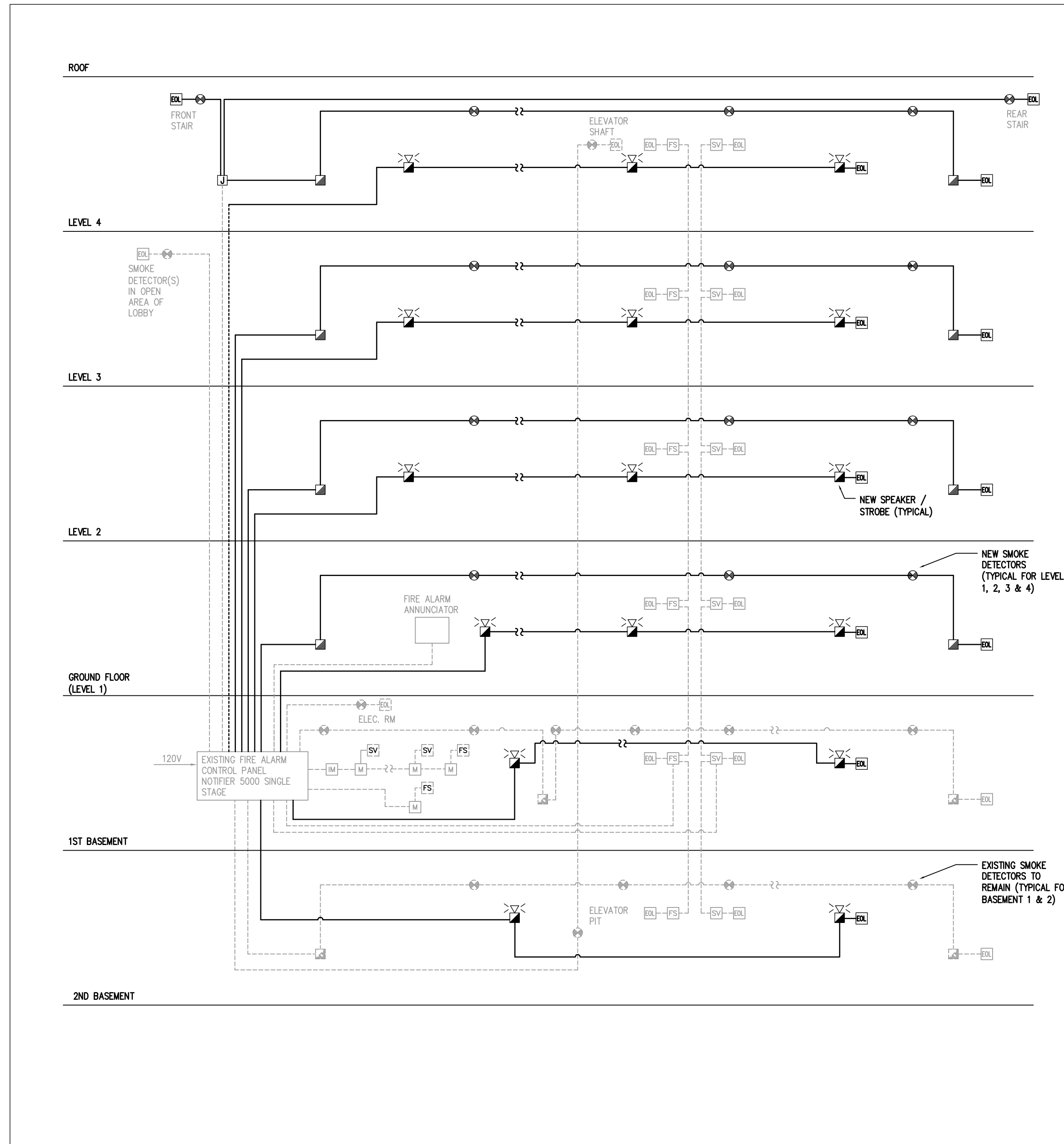
E-12



1 FIRE ALARM RISER DIAGRAM – EXISTING
E-13 SCALE: N.T.S.

DRAWING LEGEND	
	MODULES
	ISOLATION / ZONE MODULES
	FLOW SWITCH
	SUPERVISED VALVE
	END OF LINE DEVICE
	THIS LINE TYPE DENOTES NEW
	THIS LINE TYPE DENOTES EXISTING

NOTES	
1.	EXISTING FIRE ALARM DIAGRAM IS PROVIDED FOR REFERENCE ONLY. THIS CONTRACTOR TO ALLOW FOR SITE INVESTIGATION TO CONFIRM WIRING, EXISTING DEVICES ETC.
2.	FOR NUMBER AND LOCATION OF DEVICES REFER TO FLOOR PLANS
3.	REWIRE EXISTING ZONES WHERE SHOWN OR REQUIRED TO SUIT NEW DEVICES. RE-WIRE CONSTITUTES NEW WIRING FROM NEW DEVICES TO FIRE ALARM PANEL.



2 FIRE ALARM RISER DIAGRAM – NEW LAYOUT
E-13 SCALE: N.T.S.

EXISTING FIRE ALARM ZONING SCHEDULE	
NO.	DESCRIPTION
1	2ND BASEMENT
2	1ST BASEMENT
3	GROUND FLOOR (LEVEL 1)
4	LEVEL 2
5	LEVEL 3
6	LEVEL 4
7	FRONT STAIR TOP
8	REAR STAIR TOP
9	3RD FLOOR OPEN AREA SMOKE
10	ELEVATOR SHAFT PIT AND SHAFT
11	ELECTRICAL ROOM BASEMENT 1
12	2ND BASEMENT SPRINKLER FLOW SWITCH
13	1ST BASEMENT SPRINKLER FLOW SWITCH
14	GROUND FLOOR (LEVEL 1) SPRINKLER FLOW SWITCH
15	LEVEL 2 SPRINKLER FLOW SWITCH
16	LEVEL 3 SPRINKLER FLOW SWITCH
17	LEVEL 4 SPRINKLER FLOW SWITCH
18	SPRINKLER MAIN VALVE
19	SPRINKLER CHECK VALVE
20	SPRINKLER LOSS OF PRESSURE (LOW PRESSURE ALARM)
21	FIRE PUMP SUPERVISED VALVE
22	2ND BASEMENT SUPERVISED VALVE
23	1ST BASEMENT SUPERVISED VALVE
24	GROUND FLOOR (LEVEL 1) SUPERVISED VALVE
25	LEVEL 2 SUPERVISED VALVE
26	LEVEL 3 SUPERVISED VALVE
27	LEVEL 4 SUPERVISED VALVE
28	
29	
30	

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SHARMA & PARTNERS INC.
Mechanical and Electrical Engineers
85 Carlaw Drive,
Unit 108
Toronto, Ontario
M5A 2P8
Tel: (416) 291-8822



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WORKSHOP
architecture
WORKSHOP architecture inc
1157 Davenport Road
Toronto Ontario M5H 2C4
T 416.901.8055 F 416.849.0383
www.workshoparchitecture.ca

Davenport Shelter

348 Davenport Road
Toronto, ON
M5R 1K6

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Fire Alarm System